



Rwanda National Health Accounts 2002

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Abstract

National Health Accounts (NHA) is designed to give a comprehensive description of resource flows in a health system, showing where resources come from and how they are used. The Rwandan Ministry of Health has recognized the importance of documenting the overall flow of health funds and those associated with HIV/AIDS and reproductive health. Since its launch in 1998, the government has shown a commitment to sustaining the NHA process with a view to generating data that can assist the formulation of health policies that improve access to care and efficiency of resource allocation. This NHA report aims to document the magnitude, flows, and uses of public, private and donor funds in Rwanda for overall health care and, specifically, for HIV/AIDS and reproductive health services during the years 2002 and 2000. Key findings show that total per capita health expenditures are \$8.62, with 42 percent financed by private sources (including households), 33 percent by the donor community, and 25 percent by public sources. This pattern of financing shifts with respect to the financing of HIV/AIDS and reproductive health services. The HIV/AIDS subanalysis shows that donors finance 75 percent of all HIV-related expenditures. In reproductive health, donors contribute 80 percent of financing. While households are not the largest financiers of HIV/AIDS and reproductive health care, they do finance over half of all curative expenditures in these key intervention areas and for health care in general – raising concerns regarding the burden placed on households to finance these services, particularly as 60 percent of the population is below the poverty line. The public sector is responsible for financing just 8 percent of expenditures for both HIV/AIDS and reproductive health. Based on these and other findings, the NHA report suggests health policy implications for the overall health system as well as for HIV/AIDS and reproductive health services.

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Acronyms

ARV	Anti-retroviral
BCC	Behavior Change Communication
BUFMAR	<i>Bureau des Formations Médicales Agréées au Rwanda</i> (Office of Certified Medical Facilities of Rwanda)
CAMERWA	<i>Centrale d'Achat des Médicaments Essentiels au Rwanda</i> (National Medical Stores of Rwanda)
CPA	Comprehensive Package of Activities
CSR	<i>Caisse Sociale Rwandaise</i> (Social Security)
DHS	Demographic and Health Survey
DP	Directorate of Planning
DRHSA	Directorate of Human Resources and Support Services
DSGAS	Department of Health, Gender, and Social Affairs (provincial level)
FARG	Genocide Survivors Fund
FS	Financing Sources
GAHF	Government-assisted Health Facility
GDP	Gross Domestic Product
GF	Global Fund to Fight AIDS, Tuberculosis and Malaria
GNP	Gross National Product
GoR	Government of Rwanda
HC	Health Functions
HF	Financing Agents
HH	Household
HP	Health Providers
IEC	Information, Education, and Communication

IMF	International Monetary Fund
MDG	Millennium Development Goal
MINECOFIN	Ministry of the Economy and Finance
MMR	Maternal Mortality Ratio
MoH	Ministry of Health
MPA	Minimum Package of Activities
NGO	Non-governmental Organizations
NHA	National Health Accounts
NPISH	Non-profit Institutions Serving Households
ODI	Overseas Development Institute
OI	Opportunistic Infection
ONAPO	<i>Office National de la Population</i>
OOP	Out-of-pocket
PEPFAR	President's Emergency Plan for AIDS Relief
PHR_{plus}	Partners for Health Reform _{plus}
PRSP	Poverty Reduction Strategy Paper
RAMA	<i>La Rwandaise d'Assurance Maladie</i> (Rwanda Health Insurance Scheme)
ROW	Rest of the World (donors)
SC	Steering Committee
STI	Sexually Transmitted Infection
THE	Total Health Expenditures
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

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Executive Summary

Background

In an effort to understand the flows of funds throughout the health system, the Government of Rwanda (GoR) conducted, for the second time, a National Health Accounts (NHA) estimation. NHA is an internationally recognized tool for measuring health expenditures in a comprehensive manner – one that includes the public, private and donor sectors. By doing so, NHA offers a financial perspective on who is paying for health care, who is managing health care funds and their allocation, and where the funds are going – by type of provider and service. In short, NHA aims to inform policymakers on resource flows for the entire health system so as to assist in making good policy decisions and averting potentially adverse ones. At its core, NHA is a set of four basic two dimensional tables that track the flow of funds from financing sources to the principal controllers of funds (financing agents), and to the end users and uses of funds, namely providers and services (functions).

In 1998, Rwanda was one of the first countries in East and Southern Africa to conduct National Health Accounts, and to conduct a specialized HIV/AIDS expenditure review within the NHA framework. The 1998 report was well received by the GoR and influential in the policy process. The Ministry of Health (MoH) used the report's findings, which showed a low government fiscal contribution to health care, to lobby and ultimately attain additional financing from the government budget (as evidenced by the increase in the share of total government expenditure spent on health from 2.5 percent to 6.1 percent) between 1998 and 2002.

In order to strengthen evidenced-based policy planning, the GoR expressed the desire to continue implementing NHAs on a regular basis, in a manner that is sustainable and institutionalized within ongoing health information system structures. This formed the basis of the second round of NHA, initiated in 2003. The United States Agency for International Development, through its Partners for Health Reform *plus* project, offered principal technical and financial support. Belgian Technical Cooperation also assisted in financing local costs and the GoR itself contributed its staff and additional financial resources to the initiative.

This NHA round, in addition to documenting resource flows within the health system, gave particular emphasis to expenditures for HIV/AIDS and reproductive health (RH), areas of great concern for the GoR. Specialized expenditure reviews like these are referred to as NHA “subanalyses.” Each subanalysis presents the flow funds for their disease-specific service or intervention cluster using the same tabular format used in the general NHA exercise. Rwanda's second round of estimation focused on collecting data for the fiscal year 2002, with a secondary objective of tracking data for the year 2000 (principally used in trend analysis). This NHA effort was completed within an institutionalized approach, in which the GoR took the lead in learning and implementing every step of the data collection, analysis and report writing process.

Objectives of NHA 2002

The NHA technical team, housed in the Ministry of Health, together with a multisectoral steering committee of influential policymakers determined the following objectives for the NHA exercise:

- ▲ Assist policymakers in setting health care policy priorities;
- ▲ Contribute to the improvement of the health system performance and management;
- ▲ Identify areas in the Rwandan health system, where equity in the distribution of care can be improved;
- ▲ Compile relevant descriptive statistics for the health system in Rwanda;
- ▲ Enable the tracking of health expenditure trends useful for health care monitoring and evaluation purposes;
- ▲ Institutionalize the NHA process through the involvement of local players in all facets of the process including additional training and technical development initiatives;
- ▲ Identify current gaps in information on the sources and uses of funding for HIV/AIDS-related activities in Rwanda; and
- ▲ Provide baseline data for HIV/AIDS resource flows so that future subanalyses can help monitor the impact of funds disbursed by new donor mechanisms such as the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GF), and the President's Emergency Plan for AIDS Relief (PEPFAR).

Scope of NHA 2002 estimation

Given the above objectives, the NHA exercised focused on producing three main elements:

- ▲ A general NHA (which tracks overall health spending patterns)
 - △ As with the 1998 study, the 2002 NHA exercise aimed at providing greater insight into the state of the Rwandan health system and suggesting specific policy implications.
- ▲ An HIV/AIDS subanalysis
 - △ In response to the findings from NHA subanalysis conducted on HIV/AIDS expenditures in Rwanda in 1998, the NHA HIV/AIDS data tables were incorporated into the National Development Indicators book. This is an important step in the effort to inform HIV/AIDS policy discussions in Rwanda. Moreover, NHA's inclusion in the Indicators book supports the institutionalization process of health accounts.
 - △ It is also expected that information from the HIV/AIDS subanalysis will enable the MoH to design and implement targeted policy interventions for the Rwandan health system that are aimed at improving financing prevention activities and increasing access to basic health care services for people living with HIV/AIDS (PLWHA).

▲ Reproductive health subanalysis

- △ This was the first time that reproductive health was included in the NHA survey as a key component. The subanalysis looked at expenditures on maternal health services, family planning, and counselling, as well as at programmatic spending on reproductive health. It is hoped that the resulting NHA estimates will assist the GoR in implementing policies that center around ensuring coordination, monitoring, and evaluation of corresponding reproductive health activities in the country.

While the focus was on conducting a thorough NHA 2002, it was decided that a NHA 2000 estimation should also be completed in conjunction with the NHA 2002 exercise so as to contribute to a time-series data set. The 2000 estimation focused on collecting overall health spending data as well as HIV/AIDS expenditures.

Methodological Overview

Data for NHA was collected and analyzed in accordance with international guidelines as espoused in the *Guide to producing national health accounts; with special application for low-income and middle-income countries*.¹ This entailed a comprehensive review of available data sources or secondary data sources, after which remaining data gaps were identified and filled through primary data collection efforts. This took form in the administration of surveys targeted at the following entities: the Department of Health, Gender, and Social Affairs (provincial level), health districts, Insurance schemes and companies, donors, implementing agencies, employers, pharmacies, hospitals, health centers, private practitioners, and PLWHA.

All of these survey instruments, with the exception of that administered to PLWHA, included questions regarding an entity's overall health resources and expenditures, its spending on HIV/AIDS if applicable, and spending on RH services as well. Survey questionnaires were updated from those used in 1998 and finalized by the Steering Committee in collaboration with the NHA technical team.

Data collection, particularly of public entities, was conducted by all levels of the health care system – particularly by provincial directors of health, health district directors, and their district supervisors. Efforts to involve existing government personnel rather than hiring outside interviewers were seen as integral to the institutionalization approach. This would allow for familiarity and understanding of the need for fiscal information for better planning and budgeting at the central, provincial, and district levels. The data collection process was coordinated by the central NHA technical team, which subsequently oversaw the data entry, cleaning, analysis, and report writing stages as well.

For each estimate placed into a cell of a NHA matrix, every effort was made to validate the estimate with multiple sources of information. For example, when determining the flow of funds between employers and insurance schemes, the team examined the expenditure estimate reported by employers and the amount received from employers as stated by insurance schemes.

¹ Published by World Health Organisation, World Bank, and the United States Agency for International Development. 2003

General NHA Findings

Total health expenditure (THE) in Rwanda decreased substantially in real terms, from RWF 35.5 billion in 1998 to RWF 30.6 billion in 2000, and then increased to RWF 33.3 billion in 2002. The importance of private (particularly firms) and public financing sources for health has increased over the period (1998-2002) in the face of steadily declining donor funding. The dependency on external funding has decreased and the government has helped to fill in the financing gap left by the departure of donor money.

Table ES-1: Overview of NHA General Findings, 1998, 2000, and 2002

	1998*	2000*	2002
Total population	7,883,000	7,691,783	8,128,553
Exchange rate US\$ 1 = RWF	317	393	475
Total nominal gross domestic product (GDP)	RWF 707.4 billion (US\$ 2.2 billion)	RWF 758.0 billion (US\$ 1,93 billion)	RWF 815.8 billion** (US\$ 1.7 billion)
Total GoR expenditure and net lending	RWF 131.5 billion (US\$ 414.7 million)	RWF 161.7 billion (US\$ 411.3 million)	RWF 135 billion (US\$ 284.1 million)
Total health expenditures (THE)	RWF 35.5 billion (US\$ 112.0 million)	RWF 30.6 billion (US\$ 77.9 million)	RWF 33.3 billion (US\$ 70.1 million)
Total per capita health expenditure	RWF 4,501 (US\$ 14.20)	RWF 3,985 (US\$ 10.14)	RWF 4,096 (US\$ 8.62)
Total health expenditures as % of nominal GDP	5.0%	4.0%	4.0%
% GoR total expenditure spent on health care	2.5%	4.7%	6.1%
Financing sources distribution as % of THE			
Public (including public firms)	9.9%	18%	24.7%
Private	39.6%	30%	41.8%
Donor	50.5%	52%	33.4%
Households			
Household spending as a % of THE	33%	26%	31%
Out-of-pocket spending as a % of THE	32.5%	25%	25%
Out-of-pocket spending per capita	RWF 1,464 (\$4.62)	RWF 987 (US\$ 2.51)	RWF 1,011 (\$2.13)
Provider distribution as % of THE			
Public facilities	66%	69%	55.6%
Government-assisted not-for-profit facilities	10%	7%	24.8%
Private facilities	24%	19%*	19.6%

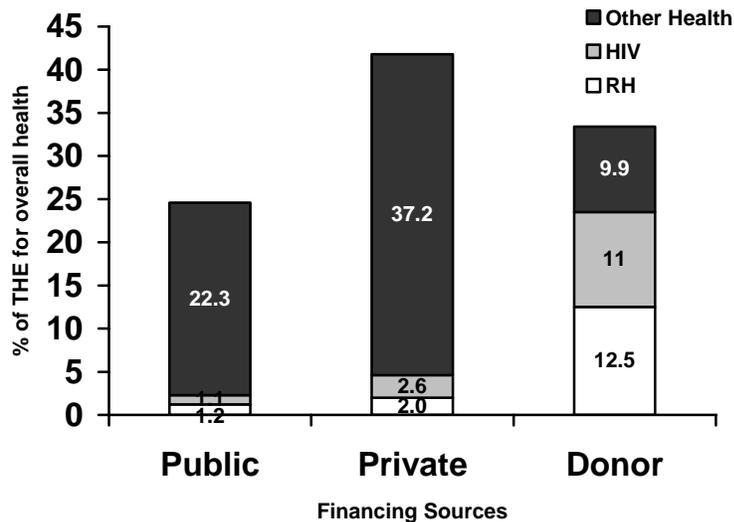
* All RWF amounts for 1998 and 2000 are in constant 2002 RWF to facilitate comparison across years. The Consumer Price Index (CPI) was used for the conversion (89.3 for 1998 and 93.1 for 2000). *Source for CPI data:* Ministry of Finance and Economic Planning and International Monetary Fund.

** As estimated at the *Rwanda Debt Relief Workshop 2004*

A summary of all 2002 findings, including the HIV/AIDS and RH subanalyses, yields several interesting observations. Figure ES.1 shows that the private sector (primarily households) is the principal financier of the health system. The next largest contributor is the donor community, whose funds largely target HIV/AIDS and RH services. This allocation of donor spending raises concern as to how much remains for targeting the other top causes of morbidity and mortality, such as malaria and tuberculosis.

The public contribution to HIV/AIDS and reproductive health appears low, averaging 2.3 percent of total health expenditures. In fact, households contribute more to these services than public financiers. Thus, the low government contribution to HIV/AIDS and reproductive health raises concerns about dependence on donor contributions and, ultimately, sustainability.

Figure ES.1 Financing Sources for General Health, HIV/AIDS, and RH Care in Rwanda, 2002



In terms of the main financing agents – those entities that manage health funds and determine the amount and targeted use of health resources – household out-of-pocket payments account for the largest portion of total health spending (25 percent), followed by implementing agencies (namely non-governmental organizations [NGOs])² (20 percent), and then the Ministry of Health (17 percent). The emphasis on local implementing agencies at the financing agent level is a marked shift from that observed in the 1998 estimates, where these entities accounted for only 1 percent of all health system spending. All of the funds received by implementing agencies in 2002 came from donors, perhaps an indication of donor interest in strengthening local organization and infrastructure. Also playing a much larger role in health at the financing agent level are insurance schemes. In 1998, these schemes accounted for less than 0.5 percent of all health expenditures; however, in 2002 they accounted for 24 percent of health spending. Their increase may be helping to alleviate the financial burden on households out-of-pocket spending, which has dropped considerably, from 33 percent of THE in 1998 to 25 percent in 2002.

Once channeled through financing agents, health funds are used to finance providers who deliver health services. The NHA 2002 estimates, like the 1998 ones, show a preference for spending at public hospitals (15 percent of THE) followed by public health centers (7 percent). However, in 2002, private clinic expenditures (6 percent of THE) rank closely behind public health centers, reflecting the increasing role of private delivery system.

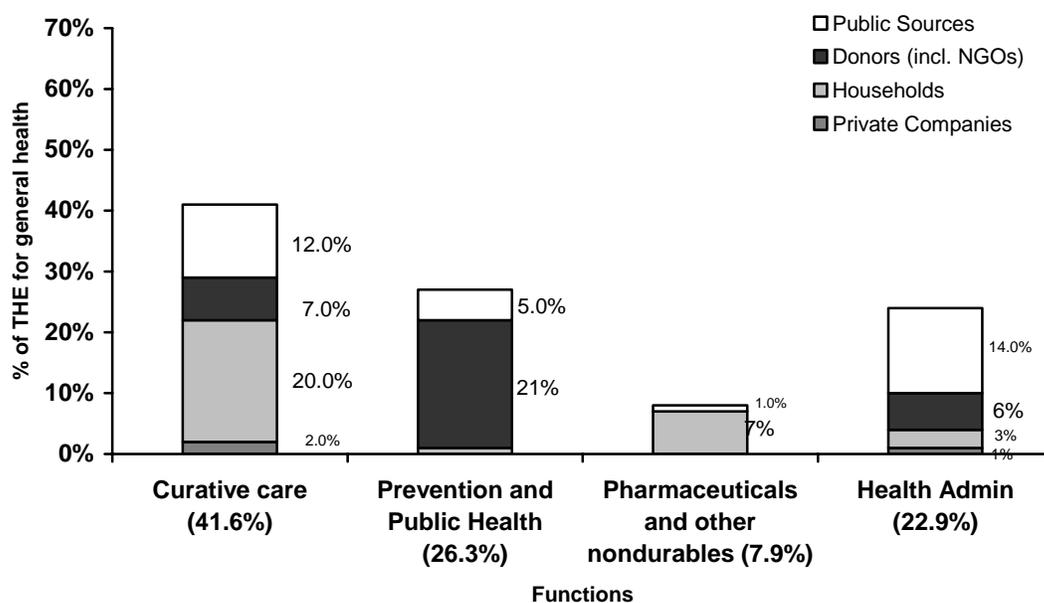
In terms of the types of services being produced or the end use of health funds – called health care “functions” in NHA terms – the largest proportion of health spending, 41 percent of THE, goes to

² Implementing agencies (NGOs) refers to the NHA classification category “Non-Profit Institutions Serving Households (NPISH).”

curative care. Prevention and public health programs account for 26 percent and administration 23 percent. This pattern of distribution is markedly different than that seen in the two subanalyses estimations, where prevention and public health is the principal consumer of targeted funds and curative care plays a much smaller role in incurring expenditures.

Tracing the flow of funds from end uses back to their funding sources shows that households finance nearly half of all curative care expenditures (despite their decrease in their relative contribution to THE from 1998 to 2002). The GoR contributes more to curative care system-wide than to prevention and public health, a pattern unlike what will be observed in the subanalyses. In contrast, donor monies largely finance prevention programs, and cover to a much lesser extent curative care and administration, a pattern that also will be seen in the subanalyses.

Figure ES-2: Financiers of General Health Care Functions*



*Note, 1.2 percent of all health spending occurs on functions not specified by any kind. This is not shown in figure ES-2 as each financing source contributes less than 0.5 percent to this category.

HIV/AIDS Subanalysis Findings

With adult HIV prevalence of approximately 5.1 percent³ (approximately 200,000 adult PLWHA) and per capita GDP less than \$300, the AIDS epidemic represents an enormous challenge to Rwanda's health system and development prospects in general. Because of poverty, the war and genocide, the impact of HIV/AIDS is particularly severe for vulnerable populations such as orphans, child headed households, victims of rape, and widows.⁴

³ UNAIDS estimate 2004

⁴ U.N. Development Programme (UNDP). 2004. *Millennium goals status report 2003*. Kigali.

Recognizing the threat of the epidemic, the government of Rwanda committed to stabilizing the spread of HIV during the period 2002 to 2006.⁵ Donors have joined this fight and in 2003 Rwanda received funding from the Global Fund and the U.S. Emergency Plan. In order to design appropriate policy responses to the epidemic and to monitor progress toward program targets (including those specified by the Global Fund and Emergency Plan), comprehensive information on HIV/AIDS spending is essential.

Table ES-2 presents summary statistics from the HIV/AIDS subanalysis.⁶ Total spending on HIV/AIDS-related health care (in constant 2002 RWF) has risen, from RWF 2.4 billion (US\$ 6.0 million) in 2000 to RWF 4.9 billion (US\$ 10.3 million) in 2002. This represents an increased percentage of overall health spending allocated to HIV/AIDS – from 8 percent in 2000 to 15 percent in 2002. The increase is largely attributable to steep donor increases in HIV support, both absolutely and percentage-wise (from 49 percent to 75 percent).⁷ The same period saw the burden of overall HIV/AIDS financing borne by households decrease in percentage terms, from 41 percent in 2000 to 16 percent in 2002. This sizeable drop is due in part to the steep decline of antiretroviral (ARV) drug costs over this period.

Donors are the primary financing source of HIV/AIDS health care. More than one-third of their health expenditure in Rwanda is HIV/AIDS related; this represents about three-quarters of all HIV/AIDS spending in Rwanda. As noted above, households contribute 16 percent. The government share is 9 percent, which has been relatively stable since 1998 and represents only 5 percent of public health funds. Unlike what was seen in the general NHA, non-household private contributions (e.g., through insurance mechanisms) to finance HIV/AIDS expenditures are negligible (1 percent in 2002).

Local implementing agencies such as NGOs serve as financing agents for the largest share of HIV/AIDS funding (57 percent), due to the fact that most of the large donor contributions are channeled through these organizations (RWF 2.76 billion, or 76 percent, of donor-contributed RWF 3.66 billion in 2002). Public financing agents manage 24 percent, divided roughly equally among the National AIDS Control Commission, the MOH, and decentralized entities of the public health system. This predominance of local implementing agencies and public agents differs from what was seen in the general NHA, where household out-of-pocket payments were the largest financing agent. It also is a change from what was documented in 2000, when the MOH received a greater proportion of donor financing (35 percent).

Public providers are the principal consumers of HIV/AIDS funding, public hospitals at 11 percent and public health centers at 5 percent. Private clinics and hospitals are end users of very little HIV spending (3 percent in total), unlike their share of general health spending. The share of HIV/AIDS spending at government-assisted not-for-profit facilities also amounts to 3 percent.

In terms of end uses, prevention and public health programs consumed a sizeable share (66 percent) of THE for HIV/AIDS (in contrast to general NHA). Curative care (including ARV treatment) accounts for only 23 percent (15 percent for outpatient care and 7 percent for inpatient care). More than half of curative care (54 percent) is financed by household out-of-pocket payments, in addition to what they spend on pharmaceuticals purchased at independent pharmacies/shops.

⁵ Republic of Rwanda, Office of the President and National AIDS Control Commission. January 2003. *National Plan for Monitoring and Evaluation of HIV/AIDS Programs (2002-2006)*. Kigali.

⁶ Changes in methods for calculating HIV prevalence and other methodological approaches made it difficult to compare 2002 HIV estimates with 1998 estimates.

⁷ These estimates precede the even larger disbursements of Global Fund and Emergency Fund monies in 2003. The share of donor financing for HIV/AIDS will continue to rise for 2003 and 2004.

Table ES-2: Summary HIV/AIDS Statistics from 2000 to 2002

Indicators	2000*	2002
HIV seroprevalence rate (adults)	5.1% (est.)	5.1%**
Number of PLWHA	200,000 (est.)***	199,279
Total Health Expenditure (THE) – general NHA	RWF 30.6 billion (US\$ 77.9 million)	RWF 33.3 billion (US\$ 70.1 million)
Total HIV/AIDS expenditure – HIV/AIDS subanalysis	RWF 2.4 billion (US\$ 6.0 million)	RWF 4.9 billion (US\$ 10.3 million)
% of total health expenditures allocated to HIV/AIDS	8%	15%
General out-of-pocket spending per inhabitant	RWF 987 (US\$ 2.51)	RWF 1,011 (\$2.13)
HIV/AIDS out-of-pocket spending per PLWHA	RWF 4,431 (US \$11.27)	RWF 3,605 (US \$7.59)
Total HIV/AIDS spending as a % of GDP (in current prices)	0.3%	1%
Financing sources for HIV/AIDS care		
Public	8%	9%
Private	43%	17%
<i>Of which households account for</i>	41%	16%
Donors	49%	75%
Providers of HIV/AIDS care (as % of THE for HIV/AIDS)		
Public providers (total)	33%	16%
<i>Public hospitals</i>	24%	11%
<i>Public health centers</i>	9%	5%
Private providers (total)	9%	3%
<i>Private for profit hospitals</i>	8%	2%
<i>Private for profit health centers</i>	1%	1%
Government assisted not-for profit providers (total)	5%	3%
<i>Government assisted not-for-profit hospitals</i>	2.6%	1%
<i>Government assisted not-for-profit health centers</i>	2.8%	2%
Private pharmacies	7%	3%
Provision and administration of public health programs	46%	66%
General health care administration and insurance for HIV/AIDS	0%	9%
HIV/AIDS spending by function (in %)		
Preventive and public health programs	46%	66%
Curative care:	48%	23%
<i>Inpatient</i>	14%	7%
<i>Outpatient</i>	34%	15%
Administration		9%
Pharmaceuticals purchased at independent pharmacies	7%	3%

* All RWF amounts for 2000 are in constant 2002 RWF to facilitate comparison between years. The Consumer Price Index was used for the conversion (93.1 for 2000). *Source for CPI data:* Ministry of Finance and Economic Planning and International Monetary Fund.

**UNAIDS. Op cit.

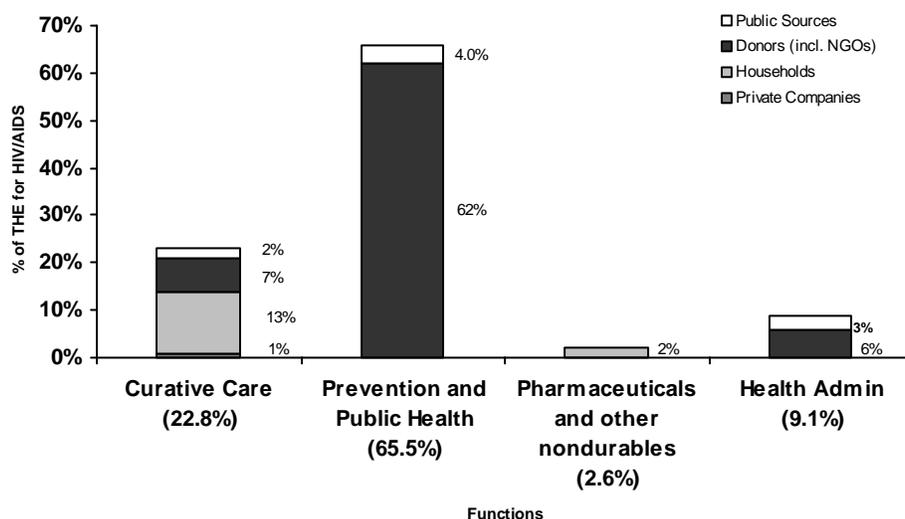
*** Based on total population estimates that were derived prior to the 2002 census.

The subanalysis also looked specifically at the out-of-pocket costs for curative care by people living with HIV/AIDS and by the general population. PLWHA spend 4.6 times more than the general population for inpatient care and 4.1 times more for outpatient care. The burden on households to pay for care should be examined closely as 2.5 percent of the Rwandan population account for a sizeable 7 percent of all household health expenditures. This burden sometimes forces people to sell belongings;

moreover, there is gender disparity in this burden. The PLWHA survey found that while 12 percent of men had to sell some of their possessions to pay for outpatient care, more than 22 percent of women had to do so. In terms of support to PLWHA, family or friends assist with the majority of financing, followed by health insurance, churches/religious congregations, and local NGOs. One of the issues this raises is whether or not the government and donor emphasis of spending is an optimal mix of curative and preventive care.

Figure ES-3 summarizes the distribution of the funds that flow between financing sources and end uses.

Figure ES-3: Financiers of the End Uses of HIV Funds



* Sources contributing less than 0.5% to any given function are not included in the figure.

Reproductive Health Subanalysis Findings

Reproductive health is a critical issue in Rwanda. The country has one of the highest maternal mortality ratios (MMRs) in the East and Southern Africa (ESA) region (1,071 per 100,000 live births), one of lowest rates of contraceptive prevalence in the region, and a relatively high number of births per woman of reproductive age.⁸ The war and genocide dramatically and adversely impacted health status, and the country has struggled to regain pre-1994 levels. While some RH indicators have improved since the time of the genocide (e.g., MMR improved to the aforementioned 1,071 per 100,000 from 2,300 per 100,000 in 1994⁹), they are still worse than 1991 rates.

The GOR and the donor community recognize that reproductive health is a critical issue to overall development and have set targets in a number of programs to improve the RH status of women. For example, one of the eight Millennium Development Goals outlined by the United Nations is to reduce MMR by 75 percent by 2015. In addition, the government has included reproductive health as a priority in its country Poverty Reduction Strategy Paper with the similar goal of reducing MMR by increasing the

⁸ UNDP. 2003. *Human Development Report 2003*. New York.

⁹ World Bank. 2003. *African Development Indicators, 2003*. Washington, DC.

number of assisted deliveries from 30 percent to 60 percent of all deliveries. The GOR has also specified in its strategic plan a goal of increasing contraceptive prevalence from 4 percent to 20 percent.

Table ES-3 summarizes major NHA RH subanalysis findings.

Table ES-3: Summary of Reproductive Health Subanalysis Findings for 2002

General Indicators	
Total RH expenditures	RWF 5.2 billion (US\$11 million)*
RH expenditures per woman of reproductive age	RWF 2,524 (US\$5.31)
RH expenditures as a % of GDP	0.6%
RH expenditures as a % of total of overall health spending	16%
Financing Sources of RH Funds (as a % of THE for RH)	
Public (incl. parastatals)	8%
Private	12%
Donor	80%
Household Spending	
Total HH spending as a % of THE for RH	10.6%
OOP spending as a % of THE for RH	10.0%
OOP spending per woman of reproductive age	RWF 253 (US\$0.53)
Providers (as a % of THE for RH)	
Public provider**	9%
-Public hospital	4.3%
-Public health center	4.3%
Private provider	9%
-Private hospital	4.0%
-Private clinic	4.7%
Independent pharmacies/shops/dispensaries	3%
Provision of prevention and public health programs	72%
Administration	3%
Other	5%
Functions (as a % of THE for RH)	
Curative Care as a % of THE for RH	18%
Prevention and Public health programs as a % of THE for RH	66%
Pharmaceuticals and other non-durables as a % of THE for RH	3%
Health administration as a % of THE for RH	7%
Other as a % of THE for RH	6%
Breakdown by Reproductive Health functional categories	
Maternal health services (curative care) as a % of THE for RH	15%
Family Planning as a % of THE for RH	6%
Prevention and public health programs on MCH and FP as a % of THE for RH as a % of THE for RH	66%
Administration as a % of THE for RH	7%
Other as a % of THE for RH	6%

* Exchange rate used for 2002 is 1US=475 RwFr

** Note, in the reproductive health subanalysis, due to difficulties in disaggregating expenditures between government assisted not-for-profit facilities and public facilities, these two types of providers are aggregated under the heading of "public" facilities.

Total RH expenditures were RWF 5.2 billion (just under US\$11 million), or RWF 2,524 (US\$5.31) per woman of reproductive age. RH care accounts for 16 percent of overall health expenditures and is targeted to essentially 25 percent of the population, namely women of reproductive age.

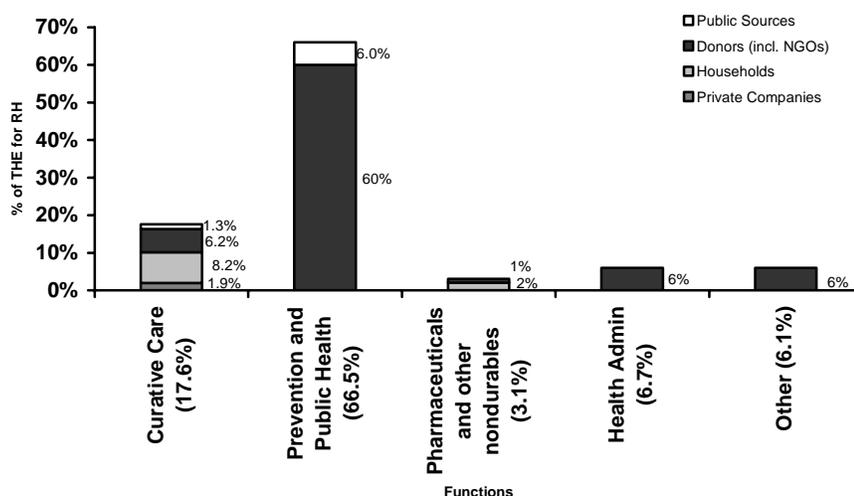
Donors provide most financing for RH services (80 percent), followed by 12 percent from private financing sources (mainly households), and 8 percent from the government. As with HIV/AIDS, the donor contribution to reproductive health represents more than one-third of all donor health funds going to Rwanda. Public spending as a proportion of overall public health expenditures is low, only 4 percent, raising concerns about whether the GOR is spending enough to achieve its high priority policy goals of improving RH indicators.

Unlike the general NHA and the HIV/AIDS subanalysis, the principal financing agents for RH expenditures are public entities, which manage 52 percent of RH THE, followed by implementing agencies/NGOs (36 percent), and households via out-of-pocket spending (10 percent). This prominent GOR role is attributable to donor reliance on government infrastructure to channel the majority (approximately 55 percent) of its RH funding.

Expenditures on providers of RH curative care are equally distributed at public (9 percent of RH THE) and private providers (also 9 percent).

Similar to HIV/AIDS functions, curative care accounts for 18 percent of RH resources while prevention and public health programs consume 66 percent (Figure 3). Also as with HIV/AIDS, curative care for RH services is financed principally by households (close to half of curative care expenditures) whereas donors finance most prevention and public health programs.

Figure ES-4: What are Reproductive Health Funds Spent on? A Breakdown by Functions*



* Sources contributing less than 0.5% to any given function are not included in the figure.

Households also finance the largest proportion of RH pharmaceuticals and non-durables purchased at independent pharmacies/shops, which represent 2 percent of RH THE. Donors finance the remainder. Donors also finance 90 percent of all expenditures on public health programs on maternal health and family planning (FP), such as information, education, and communication campaigns, behavior change communication activities, and the training of community health care workers and animators;

public sources contribute the remaining 10 percent. Again, the sizeable emphasis on prevention versus curative care raises the issue as to whether this is an optimal mix.

