

# The private sector role in HIV/AIDS in the context of an expanded global response: expenditure trends in five sub-Saharan African countries

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**Accepted** 14 March 2011

Global financing for the HIV response has reached unprecedented levels in recent years. Over US\$10 billion were mobilized in 2007, an effort credited with saving the lives of millions of people living with HIV (PLHIV). A relatively unexamined aspect of the global HIV response is the role of the private sector in financing HIV/AIDS services. As the nature of the response evolves from emergency relief to long-term sustainability, understanding current and potential contributions from the private sector is critical. This paper examines trends in private sector financing, management and resource consumption related to HIV/AIDS in five sub-Saharan African countries, with a particular emphasis on the effects of recently scaled-up donor funding on private sector contributions. We analysed National Health Accounts HIV/AIDS subaccount data for Kenya, Malawi, Rwanda, Tanzania and Zambia between 2002 and 2006. HIV subaccounts provide comparable data on the flow of HIV/AIDS funding from source to use. Findings indicate that private sector contributions decreased in all countries except Tanzania. With regards to managing HIV/AIDS funds, non-governmental organizations are increasingly controlling the largest share of resources relative to other stakeholders, whereas private for-profit entities are managing fewer HIV/AIDS resources since the donor influx. The majority of HIV/AIDS funds were spent in the public sector, although a considerable amount was spent at private facilities, largely fuelled by out-of-pocket (OOP) payments. On the whole, OOP spending by PLHIV decreased over the 4-year period, with the exception of Malawi, demonstrating that PLHIV have increased access to free or subsidized HIV/AIDS services. Our findings suggest that the influx of donor funding has led to decreased private contributions for HIV/AIDS. The reduction in private sector investment and engagement raises concerns about the sustainability of HIV/AIDS programmes over the long term, particularly in light of current global economic crisis and emerging competing priorities.

**Keywords** Health care financing, private sector, HIV response

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## KEY MESSAGES

- In the wake of scaled-up global funding for HIV/AIDS, private company contributions to HIV/AIDS have decreased in four of five study countries, while the private sector role in managing HIV/AIDS allocations has also declined.
- These trends are out of step with current positions of the major global HIV/AIDS initiatives, which increasingly reflect a willingness to engage the private sector in the HIV response.
- The progression of the HIV epidemic, which increasingly will require long-term chronic care, coupled with the evolving nature of the global HIV response from emergency to sustainability, suggests that the private sector may play an expanded role in meeting HIV/AIDS needs in the future.

## Introduction

The number of people infected with HIV has grown exponentially in the past two decades. An estimated 33 million people were living with HIV in 2007, the majority residing in sub-Saharan Africa. The epidemic is generating tremendous and growing demands for HIV/AIDS and related health services, especially as more people living with HIV (PLHIV) gain access to antiretroviral therapy (ART) and require ongoing care.

While funding efforts for HIV/AIDS began before the new millennium, 2000 ushered in the Millennium Development Goals, the declaration of universal access and the World Bank's Multi-Country AIDS Program (MAP). The Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) was launched in 2002, and in 2003 the President's Emergency Program for AIDS Relief (PEPFAR) and the '3 by 5' Initiative were introduced. The combined effects of the accelerated global financing for HIV/AIDS reached the country level in 2004 in unprecedented levels. The influx in donor funding contributed to more than US\$10 billion in support for HIV/AIDS services in 2007, and has been credited with saving the lives of millions of people infected with HIV through the provision of ART (PEPFAR 2009; UNAIDS 2009). Nonetheless, only 42% of eligible HIV-positive individuals in less-developed countries now receive ART (WHO *et al.* 2009).

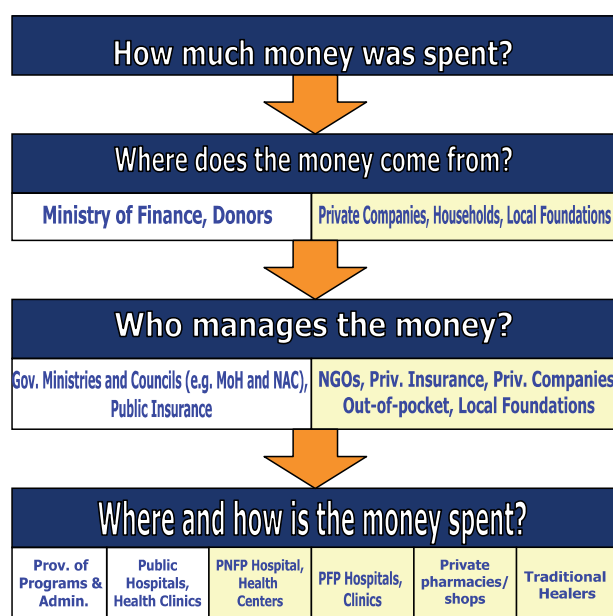
The global AIDS response seems to have reached a turning point, evolving from an emergency response to a long-term sustained effort (US Congress 2008; UNAIDS 2009). Global stakeholders are mobilizing all available resources to finance and deliver HIV prevention, care and treatment services as efficiently as possible. Such resource mobilization must include local investment from both the public and private sectors. Efforts to sustain private sector investment in the HIV response will likely reach a critical point as the effects of the global economic crisis continue to ripple through nations' economies (Hecht *et al.* 2009; KaiserNetwork 2009; Lamontagne and Greener 2009).

This paper examines private sector contributions, as compared with donor and public sector investments, to HIV/AIDS financing in five sub-Saharan African countries: Kenya, Malawi, Rwanda, Tanzania and Zambia. We use data not commonly associated with the private sector—National Health Accounts (NHA). NHA is a tool for comprehensively tracking resources for health care, including public, private and donor contributions. It follows the flow of funds through a country's health care system, making it possible to answer the following questions: How much money was spent? Where do the funds come from? Who manages the money? Where and how is the

money spent? Figure 1 illustrates the private, as well as public, elements of NHA resource tracking at the country level. 'Private sector' includes all entities outside the purview of government, whether private for-profit or private not-for-profit.