When curative care and pharmaceuticals/nondurables are broken down in terms of RH-specific categories, maternal health services account for 15 percent of the RH THE, FP consultations and commodities for 6 percent. This is a relatively low expenditure on maternal health services, and the GOR, in its goal to reduce maternal mortality, is examining ways to increase the number of facility-based deliveries. Currently, 73 percent of all births in Rwanda occur outside of health facilities; based on 2002 NHA estimates (RWF 3,603/US\$7.59 per facility delivery), expenditures on this service would need to triple if all deliveries were to take place at facilities.

Six percent of all RH spending is on FP consultations and contraceptive commodities. Households and donors finance equal shares of the expenditures, despite the fact that all contraceptive commodities in Rwanda are donated or highly subsidized by donors, which channel their products through the Ministry of Health or implementing agencies. Though the ministry issues the commodities largely free-of-charge, households must pay the consultation fee. Implementing agencies/NGOs often distribute the commodities through social marketing, that is, the commodities are sold to providers, who resell the products to the consumer. Examining commodities by type, the subanalysis revealed that households contribute the same amount as donors for injectables, and almost twice as much as donors for oral contraceptives.¹⁰ As with other “end uses” discussed in this paper, this raises the issue of the financial burden borne by households and whether it contributes to low utilization.

Conclusion

Overall, the burden of health care financing in Rwanda is borne principally by households, followed by donors, and then by the government. Donors finance most expenditures (more than two-thirds) targeted to HIV/AIDS and reproductive health; in both cases, funds are directed largely at prevention and public health programs. The GOR contribution to overall health care goes more to curative care than to prevention; however, as with donor funding, the emphasis shifts toward prevention with respect to HIV/AIDS and RH care.

All three analyses – general NHA, HIV/AIDS, and RH – found that households finance more than the government, including approximately half of all curative care, raising concerns about the financial burden this situation places on households, particularly as 60 percent of the population is below the poverty line.¹¹ More broadly, it raises questions about the equity, efficiency, and sustainability of health financing in Rwanda.

The government of Rwanda is committed to using these findings to enhance the evidence base of its policy decisions intended to strengthen the country’s health system. It also is committed to institutionalizing the NHA process, so that estimates such as those presented in this report can be produced on a regular basis, with the resulting updates and trend data serving to continually support the achievement of the health system’s strategic objectives.

¹⁰ Donor transfers of products to NGOs or through the MOH largely financed the cost of condoms in 2002, which were distributed free-of-charge.

¹¹ Republic of Rwanda, MINECOFINE, Statistics department. 2002. *Integrated Household Living Conditions Survey in Rwanda 2000-2001*. Kigali, Rwanda.

1. Introduction

1.1 The NHA Concept

National Health Accounts (NHA) is an internationally recognized framework that measures and tracks the use of total – public, private (including household), and donor – health care expenditures in a country. It does so by offering a transparent and consistent way of describing health expenditures in terms of financing sources and uses.

NHA involves the compilation of available data, the commissioning of primary data collection to fill any gaps, and the analysis and presentation of the data in a user-friendly form as per the norms described in the *Guide to producing national health accounts; with special application for low-income and middle-income countries* (commonly referred to as the *Producers' Guide*).¹² Four main NHA tables are produced to track the flow of health funds from one health care dimension to another, i.e., from financing sources (FS) (such as the government) to financing agents (HF) (such as the MoH), which manage funds, to providers (HP) (such as MoH hospitals) and finally to health care functions (HC), the types of services and products delivered (such as curative care or prevention).

An NHA estimation allows for greater fiscal transparency of a country's health system. The primary objective of NHA is to serve as a policy tool – that is, to improve the capacity of governments to manage their health system by providing expenditure information to contribute to evidence-based health policymaking. It also allows a country to compare its findings to those of other countries in its region and socioeconomic rank. In addition, NHA helps donors to determine how to best support national health systems.

In addition to looking at an overall health system (general NHA), NHA can be used to do specialized expenditure reviews of a disease-specific service or intervention cluster. These “subanalyses” use the same tabular format as the general NHA exercise.

1.2 Development of Rwanda's NHA

The Rwanda NHA process was initiated in 1999 and focused on health resource sources and uses for the fiscal year 1998. It was carried out by the Ministry of Health in conjunction with the United States Agency for International Development (USAID)-funded Partners for Health Reform *plus* (PHR *plus*) project. The resultant report, published in 2000, was well received by the government of Rwanda (GoR). The MoH used the report's findings, which showed a low government fiscal contribution to health care, to lobby and ultimately attain additional financing from the government budget – as evidenced by the increased share of total GoR expenditure on health, from 2.5 to 6.1 percent, between 1998 and 2002.

¹² Published by World Health Organisation, World Bank, and the United States Agency for International Development. 2003

The NHA 2002 exercise, carried out by the MoH with principal support from USAID/PHR*plus*, and additional support from the Belgian Technical Corporation, represents the second time that NHA tools and methodologies have been applied in Rwanda. This round, in addition to documenting resource flows through the overall health system, lay particular emphasis on expenditures for HIV/AIDS and reproductive health (RH), areas of great concern for the GoR. Thus, the targets for the Rwanda NHA 2002 can be outlined as follows:

- ▲ General NHA (which tracks overall health spending)
 - △ As with the 1998 study, the 2002 NHA exercise aimed at providing greater insight into the state of the Rwandan health system and suggesting specific policy implications. The GoR has incorporated previous NHA findings into the national statistics table and it expects that general NHAs will continue to play a key role in providing much needed input in health care policymaking.
- ▲ HIV/AIDS subanalysis
 - △ A special feature of NHA in Rwanda has been the adaptation of the NHA framework to study HIV/AIDS specific expenditures. This was done with the 1998 data and incorporated again as a vital component of the 2002 exercise.
 - △ Data tables from the 1998 NHA HIV/AIDS subanalysis were incorporated into the National Development Indicators book. This is an important step in the effort to inform HIV/AIDS policy discussions in Rwanda. Moreover, NHA's inclusion in the indicators book supports the institutionalization process of health accounts.
 - △ Information from the HIV/AIDS subanalysis will enable the MoH to design and implement targeted policy interventions that improve the financing of prevention activities and increase access to basic health care services for people living with HIV/AIDS (PLWHA).
- ▲ Reproductive health subanalysis
 - △ This was the first time that reproductive health was included in the NHA survey as a key component. The RH subanalysis looked at expenditures on maternal health services, family planning, and counselling, as well as at programmatic spending on reproductive health. It is hoped that the resulting NHA estimates will assist the GoR to implement policies that ensuring coordination and monitoring and evaluation of RH activities.

While the focus was on conducting a thorough NHA 2002, the MoH decided to also carry out a NHA 2000 using primarily existing secondary data. This provided the MoH with NHA data (for the general and HIV/AIDS components) across a time series of three years (1998, 2000, 2002), enabling it to make a comparative analysis of NHA results.

All stages of data collection, analysis, and report writing for NHA 2002 took place between February and October of 2004.

1.3 Policy Objectives

The Rwanda NHA 2002 exercise aimed to comprehensively document resource flows in the overall health care system with a view to enhancing the government policymaking process. Specific objectives included the following:

- ▲ Assist policymakers in setting health care policy priorities;
- ▲ Contribute to the improvement of the health system performance and management;
- ▲ Identify areas in the Rwandan health system where equity in the distribution of care can be improved;
- ▲ Compile relevant descriptive statistics for the health system in Rwanda;
- ▲ Enable the tracking of health expenditure trends useful for health care monitoring and evaluation purposes;
- ▲ Institutionalize the NHA process through the involvement of local players in all facets of the process including additional training and technical development initiatives;
- ▲ Identify current gaps in information on the sources and uses of funding for HIV/AIDS-related activities in Rwanda; and
- ▲ Provide baseline data for HIV/AIDS resource flows so that future subanalyses can help monitor the impact of funds disbursed by new donor mechanisms such as the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GF), and the President's Emergency Plan for AIDS Relief (PEPFAR).

1.4 Organization of the Report

This report presents the findings of Rwanda's second NHA exercise for fiscal year 2002. While the report uses NHA 2000 data for comparative analysis of results, the focus of the report remains on those discussions and policy conclusions that can be drawn from the NHA 2002 exercise. The report is divided into six main sections as follows:

- ▲ The background section looks at the socioeconomic and political environment in Rwanda
- ▲ The methodology section focuses on the NHA implementation process, namely key data sources, data collection methods, sampling approaches, analysis and report writing.
- ▲ Three sections dealing with the analysis of the results for general NHA, HIV/AIDS subanalysis and reproductive health subanalysis.
- ▲ The conclusion summarizes major findings, next steps and ways in which the NHA exercise addressed the policy objectives described above.

2. Background

2.1 Overview of Rwanda

Rwanda is located in the Great Lakes region of sub-Saharan Africa. With a population of about 8.1 million people⁵ living within 26,300 sq. km, Rwanda is ranked as one of the most densely populated countries in the world. The annual population growth rate is estimated at 2.7 percent. Close to half the population is under the age of 20, and nearly 60 percent lives below the poverty line. The adult literacy rate in 2003 was 68 percent.

The Rwandan economy is highly dependent on the agricultural sector: An estimated 90 percent of the population is employed in agriculture-based and related industries. Agriculture accounts for about 41 percent of total gross domestic product (GDP), followed by industry (21 percent) and service (38 percent).¹³ GDP per capita is among the lowest in the world (RWF 100,357 or US\$211¹⁴). Real GDP growth in 2002 rose to an estimated 9.4 percent owing to climatic conditions favorable to agriculture, but there was some deceleration in 2003 due to late rainfall. Inflation has declined over several years, from a high of 64 percent in 1994 to 2.2 percent in 2002.

The GoR pursues donor-friendly, liberal economic policies and enjoys good relations with international donors, including both the International Monetary Fund (IMF) and the World Bank¹⁵. Government policy aims to liberalize public sector monopolies, privatize state-owned enterprises, and promote foreign investment. Rwanda receives substantial aid and, in 2000, was approved for the IMF-World Bank Heavily Indebted Poor Country initiative for debt relief. Since the destruction caused by the war and genocide in 1994, the state of Rwanda's economy has been improving, relying mainly on external resource inflows and less to the recovery of domestic production.

Rwanda's social indicators remain poor despite the progress achieved since the war and recent GDP growth. Between 1993 and 2002, the proportion of households below the poverty line increased from 53 to 57 percent. Poverty is mostly rural. The pressure on land is such that, on average, family plots measure less than one hectare – the critical limit below which a family can no longer meet basic food needs. Land is overcultivated and progressively losing its fertility. Poverty – and often desolation – is rampant in rural areas. The social categories that are primarily victimized by poverty are households headed by women (often widows), young unemployed or unskilled persons, prisoners, seasonal workers, old people, handicapped persons, and children. In many cases, poverty has been aggravated by social isolation and psychological trauma related to the atrocities and human losses experienced during the war and genocide.

The decline in living standards coupled with rapid population growth will increase the demand for social services such as health and education and increasingly strain the limited resources of the government. This reinforces the need to develop and implement policies that will increase access to basic health services for the poor and vulnerable populations

¹³ USAID country report 2004

¹⁴ As calculated from the *Rwanda Debt Relief Workshop 2004* and from the 2002 census.

¹⁵ World Bank Country data and statistics 2004

2.2 Regional Comparative Analysis of Basic Indicators on Development and Health Status

Rwanda is ranked as one of the world's poorest countries and it falls below average on a number of the key development indicators for countries in the East and Central African region. As noted above, 60 percent of Rwanda's population (53 percent of households) live below the poverty line, on less than US\$ 1 a day. The maternal mortality rate (MMR), 1,071 deaths per 100,000 live births, is one of the highest in Africa. Life expectancy is 39 years; major causes of morbidity and mortality are malaria, HIV/AIDS, tuberculosis (TB), acute respiratory infections, intestinal parasites, malnutrition, and diseases related to reproductive health.¹⁶

Table 2.1: Comparative Analysis of Basic Development Indicators, Selected Countries in East and Central Africa

Indicator	Rwanda	Zimbabwe	Kenya	Uganda	Tanzania	Malawi	Zambia	Ethiopia	Average
Population, in millions (2002)	8.1*	12.8	30.9	24.2	35.6	11.6	10.6	67.3	25.15
GDP, in US\$ billions (2001)	1.7	9.1	11.4	5.7	9.3	1.7	3.6	6.2	6.1
GDP per capita, in US\$ (2001)	211***	706	371	249	271	166	354	95	305.3
Percent of population below poverty line (US\$1/day)	60	36	23	82.2	19.9	41.7	63.7	81.9	51.1
Infant mortality rate, per 1000 births (2001)	96	76	74	79	104	114	112	116	96.4
Under five mortality rate, per 1000 births (2001)	183	123	116	124	165	183	202	172	158.5
Maternal mortality rate, per 100,000 live births (1998)	1071**	700	590	510	530	1100	650	870	756.3
Total fertility rate (2000)	5.8**	3.9	4.7	7.1	5.1	6.1	5.6	6.1	5.5
Literacy rate (2001)	68	89.3	74	68	76	61	79	40.3	69.5
Life expectancy, in years (1999)	39	35.4	56	44.7	44	38.5	39	45.7	42.7
Percent of contraceptive use	13	54	39	23	25	31	25	8	27.3

Source: Human Development Report 2003; some Rwandan figures were changed with revised national figures used elsewhere in the report (*Rwanda census 2002. ** Demographic and Health Survey (DHS) 2000. *** As estimated at the Rwanda Debt Relief Workshop 2004).

¹⁶ As described in U.N. Development Programme (UNDP). 2004. *Millennium development goals: Status report 2003*. Kigali.

2.3 HIV/AIDS in Rwanda

With adult HIV prevalence of approximately 5.1 percent¹⁷ (nearly 200,000 adult PLWHA), the AIDS epidemic represents an enormous challenge to Rwanda's health system in particular and development prospects in general. Poverty, war, and the genocide have resulted in vulnerable populations of orphans, child-headed households, victims of rape, and widows, on whom the negative impact of HIV/AIDS is particularly severe.¹⁸

Recognizing the threat of the disease, the GoR committed to stabilizing the spread of HIV during the period 2002 to 2006.¹⁹ Donors have joined this fight and, in 2003, Rwanda became a recipient of GF and PEPFAR monies. Areas in need of support and attention include i) behavioral change interventions, particularly among those out-of-school and the illiterate, ii) access to RH services, with particular focus on improving contraceptive use (principally dual protection methods), iii) use of voluntary counseling and testing (VCT) services (currently rates are very low), iv) prevention of mother-to-child transmission (PMTCT) strengthening through building capacity and raising awareness among women themselves, v) coordination of PLWHA care among the various associations, vi) accessibility to ARVs (in 2002 only about 700 PLWHAs were receiving ARVs), vii) human resources development, and viii) improvement of drug distribution mechanisms.²⁰

2.4 Reproductive Health

Reproductive health is a critical issue in Rwanda. The country has one of the highest maternal mortality ratios in the East and Southern Africa, one of lowest rates of contraceptive prevalence in the region, and a relatively high number of births per woman of reproductive age.²¹ The 1994 genocide and war dramatically and adversely impacted health statistics in Rwanda and the country has been struggling to regain pre-1994 levels. While some RH indicators are lower than those measured during the genocide (e.g., an MMR of 2,300 in 1994²² had decreased, as noted above, to 1,071 by 1998), they are still far higher compared to rates in 1991.

The GoR and the donor community recognize that reproductive health is a critical issue to overall development and have set targets in a number of programs to improve the RH status of women. For example, one of the eight Millennium Development Goals (MDGs) outlined by the U.N. is to reduce the MMR by 75 percent by 2015. In addition, the GoR has included reproductive health as a priority in its country Poverty Reduction Strategy Paper (PRSP), with the similar goal of reducing the MMR by increasing the number of assisted deliveries from 30 percent to 60 percent. The government has also specified in its strategic plan a goal of increasing contraceptive prevalence to 20 percent from 4 percent. In order to achieve such goals, the government has outlined specific actions, many of which relate to health care financing:

- ▲ Implement incentives to improve use of health services among women

¹⁷ UNAIDS estimate 2004

¹⁸ UNDP. 2004. Op cit.

¹⁹ Republic of Rwanda. Office of the President and National AIDS Control Commission. January 2003. *National Plan for Monitoring and Evaluation of HIV/AIDS Programs (2002-2006)*. Kigali.

²⁰ UNDP. 2004. Op cit.

²¹ UNDP. 2003. *Human Development Report 2003*. New York.

²² African Development Indicators, 2003

- ▲ Ensure access to pharmaceuticals (offer subsidies for RH-related drugs)
- ▲ Decentralize primary care, including RH services
- ▲ Train health workers to deliver RH services
- ▲ Develop community-based interventions and animators
- ▲ Design and implement performance-based-payment contracting schemes for high impact services, including deliveries.

2.5 The Rwandan Health System

2.5.1 Historical Context

Rwanda's health system has experienced a fundamental transition. During the pre-colonial period, health care consisted of traditional healing methods. During the German colonial period, and then with Belgian colonization, Rwanda had a free health care system based essentially on beliefs, through which modern methods of treatment were introduced.

In the second half of the 20th century, Rwanda's health system was characterized by high-level centralism and services that were delivered almost free of charge. Most of the infrastructure was destroyed during the 1994 war and genocide, and, in the years following the war, Rwanda concentrated mostly on the reconstruction and rehabilitation of not just the basic health services, but of human resources as well.

In the 1980s, like other states in Africa, Rwanda adopted primary health care as the key strategy for improving the health of its population. In February 1995, Rwanda initiated reforms based on the Lusaka Declaration; these were adopted by the National Union Government in 1996. The stated objective was to contribute to the population's well-being by providing quality and acceptable services accessible to the majority of the population. The reforms were implemented with the country's entire population using the following three strategic thrusts: (i) decentralization of the basic health system with the health district as the system's operational unit, (ii) development of primary health care through its eight fundamental components, and (iii) strengthening community participation in management and the financing of services.

The current public health system is in a pyramid structure with three levels: central (departments, programs and the national reference hospitals); intermediate (province); and peripheral (health district with district hospital and health centers), still the system's main operational unit. Each of Rwanda's 11 provinces has a department in charge of Health, Gender and Social Affairs (DSGAS); the City of Kigali has a Public Health Department with subdivisions. (Section 2.5.4 discusses the health system structure in greater detail.)

With the MoH system increasingly decentralized to the health district level, data collection at and by the health district is intended to increase the reliability of information on health system spending.

2.5.2 Health System Mission

Rwanda's vision for 2020 is to ensure the population's well-being by increasing production and decreasing poverty in the context of good governance. To achieve this vision, the GoR is implementing policies and interventions to conquer diseases linked to poverty and ignorance, developing a proactive and effective health system capable of identifying the population's health needs, and attempting to provide appropriate responses to meet those needs. In this framework, the mission assigned to the health system is to ensure and promote the health of the people of Rwanda. This mission will be carried out by overseeing the production of quality preventive, curative, promotional, and rehabilitation services.

Accomplishing this mission assumes that a certain number of conditions be met, namely: mobilization of resources, fair distribution and effective resource management, and reduced dependence on donors for financing of the health system by increasing the government's contribution. Individuals and communities will have to be persuaded to play a greater role in preserving their health and in the management and financing of health services.

The health system uses a certain number of values as its basis: solidarity, equity, ethics, cultural identity and respect for gender. It is also guided by principles, including the acceptability and quality of care, effectiveness and efficiency, intersector coordination, community participation, decentralization, and the integration of care and services. Care characteristics include continuity, comprehensiveness, and relevance, while the characteristics of services include decentralization, permanence, versatility and, hence, efficiency.

2.5.3 Health Sector Strategy

To achieve its mission of ensuring and improving the health status of the population, the health system has set the following major focus areas: (i) improve the availability of human resources, (ii) improve the availability of drugs, vaccines and consumables, (iii) improve the geographical accessibility of health services, (iv) improve financial accessibility to health services, (v) improve the quality of and the demand for health services in the context of disease control, (vi) strengthen the national reference and research hospitals and treatment institutions, and (vii) build institutional capacities at every level.

The Rwandan government and key development partners have reached consensus on 12 high impact public health interventions that are to be supported by the seven focus areas. These are the Integrated Management of Childhood Illness; reproductive health; Expanded Programme on Immunization; nutrition; malaria; HIV/AIDS/sexually transmitted infections (STIs); TB; epidemics and disasters; mental health; blindness and physical disabilities; environmental health; and information, education and communication (IEC)/behavior change communication (BCC).

As part of its national financial targets to be accomplished by the year 2009, the GoR aims to increase its health budget to 12 percent of all government expenditures (currently at 6.1 percent based on NHA 2002 findings). Moreover, the government would like to work towards increasing the per capita health expenditure to US\$ 12 (currently US\$8.62). The third main target is to increase the role of community-based health insurance to cover 50 percent of the population (currently community-based health insurance covers 12 percent of the population).

2.5.4 Organization of the Health Care System

Health services in Rwanda are provided through the public sector, government-assisted health facilities (GAHFs), private health facilities, and traditional healers.

2.5.4.1 Public Sector

The public health system consists of three levels: central, intermediate, and peripheral.

Central level

The central level includes the central units and programs of the Ministry of Health and the national referral hospitals. It elaborates policies and strategies, and ensures monitoring and evaluation, and regulation of the health sector. It organizes and coordinates the intermediate and peripheral levels of the health system and provides them with administrative, technical, and logistical support.

For health care delivery, the central level has three national referral hospitals including Butare hospital and Kigali hospital (CHK) which together make up the University Hospital (CHU), and Ndera mental health hospital. The King Fayçal hospital was created to provide a higher level of technical expertise than that available in the national referral hospitals to both the private and public sector.

Intermediate level

The intermediate level consists of 11 provincial health offices managed under health, gender, and social affairs guidelines. The Public Health Department of Kigali City also is in the intermediate level.

The intermediate level does not provide health services but deals with management and policy issues. The Provincial Unit in charge of Health is responsible for implementation of health policies, the coordination of activities, and the provision of technical, administrative, and logistical support. It ensures there is an equitable distribution and an efficient utilization of resources.

Peripheral

The peripheral level is represented by the health district. Each district has an administrative office and primary health care facilities (health centers); most have a district hospital. At the end of 2001, there were 39 health districts (only 34 had a functioning hospital) and 375 peripheral health facilities: 262 were health centers, 113 were health posts and dispensaries.

- ▲ **Administrative office:** Is responsible for planning, managing, coordinating, and evaluating, on a daily basis, the activities occurring in the health district.
- ▲ **District hospital:** Provides care for patients referred by a primary-level facility. Although curative and rehabilitative care are the principal functions of the hospital, the hospitals also support prevention and promotional activities within the catchment area.
- ▲ **Health centers:** Can be either public, government-assisted not-for-profit, or private. Their functions include: (i) organization of health services in the health centers and the district hospital so as to ensure the minimum and complementary package of activities is provided, (ii) administration and logistics, including the management of resources and supply of drugs, under the responsibility of the district management team, and (iii) supervision of community health workers. Health centers are responsible for providing basic primary health care, which

includes a complete and integrated array of curative, preventive, promotional, and rehabilitation services.

- ▲ **Health posts:** Are set up to take care of transitional situations, such as the flow of refugees or the existence of an epidemic, are not intended to remain a permanent part of the health system and will gradually be phased out.

At all levels of the health district, decisions are made collectively through various committees, which serve as vehicles of community participation in the health sector. Community participation is a key element in the implementation of the primary health care strategy: it plays a role in the planning, execution, and monitoring of primary health care activities, including the provision of certain services at the grass roots level (nutrition, mental health, family planning etc) and the search for appropriate solutions to local health problems and the mobilization of resources.

2.5.4.2 Government-assisted Health Facilities

The conventional not-for-profit sector is made up of health facilities run by various religious groups and not-for-profit associations. In 2001, 40 percent of primary and secondary health facilities were in this category. Government-assisted health facilities are completely integrated into the public health system. The GoR provides services to both public and conventional not-for-profit facilities, irrespective of their resources (human, equipment, or operating budget). GAHF staff and government staff are equally eligible for government-sponsored in-service education. GHAF representatives participate integrally in the work group (district management team) of each district and have a formal agreement to follow the policies of the MoH.

2.5.4.3 Private Sector

Since 1995, the private medical sector in Rwanda has grown considerably and continues to do so. In 1999, there were 69 private physicians either with private practices or working as employees of NGOs, commercial establishments, private insurance companies, or mutual societies. The number of private pharmacies throughout the country increased from 300 in 1999 to 405 in 2001.

As of 1999, there were 329 private health facilities in Rwanda, with more than 50 percent located in or near Kigali. Among these facilities, 63 were headed by physicians, 242 were headed by nurses, and 14 were headed by persons who were not medically trained. These private facilities have hospitalization capacity and some have very specialized services, such as gastroenterology, ophthalmology, and physiotherapy. They are often staffed with trained paramedical staff.

2.5.4.4 Traditional Medicine

Traditional medicine is widely used in Rwanda. Sick people are as likely to consult a traditional practitioner as their modern health care providers, depending on the nature of the problem. The MoH and the Institute of Scientific Research and Technology are trying to organize traditional medical practitioners into associations, but few associations were functioning in 2001.

2.5.5 Health Sector Financing

The largest sources of funding are the government allocation to the MoH through the Ministry of Finance and Economic Planning, contributions from the population, and external assistance from contributions or loan agreements with multilateral, bilateral, or non-governmental partners of the MoH.

Between 1978 and 1994, funds allocated to the MoH for health programs consistently decreased. However, after the genocide of 1994, the share for health expenditures in the national budget started to increase. In 1999-2000, this share reached 4 percent, around RWF 3.5 billion (about US\$1.25 per person). In 2004, the MoH recurrent budget rose to 6.1 percent of total government budget (RWF 8.2 billion). In relation to the national economy, only 0.6 percent of GDP is dedicated to health.

In 1999, about 60 percent of government funds for the health sector were directed to services in outlying areas, 15 percent were allocated to referral hospitals, and 25 percent were allocated to central and regional management and other services. Between 1995 and 2000, external financial assistance grew considerably in the form of humanitarian rescue aid, especially for the rehabilitation of infrastructure that had been severely damaged or completely destroyed. The MoH's dependence on external aid is considerable; the level of assistance has been increasing since 2000, with a peak in 2004 with the arrival of Global Fund and PEPFAR grants.

2.5.6 Package of Health Services

Most common illnesses in Rwanda are transmissible diseases that are preventable through improved hygienic measures and changes in individual health behavior. A package of activities directed toward these diseases as well as common preventive interventions has been defined for each level of the health system.

2.5.6.1 Minimum Package of Activities for the Peripheral Level

At the health center level, the minimum package of activities (MPA) includes:

1. Promotional activities, including IEC, psychosocial support, nutritional activities related to small farming and food preparation, community participation, management and financing of health services, home visits, and hygiene and sanitation in the catchment area around the health center
2. Prevention activities in areas such as premarital consultation, antenatal care and postpartum care for the mother and child, family planning counseling and services, school health, and epidemiologic surveillance activities
3. Curative activities, including consultations, management of chronically ill patients, nutritional rehabilitation, curative care, observation before hospitalization, normal deliveries, minor surgical interventions, and laboratory testing

2.5.6.2 Complementary Package of Activities for District Hospitals

The complementary package of activities (CPA) for district hospitals includes activities 1 and 3 of the MPA for the peripheral level, but emphasizes treating referred cases. Additional activities under the CPA include the following:

1. Prevention, including preventive consultations for referred cases and antenatal care consultations for at risk pregnancies
2. Family planning, with the provision of all methods for referred cases, including female and male sterilization
3. Curative care, including management of referred cases, referrals for tertiary-level care, management of difficult labor, medical and surgical emergencies, minor and major surgical interventions, inpatient care, laboratory testing, and medical imaging
4. Management, including the training of paramedical personnel in district schools and collaboration with the district work group for continuing education and supervision activities.

2.5.6.3 CPA for National Referral Hospitals

There is an overlap of the activities of the district and national referral hospitals because there is still an unclear delineation of responsibilities for the central-level national referral hospitals, and there are not enough functioning district hospitals, especially in urban areas. This results in national referral hospitals often assuming the responsibilities of district hospitals.

2.5.7 Supply and Distribution of Drugs

Drugs are supplied to the public sector through the *Centrale d'Achat des Médicaments Essentiels au Rwanda* (CAMERWA), which is a not-for-profit association. It sells medications to district pharmacies and to certain health facilities on a for-profit basis as a means of financing its activities and, subsequently, to sustain the system. Supplies are provided to health facilities directly from CAMERWA through the district pharmacies or through other private sources such as the *Bureau des Formations Médicales Agréées au Rwanda* (BUFMAR), a for-profit private company that supplies medications mainly to private health facilities.

The list of essential medications is revised regularly; it was last revised in May 2000. The list includes medical consumables (medicines and other consumable supplies, such as bandages) and materials and reaction agents for laboratories. The list is based on the main causes of mortality and morbidity in the country and on the standards of evidence established by the most recent pathology reports. Currently, most of the medications are imported. Since 1995, the national policy has recommended using generic essential medications.

2.5.8 Geographic Distribution of and Populations Served by Health Facilities

To ensure the most efficient health care coverage possible, given limited availability of resources, norms were established in 1997. These norms include an average coverage of 200,000 people per district, with one hospital per district and 20,000 people per health center.

Considering the current distribution of facilities, about 85 percent of the population live within 1.5 hours of a primary care health unit. To improve geographic accessibility, a referral system combining access to ambulance services and a telephone network for district-level facilities is gradually being developed. District health offices in Rwanda are characterized by great variability in size and

demographic coverage. The population covered by a district facility varies from 70,000 to 480,000 people. The national average is around 200,000, which approximates the national norm.

Before 1994, Rwanda lacked human resources in health, both in quality and quantity. This situation worsened with the genocide of 1994, when many people were killed or went into exile. The number of physicians working in the public sector dropped sharply after 1994. In 1988, there were 253 physicians working in the public sector; in 1995 this had dropped to 117. Today the number is 160 physicians (Table 2.2), which is lower than the desired number. The gap is made worse by the increasing shift of physicians from the public sector to the private sector or to advanced studies.

Table 2.2: Current Number of Health Professionals in the Public Health System, by Health Facility Type

	Kigali University Hospital	Butare University Hospital	Hospitals	Health Centers	Total
General doctor	31	22	63	0	116
Specialist doctor	22	19	2	1	44
Nurse (A1/A2/A3)	378	115	676	815	1984
Medical/social assistant	15	6	60	122	203
Midwife (Registered/associated)	22	11	8	1	42
Lab technician	23	22	52	37	134
Auxiliary health worker	13	8	154	348	523

The lack of health professionals remains one of the greatest challenges for the health sector. The number of inhabitants per nurse is 3,900 and the number of inhabitants per doctor is 50,000. The nurse-to-population ratio is within the World Health Organization (WHO) norm of 5,000; however, the doctor-to-population ratio is almost five times the WHO norm of 10,000. Furthermore, these overall figures hide the large disparity between provinces and between rural and urban areas, a phenomenon that can be explained by low basic salaries and the lack of an effective incentive structure to favor rural areas.

3. Methodology

This chapter concentrates on the process through which the GoR NHA technical team collected data. Data analysis is touched upon briefly as it was conducted in accordance with the *Producer's Guide*.²³ The NHA tables for 2002 and 2000 are displayed in Annexes A-E.²⁴

3.1 Overview of Approach

The principal focus of the NHA exercise was to collect data estimates for fiscal year 2002. As data also were collected for 2000, mainly for the purpose of conducting trend analyses. The data in the NHA 2002 and 2000 exercises were collected well after the results of the 1998 NHA were processed and published.²⁵

Data collection took place over four months, from November 2003 to March 2004. Data were collected from a number of secondary and primary data sources. Every effort was made to base each NHA estimate on more than one data source in order to verify and triangulate the data. Secondary data sources consisted of official publications, government records, and publicly available studies. Primary data collection, in the form of administered questionnaires, was targeted to the following entities:

- ▲ Insurance companies
- ▲ The Department of Health, Gender and Social Affairs (in each province) and the City of Kigali
- ▲ Health districts
- ▲ Hospitals (national reference hospitals and district hospitals)
- ▲ Private practitioners
- ▲ Health centers (public and/or certified)
- ▲ Partners (multilateral or bilateral)
- ▲ Implementing agencies/NGOs working in the health system

²³ Published by World Health Organization, World Bank, and the United States Agency for International Development in 2003.

²⁴ Total health expenditure is at the lower right corner of each table. The THE is the estimate that is discussed in this report and used for international comparisons. The National Health Estimate, which is presented below the THE, includes all health expenditures and some additional expenditures that the GoR felt to be health care relevant but are not used in international comparisons.

²⁵ Schneider P, Nandakumar et al. September 2000. *Rwanda National Health Accounts 1998*. Technical report no. 53. Bethesda, MD: PHRplus, Abt Associates Inc.

- ▲ Parastatals (public firms) and private employers (that provide health benefits for their employees)
- ▲ Pharmaceuticals stores and dispensaries
- ▲ PLWHA identified through recognized associations of PLWHA or health facilities that provide care for these people.

3.2 Steering Committee

This NHA initiative, particularly the data collection process, received guidance and support from the MoH Secretary General and the National NHA Steering Committee, which is a multisectoral group of influential policymakers representing various areas of the health system. Participating members included the former MoH Secretary General and now president of the Kigali Health Institute, Dr. Desire Nduabandi; the current Secretary General, Dr. Ben Eliphaz Karenzi; the Director General of Health and Social Affairs in the Office of the President, Dr. Chantal Kabagabo; the Director of Health and Social Affairs in the Office of the Prime Minister, Dr. Shirimpumu Théobald; the Secretary General of the Ministry of the Economy and Finance (MINECOFIN) and Secretary of the Treasury, Mr. Claver Gatete; Ms. Gisèle Gatariki from the Strategic Planning Department, MINECOFIN; the Director of Research and Statistics of the BNR, Mr. Philémon Safari; the Director of the National Medical Stores of Rwanda (CAMERWA), Mr. Ernest Rwagasana; and the Director of the Office of Certified Medical Facilities of Rwanda (BUFMAR), Dr. Camille Kalimwabo.

The role of the SC was to identify the key policy issues to be informed by the NHA estimation. SC members also facilitated access to financial data from their representative organizations.

3.3 Objectives of Data Collection

In accordance with MoH policy needs and those highlighted by the SC, the NHA technical team set out to collect data on the following:

- ▲ General health spending by all major health care entities to inform the general NHA estimation
- ▲ Spending on HIV/AIDS services by all relevant health care entities to inform the HIV/AIDS subanalysis
- ▲ Expenditures on RH benefits by all relevant health system players to inform the RH subanalysis
- ▲ Spending patterns principally for the fiscal year 2002, and, if possible, for 2000.

3.4 Secondary Data Collection

Data collection was preceded by a training workshop for the national technical team, given October 27–29, 2003 by PHR*plus* consultants Ms. Pia Schneider and Ms. Susna De. The technical team comprised eight officials from the MoH Directorate of Planning (DP), MoH Directorate of Human Resources and Support Services (DRHSA), and the President’s Office. These officials are Mr. Emmanuel Kabanda, team

coordinator (and Director of Finance and Support Services, MoH), Mr. Lazare Ndazaro (whose contribution was financed by Family Health International through the USAID Impact Rwanda Project), Mr. Charles Waza, Dr. Pascal Kayobotsi, Mr. Médard Nyandekwe, Mr. Laurent Manizabayo, Mr. Tim Powell Jackson, Dr. Théophile Nzeyimana, and Dr. Bernard Storme. Dr. Vianney Nizeyimana, MoH Director of Planning, contributed to the writing of this report.

During this workshop, the participants, representing a diverse range of health system perspectives, developed a data collection plan that detailed possible secondary data sources for the NHA initiative. Table 3.1 lists the publications, government records, and published studies were used to inform and verify the NHA findings presented in this report.

SC members often facilitated retrieval of secondary data, which occurred from November to December 2003. After identifying secondary data, the NHA technical team identified remaining data gaps to be filled by primary collection.

Table 3.1: Secondary Data Sources

General NHA
<i>Government Records</i>
MINECOFIN. 2002. Executed recurrent budget (audited).
MINECOFIN. Nov. 2003. Execution du budget de developpement, Gestion 2002. MINECOFIN-CEPEX
MINECOFIN-Service National de Recensement. 2002. Rapport Preliminaire du 3eme Recensement General de la Population.
BNR. 2002. (Import-Export) pharmaceuticals 2002.
MINECOFIN. 2003. Rwanda Development Indicators 2002.
MoH. Annual Report 2002.
<i>Other Public Records</i>
Republic of Rwanda, MoH. 2002. Database on development partner interventions in the health system 2002. Kigali, Rwanda.
<i>Insurer Records</i>
Republic of Rwanda, RAMA. 2002. <i>Summary of RAMA Expenditures 2002</i> . Kigali, Rwanda.
Republic of Rwanda, Caisse Sociale Rwandaise. 2002. <i>Summary of CSR expenditures 2002</i> . Kigali, Rwanda.
IMF statistical tables 2002 for FARG estimates
<i>Provider Records</i>
Republic of Rwanda, MoH. 2002. <i>Health Information System 2002</i> . Kigali, Rwanda.
<i>Household Records</i>
Republic of Rwanda, MINECOFIN, Statistics department. 2002. <i>Integrated Household Living Conditions Survey in Rwanda 2000-2001</i> . Kigali, Rwanda.
Republic of Rwanda MoH. 2001. <i>Demographic Health Survey 2000</i> . Kigali, Rwanda: ONAPO, ORC MACRO
<i>Other</i>
Foulon, G., Kagubare J. and A. Kalk. 2004. Financement des systèmes de santé dans les provinces de Butare et de Byumba au Rwanda. GTZ Santé au Rwanda/DED: Kigali, Rwanda
HIV/AIDS Subanalysis
Republic of Rwanda MoH. 2001. <i>Demographic Health Survey 2000</i> . Kigali, Rwanda: ONAPO, ORC MACRO
MoH-TRAC. 2003. HIV sentienel surveillance among pregnant women attending antenatal clinics, Rwanda, 2002.
RH Subanalysis
Republic of Rwanda MoH. 2001. <i>Demographic Health Survey 2000</i> . Kigali, Rwanda: ONAPO, ORC MACRO
USAID Deliver project. 2003. NEWVERN Information System 2002
Republic of Rwanda, MoH. 2002. <i>Health Information System 2002</i> . Kigali, Rwanda.
Data provided by Julia Sobrevila (Population Services International); Mr. Damascène Butera (PRIME II)

3.5 Primary Data Collection

Survey instruments were developed for each of the targeted entities listed in section 3.1. Because many survey instruments were created for this NHA exercise, they are not included in this report. However, they are publicly available and can be accessed by contacting the MoH DRHSA and DP. As the PLWHA survey was particularly complex and unique, this survey will be separately discussed in a later section. The primary data collection period extended from November 2003 to March 2004.

3.5.1 Survey Instrument Development

Questionnaires were developed after reviewing the instruments used for the 1998 NHA estimation. Those instruments were revised and pretested to be more compatible with the accounting structures of their targeted entities. In addition, two components were added to each survey instruments, one that requested information on HIV/AIDS expenditures and another on RH expenditures.

Ultimately two sets of questionnaires were developed (for all instruments except the PLWHA survey), one for 2002 and the other for 2000. Respondents were requested to fill out 2002 questionnaires before beginning the 2000 survey instruments. As would be expected, the response rate for the 2002 was much higher than for the year 2000 instruments (owing somewhat to respondent fatigue); however, the 2000 data that were collected were nevertheless helpful in contributing to the analysis. The lowest response rates were among donors and international implementing agencies.

3.5.2 Sampling

The sampling objective of the primary data collection efforts was to capture nationally representative information. As Rwanda is a relatively small country and many entities involved in health care financing are fairly accessible (many are centered in Kigali), wherever possible the survey instruments targeted the known universe of a given type of entity. Table 3.2 lists the entities targeted and the response rates.

Table 3.2: Targeted Entities and Response Rates to Surveys

Questionnaire	Survey entity	Targeted number	Response rate
1. Insurance companies	RAMA	1	100%
	CSR	1	100%
2C. Directorate of Health, Gender and Social Affaires (Province)	12 (each province)	12	67%
2D. Health districts (administrative base)	39 (each health district)	39	90%
2E. Hospitals	Referral Hospitals (5) CHK CHUB Kanombe Military Hospital Ndera Mental Health Hospital King Faycal Hospital District Hospitals (32) 001001 Gakoma 001002 Kabutare 001003 Kibirizi 001004 Nyanza 002001 Byumba	37	95%

	002002 Ngarama 003001 Bushenge 003002 Gihundwe 003003 Kibogora 003004 Mibirizi 004001 Kaduha 004002 Kigeme 005001 Gisenyi 005002 Kabaya 005003 Muhororo 006001 Gitwe 006002 Kabgayi 006003 Remera Rukoma 007001 Kibungo 007002 Rwamagana 008001 Kibuye 008002 Kirinda 008003 Mugonero 008004 Murunda 009001 Nyamata 009004 Ruli 009005 Rutongo 010003 Nemba 010004 Ruhengeri 011001 Gahini 011002 Kiziguro 011003 Nyagatare		
2F. Private physicians	246	246	53%
2G. Health centers	365 countrywide	365	90%
3A. International donors	African Development Bank Austrian Government Belgian Government Christoffel Blinden Mission (CBMI) European Union French Cooperation Gates Foundation Germany – GTZ Germany – DED Germany – KFW Dutch Cooperation International Committee of Red Cross Italian Cooperation Lux Developpement MSF-Belgique NORAD (Norway) Oil Producing Export Countries (OPEC) Sweden SIDA Swiss Government DFID (UK) USAID (US) UNDP UNFPA UNHCR UNICEF WFP WHO World Bank	28	46%*

3B. International implementing agencies	Action Aid African Humanitarian Action (AHA) Africare American Refugee Committee (ARC) AMREF Care International Catholic Relief Services (CRS) Christoffel Blinden Mission (CBMI) Croix Rouge CUAMM Deliver Handicap International Health Unlimited HealthNet International ICRC Impact – Rwanda International Rescue Committee (IRC) Memisa Cordaid MSF-Belgique Norwegian People's Aid (NPA) Overseas Development Institute (ODI) Prime II Project San Francisco Save the Children Fund (SCF-UK) Swiss Tropical Institute World Relief World Vision ZOA Refugee Care	30	15%*
4. Employers and parastatal companies	Banque Commerciale du Rwanda Banque de Kigali Bralirwa Caisse Sociale du Rwanda Electrogaz Hotel chez Lando Hotel Umubano Milles Collines MTN OCIR The Office des Postes Onatracom Regies Aeroports du Rwanda Rwanda Revenue Authority RwandaMotor RwandaTel Stippag Sulfo Rwanda Union des Banques Populaires	19	74%
5. Pharmacies		Estimated at 432 (not precisely known)	39%
6. HIV/AIDS individuals	Identified from the following points of entry: Health centers Hospitals Associations of People Living with HIV/AIDS	700	100.1%

*Data complemented using the database on development partner interventions in the health system 2002

3.5.3 Survey Administration

Primary data collection was organized and carried out by the technical team under the supervision and coordination of the steering committee. One of the underlying intentions of this NHA exercise was that the process of implementation be institutionalized and to this end that the government and its relevant entities had to understand and lead each step of the process. This is why the principal data collectors were MoH officials representing all regions of the country rather than the NHA technical team alone.

3.5.3.1 Identification and Training of Interviewers

Survey administrators were selected based upon available human resources from the central, intermediate, and peripheral levels (decentralized structures) of the health system. To make efficient use of human resources and logistics, the deployment of interviewers in the field made use of MoH structures at the central and decentralized levels. These individuals were brought to Kigali in February 2004 for a two-day training on the survey instruments and to offer their own comments on the questionnaires.

3.5.3.2 Organization of Primary Data Collection

The data collection process (February 25 to April 2, 2004) was implemented on the basis of a three-phase plan, which is unique to Rwanda in that it incorporates a decentralized approach (in line with government policy). Rather than the central-level NHA team going to the regions to collect most of the data, the Ministry of Health requested its provincial directors of health (DSGAS), health district directors, and their district supervisors to be responsible for administering the questionnaires in respective provinces and districts. By doing so, it was intended that NHA would be more easily institutionalized and become part of the regular reporting requirements of the DSGAS and district supervisors.

The central NHA team coordinated the process according to geographic zones:

- ▲ Zone A: City of Kigali
- ▲ Zone B: Provinces of Byumba, Kigali–Ngali, Kibungo, and Umutara
- ▲ Zone C: Provinces of Gitarama, Kibuye, Ruhengeri, and Gisenyi
- ▲ Zone D: Provinces of Butare, Gikongoro, and Cyangugu.

Each central/technical team member was responsible for a particular zone. The role of the zone coordinator was to i) disseminate the appropriate number of questionnaires to the assigned provinces, ii) ensure that the questionnaires were well understood by the DSGAS in each province, iii) monitor the process, iv) administer per diems, and v) collect the filled questionnaires.

The three-phase approach entailed the i) distribution and explanation of the questionnaire, ii) monitoring and follow-up and iii) collection of questionnaires and forwarding to the DSGAS.

Again, due to the complexity of the PLWHA survey, a separate zone coordinator from the Office of the President, Dr. Pascal Kayobotsi, was assigned responsibility for this entire survey to ensure consistency and uniformity in data collection.

3.5.4 PLWHA Survey Instrument

One of the principal components of the HIV/AIDS subanalysis was the data collected on expenditures by PLWHA. The objective of the PLWHA survey in Rwanda was to estimate the average annual private out-of-pocket expenditure on health services and drugs by individuals who are HIV-positive. The target population for this survey was all individuals who were 15 or more years of age diagnosed as HIV-positive. This population excluded individuals who may be HIV-positive but have not either been diagnosed as such or were not aware that they are HIV-positive. It was estimated that around 11 percent of the 8 million persons in Rwanda are HIV positive.²⁶

Sample Size

The PLWHA sample size²⁷ was determined by examining the required precision of the estimate of the out-of-pocket expenditure based on a simple random sample. The NHA team decided to select a simple random sample of HIV-positive individuals within plus or minus 4 dollars at a 95 percent confidence level. This implied that a minimum sample of 400 persons was required. Thus, out-of-pocket expenditure was estimated based on a sample of 400 persons and the standard deviation was computed from this estimate.

This sample could not be selected directly from a list of persons who were HIV-positive as no such list exists. Therefore, the NHA team selected a sample using various frames, which are lists of persons who are HIV-positive maintained by various facilities and associations. To allow for a meaningful allocation of the overall sample to various frames, any adverse design effects, and to get estimates of some sub-populations of interest, the sample size was increased to 600 persons. Assuming an 85 percent response rate, the required sample was finally estimated to be around 700 persons.

Sampling Frame

The first step in determining the sample was to identify all the sampling frames available. Even though all the frames together may cover a small part of the population in scope for the survey, it was still useful to sample from these frames in order to get a higher proportion of HIV-positive patients than the general population. For each sampling frame, the team estimated the total number of individuals on the frame and the percent of the target population it covered and, if known, the characteristics of the individuals. The following sampling frames were selected:

- ▲ ARV patients currently on treatment
- ▲ Hospitalized patients in district and tertiary hospitals
- ▲ Patients in health centers
- ▲ HIV positive association members
- ▲ Private clinic users

The patients in hospitals and health centers included those receiving VCT and PMTCT services. The team decided not to sample persons not covered by any of the above mentioned frames lists. Such persons

²⁶ During the sampling design stage, the UNAIDS 2003 estimate of 5.1 percent prevalence was not officially released. Consequently, the sampling design depended on the previous estimation of prevalence, 11 percent.

²⁷ Was determined by sampling statistician, Dr. KP Srinath, Abt Associates Inc.

would need to be identified by screening a sample of the general population, which would be very expensive as the prevalence rate is relatively low.

The overall sample of 700 persons was allocated to various frames as shown in Table 3.3. The sample was allocated in proportion to expected number of HIV-positive persons in each frame. Within each of these sampling frames, selected individuals were identified based upon geographical distribution.

Table 3.3: Sample Allocation to Various Frames

Sampling frame	Expected population of HIV-positive persons	Suggested sample size
ARV users	1,260	40
Health centers	15,600	450
Association members	4,000	75
Hospitals		105
Private clinic users		30
Total		700

3.5.4.1 Administering the PLWHA Questionnaire

As the PLWHA survey involved human subjects and, in particular, a vulnerable population, the NHA team strove to follow basic ethical principles when administering the questionnaire, that is, to obtain informed consent and ensure confidentiality. Consequently, the interviewer was typically a medical professional who conducted the interview in a place where privacy was ensured (e.g., not in the hallway of a facility). Informed consent was first obtained and the interviewer explained that participation was entirely voluntary and that the respondent could decline to participate in the entire study or not respond to specific questions with which he/she felt uncomfortable. In order to ensure confidentiality, names, addresses, and other types of identifying information were not collected. For this specific survey instrument, Dr. Catherine Chanfreau (a PHR_{plus} HIV/AIDS expert) developed a document, with input from MoH government officials and HIV/AIDS experts from the Office of the President, entitled *Interviewer Guidelines for the Survey of People Living with HIV/AIDS*. The guidelines were reviewed, edited, and approved at the interviewer-training workshop.

3.5.4.2 Determining Stage of Disease of PLWHA

One of the biggest challenges in tracking expenditures by HIV/AIDS patients arises from the fact that many HIV-positive individuals do not yet know their HIV status, and those who do know (and can therefore respond to expenditure surveys) are generally not representative of the overall HIV population. In particular, respondents to an HIV/AIDS expenditure survey will typically be sicker than the overall HIV population because many people decide to seek testing (and therefore learn their status) because they have started to develop symptoms or suffer from opportunistic infections (OIs). Extrapolating such survey findings using national prevalence data would lead to biased results.²⁸

²⁸ The sickness bias can potentially be reduced by using associations of PLWHA instead of health facilities as the entry points for sampling HIV-positive individuals, but awareness of HIV status by association members will still introduce a source of bias. Including expenditure questions on “DHS+” sero-prevalence surveys would overcome many of the sampling difficulties and thus could yield more accurate results.

Rwanda's 2002 NHA HIV/AIDS subanalysis exercise attempted to address this issue by identifying the stage of disease of survey respondents through a series of questions designed to reflect the WHO's four-stage classification system. The WHO definitions and the survey questions are described in Box 1.

As expected, most respondents (about 75 percent) who reported health expenditures were classified as having a relatively advanced (Stage 3 or 4) disease progression. Thus, when calculating total expenditures by HIV/AIDS patients, the sample results were adjusted using estimates of the overall HIV population's stage of disease profile.²⁹

Box 1: Identifying Stage of Disease among Survey Respondents

The WHO stage of disease classification system includes both "performance scales" and a list of symptoms and infections associated with each stage. The performance scales are listed below; a full list of symptoms and infections is provided in WHO (2003).

Stage 1 performance scale: Asymptomatic, normal activity
Stage 2 performance scale: Symptomatic but normal activity
Stage 3 performance scale: Bedridden for less than 50% of the day during the last month
Stage 4 performance scale: Bedridden for more than 50% of the day during the last month

In order to assign each survey respondent to a stage of disease, the following questions were asked:

1. Are you receiving anti-retroviral treatment? [Yes/No]
2. Have you been ill during the last four weeks? [Yes/No]
3. What were the symptoms of your illness? [Prolonged fever / stomach ache / chronic diarrhea / coughing up blood / white patches on tongue / skin lesions / other (indicate)]
4. Did your illness in the last four weeks confine you to bed? [Yes/No]
5. For how much of the time were you confined to bed? [On average less than half the day / on average more than half the day]

A physician on the NHA team analyzed all responses to determine stage of disease. It proved too difficult to differentiate between Stage 1 and 2 patients; thus respondents were categorized into three groups: Stages 1 and 2; Stage 3; and Stage 4.

3.5.5 Data Entry and Analysis

As the interviewees completed the questionnaires, the interviewers collected them and gave them to the zone coordinators, who in turn verified whether they were correctly completed. Next they submitted them to the Human Resources and Support Services Department.

The following stages were carried out in order to ensure that the data collected were entered and analyzed correctly:

- ▲ Design of an entry screen
- ▲ Enter the data using CSPRO, SPSS, and EXCEL

²⁹ It was estimated that 10 percent of the HIV population falls into Stage 1, 55 percent into Stage 2, 25 percent into Stage 3, and 10 percent into Stage 4. This is based on U.S. Centers for Disease Control and Prevention (1998), UNAIDS (2004), and an assumption that patients are at Stage 2 (with few symptoms) about twice as long as at Stage 3 (when the onset of certain OIs takes place).

A 20-member team, consisting of National Population Office (*Office National de la Population*, ONAPO) employees with experience in data entry (ONAPO conducts population surveys regularly) was placed in charge of entering and cleaning the data collected over a 21-day period (three weeks). Once clean data sets were assembled, relevant information was entered into the standard format of NHA tables using the Excel program. For each and every estimate entered into a particular table cell, the team strove to document the source of the estimate and if any assumptions were made. This documentation can be viewed when examining the original Excel tables and is currently accessible by contacting the MoH DRHSA and DP. The MoH's technical team conducted the analysis with support from PHR*plus* consultants Ms. Susna De and Mr. Owen Smith.

3.6 HIV/AIDS Subanalysis: Some Estimation Techniques

At the time of this study, there were no official guidelines such as the *Producers' Guide* on estimating HIV/AIDS expenditures within the NHA framework. Thus, some new approaches were taken to tackle unique HIV/AIDS data estimation issues. The major ones are described below:

- ▲ As HIV/AIDS care in Rwanda principally consists of treatment for opportunistic infections, care was taken to measure these types of expenditures in addition to traditional HIV services (such as VCT and ARV). Tuberculosis in Rwanda is one of the main OIs associated with HIV/AIDS. However, including all TB expenses in the HIV subanalysis would be misleading because not all TB patients have HIV. So the issue arose: how to determine the proportion of TB expenses that are incurred by HIV patients who are co-infected? The team addressed the issue by requesting data on TB expenditures in all of its survey instruments. To estimate the proportion of TB expenditures that would be included in the HIV subanalysis total, the team used the same percentage of TB expenditures as that of the co-infection rate. So if 40 percent of all TB patients are considered to have HIV, then 40 percent of all TB expenditures were included in the HIV/AIDS subanalysis.
- ▲ A second issue that the team faced was the fact that most entities reported on their “targeted” amounts of spending for HIV, namely those line items in their financial records that specifically mentioned HIV: VCTs, ARV administration, etc. However, providers that deliver HIV services do not necessarily draw from targeted funds for all tasks; rather, medical goods for OI treatment, consultation time, and so forth are paid out of a facility's overall budget. Therefore, a proportion of the general facility revenue also needs to be factored into the HIV subanalysis in addition to targeted funds for specific HIV services. In order to estimate this proportion, the team determined the percentage of inpatients and outpatients in facilities who were HIV-positive. These percentages were then applied to the general facility revenue to determine the total non-earmarked expenditure incurred for HIV/AIDS inpatient and outpatient care respectively.

3.7 RH Subanalysis

To set the boundary of reproductive health, the NHA team used the broad definition of the World Health Organization:

Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health therefore implies that

people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility which are not against the law, and the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant. In line with the above definition of reproductive health, reproductive health care is defined 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" (Paragraph 7.2)

But the exercise of setting the RH boundaries was difficult, and in doing so, several issues arose. The first issue, which is being discussed with WHO/Geneva in order to reach consensus, was the translation of broad definitions into specific "System of Health Accounts classifications" (on which NHA is based), which follow the International Classification of Diseases, version 10. Another topic being discussed is the boundary between RH and HIV/AIDS. The Rwandan technical team, during the initial NHA training workshop, decided to follow the current international practice and include STIs in the HIV/AIDS subanalysis, the underlying idea being that the HIV/AIDS subanalysis and the RH subanalysis would have distinct boundaries drawn between them so they would each represent a share in total health expenditure. Thus the decision was made to put services such as STIs and PMTCT (to the extent that these expenditures could be teased out) in the HIV estimation rather than in the RH estimation.

The second issue that arose related to data collection. As pointed out in the report, the included RH activities were agreed upon by the NHA team to be the most relevant to the Rwandan RH context; as such it should be noted that the subanalysis did not track expenditures on (note that these services may [and are] included in some country settings):

- ▲ General gynecological care – largely, because it is extremely difficult to estimate due to current record keeping practices,
- ▲ Fertility counseling services – which are not widely offered in Rwanda,
- ▲ Sterilizations – the estimated number of women who were sterilized in 2002 was found to be too small to warrant estimation of these expenditures.

As with the general NHA estimation, data for the RH subanalysis was collected from a number of secondary and primary data sources. Reviewed secondary data sources included MoH executed budgets, the NEWVERN database on contraceptive shipments (a contraceptive procurement system for funding, production, shipping, and inventory management), DHS 2000, and a number of cost and utilization estimates. Primary data collection entailed the addition of RH expenditure specific questions to ongoing general NHA questionnaires administered to donors, implementing agencies, government, firms, insurance programs, public and private hospitals and clinics.

On the whole, responses to RH expenditure questions were low (except in the case of donors and NGOs) due to a difficulty in teasing out RH spending from general financial records and also due to a low participation in financing RH services by many areas of the health system. To bolster the quality of the data received, the NHA team also ascertained unit costs for a variety of family planning and maternal health services at various types of facilities. Such information was then combined with utilization data

from the DHS 2000 report to provide expenditure estimates. These estimates were then verified with import data on contraceptive commodities, other secondary sources, and finally primary data themselves.

4. General NHA findings

This chapter discusses expenditure findings for the entire Rwandan health care system, based on results from the “general” NHA estimation.

4.1 Summary Statistics for Rwanda NHA

The main findings of the Rwanda NHA 2002 exercise are centered on data collected and summarized in four core NHA tables that show the flow of health funds from i) financing sources (FS) to financing agents (HF), ii) financing agents to providers (HP), iii) financing agents to functions (HC), and iv) providers to functions. These four tables are shown in their entirety in Annex A. The tables for the HIV/AIDS subanalysis and the reproductive health subanalysis are displayed in Annexes B and C. The 2000 estimates for overall health care can be found in Annex D and for HIV/AIDS spending in Annex E.

Table 4.1 provides an overview of the 2002 findings and places them in context to Rwanda 1998 and 2000 NHA estimates.

Table 4.1: Summary Statistics for Rwanda NHA: 1998, 2000, 2002

	1998*	2000*	2002
Total population**	7,883,000	7,691,783	8,128,553
Exchange Rate US\$ 1 = RWF	317	393	475
Total real GDP	RWF 707,368,421,053 (US\$ 2,231,446,123)	RWF 758,002,148,228 (US\$ 1,928,758,647)	RWF 815,760,000,000*** (US\$ 1,717,389,474)
Total GoR expenditure and net lending	RWF 131,501,679,731 (US\$ 414,831,797)	RWF 161,654,135,338 (US\$ 411,333,678)	RWF 134,979,592,184**** (US\$ 284,167,562)
Total Health Expenditures (THE), per NHA	RWF 35,473,940,316 (US\$ 111,905,174)	RWF 30,651,177,047 (US\$ 77,992,817)	RWF 33,298,203,111 (US\$ 70,101,480)
THE per capita	RWF 4,501 (US\$ 14.20)	RWF 3,985 (US\$ 10.14)	RWF 4,096 (US\$ 8.62)
THE as % of nominal GDP	5%	4%	4%
GoR health expenditure as % of GoR total expenditure	2.5%	4.7%	6.1%
Financing sources distribution as % of THE			
Public (including public firms)	9.9%	18%	24.7%
Private	39.6%	30%	41.8%
Donor	50.5%	52%	33.4%
Households			
Household spending as % of THE	33%	26%	31%
Out-of-pocket (OOP) spending as % of THE	32.5%	25%	25%
Out-of-pocket spending per capita	1,464 RWF (\$4.26)	987 RWF (US\$ 2.51)	1011 RWF (\$2.13)

Provider distribution as % of THE			
Public facilities	66%	69%	55.6%
Government-assisted not-for-profit facilities	10%	7%	24.8%
Private facilities	24%	19%****	19.6%

* All RWF amounts for 1998 and 2000 are in constant 2002 RWF to facilitate comparison across years. The Consumer Price Index was used for the conversion (89.3 for 1998 and 93.1 for 2000). *Source for CPI data: Ministry of Finance and Economic Planning and International Monetary Fund.*

**The 1998 population figure is based on the 1992 census; the 2000 and 2002 figures are based on the 2002 census. Due to the genocide and subsequent repatriation, it is difficult to determine precise population trends for Rwanda during the 1990's.

***As estimated at the *Rwanda Debt Relief* Workshop 2004

**** The IMF country report 2004 reports a government expenditure of 142.1 billion RWF. The number presented in the table represents the number used by the MINECOFIN.

***** Does not add up to 100% because other represents 5%.

The following sections describe and analyze the amounts and flow of funds through the health system. The sections also shed light on indicators that are of interest and use to health care policymakers.

4.2 Overview of Health Care Financing in Rwanda

Total health expenditure in Rwanda decreased substantially in real terms between 1998 and 2000, from RWF 35.5 billion to RWF 30.6 billion, and then increased to RWF 33.3 billion in 2002. THE as a share of GDP fell from 5.1 percent in 1998 to 4 percent in 2000 and remained at that level in 2002. This, compounded with an increase in population size, has resulted in declining health expenditures on a per capita basis. This growing shortfall in health care financing may very well contribute to an increasingly overburdened and underdeveloped health system.

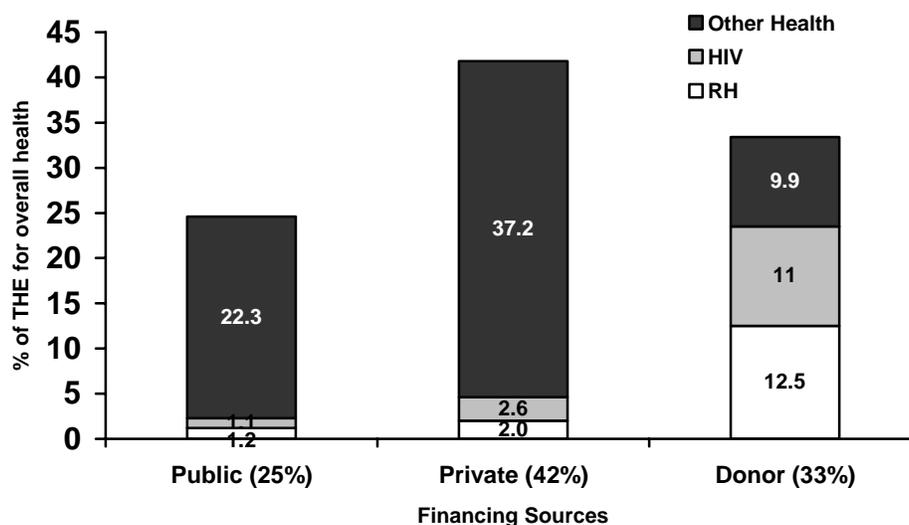
One reason for the drop in overall health expenditure concerns donor contribution to health care between 1998 and 2002. This period saw a decrease in donor funding due to the transition of donor support for the reconstruction efforts after the genocide. This has had an adverse effect on per capita health spending, which fell in real terms from RWF 4,501 (US\$14.20) in 1998 to RWF 3,985 (US\$10.14) in 2000 and then increased slightly to RWF 4,097 (US\$8.62) in 2002. These changes were compounded by the depreciation of the Rwandan franc against the dollar, mainly as a result of a decrease in dollar denominated inflows into the country during the period under review.

The importance of the private (particularly firms) and particularly the public sector as financing sources for health has increased over the period in the face of steadily declining donor funding. As dependency on external funding decreased, the GoR helped to fill in the financing gap left by the departure of donor money. Although there has been a marked increase in general government spending on health care as a percentage of total government spending, the 2000 and 2002 shares of 4.7 percent and 6.1 percent respectively are well below the threshold set forth in the Abuja Declaration that calls for African governments to aim at committing 15 percent of total public expenditure to health. One of the GoR's targets in its recent health sector strategy is to increase the per capita spending to US\$12 by 2009.

When all of the 2002 findings are summarized, including the HIV/AIDS and reproductive health subanalyses, several interesting observations can be made. Figure 4.1 shows that the private sector (primarily composed of households) is the principal financing source of the health system. This is followed by donors, whose funds largely target HIV/AIDS and RH services. This targeting begs the question, how much donor funding remains for other top causes of morbidity and mortality, such as malaria and TB. In contrast, public contribution to HIV/AIDS and reproductive health seems quite low, averaging 2.3 percent out of total health expenditures. In fact, households contribute more to these

services than does the GoR. Thus, government contribution to HIV/AIDS and RH services may not suffice to sustain the services should donor contributions decrease.

Figure 4.1 Financing Sources for General Health, HIV/AIDS, and RH Care in Rwanda, 2002



A comparison of overall health care expenditure indicators tracked by WHO at the financing agent level is shown in Table 4.2. Rwanda is well below the average regional measure for overall health care expenditure as percent of GDP but above the regional average for the share of public spending in total health expenditure.

Table 4.2: Cross-country Comparison of Key Overall Health Expenditure Indicators, East and Southern Africa

	THE as % of GDP (2002)	FINANCING AGENT LEVEL *	
		Private expenditure on health as % of THE (2002)	General government expenditure on health as % of THE (2002)
Ethiopia	5.7%	55.1%	44.9%
Kenya	4.9%	56.0%	44.0%
Malawi	9.8%	58.9%	41.1%
Mozambique	5.8%	71.0%	29.0%
Rwanda 2002	4.1%	50.6%	48.8%
Rwanda 2000	4.0%	63.9%	35.7%
Rwanda 1998	5.1%	40.7%	58.5%
Tanzania	4.9%	45.2%	54.8%
Uganda	7.4%	72.1%	27.9%
Zambia	5.8%	47.1%	52.9%
Regional Average (2002)	6.0%	57.0%	42.9%

* Note that elsewhere in the report these indicators for Rwanda are reported at the financing source level. Here, they are calculated at the financing agent level (for purposes of comparison with WHO data for peer countries). Financing agents are entities that receive funds from financing sources to pay for health care activities. Consequently, "general government expenditure on health" includes donor (rest of the world) contributions channeled through the government (in addition to contributions made by the Ministry of Finance).

Sources: Rwanda - NHA results 2002, 2000, and 1998. Others (2002 data) - WHO World Health Report 2005, Annex Table 5.

The per capita health spending (both total and by type of financing source) for 2002 is comparable to the average for other countries in the region, as shown in Table 4.3. Public spending per capita in Rwanda increased steadily between 1998 and 2002 in purchasing-power-parity terms, in the face of declining donor spending per capita.

Table 4.3: Cross-country Comparison of Per-capita Health Spending, East and Southern Africa

Country (year)	Per capita (2002 US\$ at PPP)			
	Public*	Rest of the World*	Private*	Overall
Kenya (2002)	13.83	7.66	25.28	46.77
Malawi (1999)	9.83	11.66	17.55	39.07
Mozambique (1997)	20.30	48.00	24.00	92.30
Rwanda 2002	12.80	17.31	21.70	51.81
Rwanda 2000	8.59	25.28	14.31	48.37
Rwanda 1998	5.12	26.35	20.50	51.97
Tanzania (2000)	4.87	5.06	11.80	21.73
Uganda (1998)	10.80	23.86	20.36	55.02
Zambia (2002)	14.90	10.49	14.61	39.97
Regional Average	12.48	17.72	19.33	49.53

* Reported at the financing source level.

Sources: Rwanda NHA results 1998, 2000, 2002; Kenya NHA report 2002; Mozambique NHA report 1999;

Zambia NHA report 2002; Tanzania NHA report 1999/2000; Malawi NHA report 2001.

IMF World Economic Outlook Database, September 2005.

4.3 Flow of Funds for General Health Care, by NHA Dimensions

The remaining sections in this chapter describe the major findings from each of the four core NHA tables.