The NHA approach may be applied to a particular area of health care, such as HIV/AIDS, in what is known as an NHA 'subaccount'. HIV/AIDS subaccounts focus on measuring health expenditures associated with HIV/AIDS activities and, as such, are the data of interest for this paper, although we also look at overall health expenditures as a comparison.

To date, the influx of HIV/AIDS funds has largely been documented with reference to 'commitments' and 'disbursements'. Commitments are funding promises that often fall short of actual transfer of funds, whereas disbursements refer to the point at which funds are transferred from the funding mechanism to the recipient, usually from a donor to a government entity. However, neither of these mechanisms assesses what happens to those funds once received by a country. The use of NHA data allows for closer inspection of the flow of funds through the health system at the country level (Bernstein and Sessions 2007). To our knowledge, this is the first application of NHA data to a comparative examination of private sector contributions to financing HIV/AIDS services.



**Figure 1** Public and private sector aspects of NHA tracking.  
Source: Sulzbach *et al.* (2009)

## Methods

### Country selection

The five countries selected for inclusion in this analysis share similarities with respect to socio-economic context, nature of the HIV/AIDS epidemic and the availability of time-series HIV/AIDS expenditure data representing the period before and after the influx of donor funding (Table 1). These five countries are all GFATM and MAP recipients, and all but Malawi are PEPFAR countries. Each country has expenditure data on HIV/AIDS prevention and treatment dating back to about 2002, the year before the international community dramatically scaled up resources to fight the pandemic in African countries, as well as data for 2005 or 2006, when the effects of the influx could be detected. Three of the five countries have plans to conduct another round of HIV/AIDS subaccounts in 2011, making it possible to further analyse trends.

### Data collection

NHA HIV/AIDS subaccounts were added to the data collection efforts for the general NHA estimate; thus, HIV/AIDS expenditure questions were appended to ongoing general NHA surveys targeting donors, non-governmental organizations (NGOs), employers, insurance firms and providers. To determine out-of-pocket (OOP) spending by PLHIV, each HIV/AIDS subaccount effort either conducted a separate survey of confirmed HIV-positive adults or, in the case of Kenya, relied on a nationally representative household survey focused on HIV/AIDS that identified HIV-positive individuals and included health care expenditure questions.

### Comparative analysis of NHA data

Our analysis relied on country HIV/AIDS subaccounts and general NHA data, adjusted for inflation to determine actual changes in spending. To prepare for the analysis, the authors identified and developed a list of key financing indicators and tables. We used both the country HIV/AIDS subaccounts and the general NHA estimates to compute the target indicators and tables in a Microsoft Excel database, and then adjusted for

inflation to determine actual changes in spending. We next analysed the database from the following vantage points:

- Comparison of *relative* (percentage) and *absolute* spending changes over time in *a given country*.
- Comparisons of spending trends *between* countries with respect to *relative* share changes.
- Comparisons of HIV/AIDS *relative* spending patterns with those of overall health spending in *a given country*.
- Comparisons *between* country indicators that place HIV/AIDS expenditures within the context of overall health expenditures, e.g. comparisons across countries' HIV/AIDS health spending as a percentage of total health expenditures.

We did not adjust the data for purchasing-power parity because of various time boundaries that challenged the consistency of the parity values. In addition, comparisons of absolute value amounts were largely limited to the evolution of spending within a given country.

For purposes of this comparative analysis, we included in the study only those transactions falling within the Total Health Expenditure for HIV/AIDS ( $THE_{HIV}$ ). While individual subaccount reports present and distinguish health and non-health spending on HIV/AIDS, this analysis compares only HIV/AIDS health expenditures<sup>1</sup> to allow for consistency and comparisons with overall health spending shown in the General NHA ( $THE_{general}$ ).

### Inflation and currency conversion

To compare absolute spending figures across years in each country, we adjusted all absolute spending numbers for inflation by using the most recent year of data for that country as the base year. For example, Rwanda has expenditure data from fiscal year (FY) 2002 and FY 2006. We therefore inflated the FY 2002 data to FY 2006 currency to allow for comparison. In countries with fiscal years split across two calendar years, the base year is the second calendar year. The inflation rate average is based on the International Monetary Fund's World Economic Outlook Database.<sup>2</sup> The inflation rates are applied to the original currency.

**Table 1** Background statistics on HIV/AIDS in Kenya, Malawi, Rwanda, Tanzania and Zambia

Indicators	Kenya	Malawi	Rwanda	Tanzania	Zambia
Gross domestic product (GDP) per capita in 2006 (US\$) <sup>a</sup>	581	157	317	319	974
Total population (2006) <sup>a</sup>	35 638 694	11 937 934	9 058 392	37 500 000	11 502 010
Life expectancy in years (2006) <sup>b</sup>	53	50	52	50	43
Adult HIV/AIDS prevalence rate (%) <sup>a</sup>	5.1	12.0	3.0	6.5	16.5
Number of adults with HIV/AIDS (2006) <sup>a</sup>	1 091 000	897 853	160 000	1 300 000	1 100 000
Adult PLHIV as a percentage of overall country population (to date) (%) <sup>a</sup>	3.1	7.5	1.8	3.5	9.6
Percentage of ART coverage among people with advanced HIV infections (2006) (%) <sup>b</sup>	27	21	52	14	26
Percentage of ART coverage among HIV-infected pregnant women for prevention of mother-to-child transmission (PMTCT) (2006) (%) <sup>b</sup>	48	14	55	15	35

Source: De *et al.* (2009).

Notes:

<sup>a</sup>As published in respective country NHA HIV/AIDS subaccounts reports.