4.3.1 Financing Sources

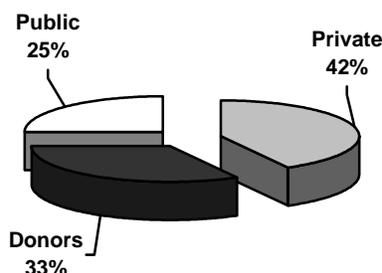
NHA defines financing sources as entities that provide health funds (i.e., the originators of health funds). NHA includes public, private, and donor sources in its estimations. The major sources of funding in Rwanda are:

- ▲ Public sources: Ministry of Economics and Finance, parastatals, and other public funds
- ▲ Private sources: households and employers
- ▲ Donor agencies, also referred to as the Rest of the World (ROW) in NHA terminology.

The NHA 2002 results (Figure 4.2) show that there has been a redistribution of sources of health funding since 1998. Donor financing increased marginally in 2000 from 50.5 percent in 1998, and then fell sharply to 33 percent in 2002. Public financing of health has increased steadily over the same period, from 9 percent to 25 percent. This change in financing distribution is an indication of increasing economic stabilization in Rwanda and a shift from a point of extreme dependence on external funding. There has been a moderate increase in financing from private sources from 40 percent in 1998 to 42 percent in 2002, which indicates the increased role of the private sector in financing of health care. This is

particularly true for private companies. In 1998, such companies only contributed 7 percent of THE whereas, in 2002, they contributed approximately 10 percent of THE.

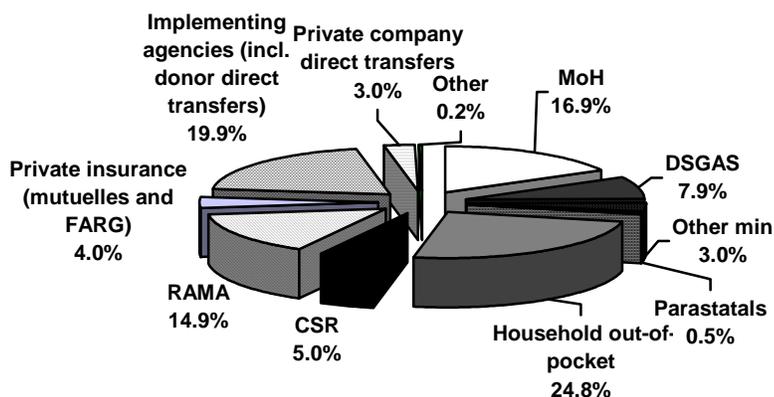
Figure 4.2: Who Pays for Health Care in Rwanda? A Breakdown by Financing Source



4.3.2 Financing Agents

Financing agents receive funds from financing sources and use them to pay for health services, products, (e.g. pharmaceuticals), and activities. In other words, they have programmatic control over how funds are allocated.

Figure 4.3: Who Manages Health Care Funds? A Breakdown by Financing Agent



As illustrated in Figure 4.3, approximately 20 percent of health funds are managed by implementing agencies, which include NGOs and churches. This is a marked increase from the 1998 level of 1 percent, but a decrease from the 2000 level of 32 percent. It is also a reflection of donors looking to achieve increased local ownership of health resources by channelling funds through NGO and church organisations already established in Rwanda.

The MoH receives approximately 17 percent of THE followed by the government insurance scheme for civil servants (*La Rwandaise d'Assurance Maladie*, RAMA) at 15 percent. Since its launch in 1998,

RAMA has taken an increasingly pivotal role in managing health funds from government employees and their respective employers. Other insurance programs also contribute to health care, with the Social Security Fund (*Caisse Sociale Rwandaise*, CSR) responsible for 5 percent of THE and private insurance (including mutual health organizations [*mutuelles*], Genocide Survivors' Fund [*Fond d'Assistance aux Rescapés du Génocide*, FARG]) for 4 percent. This has contributed to a reduction of risk by households, although household out-of-pocket contribution still accounts for the largest proportion of health care at 25 percent of THE.

It is clear from Table 4.4 that government funds go mainly to government health agencies while funds from households go to private out-of-pocket payments and from donors to implementing agencies. Parastatal health contributions are channeled principally through RAMA, while private employers transfer funds directly to providers.

Table 4.4: From Where Do Financing Agents Receive Funds?

Financing Agent (HF)	Financing Source						
	Central govt revenue	Other public funds	Parastatal employer funds	Private employer funds	Households	Cooperating partners (Rest of world)	Not specified by kind
MoH	42%					21%	
DSGAS (includes districts)	12%					15%	
Other ministries	8%					3%	
CSR (Social Security Fund)	10%		1%	13%	5%		
RAMA (Employer insurance program)	15%	100%	92%		12%		
Parastatals	0%		6%		0%		
Private insurance enterprises (other than social insurance - <i>mutuelles</i> , FARG)	13%				4%		19%
Private household out-of-pocket payments	0%				79%		
NPISH (implementing agencies)	0%					57%	
Private firms and corporations	0%			85%			
Rest of world	0%					5%	
Not specified by any kind	0%		0%	2%			81%
TOTAL	100%	100%	100%	100%	100%	100%	100%

As mentioned earlier and illustrated in Table 4.5, there has been a marked increase in funds flowing to implementing agencies, from 1 percent of THE in 1998 to 20 percent of THE in 2002, due to donor reliance on these organizations. Conversely, funds flowing to government ministries have decreased as a result of reduction in donor funding for overall health activities from 36 percent in 1998 (RWF 17.9

billion [US\$ 56.5 million])³⁰ to 28 percent in 2002 (RWF 11.1 billion [US\$ 23.4 million]). This shift presents a challenge to policymakers, who must plan how to bridge this gap in financing. The relatively low participation of public entities in managing health funds also raises questions about MoH ability to exercise stewardship over the health system. A recent development in health care financing is the increasing involvement by the insurance sector from less than 0.5 percent in 1998 to 24 percent of THE in 2002; this reduces household exposure to the risk of incurring large expenditures at a time when they may already be vulnerable due to illness.

Table 4.5: Comparison of Funds to Financing Agents between 1998 and 2002

	1998	2000	2002
Financing Agent	% of THE	% of THE	% of THE
MoH	19%	20%	17%
DSGAS (includes districts)	15%	6%	8%
Other ministries	2%	1%	3%
CSR (Social Security Fund)	0%	3%	5%
RAMA (Employer insurance)	0%	0%	15%
Parastatals	1%	0.02%	0.5%
Private insurance (<i>mutuelles</i> , FARG)	0%	4%	4%
Private household out-of-pocket	33%	25%	25%
Implementing agencies and donor direct transfers	23%	38%	20%
Private firms	7%	3%	3%
Others	0%		0.1%
TOTAL	100%	100%	100%

4.3.3 Health Providers

Annex Table A-2 shows the flow of funds from financing agents to providers. The four major flows are:

- ▲ From the MoH to public hospitals and health centers, government-assisted private hospitals, and public health programs.
- ▲ From RAMA to public facilities (and some private facilities as well)
- ▲ From private insurance to public hospitals and clinics (and some private facilities)
- ▲ From household out-of-pocket spending at pharmacies, followed by public hospitals and private clinics.
- ▲ From NGOs and donors directly to public facilities and government-assisted not-for-profit facilities

³⁰ In constant 2002 RWF, converted using the Consumer Price Index (89.3 in 1998).

It is evident that the largest proportion of health funding going to providers is used to deliver prevention and public health programs (26 percent) and for overall administration at the central level (23 percent).

A relatively small share (38 percent) of health funds goes to finance the delivery of curative health services. Public hospitals and health centers accounted for 22 percent of total funds. Fifty-two percent of public hospital funding comes from government sources, 34 percent from household out-of-pocket payment, and the remainder from other financing agents. The situation is reversed for public health centers: 54 percent of their revenue is from out-of-pocket payments and 27 percent from the government (other financing agents contribute the remainder). Government-assisted not-for-profit hospitals and health centers receive 7 percent of THE. Private hospitals and clinics receive 9 percent.

Figure 4.4: Where Do Health Funds Go? A Breakdown by Provider

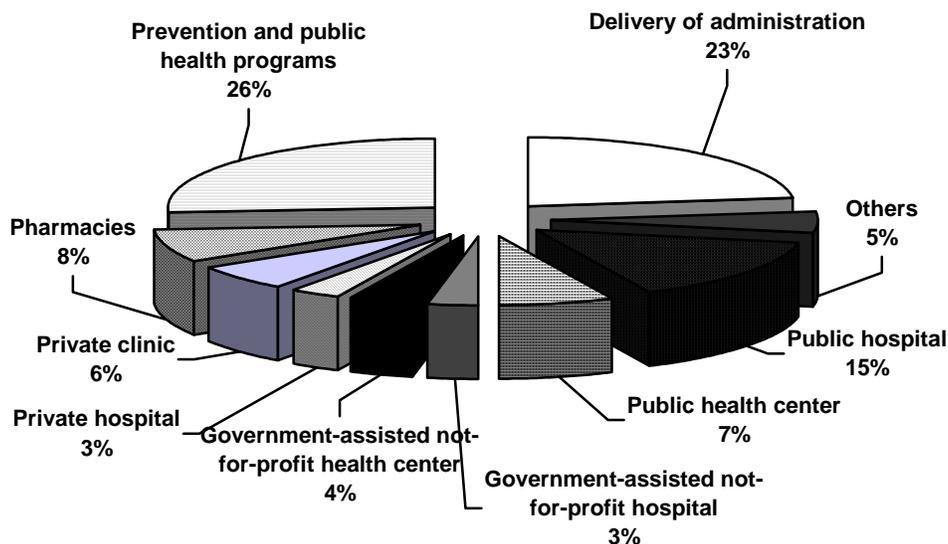


Table 4.6 compares provider expenditure proportions from 1998, 2000, and 2002. At the provider level, expenditure by public hospitals as a share of THE fell from 16 percent in 1998 to 12 percent in 2000 and then rose again to 15 percent in 2002. Funding for private hospitals decreased by 6 percent (from 9 percent to 3 percent) between 1998 and 2002, reflecting the change in flow of household funds from private hospitals to private clinics (which increased from 2 percent to 6 percent). Largely due to contributions by donors and implementing agencies (followed by the government), the spending on delivery of prevention and public health programs almost doubled over the period. Administrative spending (96 of which is done by public financing agents, particularly the DSGAS and other RAMA) also increased by 1.6 times. This sizeable increase should be examined more closely to determine whether or not it is a “justifiable” expense in terms of its contribution to the effective delivery of health services and improvements in the health status of the population.

Table 4.6: Comparison of Spending at Providers between 1998 and 2002

Provider	1998 % of THE	2000 % of THE	2002 % of THE
Public hospital	16%	12%	15%
Public health center	6%	7%	7%
Government assisted not-for-profit hospital	5%	3%	3%
Government assisted not-for-profit health center	5%	4%	4%
Private hospital	9%	3%	3%
Private clinic	2%	4%	6%
Pharmacies	24%	11%	8%
Provision of public health	14%	42%	26%
Administration	14%	8%	23%
Other Providers	1%	5%	5%
Treatment abroad	1%		
Total	100%	100 %	100%

4.3.4 Health Functions

This section discusses the flows of funds for specific types of services and products delivered by the health system. As seen in Figure 4.5, the largest proportion (41 percent) of health expenditures goes to finance curative care; of this, 25 percent goes to outpatient care, 17 percent to inpatient care),³¹ while prevention and public health activities consume 26.3 percent. Administrative activities again account for a sizeable portion of spending (22.9 percent). The purchase of pharmaceuticals at independent pharmacies absorb 8 percent of THE. There is little documented spending on capital formation (0.2 percent).

³¹ Inpatient and outpatient expenditures include expense on drugs administered during the delivery of these services.

Figure 4.5: What are Health Funds Spent on? A Breakdown by Function

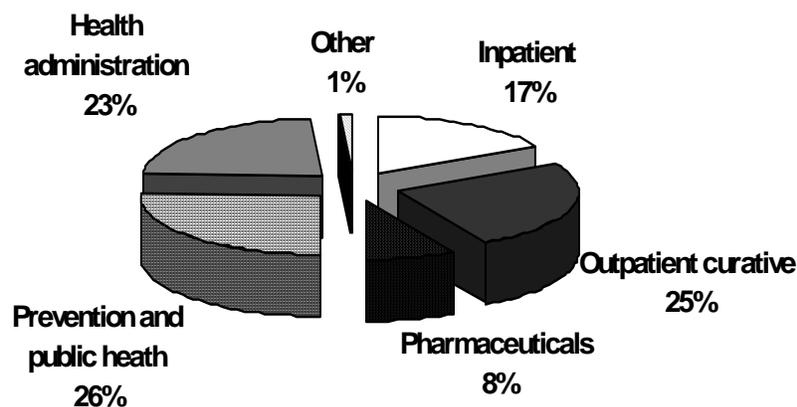


Table 4.7: Distribution of Major Financing Agents to Health Functions

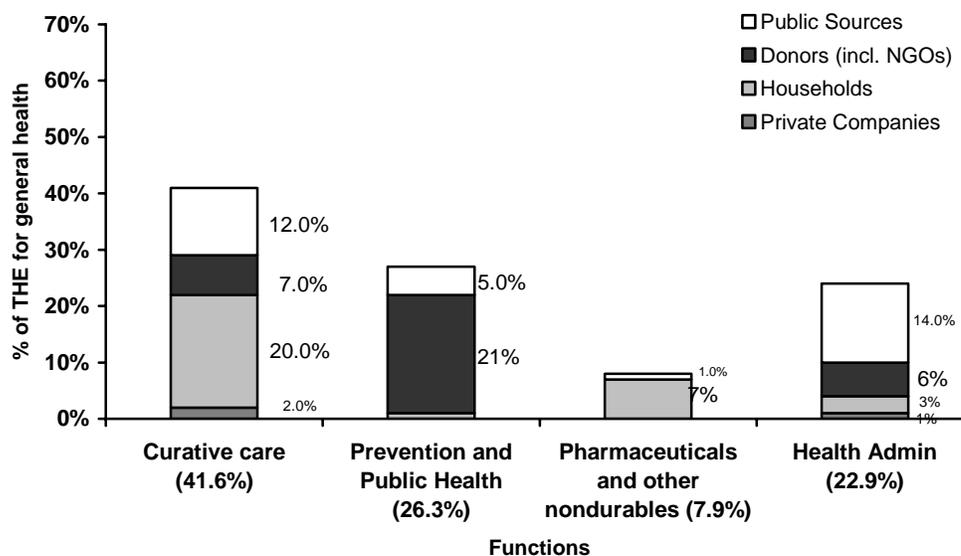
Function	MoH	DSGAS	Other ministries	CSR	RAMA	Para-statals	Mutu-elles	OOP	NPISH	Private firms	ROW	NSK
Inpatient curative	22%	6%	34%	74%	9%	9%	20%	16%	1%	35%	41%	6%
Outpatient curative	13%	11%	19%	26%	13%	59%	37%	55%	2%	56%	56%	53%
Pharmaceuticals and other nondurables	2%	-	-	-	-	9%	9%	28%	-	10%	-	-
Prevention and administration of public health	47%	-	-	-	-	-	-	-	97%	-	3%	-
Health administration and insurance	15%	83%	47%	-	78%	-	23%	-	-	-	-	-
Capital formation	1%	-	-	-	-	-	-	-	-	-	-	-
Other (nsk)	-	-	-	-	-	22%	11%	1%	-	-	-	41%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

The bulk of MoH funds (47 percent) goes to prevention and public health programs; 22 percent goes to inpatient curative care, and 13 percent to outpatient care. Further investigation is needed to determine whether or not this is an optimal mix of resources. Private households contribute the largest proportion of their financing to outpatient curative care (55 percent) and to the purchase of drugs at private pharmacies (28 percent). Public procurement of pharmaceuticals is done through the government’s Central Buying Agency for Drugs and Pharmaceuticals. DSGAS and other ministries principally allocate their funds administrative expenses. The Caisse Sociale health contribution goes largely to inpatient expenditure (it did not specify a breakdown of health administrative expenditures). RAMA spends close to 80 percent on administration, the remainder on curative care. Parastatals, private firms, and *mutuelles* focus their resources on outpatient care, while NGOs focus on public health.

4.4 Financing Sources of General Health Care Functions

Figure 4.6 traces ultimate financiers of health care functions after combining the flow of funds shown in NHA table FS x HF with that in HF x HC.

Figure 4.6: Financing Sources of General Health Care Functions*



*Note, 1.2% of all health spending occurs on functions not specified by any kind. This is not shown in figure ES-2 as each financing source contributes less than 0.5 percent to this category.

As will be seen in the figures compiled from the HIV/AIDS and RH subanalyses, households finance close to half of all curative care expenditures and all pharmaceuticals sold at independent pharmacies. Contrary to what will be seen in the subanalyses, the government contributes more to general curative care than to prevention and public health. It also contributes a substantial share of health administrative costs. Donor monies generally finance prevention programs, with a smaller share going to curative care and to administration.

4.5 Household Out-of-pocket Spending

Households contributed 31 percent of THE in 2002, up from 26 percent in 2000 but down from 33 percent in 1998, indicating that their financial burden has been somewhat relieved by other financing sources such as firms and the government. Nevertheless, households remain the largest single financing source of health care in Rwanda. Of their total contribution (RWF 10.4 billion), 5 percent went to the Caisse Sociale,³² 12 percent to RAMA,³³ and 4 percent to private insurance.

Table 4.8: Household Spending, 1998, 2000, 2002

As % of total household spending	1998*	2000*	2002
OOP payments to providers			
-Public hospitals	13% (RWF 671,021,384)	18% (RWF 1,486,763,144)	16% (RWF 1,670,154,724)
-Govt-assisted not-for-profit hospitals	4% (RWF 220,724,449)	3% (RWF 270,601,526)	4% (RWF 424,416,656)
-Private for-profit hospitals	9% (RWF 443,931,019)	5% (RWF 434,905,113)	1% (RWF 133,417,957)
-Mental health and substance abuse hospitals	0%	0% (RWF 8,013,679)	0.4% (RWF 39,848,345)
-Private clinics	5% (RWF 243,246,474)	10% (RWF 792,752,966)	16% (RWF 1,639,868,326)
-Traditional healers	31% (RWF 1,528,681,476)	N/A (not measured in 2000)	N/A (not measured in 2002)
-Public health centers	17% (RWF 833,785,946)	11% (RWF 913,450,247)	12% (RWF 1,243,622,561)
-Government-assisted not-for profit health centers	0%	6% (RWF 491,857,826)	6.4% (RWF 660,674,486)
-Dispensing chemists	21% (RWF 1,044,854,454)	40% (RWF 3,195,216,343)	23.2% (RWF 2,407,692,912)
Total out-of-pocket as a % of total HH	99.8% (RWF 4,986,245,202)	94% (RWF 7,593,560,842)	79% (RWF 8,219,695,966)
HH contributions to CSR as a % of total HH	0% (RWF 559,049)	4% (289,673,189)	5% (RWF 562,188,688)
HH contributions to RAMA as % of total HH	0%	0%	12% (RWF 1,234,429,823)
HH contribution to private insurance, mutuelles, FARG as % of total HH	0.2% (RWF 7,686,174)	2% (RWF 167,664,021)	4% (RWF 379,760,047)
Total household expenditure	100% (RWF 4,994,490,423)	100% (RWF 8,050,898,053)	100% (RWF 10,396,074,524)

* All RWF amounts for 1998 and 2000 are in constant 2002 RWF to facilitate comparison across years. The Consumer Price Index was used for the conversion (89.3 for 1998 and 93.1 for 2000). Source for CPI data: Ministry of Finance and Economic Planning and International Monetary Fund.

³² The 5 percent of THE that goes to CSR represents only the insurance scheme's contribution to health. The scheme also exercises other functions outside of health.

³³ The implementation of RAMA, which covers all formal sector employees, has also helped streamline fund flow in the health care system in that employees prefer to attend private clinics recognized as providers by RAMA.

This 2002 breakdown of out-of-pocket spending represents 79 percent of household spending, a shift from that seen in earlier years, when more than 99 percent (in 1998) and 94 percent (in 2000) of all household funds went to out-of-pocket spending. Insurance schemes are increasingly playing a bigger role in health care financing.

The bulk (29 percent) of household expenditure went to the direct purchase of drugs followed by 20 percent going to public hospitals, another 20 percent to private clinics, and 15 percent to public health centers. This indicates a marked change in household expenditure allocation from earlier years, when only 10 percent (2000) and 5 percent (1998) went to private clinics.

5. HIV/AIDS Subanalysis

5.1 Introduction

The HIV/AIDS epidemic represents a critical challenge for the Rwandan health system in particular and the country's development prospects more generally. UNAIDS estimated the adult prevalence rate at 5.1 percent in 2002 (2.5 percent of all Rwandans, including children, among whom there are far fewer cases). About 1 percent of all Rwandans are Stage 3 or 4 HIV patients, when the most serious health effects of the disease are manifested.

Recognizing the threat of the epidemic, the government of Rwanda committed to stabilizing the spread of HIV during the period 2002 to 2006.³⁴ Moreover, donors have also joined this effort and, in 2003, Rwanda received Global Fund and PEPFAR monies. In order to design appropriate policy responses to the epidemic and to monitor progress toward program targets (including those specified by the GF and PEPFAR), comprehensive information on HIV/AIDS spending is essential.

The 2002 HIV/AIDS subanalysis, conducted at the same time as the general NHA, has made it possible to quantify the totality of funds being spent on HIV/AIDS health care and how the funds flowed through the health system between 2002 and 2000. (This chapter does not include comparisons to 1998 data due to methodological differences that preclude such comparisons. Annex F explains the reasons for these differences.)

As with the general NHA, the HIV/AIDS subanalysis uses four core tables (shown in Annex B) that illustrate the flow of funds between the principle dimensions (financing sources, financing agents, health care providers, and functions) of HIV/AIDS spending.

5.2 Overview of HIV/AIDS Subanalysis Findings

A summary of key statistics from the HIV/AIDS subanalysis is shown in Table 5.1. The total package for HIV/AIDS intervention has risen in real terms to RWF 4.9 billion (US\$ 10.3 million) in 2002, from RWF 2.4 billion (US\$ 6.0 million) in 2000. This represents an increased share of overall health spending that is targeted for HIV/AIDS – from 8 percent in 2000 to 15 percent in 2002. The increase is largely due to steep donor increases in HIV support between 2000 and 2002. It should be noted that while donor support has increased tremendously, these estimates were made prior to the even larger disbursements of Global Fund and PEPFAR monies in 2003. No doubt the share of donor financing for HIV/AIDS will continue to rise in NHA estimations for 2003 and 2004. Also for the 2000-02 period is seen a decrease in the burden of financing borne by households, from 41 percent of THE for HIV/AIDS in 2000 to 16 percent in 2002. This sizeable drop is largely attributable to the increase in donor projects as well as the steep decline of ARV costs.

³⁴ Republic of Rwanda, Office of the President and National AIDS Control Commission. January 2003. *National Plan for Monitoring and Evaluation of HIV/AIDS Programs (2002-2006)*. Kigali.

Table 5.1: Summary of HIV/AIDS Subanalysis Findings, 2000 and 2002

Indicators	2000*	2002
HIV seroprevalence rate (adults)	5.1% (est.)	5.1%**
Number of PLWHA	200,000 (est.)***	199,279
Total Health Expenditure (THE) – general NHA	RWF 30,651,177,047 (US\$ 77,992,817)	RWF 33,298,203,111 (US\$ 70,101,480)
THE for HIV/AIDS – HIV/AIDS subanalysis	RWF2,361,649,663 (US\$ 6,009,287)	RWF 4,898,690,500 (US\$ 10,313,032)
% of total health expenditures allocated to HIV/AIDS	8%	15%
General OOP spending per inhabitant	RWF 987 (\$2.51)	RWF 1,011 (\$2.13)
HIV/AIDS OOP spending per PLWHA	RWF 4,431 (\$11.27)	RWF 3,605 (\$7.59)
Total HIV/AIDS spending as % of GDP (in current prices)	0.3%	1%
Financing sources of HIV/AIDS care		
- Public	8%	9%
- Private	43%	17%
Of which households account for	41%	16%
- Donors	49%	75%
Providers of HIV/AIDS care		
Public providers	33%	16%
- Public hospitals	24%	11%
- Public health centers	9%	5%
Private providers	9%	3%
- Private for-profit hospitals	8%	2%
- Private for-profit health centers	1%	1%
Government-assisted not-for profit providers	5%	3%
- Government-assisted not-for-profit hospitals	2.6%	1%
- Government-assisted not-for-profit health centers	2.8%	2%
Private pharmacies	7%	3%
Provision and administration of public health programs	46%	66%
General health care administration and insurance (for HIV/AIDS)	0%	9%
HIV/AIDS spending by function (in %)		
Preventive and public health programs	46%	66%
Curative care:	48%	23%
- Inpatient	14%	7%
- Outpatient	34%	15%
Administration	0%	9%
Pharmaceuticals purchased at independent pharmacies	7%	3%

* All expenditures for 2000 are in constant 2002 RWF, converted using the Consumer Price Index (93.1 for 2000). Source for CPI data: Ministry of Finance and Economic Planning and International Monetary Fund.

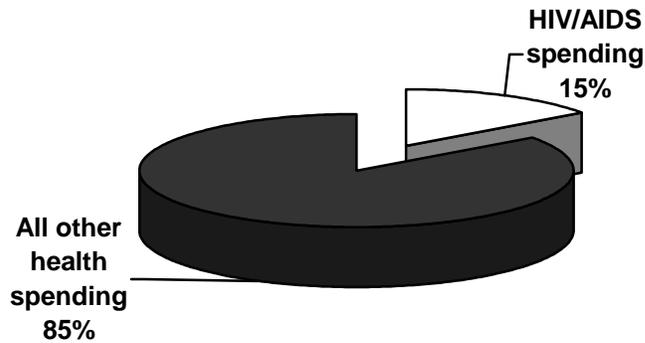
** UNAIDS, 2004

*** Based 5.1% of total population estimates that were derived prior to the 2002 census.

5.3 HIV/AIDS Expenditures as Proportion of THE

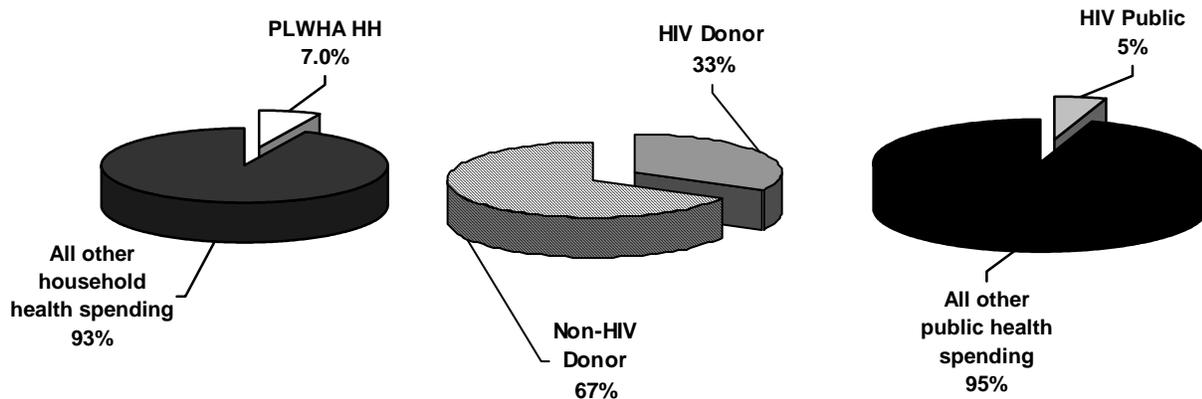
As Figure 5.1 shows, HIV/AIDS expenditures in 2002 represented 15 percent of total health expenditures in Rwanda, approximately RWF 4.9 billion (\$10 million) out of the total RWF 33 billion (US\$70 million).

Figure 5.1: HIV/AIDS Expenditures as Proportion of THE, 2002



Various financing sources contribute different proportions of their total health expenditures to HIV/AIDS (Figure 5.2). Donors provide the largest proportion, with one-third of their health spending targeted to HIV/AIDS. Households devote about 7 percent of their spending on health to HIV/AIDS, while the public sector and other private financing sources provide about 5 percent.

Figure 5.2: HIV/AIDS Expenditures as Proportion of THE, by Financing Source



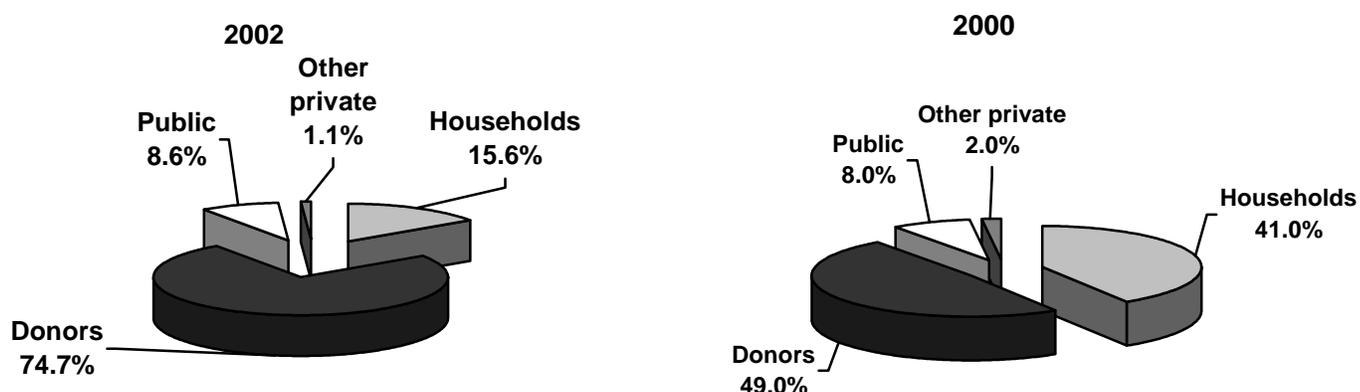
5.4 Flow of Funds for HIV/AIDS: Funding Sources to Financing Agents (FS x HF)

The initial transfer of funds is from financing sources to financing agents.

5.4.1 Financing Sources

Donors finance about three-quarters of all HIV/AIDS spending in Rwanda,³⁵ while households contribute 16 percent (Figure 5.3) and government 9 percent. Non-household private sector contributions are negligible. Comparing these findings to those of 2000 shows that there has been a sizeable increase in donor spending, a relatively stable government contribution, and a decrease in household financing. These shifts can be attributed to a number of reasons, the most important of which are new donor initiatives for HIV/AIDS initiated prior to 2002, and the sharp fall of ARV drug prices, which are financed mainly by out-of-pocket expenditures.

Figure 5.3: Financing Sources for HIV/AIDS



5.4.2 Financing Sources and Financing Agents

Looking at the FS x HF flow from the financing source perspective, in 2002, the GoR spent RWF 377 million on HIV/AIDS health care. Most GoR funds went to the National HIV/AIDS Control Commission (*Commission Nationale de Lutte contre le VIH/SIDA*, or CNLS), which received RWF 165 million, and the MoH, which received RWF 108 million. The Caisse Sociale provided RWF 23 million. RAMA provided RWF 16 million, funded through social contributions from the GoR as an employer. Provincial and municipal governments contributed none of their own resources to control HIV/AIDS (or at least did not report any contributions); however, with increasing decentralization, this is likely to change in the future.

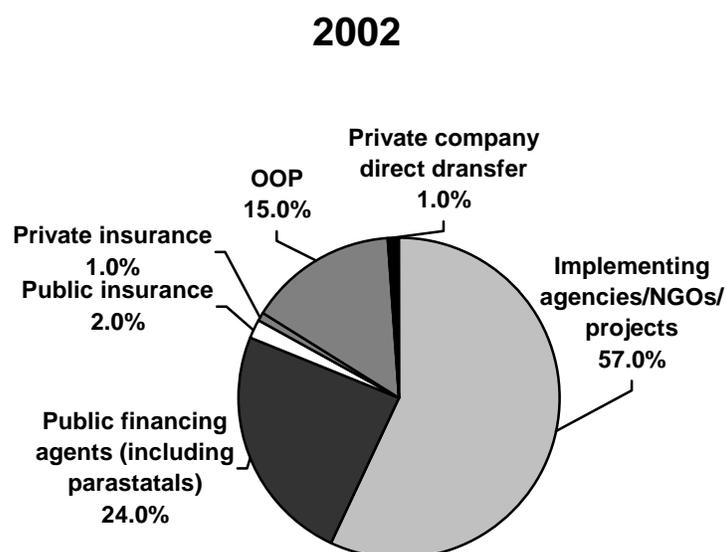
³⁵ It should be noted that donors reported allocating RWF 4.67 billion to HIV/AIDS activities in Rwanda in 2002, but actual spending (as reported by recipients) was RWF 3.66 billion, or 78 percent of the scheduled amount. This could mean that donor funds transferred to financing agents were not used up in one fiscal year.

There was very little direct company financing through onsite provision of services or direct contracts with providers (1 percent of THE for HIV/AIDS). The preferred mechanism of channeling HIV/AIDS funds by companies was through insurance programs (most of this insurance coverage ultimately paid for OIs and other HIV-related interventions); such coverage increased slightly from 2000 to 2002, from 2 percent to 3 percent of THE for HIV/AIDS).

Households are financing sources, and they act as financing agents when they make out-of-pocket expenditures. In 2002, they contributed RWF 762 million for HIV-related care, primarily via direct payments to providers (94 percent).

Figure 5.4 shows the percentages of HIV/AIDS funds managed by each type of financing agent. Implementing agencies/NGOs are the principal financing agents, controlling 57 percent of HIV/AIDS resources. Public financing agents follow with 24 percent.

Figure 5.4: Breakdown of Financing Agents

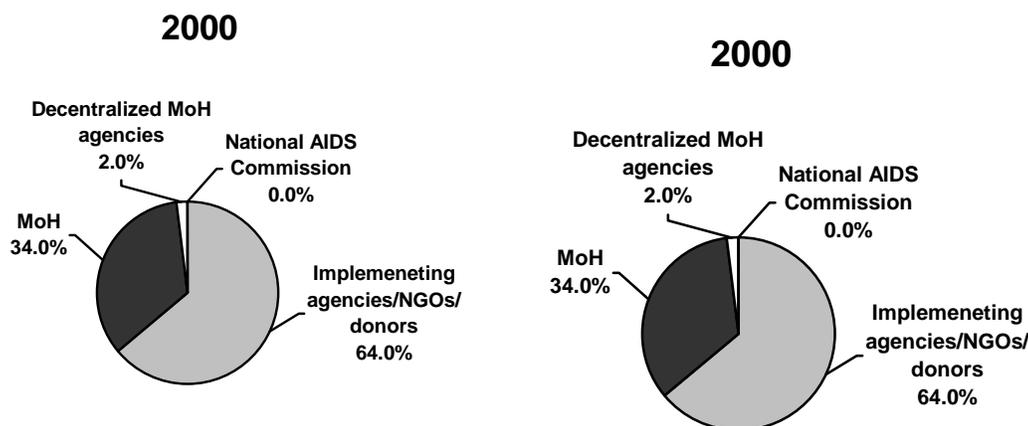


When examining the entities from which financing agents received their HIV/AIDS funds, four main relationships can be discerned:

- ▲ 70 percent of HIV/AIDS funding channeled to the MoH comes from donors and 30 percent comes from the GoR
- ▲ 99 percent of funds for decentralized entities comes from donors; the remaining 1 percent comes from the GoR
- ▲ 63 percent of CNLS funding is from donors, 37 percent from the GoR
- ▲ All funding for implementing agencies/NGOs is from donors.

As donors are the main financing sources for HIV/AIDS care, it is important to review the paths through which these funds target HIV/AIDS interventions (Figure 5.5). Of the RWF 3.66 billion that donors contributed in 2002, NGOs and other implementing agencies were the main recipients, absorbing 76 percent of donor funding (RWF 2.76 billion). The rest was shared roughly evenly by the CNLS, the MoH, and the decentralized entities of the health system. These proportions differ from 2000, when the MoH received 35 percent of donor funds. Thus, there is increasing reliance by donors on local implementing bodies.

Figure 5.5 HIV/AIDS: Breakdown of Financing from Donors to Financing Agents



5.5 Flow of Funds for HIV/AIDS: Financing Agents to Providers (HF x HP)

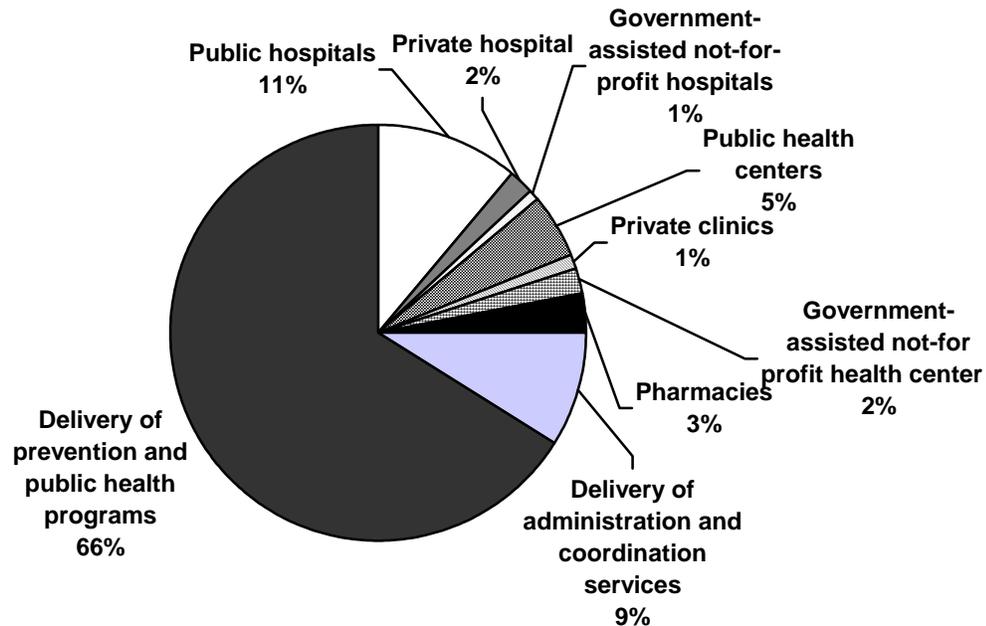
Financing agents manage and control the use of funds, including their allocation to providers.

5.5.1 Provider Expenditures

Providers – hospitals, clinics, health centers, pharmacies, etc. – use health funds for delivering health services and commodities to the population and doing administration related to the delivery of those services.

Figure 5.6 shows how total HIV/AIDS spending in 2002 was apportioned among providers. About two-thirds was used for the provision and administration of prevention and public health programs and 9 percent for coordinating interventions by the CNLS. Only one-quarter was directed to financing the provision of care and pharmaceuticals.

Figure 5.6: Total HIV/AIDS Spending by Providers in 2002



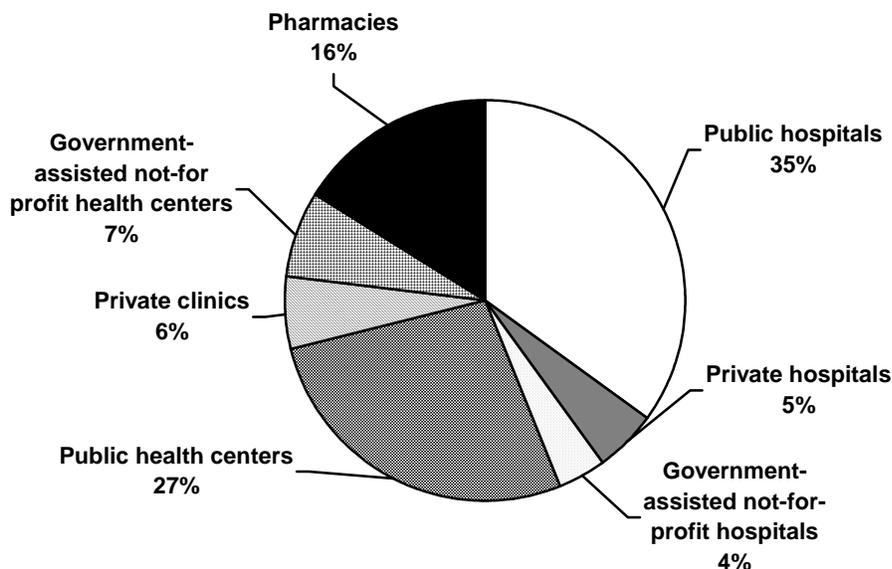
Public facilities (hospitals and public health centers) absorb the largest share of spending for delivery of HIV/AIDS services (15 percent of THE for HIV/AIDS), whereas government-assisted not-for-profit facilities receive only 3 percent. The private for-profit delivery sector is less engaged in the fight against HIV/AIDS than its public sector counterparts; it accounts for 3 percent of THE for HIV/AIDS.

The largest share of MoH spending on HIV/AIDS in 2002 was allocated to the provision of prevention and public health programs (70 percent), with a much smaller proportion channeled to hospitals (19 percent). Provincial Departments of Health, Gender and Social Affairs spent 93 percent of THE for HIV/AIDS on public health provision. Spending by implementing agencies/NGOs also favored public health: they spent 95 percent of their funds for HIV/AIDS on such programs in 2002.

The entirety of spending by the CNLS (RWF 446,167,716) went to administrative expenses, but it should be noted that in 2002 the commission had recently been established and was doing initial organization.

Figure 5.7 shows the allocation of household out-of-pocket spending on providers: 35 percent was spent at public hospitals, 27 percent at public health centers, 16 percent at pharmacies, and much smaller shares at private and mission facilities. This apparent household preference for spending at public facilities could indicate that these facilities are more geographically accessible than private facilities and/or that they are more affordable than private ones.

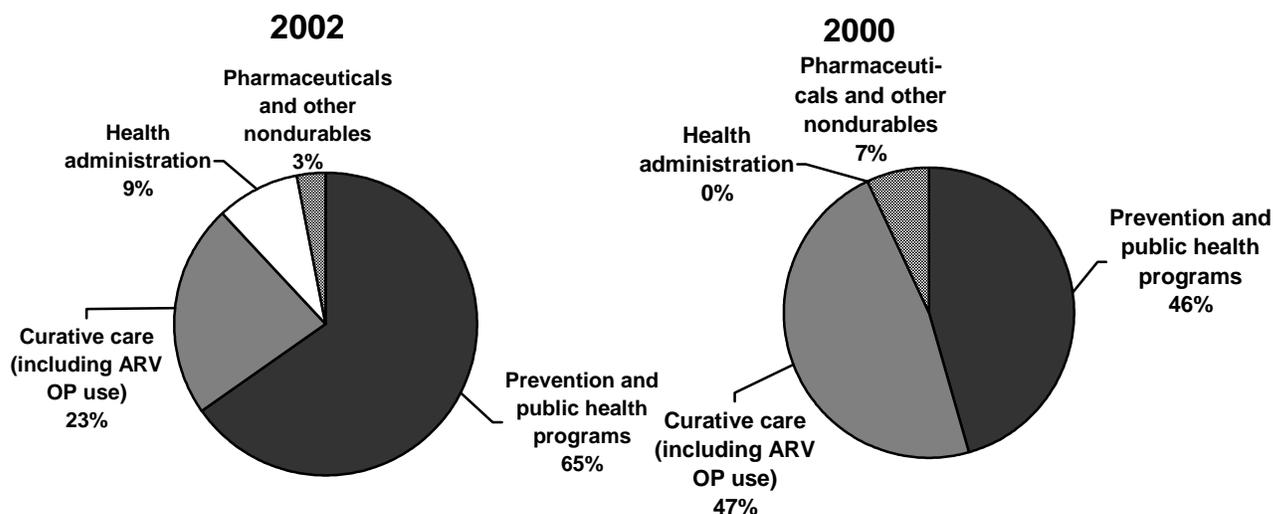
Figure 5.7: Household Expenditures for HIV/AIDS, by Facility Type



5.6 Flow of Funds for HIV/AIDS: Financing Agents to Functions (HF x HC)

The NHA methodology uses the term “function” to describe the services, products, and activities of health care providers – therapy, pharmaceuticals, patient care, prevention programs, etc. The functions addressed in this section are those that pertain to HIV/AIDS spending.

Figure 5.8: HIV/AIDS Spending by Function, 2002 and 2000



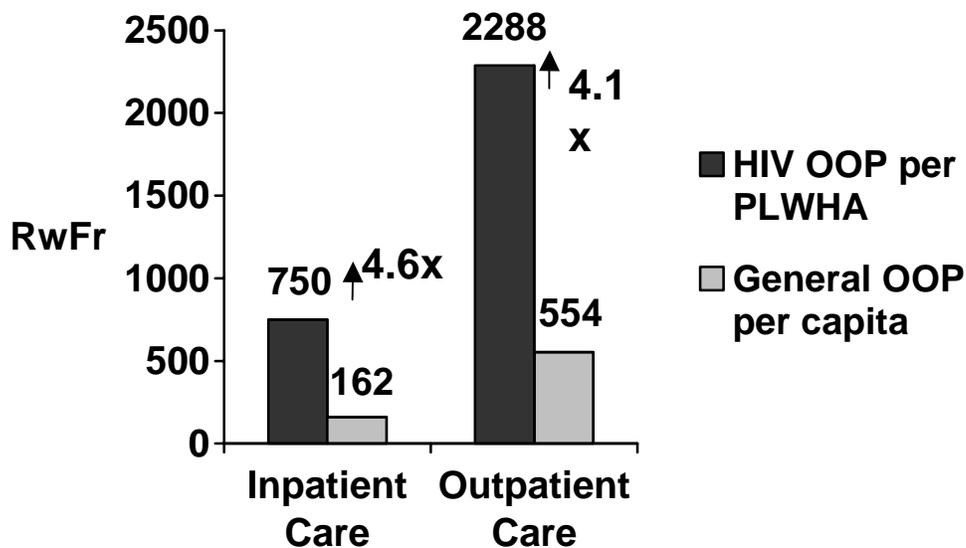
Most funding for HIV/AIDS in Rwanda in 2002 was spent on prevention and public health programs, 66 percent; curative care received 23 percent (15 percent for outpatient care, 7 percent for inpatient care). The administration of health linked to HIV/AIDS accounted for 9 percent of spending. Comparing these estimates to those for 2000 shows a shift from spending on curative care to spending on prevention and public health programs. This is because household financing of HIV/AIDS expenditures decreased during that time, owing to the launch of several new donor projects and the dramatic drop in the cost of ARV drugs.

Prevention was financed primarily by NGOs and other implementing agencies. Their expenditures of RWF 2.63 billion amounted to 54 percent of THE on HIV/AIDS. Other financing agents, such as government agencies, spent much less on prevention.

The 15 percent of THE on HIV/AIDS that went outpatient curative care came largely (54 percent) from household out-of-pocket spending; they also funded most inpatient care. Implementing agencies/NGOs financed significantly less.

When compared to per capita spending by the general population on health care, PLWHA spend 4.6 times more for inpatient care and 4.1 times more for outpatient care than did the general population (Figure 5.9).

Figure 5.9: Per Capita Out-of-pocket Spending on Curative Care by PLWHA and the General Population



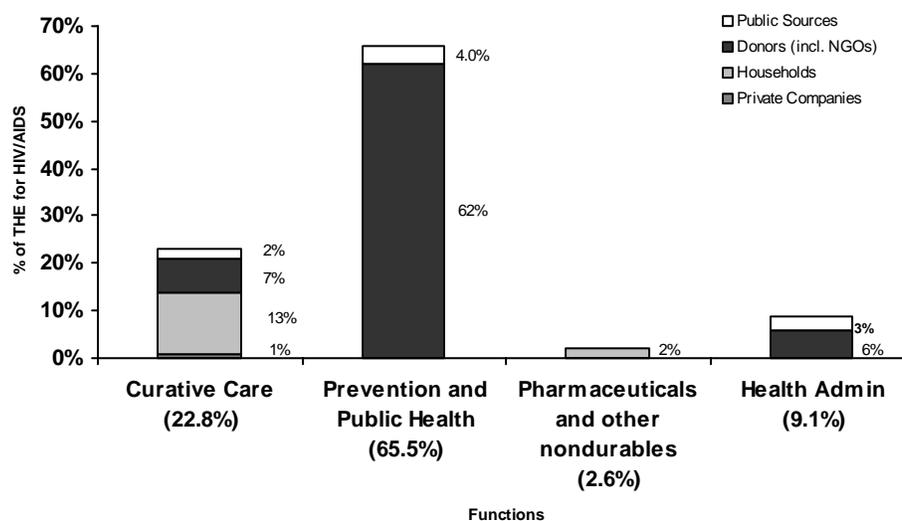
5.7 Flow of Funds for HIV/AIDS: Providers to Functions (HP x HC)

As discussed, emphasis has been placed on HIV/AIDS prevention over other functions, in particular curative care, by a margin of 66 percent to 23 percent. The imbalance between spending on prevention programs and spending on curative care is explained in part by the complexity and expense of treating AIDS patients. This may change rapidly in the future. In addition, spending on care delivered in public health centers has grown relative to care delivered in public hospitals. The public health centers are increasingly treating AIDS and opportunistic infections that were once the prerogative of hospitals.

5.8 Tracing Functions Back to Their Ultimate Source of Financing

If the FS x HF and HF x HC tables (outlining the flows of funds between financing sources and agents, and financing agents and functions) are combined, then it is possible to discern the ultimate financiers of specific HIV/AIDS services – for example, we can determine where donor monies “end-up” (Figure 5.10).

Figure 5.10: Financiers of HIV/AIDS Functions*



* Note, sources contributing less than 0.5% to any given function were not included in the figure as this small proportion was difficult to depict graphically

The figure shows that, while donors are the principal financiers of HIV health care, in 2002 their funds went largely to prevention and public health programs and to other administration functions. The same may be said for the government. This has resulted in households financing over half of all curative care costs and all of pharmaceuticals purchased at independent pharmacies/shops. One of the issues this raises is whether the current mix of government and donor financing on prevention versus curative services is an optimal one (perhaps best clarified by an analysis of the effectiveness of various interactions and programs).

5.9 Additional Analysis of PLWHA Spending

This section describes additional findings produced by the PLWHA survey conducted for the NHA exercise.

5.9.1 PLWHA Spending by Gender

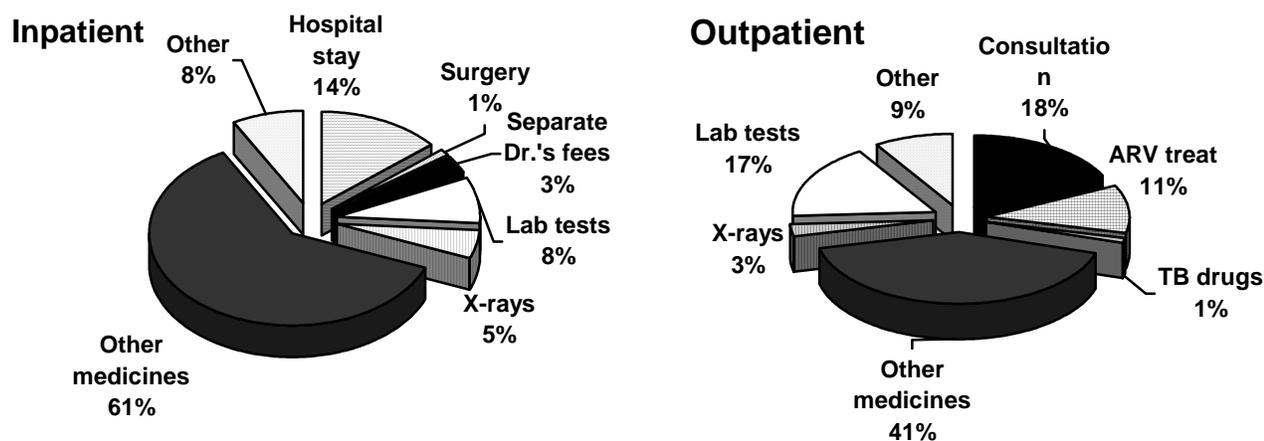
There are differences in spending structures based on the gender of AIDS patients. In 2002, women living with HIV/AIDS spent an average of RWF 5,653 (US\$11.90) on an inpatient care visit whereas men spent twice as much (RWF 11,321 [US\$23.83]). There was no significant difference for outpatient treatment: RWF 2,234 (US\$4.70) for a female and RWF 2,123 (US\$4.47) for a male.

For outpatient treatment, 34 percent of men and an identical 34 percent of women had to borrow money to pay for it. Twelve percent of men had to sell some of their possessions to pay for outpatient care, and more than one out of every five women (22 percent of the women) had to do so. For inpatient care, 28 percent of men versus 24 percent of women borrowed money to pay for care, and 33 percent of men versus 21 percent of women sold some of their possessions to pay for hospitalization costs.

5.9.2 PLWHA Spending on Inpatient and Outpatient Care

Figure 5.11 breaks down PLWHA out-of-pocket spending on inpatient and outpatient care. Direct payments by households for hospitalization (mostly for PLWHA in later stages of illness) went largely to medicines other than ARVs and anti-tuberculosis drugs (61 percent), followed by hospital stay costs (14 percent). For outpatients, the large share of out-of-pocket payments also went primarily to other medicines (41 percent), followed by consultations (18 percent), lab tests (17 percent), and ARV treatment (11 percent). This is prior to the disbursement of Global Fund and PEPFAR funds that will finance treatment to a greater extent than donor support did in 2002.

Figure 5.11: Breakdown of PLWHA Out-of-Pocket Spending for Inpatient and Outpatient Services



5.9.3 How PLWHAs Pay for Care

Loans or Sale of Possessions

Among those who reported paying for care, more than half of respondents stated that they either had to borrow funds and/or sell possessions to pay for outpatient services, and close to half reported having to do this to pay for inpatient care – an indication of the financial burden of curative care on households (table 5.2).

Table 5.2: How PLWHA Pay for Basic Health Care Needs

	Borrowed funds	Sold assets	Total % of respondents
Inpatient care	25%	24%	49%
Outpatient care	34%	20%	54%

Support for PLWHA

In 2002, support for households with a member hospitalized for HIV-related treatment was divided as follows: 58 percent came from the family or friends, and 7 percent was paid by health insurance, 3 percent by churches/religious congregations, and 2 percent by local NGOs. The remaining 30 percent came from other, not specified, types of support.

For outpatient treatment, 85 percent of support came from the family or friends, and 2 percent from employers. The other 12 percent came from other sources.

The lack of employer participation (less than 0.5 percent of support for inpatients and 1 percent for outpatients) and international organizations (less than 0.5 percent support, for both inpatients and for outpatients) is remarkable.

5.10 Summary

Findings from the HIV/AIDS subanalyses for 2002 and 2000 show an increased contribution to HIV/AIDS services by donors and a relatively stable contribution by the government when considered as a proportion of overall HIV/AIDS spending. However, in absolute terms, the GoR contributed RWF 175 million (US\$445,000) in 2000 and RWF 421 million (US\$886,000) in 2002. Nevertheless, only 5 percent of public health financing goes towards HIV/AIDS prevention and care.

Donor financing, already sizeable relative to other contributors, is likely to increase in coming years due to the influx of grants from new, large donor initiatives. It is thus likely that the financing target of donor funds (via the government) will shift from the current concentration on prevention and public health programs to one on curative care, particularly ARV delivery.

6. Reproductive Health Subanalysis

6.1 Introduction

The poor reproductive health status of Rwandans, as evidenced by the indicators in Table 6.1, has grave implications for the country's development. With high population density, compounded by elevated fertility and population growth rates, the development challenges the country faces are great. Improving the health status of women should be a key element of any development strategy, as it is well known that investments in women yield strong benefits to the family as a whole. A woman's death during childbirth often means death for the newborn, and both death and disability translate into emotional, social, and economic hardships for her children, extended family and even the community at large.³⁶ Ensuring access to quality RH care can reduce maternal morbidity and mortality.

Table 6.1: Reproductive Health Indicators in Rwanda

Women of reproductive age	2,067,022 (25% of total population)
Population growth rate	2.7%
Maternal mortality ratio (per 100,000 live births)	1071
Total fertility rate (Number of births/woman in reproductive years)	5.8
Percentage of women in union using a modern birth control method	4%
Use of antenatal care delivered by trained professionals as a proportion of total number of births	92%
Percentage of births taking place in a health care facility	27%
Percentage of births with a trained birth attendant	30%
Use of postnatal care	1.1%

Source: Census 2002, DHS 2000

Currently Rwanda has one of the highest maternal mortality ratios in East and Southern Africa and also one of the lowest rates of contraceptive prevalence in the region. Limited ability to pay is a serious barrier to access. Of female-headed households, 62 percent live below the poverty line, compared to 54 percent of male-headed households. It is not surprising that 79 percent of women report that cost is the single largest barrier to seeking basic medical services.³⁷

As stated earlier, the GoR and the donor community have set targets in a number of programs to improve the RH status of women. One Millennium Development Goal is to reduce the MMR by 75 percent by 2015. In addition, the country's Poverty Reduction Strategy Program (PRSP) has as one objective to increase the number of assisted deliveries, also to reduce maternal mortality. The Rwandan Health Sector Strategic Plan (HSSP) specifies that the rate of assisted deliveries should increase from 30 percent to 60 percent (of all deliveries) and the proportion of women with three or more antenatal visits

³⁶ Schneider, Pia and Tania Dmytraczenko. June 2003. *Improving Access to Maternal Health Care through Insurance*. Insights for Implementers. Issue #3. Bethesda, MD: Partners for Health Reformplus, Abt Associates.

³⁷ Republic of Rwanda, Ministry of Finance and Economic Planning (MINECOFIN), Statistics Department. September 2002. *Integrated Household Living Conditions Survey in Rwanda (2000-2001)*. Kigali.

should rise from 44 to 65 percent by 2009. The GoR has also specified a target for contraceptive prevalence, which should increase from 4 percent to 20 percent by 2009. The GoR has outlined specific actions, many of which relate to health care financing, to achieve these targets:

- ▲ Implement incentives to improve use of health services among women
- ▲ Ensure access to pharmaceuticals (offer subsidies for RH-related drugs)
- ▲ Decentralize primary care, including RH services
- ▲ Train health workers to deliver RH services
- ▲ Develop community-based interventions and animators.
- ▲ Design and implement performance-based-payment contracting schemes for high impact services, including deliveries.

6.2 Policy Purpose of RH Subanalysis

Sound strategic planning for reproductive health should rely on a solid understanding of the organization and financing for RH services as a whole, one that includes knowledge of spending by donors, public sector entities, and the private sector – particularly households. The GoR conducted an RH NHA subanalysis to monitor these resource flows in 2002.

Specifically, the subanalysis aimed to:

- ▲ Provide key expenditure information for national policymakers, donors, and other stakeholders to guide their strategic planning for RH care
- ▲ Identify all sources and uses of financial flows for RH in the context of overall health system spending.

To this end, the subanalysis was designed to answer the following policy questions:

- ▲ How much is spent on RH care?
- ▲ What proportion of financing for reproductive health comes from private sources?
- ▲ What is the reliance on donors for RH services, and particularly contraceptives?
- ▲ What is the relationship between expenditures and outcomes, particularly utilization rates?

6.3 Concept and Scope of the RH Subanalysis

As with the general estimation and HIV/AIDS subanalysis, the RH subanalysis used the NHA framework to estimate the flows of all funds – including public, private, and donor – for 2002. It created the four core tables for RH expenditures, specifically expenditures on services and products whose primary purpose was to i) limit/space births, ii) support and promote the limiting/spacing of births and

maternal health through training, IEC campaigns, etc., iii) deliver healthy babies (including postnatal care). Those RH services/products were the following:

- ▲ Retail pharmaceutical sales of products
 - △ Oral contraceptives, condoms, intra-uterine devices (other types of contraceptives were not widely used in the country³⁸)
- ▲ Outpatient services
 - △ Family planning counseling and issuance of contraceptives
 - △ Prenatal care
 - △ Postnatal care
- ▲ Inpatient services³⁹
 - △ Deliveries
- ▲ Services that support or promote family planning and maternal health
 - △ Program expenditures on IEC, BCC, public awareness campaigns
 - △ Administration and coordination
- ▲ Training (particularly of community health care workers as part of public awareness campaigns)
- ▲ Research

The above activities were felt to be the most relevant to the Rwandan RH context. It should be noted that the subanalysis did not track expenditures on general gynecological care, largely because this is extremely difficult to estimate due to current record keeping practices, and fertility counseling services, which are not widely offered in the country (see section 3.7 for a discussion about RH boundaries).

6.4 Overview of RH Subanalysis Findings

As presented in Table 6.2, total RH expenditures in 2002 were RWF 5,216,424,449 (US\$10,981,946). This represents 16 percent of total health expenditures, a proportion that is targeted to 25 percent of the population, namely women of reproductive age. It equates to RWF 2,524 (US\$5.31) per woman of reproductive age.

Financing of RH services is principally borne by donors (80 percent of THE for RH), followed by private financiers (12 percent of RH THE) who are mainly households, and the government (8 percent of RH THE). Similar levels of expenditures are made at public providers (9 percent of RH THE) and private providers (also 9 percent).

³⁸ Republic of Rwanda, MoH. 2001. *Demographic Health Survey 2000*. Kigali, Rwanda: ONAPO, ORC MACRO.

³⁹ Sterilizations were not included in the scope because the estimated number of women who were sterilized in the year 2002 was found to be too small to warrant estimation of these expenditures.

Among functions, curative care accounted for 18 percent of RH resources while prevention and public health programs consumed a sizeable 66 percent of RH funds. In terms of RH-specific categories, maternal health services accounted for 15 percent of RH THE, family planning consultations and commodities for 6 percent, and RH programs on prevention and public health for 66 percent. Administration and coordination of RH services and programs consumed 7 percent, and unspecified RH spending consumed the remaining 6 percent.

Table 6.2: Summary of Reproductive Health Subanalysis Findings for 2002

General Indicators	Value
Total RH expenditures	RWF 5,216,424,449 (US\$10,981,946*)
RH expenditures per woman of reproductive age	RWF 2,524 (US\$5.31)
RH expenditures as a % of GDP	0.6%
RH expenditures as a % of total of overall health spending	15.7%
Financing Sources of RH Funds (as % of THE for RH)	Value
Public (incl. parastatals)	7.7%
Private	12.5%
Donor	79.8%
Household Spending	Value
Total HH spending as a % of THE for RH	10.6%
Out-of-pocket spending as a % of THE for RH	10.0%
OOP spending per woman of reproductive age	RWF 253.36 (US\$0.53)
Providers (as % of THE for RH)	Value
Public provider**	8.6%
-Public hospital	4.3%
-Public health center	4.3%
Private provider spending	8.7%
-Private hospital spending	4.0%
-Private clinic spending as	4.7%
Independent pharmacies/shops/dispensaries	3.1%
Provision of prevention and public health programs	71.5%
Administration	3.2%
Other	5%
Functions (as % of THE for RH)	Value
Curative care as a % of THE for RH	18%
Prevention and public health programs as a % of THE for RH	66%
Pharmaceuticals and other nondurables as a % of THE for RH	3%
Health administration as a % of THE for RH	7%
Other as a % of THE for RH	6%
Breakdown by Reproductive Health Function (as % of THE for RH)	Value
Maternal health services (curative care)	15%
Family planning (FP)	6%
Prevention and public health programs on maternal health/FP	66%
Administration	7%
Other	6%

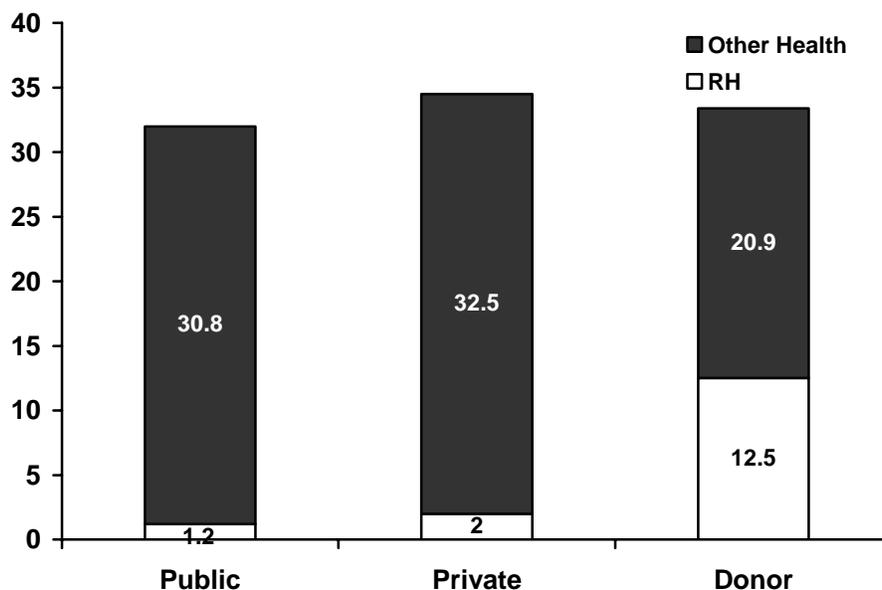
* Exchange rate used for 2002 is 1US\$ = RWF 475

** Due to difficulties in disaggregating RH expenditures between government-assisted not-for-profit facilities and public facilities, these types of providers are aggregated under the heading of "public" facilities.

6.5 RH Financing in the Context of Overall Health

RH services and programs consume 16 percent of total health expenditures. Broken down by financing source (Figure 6.1), 12.5 percent (of general THE) is contributed by donors, 2 percent by private sources (principally households), and 1.2 percent by public entities.

Figure 6.1: RH Expenditures as Proportion of THE, by Major Financing Sources



In 2002, reproductive health consumed 37 percent of all donor health spending. When considered in conjunction with findings from the HIV/AIDS subanalysis and the general NHA, the data reveal that more than two-thirds of donor health expenditures are targeted to RH and HIV/AIDS services, leaving less than 30 percent for any other health care activity – including those that target malaria, the top cause of morbidity and mortality in Rwanda (Figure 6.2).

Figure 6.2: Breakdown of Donor Spending on Health Care

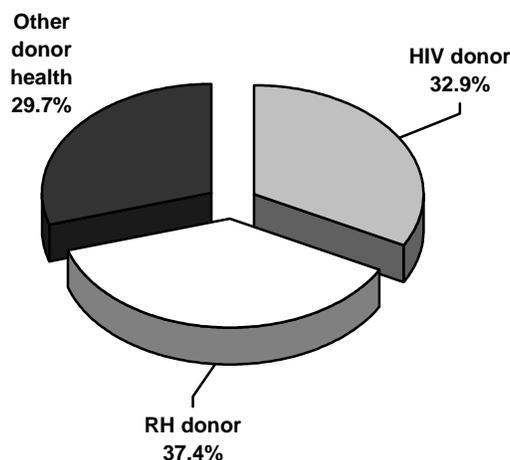
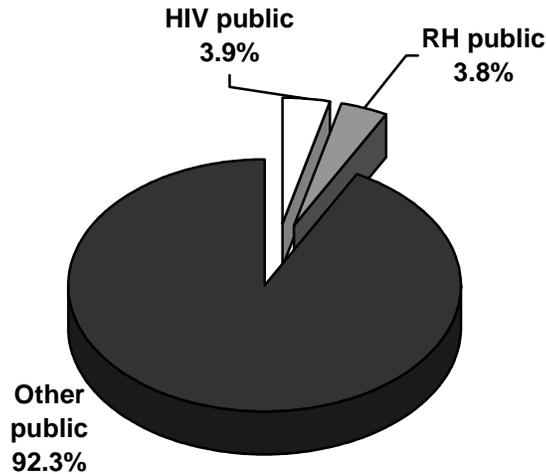


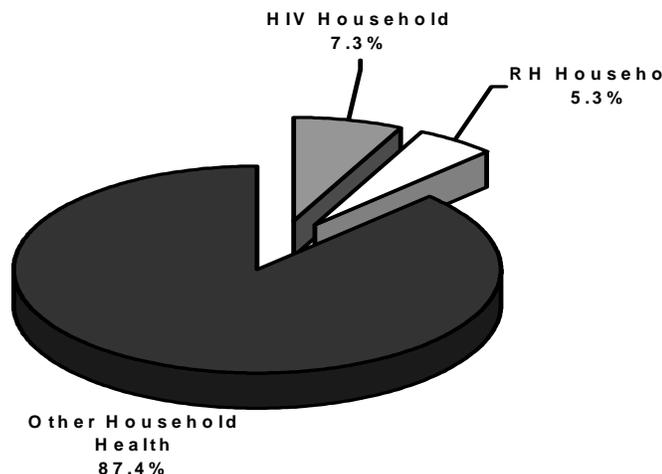
Figure 6.3 shows the relative contribution of public spending on reproductive health and HIV/AIDS. In 2002, reproductive health accounted for a low proportion of public health financing (4 percent), raising concern about whether the GoR spends enough to achieve its high-priority policy goal of improving RH.