<sup>b</sup>WHO Statistical Information System, <http://www.who.int/whosis/en/>.

All expenditure figures were converted to US dollars based on the official average exchange rate of the most recent data year, obtained from the central banks of the countries analysed.

### Limitations

There are limitations associated with comparative analysis of NHA data. First, country-level expenditure estimates depend on self-reporting by the surveyed institutions or households. However, every attempt is made to verify each expenditure transaction from at least two data sources. Second, while all country subaccounts follow the same definitions and boundaries in accordance with international norms, each country understandably obtains its estimates from different sources and possibly different survey instruments, potentially resulting in varying rigour and varying use of estimation techniques. As the NHA infrastructure is institutionalized, estimates will likely improve in terms of accuracy and thus facilitate more extensive analysis. Lastly, each country undergoes an evolution in the quality of data sources used in its NHA estimates. More recent estimates tend to be more robust and rely on more appropriate data sources as compared with the 2002 estimates, which was the first time subaccount estimates were derived for many countries. For example, many of the earlier subaccount estimates of OOP spending for PLHIV were derived from data collected through a 'targeted' survey whereby PLHIV were recruited through 'key entry' points such as health care facilities and associations for HIV-positive individuals. While cost-effective, the surveys are representative only of the subpopulations that frequent such entry points. Thus the data largely capture information on PLHIV who sought care in the formal and largely public health care system, who tended to have greater access to care and education, and who may have been more ill than the rest of the PLHIV population. The degree of illness has implications for PLHIV expenditure estimates because other studies have found that the more advanced the stage of illness, the greater are the associated treatment costs (Bautista *et al.* 2003). Consequently, when determining national OOP expenditures, we adjusted survey data in accordance with assumptions about the PLHIV population's stage-of-disease profile in each country.<sup>3</sup> In later subaccounts, we tried to circumvent targeted surveys. For example, in Kenya, the NHA team added expenditure questions to a nationally representative survey that included biomarker testing for HIV (Kenya AIDS Indicator Survey). This method makes it possible to formulate estimates based on the entire population of PLHIV, thereby avoiding many of the biases inherent in the targeted PLHIV survey method.

### Results

We present findings in accordance with the flow of funds through the health sector. As such, subsequent sections describe observations on the total expenditures for HIV/AIDS, followed by findings on the role of the private sector in financing, managing and consuming HIV/AIDS funds.

Analysis of NHA data confirms that resources for HIV/AIDS were greatly expanded between 2002 and 2006, largely due to

considerable increases in PEPFAR and GFATM funding at the country level. In absolute terms (and adjusting for inflation), funding for HIV/AIDS averaged a four-fold increase in the five study countries during the 4-year period (Figure 2).

Spending on HIV/AIDS services accounted for a significant proportion of all health spending post-influx, ranging from 24% to 29% of overall health spending. Even in Rwanda, which has the lowest HIV prevalence of the five countries, the share of health expenditures on HIV/AIDS services represented nearly a quarter of the country's total health expenditures post-influx. This equates to considerably higher per capita expenditures for HIV-positive individuals in Rwanda (US\$456.00), as compared with the other study countries (ranging from US\$63.48 in Malawi to US\$223.65 in Kenya).

### What role do private financiers play in the HIV/AIDS response?

With respect to source of financing, domestic private sources of HIV/AIDS funds generally decreased over the 4-year period. As shown in Figure 3, contributions from private companies—early supporters of HIV prevention and treatment services before the onset of national, government-sponsored programmes—declined in absolute terms in all countries except in Tanzania. In the case of Tanzania, NHA data from 2006 detected the contributions of a few multinational companies that had recently expanded their efforts to offer HIV workplace programmes, care for opportunistic infections and ART in private hospitals and employer clinics (not the case in 2003).

The largest percentage reductions in private company spending occurred in Rwanda (85%) and Kenya (83%). However, in actual dollar amounts private company contributions fell from about US\$2 million to US\$0.3 million in Kenya, and from US\$13 million to US\$4 million in Zambia.

While not the focus of this paper, it is worth noting that the data revealed evidence of absolute decreased public sector contributions to HIV/AIDS in two of the five countries—Kenya and Zambia. The reductions for Kenya and Zambia were 35% and 51%, respectively.

### What role does the private sector play in managing HIV/AIDS funds?

Managing HIV/AIDS funding entails making decisions about where to allocate funds to directly pay for a HIV/AIDS health service or product. Private fund managers, or 'financing agents' as they are known in NHA terminology, include private companies, private insurance schemes, as well as households (who allocate OOP payments). In four of the five study countries, there was a noticeable trend of private for-profit entities managing (or having programmatic control of) fewer HIV/AIDS resources in 2006 compared with 2002 (Table 2).

In comparison, private management of general health services (not shown) actually increased, in direct contrast to the trends for HIV/AIDS. These trends combined suggest a potential 'crowding out' of the private sector in Kenya, Malawi and Tanzania, likely related to the considerable increase in donor funding for HIV/AIDS.