Figure 6.3 Breakdown of Public Spending on Health Care



Households spent relatively little on RH and HIV/AIDS in 2002, approximately 7 percent on HIV/AIDS and 5 percent on reproductive health (Figure 6.4). The low level of spending on HIV/AIDS is explained by the fact that the afflicted population represents a small portion of the total population (2.1 percent of adults account for 7 percent of total spending by households). Women of reproductive age are a much larger proportion of the population, 25 percent, but only 5 percent of THE supports the services that they typically need.

Figure 6.4: Breakdown of Household Spending on Health Care

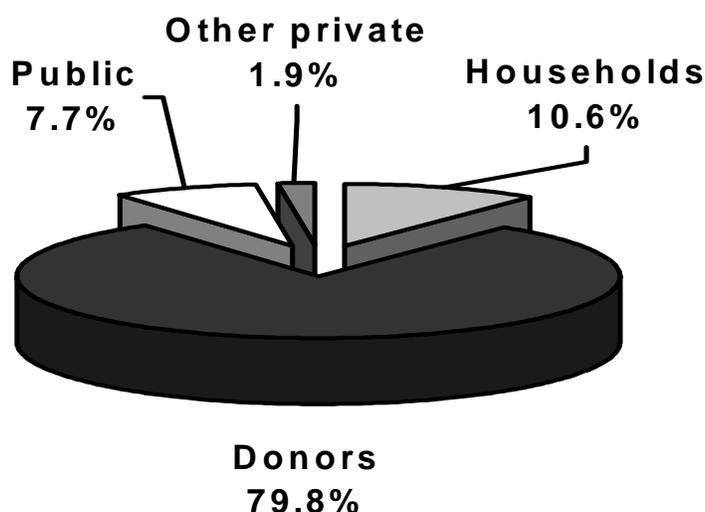


6.6 Flow of Funds for Reproductive Health, by NHA Dimension

6.6.1 Financing Sources

Total spending on reproductive health is approximately RWF 5.2 billion (US\$10.9 million), which equates to RWF 2,524 (US\$5.31) per woman of reproductive age. As discussed in Section 6.4, donors contribute 79.8 percent of all RH funds. Households finance a share greater (10.6 percent) than that contributed by the government (7.7 percent). Other private sources, such as private employers, contribute the remaining 2 percent.

Figure 6.5: Who Pays for RH Care? A Breakdown of Financing Sources



6.6.2 Financing Agents

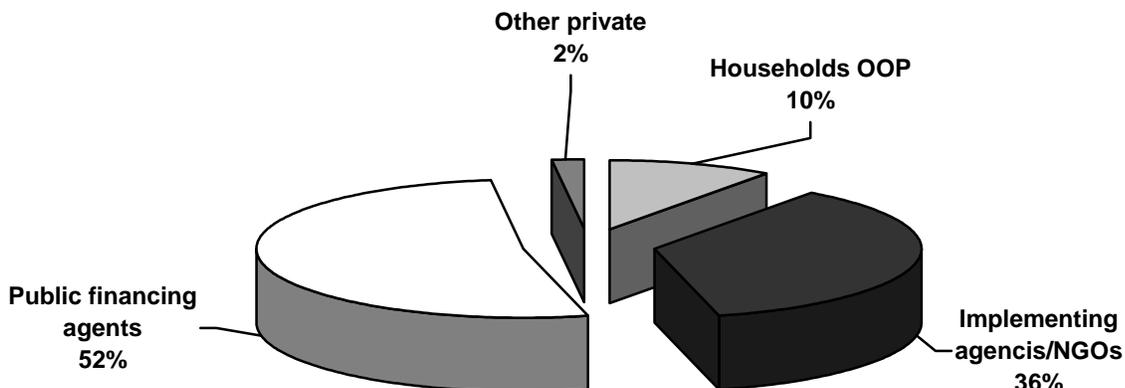
There are four major paths through which these RH monies are channeled: i) transfers to government entities from donors, ii) transfers to implementing agencies/NGOs from donors, iii) household out-of-pocket spending, and iv) transfers to the MoH from the central government. (Annex C shows the flow of RH funds from their financing sources to financing agents.)

Donors, who finance nearly 80 percent of RH spending, transfer 55 percent of their RH funds to government entities and the remaining 45 percent to various implementing agencies/NGOs. Households, whose share of RH spending is 10.6 percent, contribute mostly via direct out-of-pocket payments (94 percent of their contribution). Central government revenue (7.7 percent of THE for RH) is channeled largely to the MoH (71 percent) and the remainder to other financing agents.

Figure 6.6 details the proportion of funds that are managed by various financing agents. More than half of all RH funds are channeled through public financing agents, primarily the MoH. More than a third

of funds are transferred to implementing agencies while households, through out-of-pocket spending, determine the use of 10 percent of RH resources. Other private entities, such as private insurance schemes (*mutuelles*, FARG) handle 2 percent.

Figure 6.6: Who Manages RH Funds? A Breakdown of Financing Agents

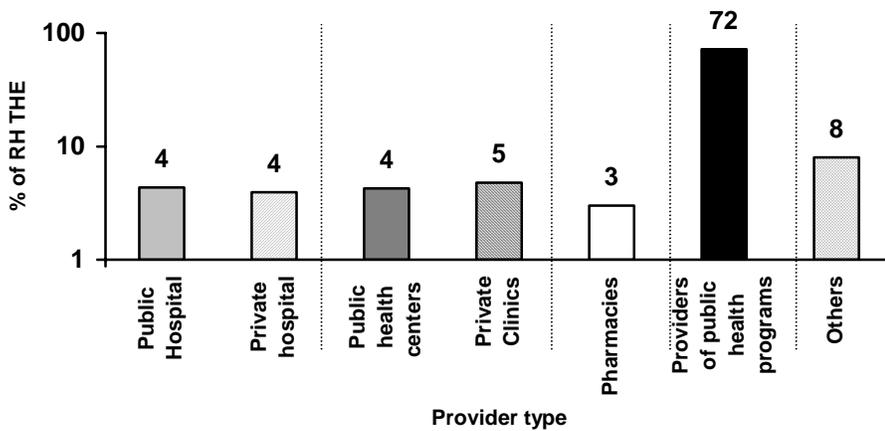


Approximately 12 percent of resources for reproductive health are transferred directly to providers; the remaining 88 percent are managed by financing agents such as the MoH and implementing agencies/NGOs.

6.6.3 Health Providers

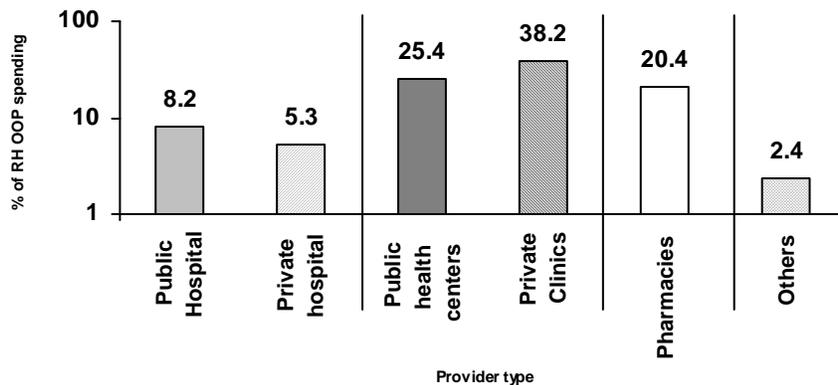
RH expenditures principally pay for the provision of public health programs (72 percent of THE for RH). Curative care expenditures are distributed equally among public and private hospitals (4 percent of RH THE each) and health centers (4 percent in the public sector and 5 percent in the private sector). Independent pharmacies and shops consumed a significant 3 percent of all RH spending, almost as much as what is spent at public or private hospitals. Annex C (Table C-2) shows the flow of funds between financing agents and providers. Figure 6.7 summarizes the provider spending breakdown.

Figure 6.7: Where Do RH Funds Go? A Breakdown by Provider Type



Out-of-pocket spending for curative RH services⁴⁰ occurs principally at private clinics (38.2 percent of out-of-pocket expenditures for reproductive health), followed by public health centers (25.4 percent). As will be seen in subsequent sections (and Annex Table C-4: HP x HC), the sizeable expenditure at public health centers is principally spent on prenatal care services followed by family planning commodities. Out-of-pocket purchases at independent pharmacies/shops (largely on contraceptive commodities) reflect a significant 20.4 percent. Public hospitals account for 8.2 percent and private hospitals 5.3 percent.

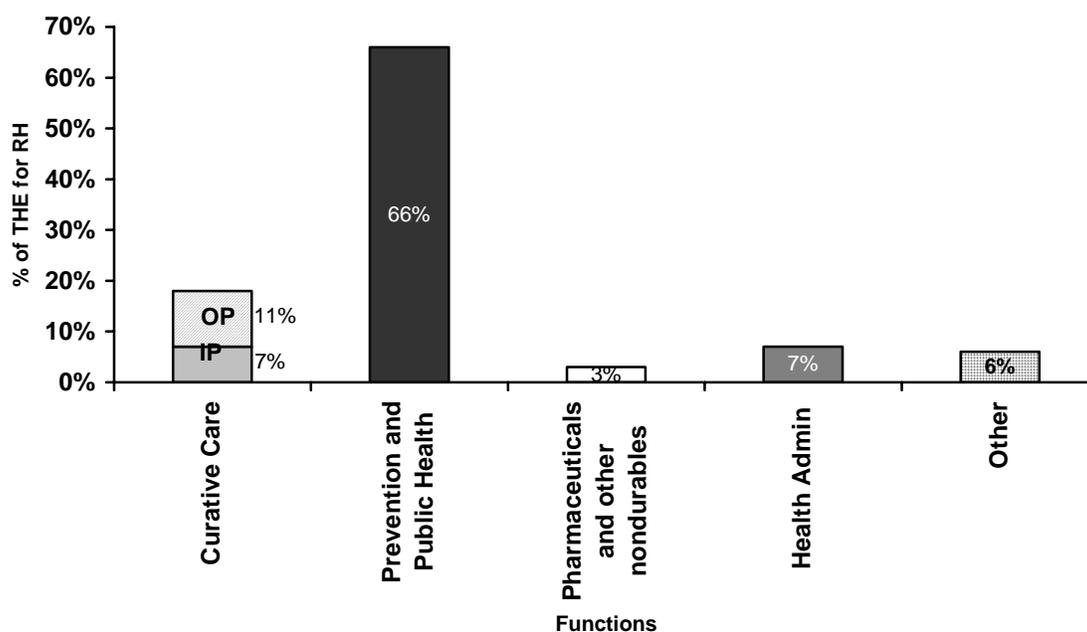
Figure 6.8: Out-of-pocket RH Spending on Providers



6.6.4 RH Care Functions

Figure 6.9 summarizes the services and products on which RH funds are spent. Most expenditures go to public health programs (66 percent of THE for RH) followed by curative care (18 percent of RH THE). Within curative care, more is spent on outpatient services (11 percent of RH THE), principally for prenatal care, than on inpatient care (7 percent). The ratio of spending on curative to preventive care raises the question of whether this is an optimal use of RH funds. In Annex C, Tables C-3 and C-4 detail the flow of funds from financing agents to functions and from providers to functions.

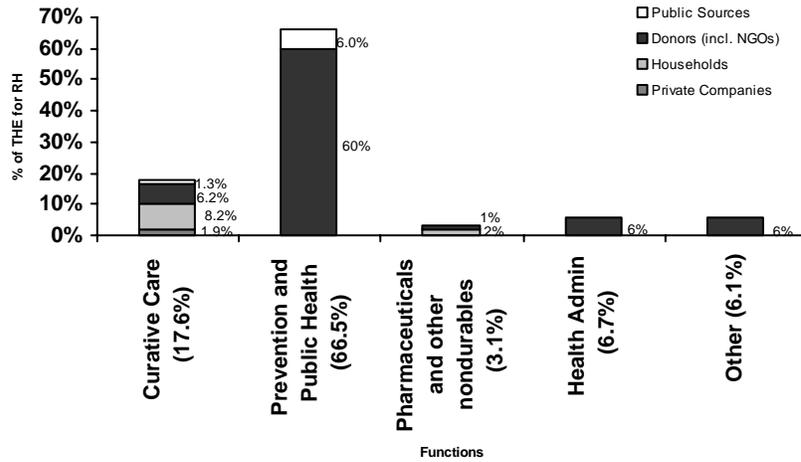
Figure 6.9: On What Are RH Funds Spent? A Breakdown by Functions



Examination of the ultimate financiers of these functions (Figure 6.10), reveals that close to half (and the largest share) of all curative care expenditures are financed by households at 8 percent of RH THE, followed by donors (6 percent), private companies (through insurance schemes) (2 percent), and lastly the GoR, at only 1 percent of all RH expenditures. Households also finance the largest proportion of pharmaceuticals and nondurables purchased at independent pharmacies/shops (2 percent of RH THE). Donors financed the remainder. Donors also financed 90 percent of public health programs for maternal health and family planning; the expenditures covered activities such as IEC campaigns, BCC activities, and the training of community health care workers/animators. Public sources financed the remaining 10 percent of public health programs. Finally, donors were the sole financier of health administration, coordination, and other expenses for RH services.

⁴⁰ Curative is used here in keeping with the NHA terminology in the *Producers Guide* and System of Health Accounts. It refers to personal health care as opposed to collective health care (such as that delivered through public health prevention programs) and includes preventive personal care services such as family planning.

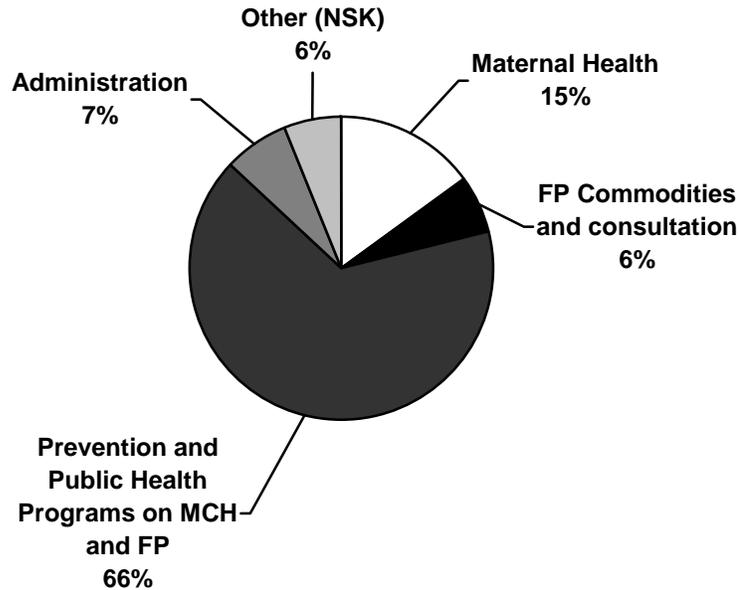
Figure 6.10: Financiers of RH Functions*



*Note, sources contributing less than 0.5% to any given function were not included in the figure as this small proportion was difficult to depict graphically.

When functions are broken down in terms of RH-specific activities (Figure 6.11), maternal health curative care consumes 15 percent of all RH expenditures and family planning consultations and procurement of commodities accounts for 6 percent. Programmatic expenditures are not broken down in terms of maternal health versus family planning because this distinction would have been largely arbitrary, as these expenditures are incurred on programs that target all RH public health activities.

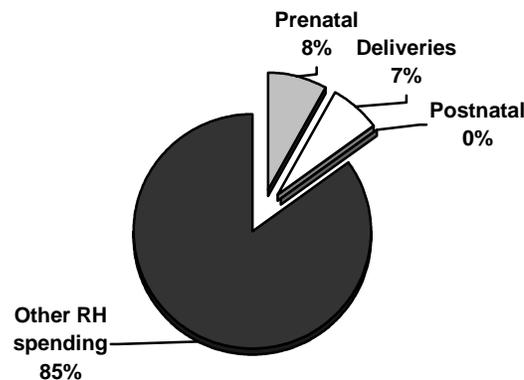
Figure 6.11: Functional Breakdown by RH Categories



Spending on Maternal Health

Figure 6.12 breaks down financing for various maternal health services. Spending on prenatal care, deliveries, and postnatal care are low, perhaps reflecting the low utilization rates of these services (see Table 6.1).

Figure 6.12: Maternal Health Care as a Proportion of RH Spending



Dividing the total delivery expenditure by the total number of deliveries taking place at facilities results in an estimate of 3,603 RWF (or US\$7.59) for each facility-based delivery, the burden of which is shouldered by households (60 percent). The GoR, in its goal to reduce maternal mortality, is examining ways in which the number of facility-based deliveries can be increased since 73 percent of all births in Rwanda occur outside of health facilities. Based upon the current NHA estimates of a facility delivery (as mentioned earlier), expenditures on this type of service would need to increase by approximately threefold if all deliveries were to take place at facilities at the current level of expenditure per delivery.

6.7 Family Planning Consultations and Commodities

As stated earlier, 6 percent of all RH spending goes towards family planning consultations and the issuance of contraceptive commodities. Households and donors finance this in equal proportions, 6 percent of RH THE. This is true even though all contraceptive commodities in Rwanda are donated or highly subsidized by donors, which channel their products through the Ministry of Health or implementing agencies. The MoH distributes its commodities largely free of charge⁴¹; however, households are still charged for the consultation. Implementing agencies/NGOs often distribute the commodities through social marketing, which means that the commodities are sold to providers at a nominal price; providers then resell the products to the consumer. The contribution made by donors for family planning commodities accounts for 1 percent of all donor RH spending.

With only 4 percent of the population using any modern contraceptive method, expenditures were made on only three types contraceptive products: injectables, oral contraceptives, and condoms. These methods were financed through three resource flow channels: i) donor transfer to NGOs, ii) donor transfer to the MoH, and iii) households through out-of-pocket spending (Figure 6.13). Oral contraceptive

⁴¹ There was some anecdotal evidence that commodities are sold to consumer and public health facilities, but that was not taken into account in this study because evidence to substantiate the claim was insufficient.

expenditures accounted for 35 percent of all family planning commodities and consultation expenditures. Injectables, the most used form of contraceptive, accounted for 33 percent of expenditures and condoms 32 percent.

Figure 6.13: Funding Flows for Expenditures on Contraceptives, by Method

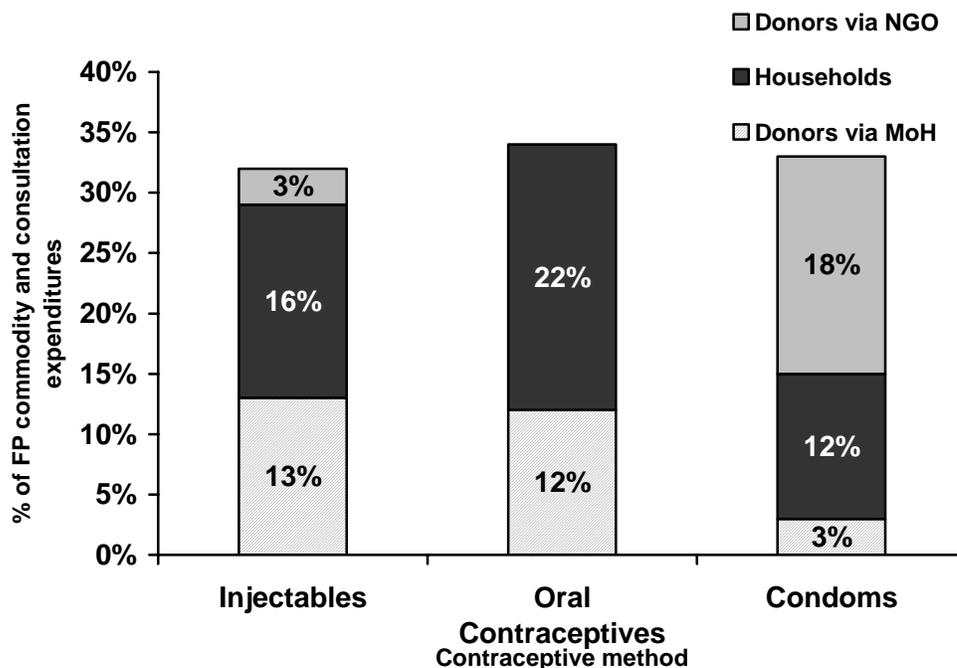


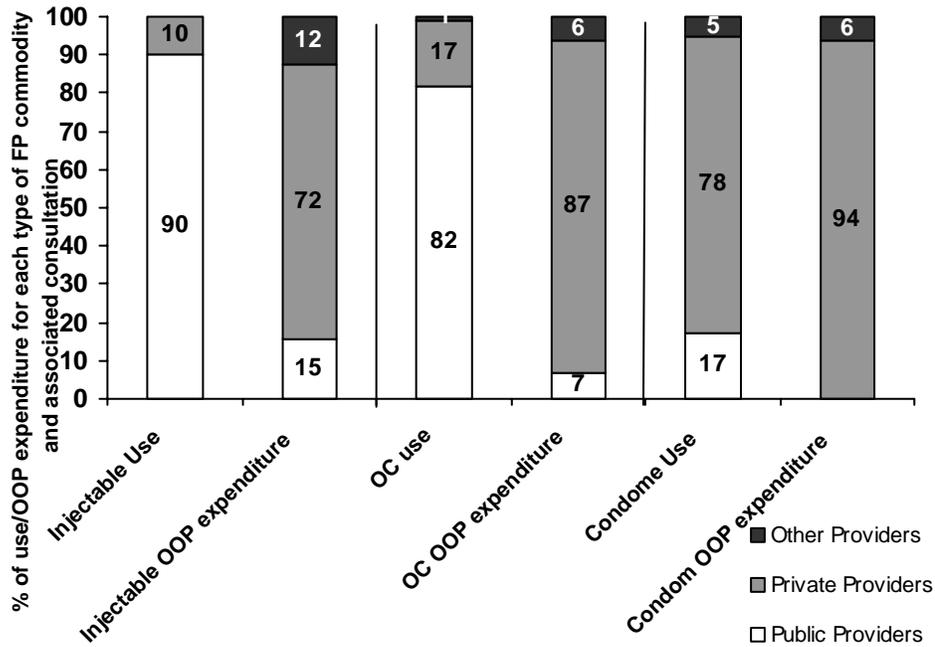
Figure 6.13, reveals that, for injectables, households contribute the same amount as donors. Moreover, for oral contraceptives, households contribute almost twice as much as donors. This raises questions regarding the financial burden placed on households to pay for contraceptive use and whether this, in turn, is contributing to the low utilization rate of such commodities. Donor transfer of products to NGOs or through the Ministry of Health largely financed the cost of condoms in 2002.

An interesting comparison is to examine utilization patterns versus out-of-pocket spending on contraceptive commodities. Figure 6.14 illustrates this comparison graphically.

The DHS 2000 found that households obtained 90 percent of injectables in the public sector (with donors as the original financing source); NHA showed that households did not spend much obtaining injectables in the public sector, but did spend a sizeable amount in the private sector. Oral contraceptives showed a similar pattern; these commodities are largely obtained in the public sector and out-of-pocket expenditure occurs principally in the private sector. Finally, although condoms are given free of charge in public facilities, they are largely obtained and purchased in the private sector.

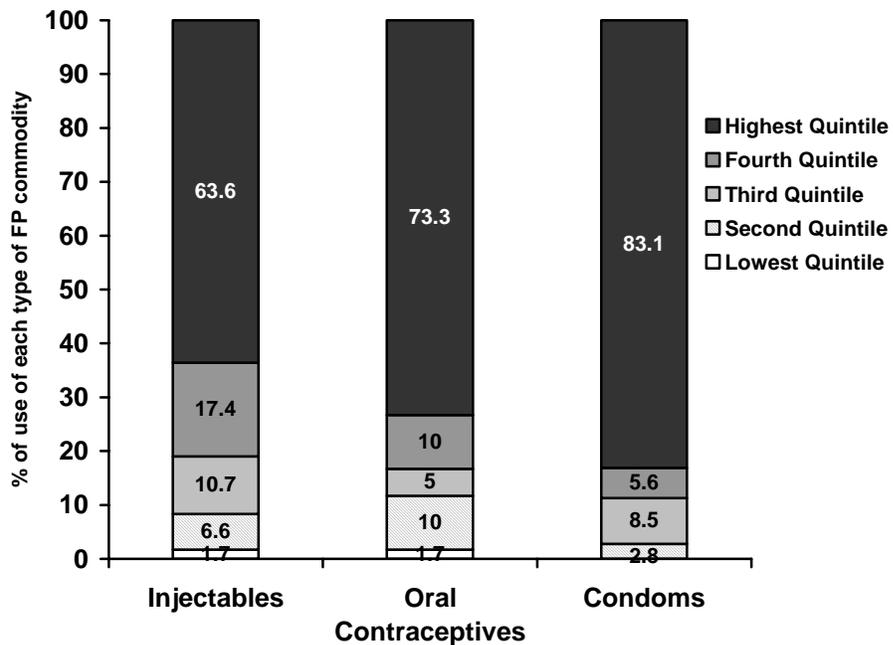
As for who uses family planning commodities, the DHS 2000 data set showed that households in the highest income quintile are the principal users (and are largely urban residents), while the poor (particularly in rural settings) use hardly any commodities (Figure 6.15). This, in conjunction with NHA findings on household spending on commodities, raises concern about the financing burden on households to pay for family planning. As mentioned earlier, this may be a contributing factor to the country's low utilization of modern contraceptive methods.

Figure 6.14: Comparing Utilization and Out-of-pocket Spending on Commodities



*Utilization data was obtained from the DHS 2000

Figure 6.15: Utilization of Commodities, by Income Quintile



6.8 Summary and Implications

The NHA subanalysis shows a heavy reliance on donors to finance reproductive health care (approximately 80 percent of total RH expenditures). The GoR contribution is extremely low. In fact, households finance more RH care than does the GoR. This has implications in terms of sustainability and the extent to which the government would need to increase its RH support to be the principal financier and steward of RH, should donor contribution to this sector decrease. It also has implications for reaching GoR targets with respect to improving the country's RH status and achieving its MDG, PRSP, and HSSP targets.

The subanalysis also reveals the financial burden on households to pay for reproductive health. As discussed above, households contribute close to half of all curative care RH expenditures, while donor and government funds go primarily to public health programs on RH issues. Rwanda's MDG progress report cited unaffordability of basic health care as a major challenge to improving reproductive health; 79 percent of women identified the cost of medical services as a barrier to their use. Further studies are needed to determine the extent to which out-of-pocket payment may be deterring utilization of modern methods. Alternatively, households may not be using RH services as much because of quality concerns and so this may necessitate added investment to improving the quality of services in order to bolster utilization.

Overall, curative expenditures, particularly for maternal health, account for 18 percent of all RH spending and prevention and public health programs consume 66 percent of RH THE. Is this an optimal mix of spending on curative versus prevention? Further studies also will be needed to answer this question.

With respect to obtaining contraceptive commodities, households also shoulder a large proportion of financing for contraceptives (equal to that incurred by donors). In some cases, households pay the same or more for commodities than do donors, namely for oral contraceptives (where households pay twice as much) and for injectables (where households pay the same amount). Interestingly, households are paying in the form of consultation fees, to obtain donated contraceptives given to the government.

7. Conclusion

7.1 Concluding Remarks

Health care financing in Rwanda is complex, with many different stakeholders involved. The 2002 and 2000 NHA exercise has allowed the government of Rwanda to view the system in its entirety, by accounting for expenditures by donors, households, and other entities. This exercise has yielded a useful data set for evidence-based health policy development, not only for the government but also for donors, NGOs, providers of health insurance and others. The subanalyses conducted on HIV/AIDS and reproductive health care similarly offer valuable information for a wide range of stakeholders.

In terms of the overall health resource envelope, Rwanda spent 4 percent of GDP on health, somewhat less than the sub-Saharan Africa average of 5.7 percent. This translates into expenditure per capita of \$8.62. With respect to financing sources, the NHA exercise revealed that 42 percent is financed by households, 33 percent by the donor community, and 25 percent by the public sector. It is interesting to note, however, that HIV/AIDS and reproductive health combined represent only about 10 percent of all health expenditures by households and the government, while 70 percent of all donor spending is targeted at either HIV/AIDS or reproductive health. The large donor contribution to these priority services raises concerns about the sustainability of financing by Rwandan stakeholders in the event that donor support were to decrease.

With regard to financing agents, two key trends emerge when comparing the results from the current NHA exercise to the 1998 results. First, 20 percent of health financing now passes through implementing agencies (which includes NGOs, projects, and churches), up sharply from the rate of 1 percent recorded in 1998. This largely reflects increased donor emphasis on local ownership and implementation of aid for the health system. Secondly, insurance mechanisms are playing an increasingly important role in health financing in Rwanda, with the insurers RAMA (15 percent), Caisse Sociale (5 percent), and *mutuelles* (including FARG) (4 percent) all acting as financing agents for significant fund flows. Nevertheless, direct out-of-pocket expenditures by households still account for the largest proportion of health care at 25 percent.

The analysis of health financing with respect to providers and functions both serve to highlight the fact that about 50 percent of all health financing is directed at the provision of public health programs and administrative activities, with the remaining 50 percent accounted for by expenditures at actual health facilities. The implications of this breakdown for equity and efficiency of health care merits further investigation.

The HIV/AIDS epidemic is a critical health challenge facing the Rwandan health system, as 5.1 percent of the adult population is infected. Expenditures on HIV/AIDS account for 15 percent of total health spending. About three-quarters of all HIV/AIDS spending in Rwanda is financed by donors, while households contribute 16 percent and the government share is 9 percent. This is in sharp contrast to findings from the 1998 NHA exercise, due to several factors including the initiation of several large new donor projects related to HIV/AIDS, the steep decline in ARV prices, lower estimates of HIV prevalence, and methodological differences.

When compared to per capita spending by the general population on health care, people living with HIV/AIDS spend 4.6 times more than the general population for inpatient care and 4.1 times more for outpatient care. Household spending on HIV/AIDS raises important issues of equity with respect to financing of priority interventions.

The main functions of the HIV/AIDS programs in Rwanda in 2002 were prevention programs that amounted to 65 percent of spending, followed by curative care with 23 percent. The administration of health linked to HIV/AIDS accounted for 9 percent of spending. The proportion of HIV/AIDS spending targeted to ARV treatment programs will be an important indicator to follow in the near future as international efforts to scale up ARV provision continue to be rolled out.

The reproductive health subanalysis, the first of its kind in Rwanda, highlighted several important findings relevant to this priority health issue. RH spending amounts to \$5.31 per woman of reproductive age, and accounts for 16 percent of overall health expenditures while being targeted at 25 percent of the national population (i.e., women of reproductive age). The financing of RH expenditures is principally borne by donors, who fund 80 percent of all spending in the sector. The majority of RH financing (66 percent) is targeted at prevention and public health programs, while 18 percent is spent on curative care. The RH subanalysis also revealed the financial burden on households to pay for reproductive health, including commodities.

7.2 Next Steps

The Rwanda NHA findings for both the health system in general as well as for HIV/AIDS and reproductive health care highlight several important issues related to the equity, efficiency, and sustainability of health financing in Rwanda. The government of Rwanda is committed to using the findings generated by this exercise in order to enhance the evidence base of its policy decisions and to strengthen the country's health system more broadly.

The GoR is also committed to institutionalizing the NHA process, so that estimates such as those presented in this report can be produced on a regular basis, with the resulting updates and trend data serving to continually support the achievement of the health system's strategic objectives.