Contrary to private for-profit trends, findings suggest that the private not-for-profit sector is playing an increasingly powerful role in deciding how resources are allocated across health

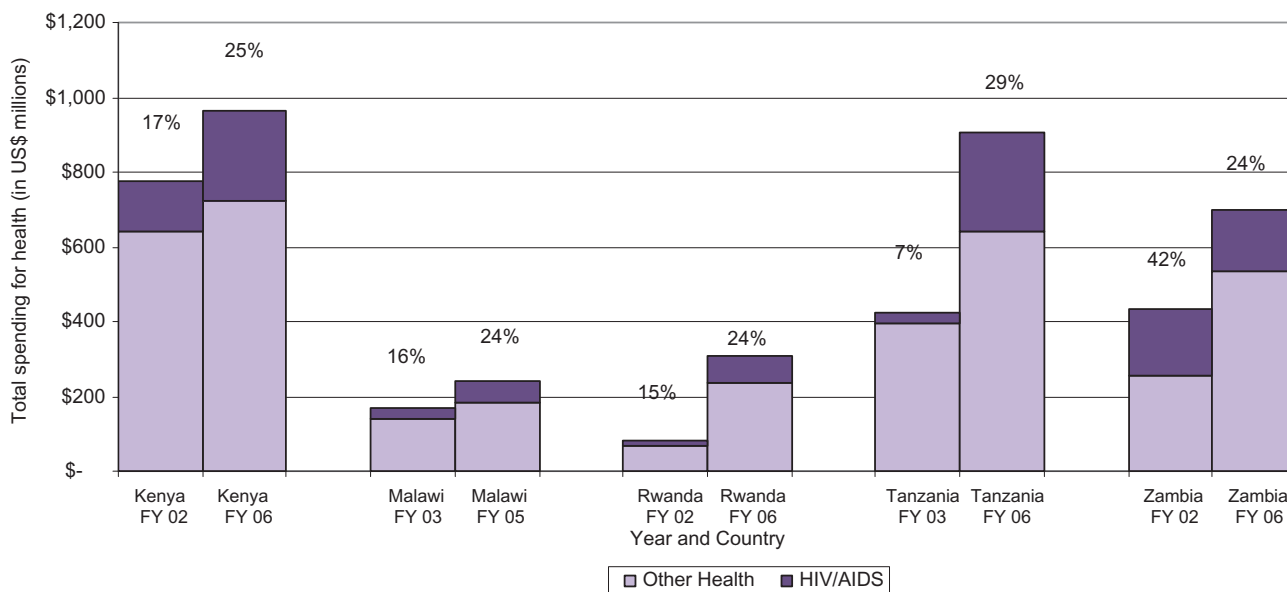


Figure 2 Absolute spending on HIV/AIDS and as a percentage of total health spending

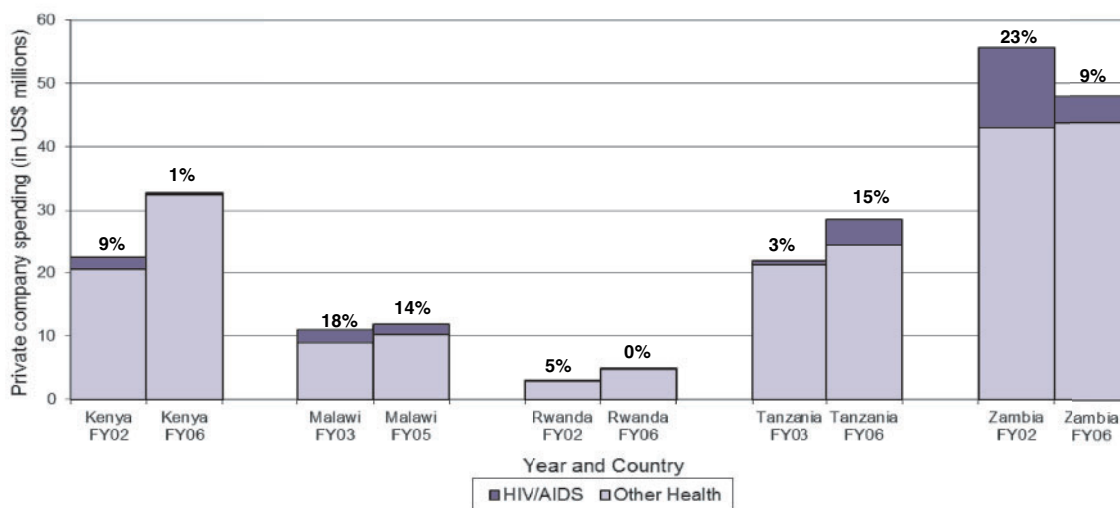


Figure 3 Absolute private company contributions to HIV/AIDS and as a percentage of total private company contributions to health

Table 2 Percentage change in absolute contribution of fund managers to HIV/AIDS health care, before and after the donor influx

	Kenya (%)	Malawi (%)	Rwanda (%)	Tanzania (%)	Zambia (%)
Public agents	-32	175	885	1559	-48
Private insurance agents	-76	51	-97	-5	-97
Private companies	-94	-47	-100	1797	-49
NGOs and donors	558	42	540	909	638

providers. Figure 4 provides a breakdown of the entities that receive and manage HIV/AIDS funds. In four of the five countries (the exception being Malawi), the private not-for-profit sector, primarily NGOs and to a lesser extent donors

(e.g. United Nations High Commission for Refugees), increasingly controls the largest share of resources relative to other stakeholders (e.g. Ministry of Health, national AIDS councils, private insurance schemes).



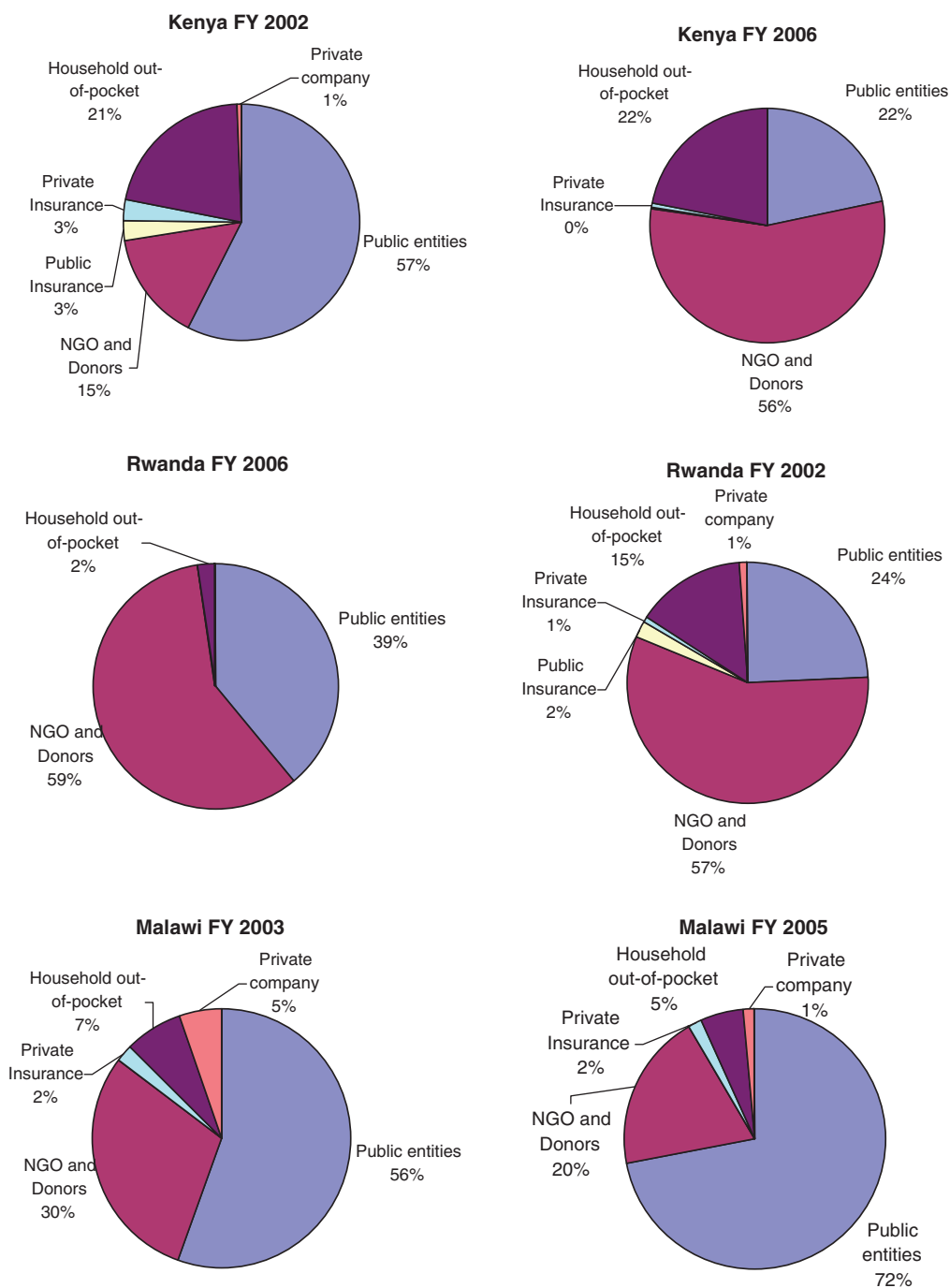


Figure 4 Breakdown of HIV/AIDS fund management, pre- and post-donor influx, Kenya, Rwanda, Malawi, Tanzania and Zambia

**How have OOP payments been affected by the influx in donor funding for HIV/AIDS?**

PLHIV are another important private ‘manager’ of funds. Through OOP payments directly to health providers (public, private, traditional healers and so forth), PLHIV exert programmatic control over how they use their funds by determining which providers receive their monies. Table 3 shows that, with the exception of Malawi,<sup>4</sup> OOP spending by PLHIV

has decreased over the 4-year period, suggesting that PLHIV enjoy increased access to free or heavily subsidized HIV/AIDS services, probably as a direct result of increased donor funding. With respect to the general population, OOP spending per capita has remained the same or increased in some countries, sometimes more than doubling. Thus, the trend observed among PLHIV since the donor influx appears specific to the HIV/AIDS response.



Figure 4 Continued

Table 3 Comparing out-of-pocket spending by PLHIV with out-of-pocket spending by the general population

	Malawi (FY03)	Malawi (FY05)	Rwanda (2002)	Rwanda (2006)	Tanzania (FY03)	Tanzania (FY06)	Zambia (2002)	Zambia (2006)
General population (US\$)	1.82	1.81	2.85	7.66	5.05	5.57	9.19	16.74
PLHIV (US\$)	2.14	3.42	10.16	9.78	11.92	9.75	53.78	20.67
Percentage difference (%)	18	89	257	28	136	75	485	23
Magnitude of change in spending by general population <sup>a</sup>	0.99		2.69		1.10		1.82	
Magnitude of change in spending by PLHIV <sup>a</sup>	1.60		0.96		0.82		0.38	

Note: <sup>a</sup>2006 amount/2002 amount.

Given that PLHIV may have, on average, more illness episodes than the general population, they are prone to spend more for health care than the general population. As shown in Table 3, the differences in per capita spending have narrowed since the donor influx. For example, in Zambia in 2002, HIV patients spent 485% more in OOP than the general population, but only 23% more in 2006. Similarly, Rwanda and Tanzania experienced decreases in OOP spending, from 257% to 28% and 136% to 75%, respectively. The decrease in spending differences

between PLHIV and the general population may be attributable in part to increased subsidization of care and treatment services for PLHIV. Further investigation is warranted to see if subsidization is the only cause; other causes might include increased utilization of subsidized services and/or a decreased prevalence of severe illnesses associated with HIV/AIDS.

It should be noted, however, that the positive impact is not universal. In Malawi, OOP spending by PLHIV has increased, and the difference vs the general population was even larger

post-influx. While this finding may be due to the method of estimation for Malawi (e.g. deriving FY 2005 estimates from FY 2003 data), it may also reflect the disproportionate allocation of donor funds to programmatic activities (e.g. training) rather than to service delivery.