Annex A: General NHA Tables 2002

Table A-1: General NHA 2002 - Financing Sources x Financing Agents (FS x HF) in RWF

		Financing Source (FS)							
		FS.1 Public Funds		FS.2 Private Funds			FS.3	FS.nsk	
Code	Financing Agent (HF)	FS.1.1.1 Central Gov Revenue	FS. 1.2 Other Public funds	FS.2.1.1 Parastatal Employer Funds	FS.2.1.2 Private Employer Funds	FS.2.2 Households	Cooperating Partners (Rest of the World)	Not specified by any kind	Row Total
HF.1.1.1	MoH (MiniSante)	3,340,325,193					2,319,033,469		5,659,358,662
HF.1.1.2	DSGAS (includes districts)	969,441,755					1,716,009,103		2,685,450,858
HF.1.1.3	Other Ministries	672,310,004					281,131,014		953,441,018
HF.1.2	Social Security Fund (CSR-Caisse Sociale*)	784,500,915		26,261,515	135,590,819	562,188,688			1,508,541,937
HF.2.1.	Employer insurance program - RAMA (Rwanda medical insurance)	1,234,429,823	199,990,425	2,244,815,114		1,234,429,823			4,913,665,184
HF.2.5.1	Parastatals			156,228,236					156,228,236
HF.2.2	Private Insurance Enterprises (other than social insurance)- Mutuelles, FARG	1,016,160,000				379,760,047		7,367,006	1,403,287,052
HF.2.3.	Private household out of pocket payments					8,219,695,966			8,219,695,966
HF.2.4	NPISH (mplementing agencies)						6,309,044,857		6,309,044,857
HF.2.5	Private firms and corporations (other than health insurance)				918,742,831				918,742,831
HF.3	Rest of World						507,662,742		507,662,742
HF.nsk	Not specified by any kind			8,581,658	22,345,604			32,156,505	63,083,767
	Column Total (THE)	8,017,167,690	199,990,425	2,435,886,523	1,076,679,254	10,396,074,524	11,132,881,185	39,523,510	33,299,203,111
HF.4	Financing Agents spending on Health Related Items						151,644,863		151,644,863
	Column Total (NHE)	8,017,167,690	199,990,425	2,435,886,523	1,076,679,254	10,396,074,524	11,284,526,048	39,523,510	33,449,847,974

Table A-2: General NHA 2002 -Financing Agents x Providers (HF x HP) in RWF

		Financing Agent													
		HF A Public Sector											HF 3 ROW	HF.nsk	
		HF.1.1.1	HF.1.1.2	HF.1.1.3	HF.1.2	HF.2.1	HF.2.5.1	HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3	HF.nsk		
Provider		MoH (MiniSante)	DSGAS (includes districts)	Other Ministries	Social Security Fund (CSR-Caisse Sociale*)	Employer insurance program - RAMA (Rwanda medical insurance)	Parastatals	Private Insurance Enterprises (other than social insurance)- Mutuelles, FARG	Private household out of pocket payments	NPISH (mplementing agencies)	Private firms and corporations (other than health insurance)	Rest of World	Not specified by any kind	Row Total	
HP.1.1.1	Public Hospitals	1,059,745,837	125,151,878	474,609,825	452,562,581	439,343,850	1,544,760	194,315,070	1,670,154,724	25,208,433	216,243,963	242,483,363	25,273,274	4,926,637,559	
	Govt assisted not-for-profit hospitals	25,685,190	10,718,786		150,854,194	205,715,229	1,165,346				14,995,118				
HP.1.1.2.1	Private hospital for-profit					199,891,937	2,744,999	40,174,810	424,416,656	19,250,884	330,434,898	41,504,002		934,480,215	
HP.1.1.2.2		413,022,202						80,919,716	133,417,957					1,160,431,709	
HP.1.2	Mental health & substance abuse hospitals	47,701,025						3,363,503	39,848,345			52,441,325	15,282,667	158,636,864	
HP.3.1	Offices of physicians (private clinics)*					29,697,939	96,232,780	3,920,432	1,639,868,326		256,369,792		22,527,826	2,048,617,095	
HP.3.4.2	Outpatient mental health and substance abuse centers	500,000						86,655,614						87,155,614	
HP.3.4.5.1	Public health centers														
		117,402,523	242,966,821	32,663,477	75,427,097	150,826,312	2,037,421	257,080,069	1,243,622,561	116,767,099	6,005,618	63,703,817		2,308,502,815	
HP.3.4.5.2	Government assisted not-for-profit health centers	41,021,768	75,607,148												
					75,427,097	77,698,403	1,049,580	134,215,337	660,674,486	59,086,966	3,093,803	92,440,456		1,220,315,045	
HP.3.9.2	Blood banks (CNTS transfusion)	89,974,444												89,974,444	
HP.4.1	Dispensing chemists	115,830,387					49,500,629	126,879,724	2,407,692,912		91,599,640			2,791,503,292	
HP.5	Provision and admin of public health programs	2,636,739,363								6,088,731,475		15,089,779		8,740,560,617	
HP.6	General health administration and insurance	822,213,246	2,231,006,225	446,167,716		3,810,491,514		327,490,219						7,637,368,920	
HP.nsk	Providers not specified by any kind	289,522,677			754,270,969		1,952,721	148,272,557			-			1,194,018,924	
	Column Total THE	5,659,358,662	2,685,450,858	953,441,018	1,508,541,937	4,913,665,184	156,228,236	1,403,287,052	8,219,695,966	6,309,044,857	918,742,831	507,662,742	63,083,767	33,298,203,111	
	HF Totals From FS x HF Table	5,659,358,662	2,685,450,858	953,441,018	1,508,541,937	4,913,665,184	156,228,236	1,403,287,052	8,219,695,966	6,309,044,857	918,742,831	507,662,742	63,083,767	33,298,203,111	
HP.8.2	Education and training institutions											151,644,863		151,644,863	
	Subtotal for health related											151,644,863		151,644,863	
	Column Total: NHE	5,659,358,662	2,685,450,858	953,441,018	1,508,541,937	4,913,665,184	156,228,236	1,403,287,052	8,219,695,966	6,309,044,857	918,742,831	659,307,605	63,083,767	33,449,847,974	

Annex A-3: General NHA 2002 – Financing Agents x Functions (HF x HC) in RWF

Function	HF.A Public Sector						HF.B Private Sector				HF.3 RoW	HF.nsk	Row Total	
	HF 1.1.1 MoH (MiniSante)	HF 1.1.2 DSGAS (includes districts)	HF 1.1.3 Other Ministries	HF 1.2 Social Security Fund (CSR- Caisse Sociale*)	HF 2.1 Employer insurance program - RAMA (Rwanda medical insurance)	HF 2.5.1 Parastatals	HF 2.2 Private Insurance Enterprises (other than social insurance) Mutuelles, FARG	HF 2.3 Private household out of pocket payments	HF 2.4 NPISH (implementing agencies)	HF 2.5 Private firms and corporations (other than health insurance)	HF 3 Rest of World	HF.nsk Not specified by any kind		
HC.1.1	In patient curative care	1,233,375,272	158,410,025	325,501,182	1,110,286,866	460,530,219	14,262,560	281,693,221	1,312,774,434	54,088,585	317,091,184	209,197,567	3,954,714	5,481,165,830
HC.1.3	Out patient curative care	760,039,755	296,034,608	181,772,120	398,255,071	642,643,452	92,465,047	518,867,690	4,499,352,208	142,061,294	510,052,008	282,071,322	33,475,740	8,357,090,315
HC.5.1.1+HC5.1.2	Pharmaceuticals	115,830,387	-	-	-	-	14,602,885	126,879,724	2,290,833,831	-	91,599,640	-	-	2,639,746,268
HC.5.1.3+ HC5.2	Other medical non durables and	-	-	-	-	-	-	-	1,386,790	-	-	-	-	1,386,790
HC.6	Prevention and administration of	2,668,049,263	-	-	-	-	-	-	-	6,088,731,475	-	15,089,779	-	8,771,870,517
HC.6.1	Maternal and child care, family planning and counseling	2,088,798,996	-	-	-	-	-	-	-	1,199,718,883	-	-	-	3,288,517,879
HC.6.3	Prevention of communicable disease (e.g., AIDS and STDs)	337,796,131	-	-	-	-	-	-	-	2,623,593,914	-	-	-	2,961,390,045
HC.6.4	Prevention of noncommunicable diseases (e.g. malaria)	185,511,789	-	-	-	-	-	-	-	47,902,827	-	15,089,779	-	248,504,395
HC.7	Health administration and insurance	822,213,246	2,231,006,225	446,167,716	-	3,810,491,514	-	327,490,219	-	-	-	-	-	7,637,368,920
HC.7.1.1	General gov't administration of health (except social security)	822,213,246	2,231,006,225	446,167,716	-	-	-	-	-	-	-	-	-	3,499,387,187
HC.7.1.2	Admin. operation and support of social security funds (CSR, RAMA)	-	-	-	-	3,810,491,514	-	-	-	-	-	-	-	3,810,491,514
HC.7.3	Other administration	-	-	-	-	-	-	327,490,219	-	-	-	-	-	327,490,219
HCR.2	Capital formation for health care provider institutions	58,864,544	-	-	-	-	-	-	-	16,044,565	-	-	-	74,709,109
HC.nsk	Not specified by kind	1,186,195	-	-	-	-	34,897,943	148,356,199	115,348,703	8,118,937	-	1,304,074	25,853,312	334,865,363
	Column Total THE	5,659,358,662	2,685,450,858	953,441,018	1,508,541,937	4,913,665,184	156,228,236	1,403,287,052	8,219,695,966	6,309,044,857	918,742,831	507,662,742	63,083,767	33,298,203,111
HCR.2	Education & Training	-	-	-	-	-	-	-	-	-	-	151,644,863	-	151,644,863
HCR.3	Research & Development	-	-	-	-	-	-	-	-	-	-	-	-	-
	Sub total column	-	-	-	-	-	-	-	-	-	-	151,644,863	-	151,644,863
	Column Total NHE	5,659,358,662	#####	953,441,018	1,508,541,937	4,913,665,184	156,228,236	1,403,287,052	8,219,695,966	6,309,044,857	918,742,831	659,307,605	63,083,767	33,449,847,974

Annex A-4: General NHA 2002 - Providers x Function (HP xHC) in RWF

		Provider																	
		HP.1.1.1	HP.1.1.2.1	HP.1.1.2.2	HP.1.2	HP.3.1	HP.3.4.2	HP.3.4.5.1	HP.3.4.5.2	HP.3.9.2	HP.4.1	HP.5	HP.6	HP.nsk		HP.8			
Function		Public Hospitals	Gov't assisted not-for-profit hospitals	Private hospital for-profit	Mental health & substance abuse hospitals	Offices of physicians (private clinics)*	Outpatient mental health and substance abuse centers	Public health centers	Government assisted not-for-profit health centers	Blood banks (CNTS transfusion)	Dispensing chemists	Provision and admin of public health programs	General health administration and insurance	Providers not specified by any kind	THE Row Total	Providers of Health Related Services	NHE Row Total		
HC.1.1	In patient curative care	3,096,241,169	136,539,309	518,406,367	17,666,360	204,861,709	-	306,330,951	155,373,597	-	-	-	-	1,045,746,367	5,481,165,830				
HC.1.3	Out patient curative care	1,805,123,115	797,940,906	642,025,342	-	1,843,755,365	87,155,614	-	-	-	1,114,509	-	-	-	8,357,090,315				
HC.5.1.1+HC5.1.2	Pharmaceuticals	-	-	-	-	-	-	-	-	-	2,639,746,268	-	-	-	2,639,746,268				
HC.5.1.3+HC5.2	Other medical non durables and durables	-	-	-	-	-	-	-	-	-	1,386,790	-	-	-	1,386,790				
HC.6	Prevention and administration of public health programmes	-	-	-	-	-	-	-	-	89,974,444	-	8,681,896,073	-	-	8,771,870,517				
HC.6.1	Maternal and child care, family planning and counseling	-	-	-	-	-	-	-	-	-	-	3,288,517,879	-	-	3,288,517,879				
HC.6.3	Prevention of communicable disease (e.g., AIDS and STDs)	-	-	-	-	-	-	-	-	89,974,444	-	2,871,415,601	-	-	2,961,390,045				
HC6.4	Prevention of noncommunicable diseases (e.g. malaria)	-	-	-	-	-	-	-	-	-	-	248,504,395	-	-	248,504,395				
HC.7	Health administration and insurance	-	-	-	-	-	-	-	-	-	-	-	7,637,368,920	-	7,637,368,920				
HC.7.1.1	General gov't administration of health (except social security)	-	-	-	-	-	-	-	-	-	-	-	3,499,387,187	-	3,499,387,187				
HC.7.1.2	Admin, operation and support of social security funds (CSR, RAMA)	-	-	-	-	-	-	-	-	-	-	-	3,810,491,514	-	3,810,491,514				
HC.7.3	Other administration	-	-	-	-	-	-	-	-	-	-	-	327,490,219	-	327,490,219				
HCR.2	Capital formation for health care provider institutions	-	-	-	-	-	-	16,044,565	-	-	-	58,664,544	-	-	74,709,109				
HC.nsk	Not specified by kind	25,273,274	-	-	3,944,869	-	-	-	8,118,937	-	149,255,725	-	-	148,272,557	334,865,363				
	Column Total-THE	4,926,637,559	934,480,215			2,048,617,095	87,155,614			89,974,444	2,791,503,292	8,740,560,617	7,637,368,920	1,194,018,924	33,298,203,111				
HCR.2	Education & Training															151,644,863	151,644,863		
	Column Total-NHE	4,926,637,559	934,480,215			2,048,617,095	87,155,614			89,974,444	2,791,503,292	8,740,560,617	7,637,368,920	1,194,018,924		151,644,863	33,449,847,974		

Annex B: HIV/AIDS Subanalysis Tables 2002

Table B-1: HIV 2002 Financing Sources x Financing Agents (FS xHF) in RWF

		Financing Source (FS)							
Code	Financing Agent (HF)	FS.1 Public Funds		FS.2 Private Funds			FS.3	FS.nsk	Row Total
		FS.1.1.1 Central Gov Revenue	FS. 1.2 Other Public funds	FS.2.1.1 Parastatal Employer Funds	FS.2.1.2 Private Employer Funds	FS.2.2 Households	Cooperating Partners (Rest of the World)	Not specified by any kind	
HF. 1.1.1	MoH (MiniSante)	107,699,256					252,099,399		359,798,656
HF. 1.1.2	DSGAS (+districts)	2,940,853					341,346,125		344,286,978
HF. 1.1.3.1	Other Ministries	32,304,876							32,304,876
HF. 1.1.3.2	President's Office (CNLS)	165,036,702					281,131,014		446,167,716
HF. 1.2	Social Security Fund (CSR-Caisse Sociale)	23,249,469		778,286	4,018,370	16,661,024			44,707,149
HF. 2.1.1	Govt Employees insurance programs - RAMA (Rwanda medical insurance)	16,033,846	2,597,649	29,157,607		16,033,846			63,822,948
HF. 2.5.1	Parastatals			11,301,470					11,301,470
HF. 2.2	Private Insurance Enterprises (other than social insurance)	29,481,932				11,018,009		213,740	40,713,681
HF. 2.3.	Private household out of pocket payments					718,507,303			718,507,303
HF. 2.4	NPISH (other than social insurance)						2,760,331,341		2,760,331,341
HF. 2.5	Private firms and corporations (other than health insurance)				51,425,284				51,425,284
HF. 3	Rest of World						24,205,719		24,205,719
HF.nsk	Not specified by any kind			152,004	395,800			569,577	1,117,380
	Column Total (THE)	376,746,934	2,597,649	41,389,367	55,839,453	762,220,182	3,659,113,598	783,316	4,898,690,500
NHE	Non health expenditures included	376,746,934	2,597,649	41,389,367	55,839,453	762,220,182	3,659,113,598	783,316	4,898,690,500

Table B-2: HIV 2002 Financing Agents x Providers (HF xHP) in RWF

		HF A Public Sector							HF B Non Public					HF.3	HF.nsk	
Provider		HF. 1.1.1	HF.1.1.2	HF.1.1.3.1	HF.1.1.3.2	HF.1.2	HF.2.1.1	HF.2.5.1	HF 2.1.3	HF 2.2	HF 2.3	HF 2.4	HF 2.5	HF.3	HF.nsk	Row Total
		MoH (MiniSante)	DSGAS (+districts)	Other Ministries	President's Office (CNLS)	Social Security Fund (CSR-Caisse Sociale)	Govt Employees insurance programs - RAMA (Rwanda medical insurance)	Parastatals	Private Employer Insurance Programs	Private Insurance Enterprises (other than social insurance)	Private household out of pocket payments	NPISH (other than social insurance)	Private firms and corporations (other than health insurance)	Rest of World	Not specified by any kind	
HP.1.1.1	Public Hospitals	68,268,827	8,062,284	30,574,365		29,154,081	28,302,531	84,452		12,517,777	253,663,230	86,871,256	13,930,436	13,853,014		545,282,253
HP.1.1.2.1	Govt assisted not-for-profit hospitals	1,287,342	537,226			7,560,812	10,310,447	58,407		2,057,771	30,759,557	964,854	751,555	2,080,181		56,368,153
HP.1.1.2.2	Private hospital for-profit	24,029,632	-	-		-	11,629,713	159,704		5,212,848	34,219,620	-	19,224,702	-	-	94,476,220
HP.1.2	Mental health & substance abuse hospitals															-
HP.3.1	Offices of physicians (private clinics)*	-	-	-		-	1,473,018	4,773,146		194,453	43,427,566		12,715,942		1,117,380	63,701,505
HP.3.3	Offices of other health practitioners															-
HP.3.4.1	Family planning centers															-
HP.3.4.2	Outpatient mental health and substance abuse centers															-
HP.3.4.5.1	Public health centers	6,516,161	12,872,382	1,730,511		3,996,128	7,990,778	111,386		13,620,102	194,620,611	5,336,280	328,327	3,375,028		250,497,694
HP.3.4.5.2	Private not-for-profit health centers	2,173,333	4,005,667			3,996,128	4,116,461	57,381		7,110,729	48,655,153	32,411,244	169,138	4,897,495	-	107,592,728
HP.3.5	Medical and diagnostic laboratories															-
HP.3.9.2	Blood banks (CNLS transfusion)															-
HP.3.9.9	All other ambulatory health care services															-
HP.4.1	Dispensing chemists	5,444,028						2,326,530			113,161,567		4,305,183			125,237,308
HP.5	Provision and admin of public health programs	252,079,333	318,809,419					3,730,465								3,209,366,925
HP.6	General health administration and insurance				446,167,716							2,634,747,707				446,167,716
HP.6.1	Government administration of health															-
HP.6.3	Other insurance administration (RAMA)															-
HP.nsk	Providers not specified by any kind															-
Column Total THE		359,798,656	344,286,978	32,304,876	446,167,716	44,707,149	63,822,948	11,301,470	-	40,713,680	718,507,303	2,760,331,341	51,425,284	24,205,719	1,117,380	4,898,690,500

Table B-3: HIV 2002 Financing agents x function (HF xHC) in RWF

	Provider	HF A Public Sector							HF B Non Public					HF.3	HF.nsk	Row Total
		HF. 1.1.1	HF. 1.1.2	HF. 1.1.3.1	HF. 1.1.3.2	HF. 1.2	HF. 2.1.1	HF. 2.5.1	HF. 2.1.3	HF. 2.2	HF. 2.3	HF. 2.4	HF. 2.5			
		MoH (MiniSante)	DSGAS (+districts)	Other Ministries	President's Office (CNLS)	Social Security Fund (CSR-Caisse Sociale)	Govt Employees insurance programs - RAMA (Rwanda medical insurance)	Parastatals	Private Employer Insurance Programs	Private Insurance Enterprises (other than social insurance)	Private household out of pocket payments	NPISH (other than social insurance)	Private firms and corporations (other than health insurance)	Rest of World	Not specified by any kind	
HC.1.1	In patient curative care	68,513,452	11,563,932	23,761,586	-	25,989,160	33,618,706	898,618	-	20,536,261	149,359,631	1,859,769	23,147,656	2,985,237	164,453	362,398,463
HC.1.3	Outpatient curative	33,761,843	13,913,627	8,543,290	-	18,717,988	30,204,242	4,345,857	-	20,177,419	455,986,106	123,723,865	23,972,444	21,220,481	952,927	755,520,089
HC.1.3.5	Out patient curative: STI management	-	-	-	-	-	-	-	-	-	-	2,642,686	-	-	-	2,642,686
HC.1.3.6	Out patient curative: TB treatment and monitoring	-	-	-	-	-	-	-	-	-	-	13,372,637	-	-	-	13,372,637
HC.1.3.7	Out patient curative: ARV treatment	-	-	-	-	-	-	-	-	-	158,750,000	34,196,677	-	-	-	190,946,677
HC.1.3.8	Out patient curative: psychosocial support	-	-	-	-	-	-	-	-	-	-	22,259,041	-	-	-	22,259,041
HC.5	Medical goods dispensed to outpatients	5,444,028	-	-	-	-	-	2,326,530	-	-	113,161,567	-	4,305,183	-	-	125,237,308
HC.5.1	Pharmaceuticals and other medical nondurables	5,444,028	-	-	-	-	-	2,326,530	-	-	113,161,567	-	4,305,183	-	-	125,237,308
HC.5.1.1	ARV drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.5.1.2	TB drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.6	Prevention and public health services	252,079,333	318,809,419	-	-	-	-	3,730,465	-	-	-	2,634,747,707	-	-	-	3,209,366,925
HC.6.1	Maternal and child care; family planning and counseling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.6.1.1	Prevention of mother to child transmission	-	264,527,975	-	-	-	-	-	-	-	-	67,681,347	-	-	-	332,209,322
HC.6.1.2	Condom distribution programs	-	-	-	-	-	-	-	-	-	-	2,337,392	-	-	-	2,337,392
HC.6.3	Prevention of communicable disease	251,411,133	-	-	-	-	-	-	-	-	-	2,429,777,998	-	-	-	2,681,189,131
HC.6.3.1	VCT	-	-	-	-	-	-	-	-	-	-	10,152,202	-	-	-	10,152,202
HC.6.3.2	Bloody safety	-	-	-	-	-	-	-	-	-	-	1,112,824	-	-	-	1,112,824
HC.6.3.4	IEC	668,199	-	-	-	-	-	3,730,465	-	-	-	123,685,945	-	-	-	128,084,610
HC.6.3.5	STI prevention programs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.6.3.7	TB drug prevention programs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.6.3.9	Surveillance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.6.9	All other misc public health services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.7	Health administration and health insurance	-	-	-	446,167,716	-	-	-	-	-	-	-	-	-	-	446,167,716
HC.7.1.1	General govt administration of health (except social security)	-	-	-	446,167,716	-	-	-	-	-	-	-	-	-	-	446,167,716
	Column Total-THE	359,798,656	344,266,978	32,304,876	-	44,707,149	63,822,948	11,301,470	-	40,713,680	718,507,303	2,760,331,341	51,425,284	24,205,719	1,117,380	4,898,690,500
HCR.2	Education & Training	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HCR.3	Research & Development	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Column Total-NHE	359,798,656	344,266,978	32,304,876	#####	44,707,149	63,822,948	11,301,470	-	40,713,680	718,507,303	#####	51,425,284	24,205,719	1,117,380	4,898,690,500

Table B-4: HIV 2002 Providers x Function (HP xHC) in RWF

Function	HP 1.1.1	HP 1.1.2.1	HP 1.1.2.2	HP 1.2	HP 2.1	HP 2.3	HP 3.4.1	HP 3.4.2	HP 3.4.5.1	HP 3.4.5.2	HP 3.5	HP 3.9.2	HP 3.9.9	HP 4.1	HP 5	HP 6	HP 6.1	HP 6.3	HP 6.6	THE Row Total	NHE Row Total	
	Public Hospitals	Gov't assisted not-for-profit hospitals	Private hospital for-profit	Mental health & substance abuse hospitals	Offices of physicians (private clinics)*	Offices of other health practitioners	Family planning centers	Outpatient mental health and substance abuse centers	Public health centers	Private not-for-profit health centers	Medical and diagnostic laboratories	Blood banks (CNHS branches)	All other ambulatory health care services	Dispensing chemists	Prevention and admin of public health programs	General health administration and insurance	Government administration of health	Other insurance administration (RAMA)	Providers not specified by any kind			
HC.1.1	In patient curative care	230,039,356	25,876,032	39,258,661	-	4,850,861	-	-	46,850,01	15,518,538	-	-	-	-	-	-	-	-	-	362,399,463		
HC.1.3	Outpatient curative	315,243,897	30,492,121	55,219,558	-	58,850,843	-	-	-	82,074,190	-	-	-	-	-	-	-	-	-	755,520,089		
HC.1.3.5	Out patient curative: STI management	2,642,866	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,642,866		
HC.1.3.6	Out patient curative: TB treatment and monitoring	3,320,435	-	-	-	-	-	-	-	10,152,202	-	-	-	-	-	-	-	-	-	13,372,637		
HC.1.3.7	Out patient curative: ARV treatment	164,821,677	-	26,125,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190,946,677		
HC.1.3.8	Out patient curative: psychosocial support	-	-	-	-	-	-	-	-	22,259,041	-	-	-	-	-	-	-	-	-	22,259,041		
HC.5	Medical goods dispensed to outpatients	-	-	-	-	-	-	-	-	-	-	-	-	125,237,308	-	-	-	-	-	125,237,308		
HC.5.1	Pharmaceuticals and other medical monitorables	-	-	-	-	-	-	-	-	-	-	-	-	125,237,308	-	-	-	-	-	125,237,308		
HC.5.1.1	ARV drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.5.1.2	TB drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.6	Prevention and public health services	-	-	-	-	-	-	-	-	-	-	-	-	-	3,209,366,925	-	-	-	-	3,209,366,925		
HC.6.1	Maternal and child care, family planning and counseling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.6.1.1	Prevention of mother to child transmission	-	-	-	-	-	-	-	-	-	-	-	-	-	332,209,322	-	-	-	-	332,209,322		
HC.6.1.2	Condom distribution programs	-	-	-	-	-	-	-	-	-	-	-	-	-	2,337,392	-	-	-	-	2,337,392		
HC.6.3	Prevention of communicable disease	-	-	-	-	-	-	-	-	-	-	-	-	-	2,681,188,131	-	-	-	-	2,681,188,131		
HC.6.3.1	VCT	-	-	-	-	-	-	-	-	10,152,202	-	-	-	-	-	-	-	-	-	10,152,202		
HC.6.3.2	Bloody safety	-	-	-	-	-	-	-	-	1,112,824	-	-	-	-	-	-	-	-	-	1,112,824		
HC.6.3.4	IEC	-	-	-	-	-	-	-	-	128,084,610	-	-	-	-	-	-	-	-	-	128,084,610		
HC.6.3.5	STI prevention programs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.6.3.7	TB drug prevention programs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.6.3.8	Condom distribution programs whose primary purpose is to reduce transmission of HIV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.6.3.9	Surveillance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.6.9	All other misc public health services	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
HC.7	Health administration and health insurance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	446,167,716	-	-	-	446,167,716		
HC.7.1.1	General govt administration of health (except social security)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	446,167,716	-	-	-	446,167,716		
Columns Total THE		545,282,253	56,368,153	94,476,220	-	83,701,505	-	-	-	107,592,728	-	-	-	125,237,308	-	446,167,716	-	-	-	4,898,690,500		
Columns Total NHE		545,282,253	56,368,153	94,476,220	-	83,701,505	-	-	-	107,592,728	-	-	-	125,237,308	-	446,167,716	-	-	-	-	4,898,690,500	

Annex C: Reproductive Health Subanalysis Tables 2002

Table C-1: Reproductive Health 2002- Financing Sources x Financing Agents (FSxHF) in RWF

Code	Financing Agent (HF)	Financing Source (FS)						FS.nsk	Row Total
		FS.1 Public Funds		FS.2 Private Funds			FS.3		
		FS.1.1.1 Central Gov Revenue	FS. 1.2 Other Public funds	FS.2.1.1 Parastatal Employer Funds (e.g. ELECTROGAZ)	FS.2.1.2 Private Employer Funds	FS.2.2 Households	Cooperating Partners (Rest of the World)		
HF.1.1.1	MoH (MiniSante)	285,023,274					2,051,171,348		2,336,194,622
HF.1.1.2	DSGAS (includes districts)	10,748,833					244,985,293		255,734,126
HF.1.1.3	Other Ministries	16,258,045							16,258,045
HF.1.2	Social Security Fund (CSR-Caisse Sociale*)	9,293,681		311,110	1,606,292	6,660,033			17,871,117
HF.2.1.1	Gov't Employees insurance programs - RAMA (Rwanda medical insurance)	15,061,485	2,440,117	27,389,365		15,061,485			59,952,451
HF.2.5.1	Parastatals			11,290,505					11,290,505
HF.2.2	Private Insurance Enterprises (<i>other than social insurance</i>)- <i>Mutuelles, FARG</i>	24,371,814				9,108,252		176,692	33,656,758
HF.2.3.	Private household out of pocket payments					523,701,179			523,701,179
HF.2.4	NPISH (other than social insurance)						1,855,050,425		1,855,050,425
HF.2.5	Private firms and corporations (other than health insurance)				93,401,972				93,401,972
HF.3	Rest of World						10,820,991		10,820,991
HF.nsk	Not specified by any kind							2,492,258	2,492,258
	Column Total (THE)	360,757,133	2,440,117	38,990,980	95,008,264	554,530,949	4,162,028,056	2,668,950	5,216,424,449
HF.4	Financing Agents spending on Health Related Items						10,490,609		10,490,609
NHE	Non health expenditures included	360,757,133	2,440,117	38,990,980	95,008,264	554,530,949	4,172,518,665	2,668,950	5,226,915,058

Table C-2: Reproductive Health Subanalysis 2002- Financing Agents x Providers (HFxHP) in RWF

		Financing Agent												
		HF A Public Sector					HF B Non Public					HF.3 ROW	HF.nsk	
		HF.1.1.1	HF.1.1.2	HF.1.1.3	HF.1.2	HF.2.1.1	HF.2.5.1	HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3	HF.nsk	
		MoH (MiniSante)	DSGAS (includes districts)	Other Ministries	Social Security Fund (CSR-Caisse Sociale*)	Govt Employees insurance programs - RAMA (Rwanda medical insurance)	Parastatals	Private Insurance Enterprises (other than social insurance)- Mutuelles, FARG	Private household out of pocket payments	NPISH (other than social insurance)	Private firms and corporations (other than health insurance)	Rest of World	Not specified by any kind	Row Total
Provider														
HP.1.1.1	Public Hospitals	98,314,966	3,826,488	14,511,078	13,836,989	13,432,830	61,551	5,941,135	42,776,602	16,768,731	6,611,606	7,413,869	-	223,495,846
HP.1.1.2	Private hospital for-profit	72,663,781	-	-	-	35,167,369	482,933	13,532,286	28,016,908	93,246	58,134,040	-	-	208,090,562
HP.3.1	Offices of physicians (private clinics)*	-	-	-	-	3,285,488	10,646,250	433,718	200,160,448	384,550	28,362,238	-	2,492,258	245,764,951
HP.3.4.5.1	Public health centers (including ARBEF clinics)	27,174,523	12,994,788	1,746,967	4,034,128	8,066,764	99,770	13,749,619	133,013,978					
HP.4.1	Dispensing chemists (incl. Shops)								106,997,747	53,035,309				160,033,055
HP.5	Provision and admin of public health programs	1,969,974,150												
HP.6.1	Government administration of health	168,067,202								1,761,611,771				3,731,585,921
HP.nsk	Providers not specified by any kind		238,912,849						12,735,496	3,344,569				254,992,915
	Column Total THE	2,336,194,622	255,734,126	16,258,045	17,871,117	59,952,451	11,290,505	33,656,758	523,701,179	1,855,050,425	93,401,972	10,820,991	2,492,258	5,216,424,449
	HF Totals From FS x HF Table	2,336,194,622	255,734,126	16,258,045	17,871,117	59,952,451	11,290,505	33,656,758	523,701,179	1,855,050,425	93,401,972	10,820,991	2,492,258	5,216,424,449
	Education and training institutions									10,490,609				10,490,609
	subtotal for health related	-	-	-	-	-	-	-	-	10,490,609	-	-	-	10,490,609
	Column Total: NHE	2,336,194,622	255,734,126	16,258,045	17,871,117	59,952,451	11,290,505	33,656,758	523,701,179	1,865,541,033	93,401,972	10,820,991	2,492,258	5,226,915,058

Table C-3: Reproductive Health Subanalysis 2002- Financing Agents x Function (HFxHC) in RWF

	Function	HF.A Public Sector						HF.B Private Sector				HF.3 ROW	HF.nsk	Row Total
		HF.1.1.1	HF.1.1.2	HF.1.1.3	HF.1.2	HF.2.1.1	HF.2.5.1	HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3	HF.nsk	
		MoH (MiniSante)	DSGAS (includes districts)	Other Ministries	Social Security Fund (CSR-Caisse Sociale*)	Govt Employees insurance programs - RAMA (Rwanda medical insurance)	Parastatals	Private Insurance Enterprises (other than social insurance)-Mujelles, FARG.	Private household out of pocket payments	NPISH (other than social insurance)	Private firms and corporations (other than health insurance)	Rest of World	Not specified by any kind	
HC.1.1	Inpatient curative care (deliveries)	43,491,883	1,879,675	7,128,237	6,797,106	21,191,164	4,233,663	11,501,044	208,360,356	12,182,642	36,072,537	3,641,894	945,794	357,425,997
HC.1.3	Outpatient curative care	154,661,367	14,941,601	9,129,808	11,074,011	36,761,287	7,056,842	22,155,714	208,343,076	28,220,703	57,329,435	7,179,097	1,546,463	560,399,424
HC.1.3.5	STI management	-	-	-	-	-	-	-	-	2,642,686	-	-	-	2,642,686
HC.1.3.9	Prenatal care	66,646,855	14,833,236	9,069,067	10,998,642	38,516,203	7,014,868	22,002,922	158,876,403	9,701,320	56,987,532	7,129,537	1,537,303	403,313,886
HC.1.3.10	Postnatal care	414,405	108,365	60,742	75,369	245,084	41,974	152,791	838,290	65,635	341,903	49,560	9,161	2,403,279
HC.1.3.11	Family planning consultation and issuance of mod	87,600,127	-	-	-	-	-	-	48,628,383	15,811,062	-	-	-	152,039,573
HC.5.1.1+HC5	Pharmaceuticals	-	-	-	-	-	-	-	73,417,915	-	-	-	-	73,417,915
HC.5.1.3	Other medical non durables	-	-	-	-	-	-	-	33,579,832	53,035,309	-	-	-	86,615,141
HC.6.1	Maternal and child care, family planning and counseling	1,969,974,150	238,912,849	-	-	-	-	-	-	1,259,800,845	-	-	-	3,468,487,845
HC.7	Health administration and insurance	168,067,202	-	-	-	-	-	-	-	182,439,132	-	-	-	350,506,334
HC.7.1.1	General gov't administration of health (except social security)	168,067,202	-	-	-	-	-	-	-	-	-	-	-	168,067,202
HC.7.1.2	Admin, operation and support of social security funds (CSR, RAMA)	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.7.3	Other administration	-	-	-	-	-	-	-	-	182,439,132	-	-	-	182,439,132
HCR.1	Capital formation for health care provider institutions	-	-	-	-	-	-	-	-	-	-	-	-	-
HC.nsk	Not specified by kind	-	-	-	-	-	-	-	-	319,571,793	-	-	-	319,571,793
	Column Total-THE	2,336,194,622	255,734,126	16,258,045	17,871,117	59,952,451	11,290,505	33,656,758	523,701,179	1,855,050,425	93,401,972	10,820,991	2,492,258	5,216,424,449
HCR.3	Research & Development	-	-	-	-	-	-	-	-	10,490,609	-	-	-	10,490,609
	<i>Sub Total column</i>	-	-	-	-	-	-	-	-	10,490,609	-	-	-	10,490,609
	Column Total-NHE	2,336,194,622	255,734,126	16,258,045	17,871,117	59,952,451	11,290,505	33,656,758	523,701,179	1,865,541,033	93,401,972	10,820,991	2,492,258	5,226,915,058