### Which health providers consume the most HIV/AIDS resources?

Further analysis of NHA data reveals where health resources are consumed, both by sector (public, private for-profit and private not-for-profit) and by type of facility or provider (hospital, clinic, pharmacy or traditional healer). Regarding changes in absolute terms, Table 4 shows percentage change in expenditure post-influx relative to pre-influx by provider type. Spending in the informal private sector, including traditional healers and private pharmacies/shops, decreased considerably. Before the donor influx, spending on traditional healers represented a considerable amount (in absolute terms) of expended HIV/AIDS resources (but a smaller relative share). Since the influx, data for four of the five countries (except Malawi) showed a drop in expenditures for traditional healers (whose principal source of payment is household OOP spending). Zambia saw a 67% reduction in HIV/AIDS expenditures on traditional healers while Kenya and Tanzania experienced 40% and 12% reductions, respectively.

The findings also show reduced spending at private pharmacies in Rwanda and Tanzania, likely reflecting less reliance on self-medication and the fact that ART is typically provided at health centres and hospitals. For example, spending in private pharmacies in Rwanda and Tanzania decreased by 4% and 12%, respectively, following the donor influx. With respect to Kenya, the increased amount of spending at pharmacies (largely due to OOP spending) should be viewed with caution, as the different methods used to measure OOP spending by PLHIV in 2006, as compared with 2002, could have biased this finding.

As for the formal sector, the findings show that, since the influx, higher-level facilities are consuming more resources, particularly hospitals. In general, we found an absolute increase in HIV resource consumption at both public and private hospitals, but larger increases in private hospitals relative to 2002 levels. Except for Zambia, the other four countries experienced a variety of increases in public hospitals, from 20% in Kenya up to 1247% in Tanzania. The increases in private hospitals ranged from 73% in Tanzania to 1395% in Rwanda.

The data also show increased expenditures in private not-for-profit facilities, the primary recipients of donor funding. This increase is suggestive of greater involvement of this faction of the private sector in the national HIV responses.

While OOP payments among PLHIV are largely decreasing, the relative share of OOP payments to private providers is increasing. This can be explained by the fact that PLHIV are increasingly accessing free or subsidized HIV treatment through the public sector, and therefore OOP payments to this sector are decreasing. Thus, OOP payments to private providers comprised an increasing share of all OOP spending for HIV/AIDS in 2006. For example, in 2002, 54% of Kenyan PLHIV OOP payments went to public providers and 33% to private providers; by 2006, the spending share at public providers decreased to 33% while the share at private providers increased to 57%. In contrast, in Tanzania, where OOP payments by PLHIV have decreased since the donor influx, public facilities now attract a greater share of OOP spending. Further examination of this phenomenon is warranted. In Malawi, the shift to private provision is less pronounced than in the other three countries experiencing such a shift, possibly owing to methodological limitations in the data.

A comparison of relative shares between public and private providers (Figure 5) shows that the majority of medical care and treatment expenditures occur in public facilities as opposed to private facilities, for both inpatient and outpatient services. On average, 15% of all personal expenditures<sup>5</sup> occurred in private facilities in 2002, increasing slightly to 17% in 2006. The large proportion of expenditures made in public facilities underscores the tendency for external aid to be directed to this sector.

### Who pays for health care at private for-profit facilities?

While most HIV/AIDS resources are channelled through the public and NGO sectors, the major global HIV initiatives are increasingly signalling a willingness to partner with private health providers as a means to expand access to essential HIV/AIDS services and to improve sustainability. Limited data currently exist on the extent to which such partnerships, such as contracting with private providers to deliver HIV/AIDS services, are actually occurring. NHA data can help assess this, examining to what extent funds are transferred from public payers or donors to private providers.

**Table 4** Percentage change in relative spending at provider types before and after the donor influx

	Kenya (%)	Malawi (%)	Rwanda (%)	Tanzania (%)	Zambia (%)
Private hospital	375	86	1395	73	726
Private clinic	-64	33	-42	96	-94
Not-for-profit hospital	189	43	938	-12	-48
Not-for-profit clinic	57	n.a.	1526	-4	-15
Private pharmacy/shop	155	14	-4	-12	554
Traditional healer	-40	3	n.a. <sup>a</sup>	-12	-67
Public hospital	20	61	869	1247	-87
Public health centre	400	-2	1029	115	-83

Note: <sup>a</sup>In 2002, Rwanda's NHA did not track spending on traditional healers.



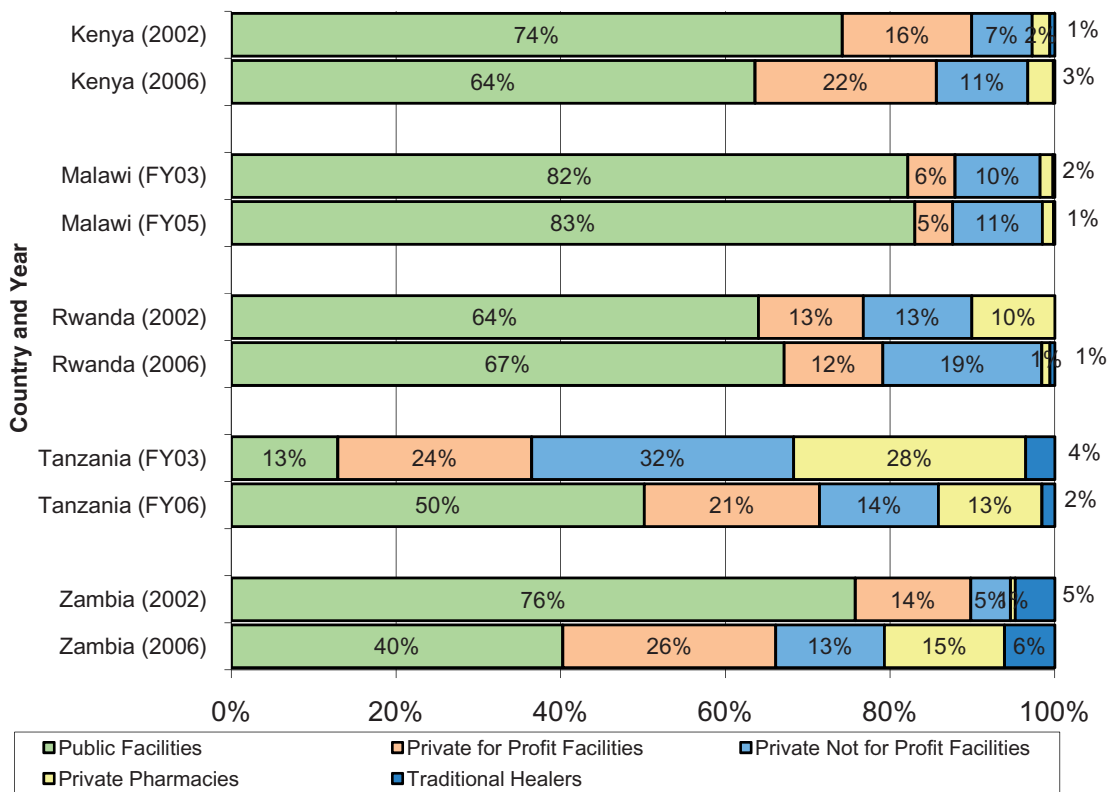


Figure 5 HIV/AIDS health expenditures by provider type

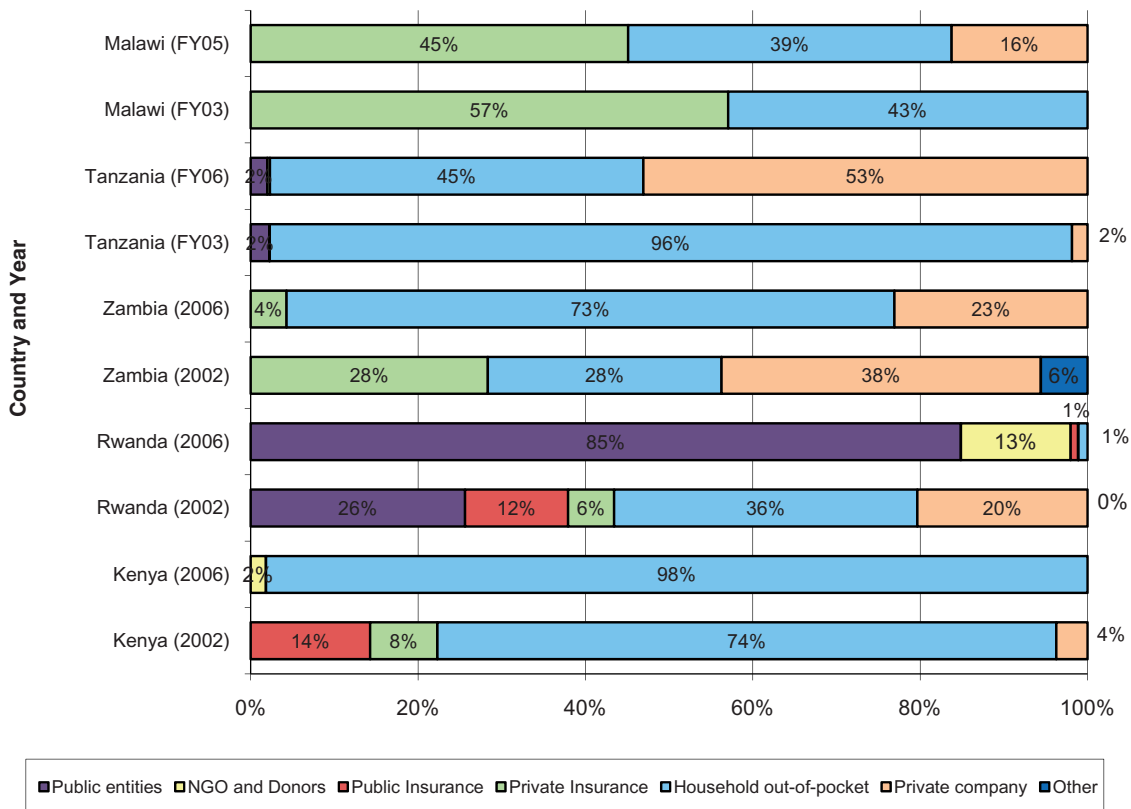


Figure 6 Consumption of HIV/AIDS funds at private for-profit hospitals by type of manager

The funds spent at private for-profit hospitals largely come from household OOP spending (Figure 6). In 2006 in Kenya, 98% of funds spent in private hospitals came from OOP spending; in Zambia, the figure was 73%. Findings for private clinics were similar, yet this level of private facilities receives even fewer public funds (data not shown).

Across the study countries, little public financing goes to private facilities, suggesting an absence of financing mechanisms to engage private health providers in national HIV responses.

## Discussion

We examined the role of the private sector in HIV/AIDS financing, management and resource consumption, using a source of data not commonly associated with the private sector—NHA. Specifically, we assessed how the role of the private sector may have shifted as a result of dramatically scaled-up donor funding in five sub-Saharan African countries.

### Financing

In terms of overall financing for HIV/AIDS, our analyses revealed decreases in private contributions (including households and private companies) in relative and absolute terms. Given the vastly different implications of decreases in private company financing of HIV/AIDS vs household contributions, these are discussed separately.

#### *Private company contributions*

From a donor perspective, development aid is intended to supplement, rather than replace, domestic resources (public and private) for health. Results from our study suggest that donor funding may be replacing or ‘crowding-out’ private investment in HIV/AIDS, as evidenced by absolute reductions in private company expenditures for HIV/AIDS between 2002 and 2006 in four of the five countries. Whereas private investments decreased during this time period, donor funding for HIV/AIDS quadrupled. In Tanzania, however, private company investments in HIV/AIDS increased, reflecting stepped-up efforts by a few multinationals. For example, the Abbott Fund entered into a 7-year US\$50 million partnership with the Government of Tanzania to strengthen health systems and train health workers to meet the needs of PLHIV (PRNewswire 2008).