Table C-4: Reproductive Health Subanalysis 2002 - Provider x Function (HPxHC) in RWF

		Provider											
		HP.1.1.1	HP.1.1.2.2	HP.3.1	HP.3.4.5.1	HP.4.1	HP.5	HP.6	HP.nsk		HP.8.1	HP.8.2	
		Public Hospitals	Private hospital for-profit	Offices of physicians (private clinics)*	Public health centers (including ARBEF clinics)	Dispensing chemists (incl. Shops)	Provision and admin of public health programs	General health administration and insurance	Providers not specified by any kind	THE Row Total	Research Institutions	Education and training institutions	NHE Row Total
Function													
HC.1.1	Inpatient curative care (deliveries)	91,773,483	80,491,552	86,007,884	99,153,078	-	-	-	-	357,425,997			
HC.1.3	Outpatient curative care	131,722,363	127,599,011	159,757,066	125,240,919	-	-	-	16,080,065	560,399,424			
HC.1.3.5	STI management	2,642,686	-	-	-	-	-	-	-	2,642,686			
HC.1.3.9	Prenatal care	62,360,157	122,232,966	139,797,973	78,922,790	-	-	-	-	403,313,886			
HC.1.3.10	Postnatal care	371,594	728,365	833,032	470,287	-	-	-	-	2,403,279			
HC.1.3.11	Family planning consultation and issuance of modern FP method	66,347,927	4,637,679	19,126,061	45,847,841	-	-	-	16,080,065	152,039,573			
HC.5.1.1+	Pharmaceuticals	-	-	-	-	73,417,915	-	-	-	73,417,915			
HC5.1.2		-	-	-	-	86,615,141	-	-	-	86,615,141			
HC.5.1.3	Other medical non durables	-	-	-	-	-	-	-	-	-			
HC.6.1	Maternal and child care, family planning and counseling	-	-	-	-	-	3,229,574,995	-	238,912,849	3,468,487,845			
HC.7	Health administration and insurance	-	-	-	-	-	182,439,132	168,067,202	-	350,506,334			
HC.7.1.1	General gov't administration of health (except social security)	-	-	-	-	-	-	168,067,202	-	168,067,202			
HC.7.3	Other administration	-	-	-	-	-	182,439,132	-	-	182,439,132			
HC.nsk	Not specified by kind	-	-	-	-	-	319,571,793	-	-	319,571,793			
	Column Total-THE	223,495,846	208,090,562	245,764,951	224,393,997	160,033,055	3,731,585,921	168,067,202	254,992,915	5,216,424,449			
HCR.3	Research & Development										10,490,609	-	10,490,609
	Column Total-NHE	223,495,846	208,090,562	245,764,951	224,393,997	160,033,055	3,731,585,921	168,067,202	254,992,915		10,490,609	-	5,226,915,058

Annex D: General NHA Tables 2000

Table D-1: General NHA 2000 - Financing Sources x Financing Agents (FS x HF) in current RWF

		Financing Source (FS)						
		FS.1 Public Funds	FS.2 Private Funds			FS.3	FS.nsk	
Code	Financing Agent (HF)	FS.1.1.1 Central Gov Revenue	FS.2.1.1 Parastatal Employer Funds	FS.2.1.2 Private Employer Funds	FS.2.2 Households	Cooperating Partners (Rest of the World)	Not specified by any kind	Row Total
HF.1.1.1	MoH (MiniSante)	3,501,712,220	0	0	0	2,087,627,033		5,589,339,253
HF.1.1.2	DSGAS (includes districts)	0	0	0	0	1,805,218,333		1,805,218,333
HF.1.1.3	Other Ministries	368,917,761	0	0	0	0		368,917,761
HF.1.2	Social Security Fund (CSR-Caisse Sociale*)	304,311,827	6,471,140	138,693,264	269,685,739	0		719,161,970
HF.2.5.1	Parastatals	0	6,987,375	0	0	0	0	6,987,375
HF.2.2	Private Insurance Enterprises (<i>other than social insurance</i>)- <i>Mutuelles, FARG</i>	953,290,652	0	0	156,095,204	0		1,109,385,856
HF.2.3.	Private household out of pocket payments	0	0	0	7,069,605,144	0	0	7,069,605,144
HF.2.4	NPISH (mplementing agencies)	0	0	0	0	9,199,970,442		9,199,970,442
HF.2.5	Private firms and corporations (other than health insurance)	0	0	848,466,743	0	0		848,466,743
HF.3	Rest of World	0	0	0	0	1,734,672,000	0	1,734,672,000
HF.nsk	Not specified by any kind	0	11,083,880	19,215,532	0	0	54,221,542	84,520,954
	Column Total (THE)	5,128,232,460	24,542,395	1,006,375,540	7,495,386,087	14,827,487,807	54,221,542	28,536,245,831
HF.4	Financing Agents spending on Health Related Items	72,328,561				39,340,000		111,668,561
	Column Total (NHE)	5,200,561,021	24,542,395	1,006,375,540	7,495,386,087	14,866,827,807	54,221,542	28,647,914,392

Table D-2: General NHA 2000 -Financing Agents xProviders (HF x HP) in current RWF

		Financing Agent					HF A Public Sector					HF 3 ROW	HF nsk	
		HF.1.1.1	HF.1.1.2	HF.1.1.3	HF.1.2	HF.2.5.1	HF.2.2	HF.2.3.	HF.2.4	HF.2.5	HF.3	HF nsk		
		MoH (MiniSante)	DSGAS (includes districts)	Other Ministries	Social Security Fund (CSR-Caisse Sociale*)	Parastatals	Private Insurance Enterprises (other than social insurance)-Mutuelles, FARG	Private household out of pocket payments	NPISH (mplementing agencies)	Private firms and corporations (other than health insurance)	Rest of World	Not specified by any kind	Row Total	
Provider														
HP.1.1.1	Public Hospitals	1,028,167,502	47,477,936	328,478,665	215,748,591	109,053	155,665,377	1,384,176,487	120,232,458	42,207,397	88,574,010	10,510,397	3,421,347,872	
HP.1.1.2.1	Gov't assisted not-for-profit hospitals	183,644,566	12,138,944	0	71,916,197	82,268	17,497,189	251,930,021	243,324,272	6,907,070	66,818,990	19,734,223	873,993,740	
HP.1.1.2.2	Private hospital for-profit	213,061,429	0	0	0	193,784	75,913,251	404,896,660	0	246,471,387	0	0	940,536,511	
HP.1.2	Mental health & substance abuse hospitals	35,361,886	0	0	0	0	3,155,405	7,460,735	80,319,505	32,818,985	0	54,221,542	213,338,058	
HP.3.1	Offices of physicians (private clinics)*	0	0	0	0	656,972	72,771,489	738,053,011	0	491,996,051	0	54,792	1,303,532,316	
HP.3.4.2	Outpatient mental health and substance abuse centers	35,598,345	0	0	0	0	81,294,271	0	0	0	0	0	116,892,616	
HP.3.4.5.1	Public health centers	338,433,040	204,620,216	40,439,096	35,958,099	143,832	78,199,347	850,422,180	369,035,783	2,573,278	102,559,380	0	2,022,384,252	
HP.3.4.5.2	Government assisted not-for-profit health centers	174,344,293	73,754,659	0	35,958,099	74,095	47,575,870	457,919,636	174,400,860	0	52,833,620	0	1,016,861,132	
HP.3.9.2	Blood banks (CNTS transfusion)	69,111,000	0	0	0	0	0	0	0	0	173,096,000	0	242,207,000	
HP.4.1	Dispensing chemists	69,999,786	0	0	0	1,972,528	119,029,734	2,974,746,415	0	25,492,575	0	0	3,191,241,037	
HP.5	Provision and admin of public health programs	2,394,005,938	0	0	0	0	0	0	8,212,657,564	0	1,250,790,000	0	11,857,453,502	
HP.6	General health administration and insurance	554,392,655	1,467,226,578	0	0	0	319,184,920	0	0	0	0	0	2,340,804,153	
HP.nsk	Providers not specified by any kind	493,218,811	0	0	359,580,985	3,754,843	139,099,003	0	0	0	0	0	995,653,642	
	Column Total THE	5,589,339,253	1,805,218,333	368,917,761	719,161,970	6,987,375	1,109,385,856	7,069,605,144	9,199,970,442	848,466,743	1,734,672,000	84,520,954	28,536,245,831	
HP.8.1	Research Institutions	72,328,561	0	0	0	0	0	0	0	0	0	0	72,328,561	
HP.8.2	Education and training institutions	0	0	0	0	0	0	0	0	0	39,340,000	0	39,340,000	
	Subtotal for health related	72,328,561	0	0	0	0	0	0	0	0	39,340,000	0	111,668,561	
	Column Total: NHE	5,661,667,814	1,805,218,333	368,917,761	719,161,970	6,987,375	1,109,385,856	7,069,605,144	9,199,970,442	848,466,743	1,774,012,000	84,520,954	28,647,914,392	

Annex D-3: General NHA 2000– Financing Agents x Functions (HF x HC) in current RWF

		Financing Agent		HF.A Public Sector			HF.B Private Sector					HF.3 RoW	HF.nsk	
		HF.1.1.1	HF.1.1.2	HF.1.1.3	HF.1.2	HF.2.5.1	HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3	HF.nsk		
		MoH (MiniSante)	DSGAS (includes districts)	Other Ministries	Social Security Fund (CSR- Caisse Sociale*)	Parastatals	Private Insurance Enterprises (other than social insurance)- Mutuelles, FARG	Private household out of pocket payments	NPISH (mplementing agencies)	Private firms and corporations (other than health insurance)	Rest of World	Not specified by any kind	Row Total	
Function														
HC.1.1	In patient curative care	1,567,897,946	105,416,523	238,104,725	575,689,485	4,099,824	351,031,061	1,565,255,943	355,412,849	279,134,831	143,230,663	37,659,768	2,491,208,503	
HC.1.3	Out patient curative care	932,582,928	232,575,232	130,813,036	143,472,485	643,354	290,047,873	2,225,782,106	473,065,549	340,390,467	167,555,337	16,593,908	1,440,087,034	
HC.6	Prevention and administration of public health programmes	2,463,116,938	-	-	-	-	-	-	8,212,657,564	-	991,146,000	-	2,463,116,938	
HC.6.1	Maternal and child care, family planning and counseling	722,049,408	-	-	-	-	-	-	860,221,333	-	-	-	722,049,408	
HC.6.3	Prevention of communicable disease (e.g., AIDS and STDs)	485,310,170	-	-	-	-	-	-	506,946,600	-	173,096,000	-	485,310,170	
HC.6.4	Prevention of noncommunicable diseases (e.g. malaria)	341,645,283	-	-	-	-	-	-	344,308,369	-	-	-	341,645,283	
HC.7	Health administration and insurance	554,392,655	1,467,226,578	-	-	-	319,184,920	-	-	-	-	-	2,021,619,233	
HC.7.1	General gov't administration of health (except social security)	554,392,655	1,467,226,578	-	-	-	-	-	-	-	-	-	2,021,619,233	
HC.nsk	Not specified by kind	1,349,000	-	-	-	1,662,301	30,092,268	446,488,702	-	203,448,870	-	30,267,277	3,011,301	
	Column Total THE	5,589,339,253	1,805,218,333	368,917,761	719,161,970	6,987,375	1,109,385,856	7,069,605,144	9,199,970,442	848,466,743	1,734,672,000	84,520,954	28,536,245,831	
HCR.2	Education & Training	-	-	-	-	-	-	-	-	-	39,340,000	-	39,340,000	
HCR.3	Research & Development	72,328,561	-	-	-	-	-	-	-	-	-	-	72,328,561	
	Sub total column	72,328,561	-	-	-	-	-	-	-	-	39,340,000	-	111,668,561	
	Column Total NHE	5,661,667,814	1,805,218,333	368,917,761	719,161,970	6,987,375	1,109,385,856	7,069,605,144	9,199,970,442	848,466,743	1,774,012,000	84,520,954	28,647,914,392	

Annex D-4: General NHA 2000 - Providers x Functuion (HP xHC) in current RWF

		Provider																	
		HP.1.1.1	HP.1.1.2.1	HP.1.1.2.2	HP.1.2	HP.3.1	HP.3.4.2	HP.3.4.5.1	HP.3.4.5.2	HP.3.9.2	HP.4.1	HP.5	HP.6	HP.nsk		HP.8			
		Public Hospitals	Govt assisted not-for-profit hospitals	Private hospital for-profit	Mental health & substance abuse hospitals	Offices of physicians (private clinics)*	Outpatient mental health and substance abuse centers	Public health centers	Government assisted not-for-profit health centers	Blood banks (CNTS transfusion)	Dispensing chemists	Provision and admin of public health programs	General health administration and insurance	Providers not specified by any kind	THE Row Total	Providers of Health Related Services	NHE Row Total		
Function																			
HC.1.1	In patient curative care	2,318,889,092	585,327,170	603,255,900		112,585,024	-	301,611,251	146,497,629	-	-	-	-	994,304,642	5,222,933,618				
HC.1.3	Out patient curative care	1,007,785,663	268,932,347	337,280,611	52,875,147	651,914,150	116,892,616		846,399,681	-	1,376,995	-	-	-	4,953,522,274				
HC.5.1.1 +HC5.1.2	Pharmaceuticals	-	-	-	-	-	-	-	-	-	3,045,468,981	-	-	-	3,045,468,981				
HC.5.1.3 + HC5.2	Other medical non durables and durables	-	-	-	-	-	-	-	-	-	1,713,403	-	-	-	1,713,403				
HC.6	Prevention and administration of public health programmes	-	-	-	-	-	-	-	-	242,207,000	-	11,424,713,502	-	-	11,666,920,502				
HC.6.1	Maternal and child care, family planning and counseling	-	-	-	-	-	-	-	-	-	-	1,582,270,741	-	-	1,582,270,741				
HC.6.3	Prevention of communicable disease (e.g., AIDS and STDs)	-	-	-	-	-	-	-	-	242,207,000	-	923,145,770	-	-	1,165,352,770				
HC6.4	Prevention of noncommunicable diseases (e.g. malaria)	-	-	-	-	-	-	-	-	-	-	685,953,651	-	-	685,953,651				
HC.7	Health administration and insurance	-	-	-	-	-	-	-	-	-	-	-	2,340,804,153	-	2,340,804,153				
HC.7.1.1	General govt administration of health (except social security)	-	-	-	-	-	-	-	-	-	-	-	2,021,619,233	-	2,021,619,233				
HC.7.3	Other administration	-	-	-	-	-	-	-	-	-	-	-	319,184,920	-	319,184,920				
HCR.2	Capital formation for health care provider institutions	84,162,720	-	-	-	-	-	50,707,937	23,963,822	-	-	432,740,000	-	-	591,574,480				
HC.nsk	Not specified by kind	10,510,397	19,734,223	-	-	539,033,142	-	-	-	-	142,681,658	-	-	1,349,000	713,308,420				
	Column Total-THE	3,421,347,872	873,993,740	940,536,511		1,303,532,316	116,892,616			242,207,000	3,191,241,037	11,857,453,502	2,340,804,153	995,653,642	28,536,245,831				
HCR.2	Education & Training															39,340,000	39,340,000		
HCR.3	Research & Development															72,328,561	72,328,561		
	Column Total-NHE	3,421,347,872	873,993,740	940,536,511		1,303,532,316	116,892,616			242,207,000	3,191,241,037	11,857,453,502	2,340,804,153	995,653,642		28,647,914,392			

Annex E: HIV/AIDS Subanalysis Tables 2000

Table E-1: HIV 2000 Financing sources x financing agents (FS xHF) in current RWF

		Financing Source (FS)					
		FS.1 Public Funds	FS.2 Private Funds		FS.3		
Code	Financing Agent (HF)	FS.1.1.1 Central Gov Revenue	FS.2.1.1 Parastatal Employer Funds	FS.2.1.2 Private Employer Funds	FS.2.2 Households	Cooperating Partners (Rest of the World)	Row Total
HF.1.1.1	MoH (MiniSante)	115,469,937				371,342,325	486,812,262
HF.1.1.2	DSGAS (+districts)	0	0	0	0	18,626,442	18,626,442
HF.1.1.3.1	Other Ministries	23,529,858	0	0	0	0	23,529,858
HF.1.2	Social Security Fund (CSR-Caisse Sociale)	9,528,920	202,631	4,342,904	8,444,673	0	22,519,127
HF.2.5.1	Parastatals		148,130				148,130
HF.2.2	Private Insurance Enterprises (other than social insurance)	26,355,960			4,315,619		30,671,579
HF.2.3	Private household out of pocket payments				882,837,340		882,837,340
HF.2.4	NPISH (other than social insurance)					506,946,600	506,946,600
HF.2.5	Private firms and corporations (other than health insurance)			35,177,560			35,177,560
HF.3	Rest of World					191,426,939	191,426,939
	Column Total (THE)	174,884,674	350,761	39,520,464	895,597,632	1,088,342,306	2,198,695,836
NHE	Non health expenditures included	174,884,674	350,761	39,520,464	895,597,632	1,088,342,306	2,198,695,836

Table E-2: HIV 2000 Financing Agents x Providers (HF xHP) in current RWF

		Financing Agent										
		HF.A Public Sector					HF.B Non Public					
		HF. 1.1.1	HF.1.1.2	HF.1.1.3.1	HF. 1.2	HF.2.5.1	HF.2.2	HF.2.3.	HF.2.4	HF.2.5	HF.3	
Provider		MoH (MiniSante)	DSGAS (+districts)	Other Ministries	Social Security Fund (CSR-Caisse Sociale)	Parastatals	Private Insurance Enterprises (other than social insurance)	Private household out of pocket payments	NPISH (other than social insurance)	Private firms and corporations (other than health insurance)	Rest of World	Row Total
HP.1.1.1	Public Hospitals	66,944,451	3,091,310	21,387,394	14,047,488	7,100	10,135,443	408,037,362	2,348,933	2,748,143	5,767,094	534,514,718
HP.1.1.2.1	Gov't assisted not-for-profit hospitals	11,903,614	786,831		4,661,519	4,123	1,134,146	18,564,678	15,769,846	447,708	4,331,124	57,603,589
HP.1.1.2.2	Private hospital for-profit	12,392,815				12,699	4,974,682	137,547,902		15,976,334		170,904,431
HP.3.1	Offices of physicians (private clinics)*					19,585	2,169,339	11,474,965		14,666,543		28,330,432
HP.3.4.5.1	Public health centers	17,930,182	10,840,779	2,142,463	1,905,060	7,863	4,143,001	133,556,884	16,865,009	140,681	5,433,596	192,965,520
HP.3.4.5.2	Private not-for-profit health centers	9,236,761	3,907,522		1,905,060	4,051	2,520,570	33,842,468	7,970,154	-	2,799,125	62,185,711
HP.4.1	Dispensing chemists	3,289,990				92,709	5,594,397	139,813,081		1,198,151		149,988,329
HP.5	Provision and admin of public health programs	365,114,450				-			463,992,657		173,096,000	1,002,203,107
	Column Total THE	486,812,262	18,626,442	23,529,858	22,519,127	148,130	30,671,579	882,837,340	506,946,600	35,177,560	191,426,939	2,198,695,836
	Column Total: NHE	486,812,262	18,626,442	23,529,858	22,519,127	148,130	30,671,579	882,837,340	506,946,600	35,177,560	191,426,939	2,198,695,836

Table E-3: HIV 2000 Financing agents x function (HF xHC) in current RWF

		Financing Agent											
		HF.A Public Sector					HF.B Non Public						
		HF. 1.1.1	HF. 1.1.2	HF.1.1.3.1	HF. 1.2	HF.2.5.1	HF.2.2	HF.2.3	HF.2.4	HF.2.5	HF.3		
Provider		MoH (MiniSante)	DSGAS (+districts)	Other Ministries	Social Security Fund (CSR-Caisse Sociale)	Parastatals	Private Insurance Enterprises (other than social insurance)	Private household out of pocket payments	NPISH (other than social insurance)	Private firms and corporations (other than health insurance)	Rest of World	Row Total	
HC.1.1	In patient curative care	76,757,346	7,695,406	17,381,645	15,775,921	25,184	15,311,074	128,033,571	17,512,155	17,981,057	10,455,838	306,929,196	
HC.1.3	Outpatient curative	41,650,476	10,931,036	6,148,213	6,743,207	30,238	9,766,107	614,990,688	25,441,788	15,998,352	7,875,101	739,575,205	
HC.1.3.5	Out patient curative: STI management	-	-	-	-	-	-	-	71,456	-	-	71,456	
HC.1.3.6	Out patient curative: TB treatment and monitoring	-	-	-	-	-	-	-	2,583,577	-	-	2,583,577	
HC.1.3.7	Out patient curative: ARV treatment	-	-	-	-	-	-	420,383,443	924,652	-	-	421,308,096	
HC.1.3.8	Out patient curative: psychosocial support	-	-	-	-	-	-	112,570,560	5,473,656	-	-	118,044,216	
HC.5	Medical goods dispensed to outpatients	3,289,990	-	-	-	92,709	5,594,397	139,813,081	-	1,198,151	-	149,988,329	
HC.5.1	Pharmaceuticals and other medical nondurables	3,289,990	-	-	-	92,709	5,594,397	139,813,081	-	1,198,151	-	149,988,329	
HC.6	Prevention and public health services	365,114,450	-	-	-	-	-	-	463,992,657	-	173,096,000	1,002,203,107	
HC.6.1.2	Condom distribution programs	-	-	-	-	-	-	-	424,342	-	-	424,342	
HC.6.3	Prevention of communicable disease	365,114,450	-	-	-	-	-	-	441,113,765	-	173,096,000	979,324,215	
HC.6.3.2	Bloody safety	-	-	-	-	-	-	-	-	-	34,619,200	34,619,200	
HC.6.3.4	IEC	-	-	-	-	-	-	-	22,454,551	-	-	22,454,551	
	Column Total-THE	486,812,262	18,626,442	23,529,858	22,519,127	148,130	30,671,579	882,837,340	506,946,600	35,177,560	191,426,939	2,198,695,836	
	Column Total-NHE	486,812,262	18,626,442	23,529,858	22,519,127	148,130	30,671,579	882,837,340	506,946,600	35,177,560	191,426,939	2,198,695,836	

Table E-4: HIV 2000 Providers x Function (HP xHC) in current RWF

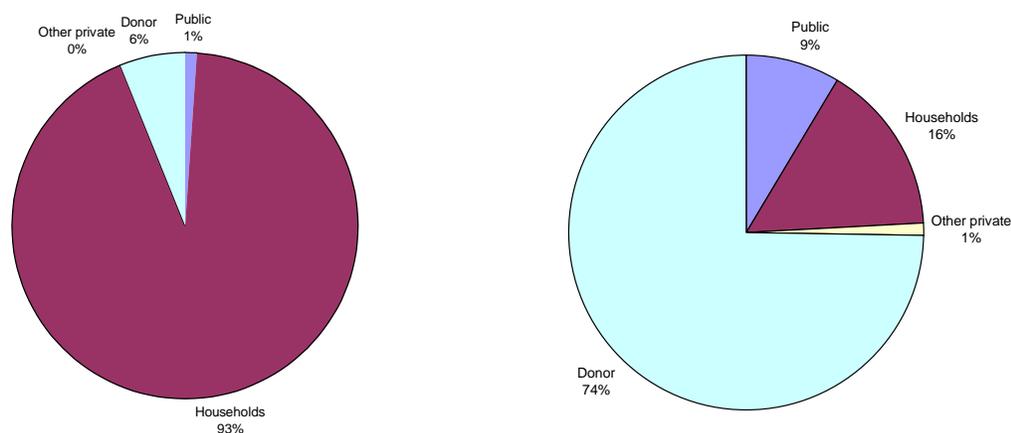
		Provider								
		HP.1.1.1	HP.1.1.2.1	HP.1.1.2.2	HP.3.1	HP.3.4.5.2	HP.4.1	HP.5		
Function		Public Hospitals	Gov't assisted not-for-profit hospitals	Private hospital for-profit	Offices of physicians (private clinics)*	Private not-for-profit health centers	Dispensing chemists	Provision and admin of public health programs	THE Row Total	NHE Row Total
HC.1.1	In patient curative care	169,205,977	43,064,844	40,380,676	4,069,720	11,493,239	-	-	306,929,196	
HC.1.3	Outpatient curative	365,308,741	14,538,745	130,523,756	24,260,712	50,692,472	-	-	739,575,205	
HC.1.3.5	Out patient curative: STI management	71,456	-	-	-	-	-	-	71,456	
HC.1.3.6	Out patient curative: TB treatment and monitoring	87,078	-	-	-	2,496,498	-	-	2,583,577	
HC.1.3.7	Out patient curative: ARV treatment	308,737,536	-	112,570,560	-	-	-	-	421,308,096	
HC.1.3.8	Out patient curative: psychosocial support	-	-	-	-	5,473,656	-	-	5,473,656	
HC.5	Medical goods dispensed to outpatients	-	-	-	-	-	149,988,329	-	149,988,329	
HC.5.1	Pharmaceuticals and other medical nondurables	-	-	-	-	-	149,988,329	-	149,988,329	
HC.6	Prevention and public health services	-	-	-	-	-	-	-	1,002,203,107	
HC.6.1.2	Condom distribution programs	-	-	-	-	-	-	424,342	424,342	
HC.6.3	Prevention of communicable disease	-	-	-	-	-	-	979,324,215	979,324,215	
HC.6.3.2	Bloody safety	-	-	-	-	-	-	34,619,200	34,619,200	
HC.6.3.4	IEC	-	-	-	-	-	-	22,454,551	22,454,551	
Column Total-THE		534,514,718	57,603,589	170,904,431	28,330,432	62,185,711	149,988,329		2,198,695,836	
Column Total-NHE		534,514,718	57,603,589	170,904,431	28,330,432	62,185,711	149,988,329			2,198,695,836

Annex F: Comparing 1998 and 2002 HIV/AIDS Expenditure Estimates

Striking Differences between 1998 and 2002 Estimates

The HIV/AIDS expenditure results for 2002 that were presented in this chapter are very different from those reported in the 1998 NHA HIV subanalysis. The contrast is most striking with respect to the contribution of different financing sources to overall HIV expenditures, with households bearing over 90% of the burden in 1998 but less than 20% in 2002. The numbers are reproduced in Figure F-1 below. This annex provides a brief analysis of the differences.

Figure F-1: 1998 (unadjusted) and 2002 HIV/AIDS financing sources



Possible Reasons for the Differences

Five major factors help explain the difference between 1998 and 2002 results:

1. Donors have become major contributors to HIV/AIDS through the launch of a number of large new projects shortly prior to 2002, an important shift from 1998 when donor spending remained focused on post-war reconstruction efforts.
2. The cost of ARVs has dropped dramatically. While the number of patients on ARVs rose approximately four-fold between 1998 and 2002, the annual per patient cost of drugs has

fallen by about 90%. Total household out-of-pocket expenditures on ARVs have therefore dropped by nearly two-thirds.

3. Estimates of Rwanda's HIV prevalence rate, which are used to extrapolate patient expenditure findings, have fallen sharply. In 1998 prevalence was estimated to be 11%, whereas in 2003 the estimate is 5.1%. Whether this decline reflects a real change in prevalence or simply an improved survey methodology is uncertain, but it has important implications particularly for out-of-pocket expenditure estimates. Indeed, due to the genocide and subsequent repatriation, even determining the country's adult population in 1998 is subject to a considerable margin of error.
4. Estimates of out-of-pocket expenditures in 1998 were based on a survey of about 350 individuals identified largely through health facilities, over 80% of whom reported symptoms or illnesses as the reason they sought testing.⁴² Since these results may reflect a sample bias towards advanced stage HIV/AIDS cases, the 2002 study attempted to determine the stage of disease of survey respondents and weight the results appropriately. This led to lower estimates of patient out-of-pocket expenditures.
5. The 2002 study incorporates estimates of non-earmarked spending on HIV/AIDS, which were not included in the 1998 exercise. For example, some portion of government financing of hospitals and health centers will be spent on care of symptoms and opportunistic infections, but no explicit HIV/AIDS line item would exist for these expenditures. Including these estimates implies a higher government contribution to HIV/AIDS, as reflected in the 2002 estimates.

What conclusions can be drawn about changes over time in the relative contributions of the various financing sources? The reasons highlighted under #3, #4, and #5 above make it difficult to make a direct comparison of the 1998 and 2002 charts in Figure F-1. However, we can make certain adjustments to facilitate comparability.

Adjustments to 1998 Estimations to Help Correct for Major Differences

In order to improve the comparability of 1998 and 2002 results, the following three *ex-post* adjustments were made concurrently to the 1998 data: (i) an attempt was made to weight out-of-pocket expenditures to reflect stage of disease; (ii) an estimate of non-earmarked funding is also included; (iii) the prevalence rate is hypothetically set at 5.1%, the same rate as in 2003.⁴³ The results are shown in Figure F-2.

⁴² See Nandakumar (2000).

⁴³ The high variability of point estimates for HIV prevalence (11% in 1998 and 5.1% in 2003) implies great uncertainty about the trend of the epidemic; assuming the same rate in 1998 and 2003 facilitates a "prevalence-neutral" assessment of how the relative role of financing sources has changed.

Figure F-2. 1998 (adjusted) and 2002 HIV/AIDS financing sources

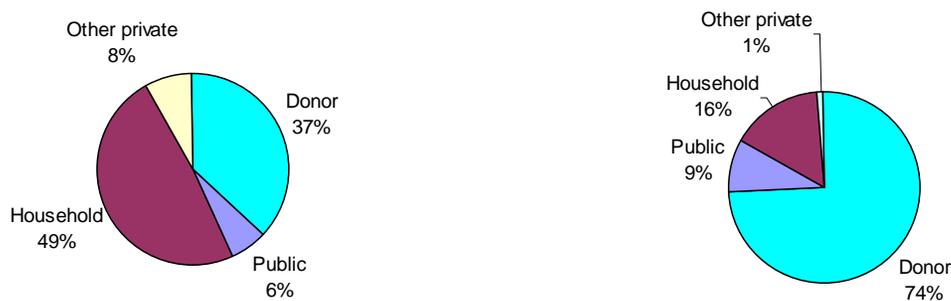


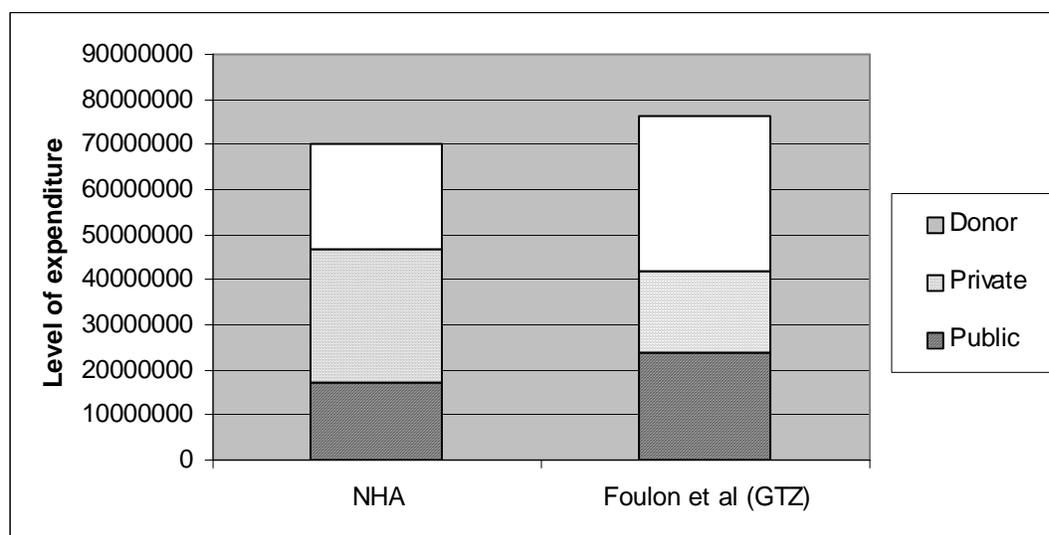
Figure 2 shows that the broad trend remains the same as in Figure 1 (with unadjusted 1998 data), but the magnitude is smaller. The launch of some large new donor projects and the sharp decline in the price of ARVs help explain the rise in donor contributions and the decline in the household burden between 1998 and 2002. Interestingly, the relative contribution of the public sector has remained stable.

Annex G: Differences between the NHA and GTZ Studies

The differences between the NHA and GTZ study are presented in Figure 1. The main differences observed are:

- ▲ Total health expenditure (THE) is higher in the GTZ study (76.5 billion versus 70.01 billion).
- ▲ The share of donor, private and public funding in THE is different:
 - △ Donor: 33% for NHA and 45% for GTZ
 - △ Private: 42% for NHA and 24% for GTZ
 - △ Public: 25% for NHA and 31% for GTZ

Figure 1: Sources of health care expenditure in Rwanda: difference between the NHA and GTZ study.



The factors explaining these differences are listed below:

Total health expenditure:

1. Different exchange rates were used: GTZ used 513 RwFr and NHA used 475 RwFr.
2. GTZ used non-executed budgets (in addition to executed budgets) for their estimates.

Donors' share in THE: GTZ used Central Public investment and External Finance Bureau (CEPEX) and donor surveys by planning department, which sometimes used budget information. NHA used primary data from donors, which were verified by their recipients as to the amount spent in one year.

Public sector's share in THE: GTZ most likely used the total estimate from public executed budget. Under NHA, executed budget were triangulated with funds received. Also, note not all items on the MoH budget was "health" or included in the THE amounts. According to the NHA *Producer's Guide*, expenses on, for example, medical schools, are classified under HCR2 and is not part of THE.

Private sector's share: GTZ, when evaluating the amounts for employers, estimated employer contribution only to RAMA. NHA used primary data from employers which encompasses contribution to health other than insurance premiums. For households, NHA used SIS (Health Information System) and reports on the revenues generated by households in private hospitals, clinics, pharmacies (primary data), and insurance companies.

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