Our study also revealed absolute decreases in public sector financing for HIV/AIDS in two of the five countries studied. Similar evidence of donor funding ‘crowding-out’ domestic public sector investments in health was reported recently in a multi-country analysis, which found that donor funding was replacing public financing for health, with the strongest effects in sub-Saharan Africa (Lu *et al.* 2010). The study found that Ministries of Finance tend to reduce funding to Ministries of Health when large amounts of external aid are available to the government—on average reducing public expenditures for health between US\$0.43 and US\$1.14 for every US\$1 received (Lu *et al.* 2010). While the authors underscore the importance of public financing for health to ensure sustainability of the health sector, they fail to mention the possible role of the private sector in contributing to this goal. Taken together,

these two studies provide a more comprehensive picture of the impact of donor assistance on domestic resource mobilization (encompassing both public and private contributions), highlighting in particular the effects of rapidly scaled-up funding (as was the case for HIV/AIDS).

Recent NHA data from Namibia provide further evidence of the ‘crowding-out’ effect. Whereas donor assistance (primarily GFATM and PEPFAR) increased from 3.8% to 21.7% between 2001/02 and 2008/09, the public sector proportion of funding as a percentage of  $THE_{general}$  decreased from 63.3% to 53.8% and the private sector share declined from 32.9% to 24.5% (Government of Namibia *et al.* 2010; O’Hanlon *et al.* 2010).

The reasons behind the reduction in private sector contributions warrant further investigation. One possible explanation may lie in falling prices for antiretrovirals (ARVs) as a result of the introduction of generics in developing countries (Médecins Sans Frontières 2008). While the annual cost of the most commonly used first-line drug combination dropped marginally between 2003 and 2006 (from US\$621 to US\$549), the introduction of the generic combination drug Cipla lowered the price to US\$132 by 2006, the year corresponding with our analysis of NHA data (Médecins Sans Frontières 2008). Generic ARVs are generally available without restrictions in sub-Saharan Africa, so theoretically private companies and insurers in the five countries of interest would be able to purchase drugs at these prices.

Earlier it was reported that Rwanda experienced the greatest percentage reduction in private company spending on HIV/AIDS. In the 2008 United Nations General Assembly Special Session report for Rwanda, a 30% reduction in ARV prices from 2005 to 2006 was reported, resulting in stable treatment costs despite an increase of 12 000 patients on ART during the same time period (UNGASS 2008). It is possible that the reduction in ARV prices also contributed to a decrease in private company expenditures for HIV/AIDS, although further investigation is warranted.

However, there are indications that other factors may have led to decreased private investments in HIV/AIDS. There is growing evidence that the rollout of national programmes offering free treatment has led to companies eliminating or scaling back support for HIV/AIDS services (Feeley *et al.* 2007; Ivan and Guariguata 2009; Schellekens *et al.* 2009). While the temptation for companies to withdraw their support in light of government services is understandable, such a move belies the growing needs countries are facing to respond to the epidemic. Recent projections on HIV/AIDS financing through 2031 suggest that donor funding will fall well short of projected needs due to a number of possible factors, including the global economic crisis and competing demands for other critical areas, such as climate change and food security (Lamontagne and Greener 2008; Hecht *et al.* 2009). The projected funding shortage underscores the need for broad and innovative resource mobilization for HIV/AIDS for many years to come (Hecht *et al.* 2009). Beyond resource mobilization, employer-sponsored HIV treatment efforts have been shown to be effective in increasing ART adherence and survival rates, providing further rationale for sustaining and strengthening private company efforts to respond to the epidemic (Connelly and Rosen 2006; Van der Borgh *et al.* 2006; Charalambous *et al.* 2007).

Harnessing the potential of the private sector in partnership with the public sector is likely to contribute to greater sustainability and ultimately greater health outcomes (Arur *et al.* 2010). A large-scale public-private partnership to support HIV/AIDS care and treatment in Botswana underscores this point. In 2001 Merck partnered with the Government of Botswana and the Gates Foundation, directing its initial investment of US\$56.5 million to provide free ARVs and technical assistance to train health care providers (Merck 2010). The second phase of the initiative was recently launched, with the company pledging an additional US\$30 million to continue treatment and care efforts through 2014. Inherent in this public-private partnership is a provision for increasing government ownership and financing of the effort as private investment is phased out, to ensure long-term sustainability beyond the life of the partnership (Merck 2010).

Other examples of public-private engagement include the public sector leveraging company-sponsored HIV/AIDS programmes to extend provision of free ART pharmaceuticals (often purchased with donor funding) at company clinics, with the remaining costs of treatment covered by the employer (Feeley *et al.* 2007). The same model has been applied to private health clinics. For example, private providers in Malawi underwent training in ART management and received ARVs from the government. Patient fees for the drugs were capped at US\$4 per month and providers were allowed to charge normal fees for consultation. Uganda has since initiated a similar arrangement (Schouten *et al.* 2006; Feeley *et al.* 2007). Finally, government tax incentives may be another way to encourage or sustain private company provision of HIV/AIDS services.

#### **Household contributions**

Households of PLHIV are another source of financing for HIV/AIDS. Our analysis revealed that in general, PLHIV spent less on health care in 2006 than in 2002, reflecting increased access to free or subsidized HIV/AIDS services. Moreover, in comparing health care expenditures among PLHIV with their HIV-negative counterparts, we found that the spending gap is narrowing (i.e. PLHIV still spent more on health care than did the general population, but the differential is decreasing). These findings are encouraging from a public policy point of view, and represent a positive and intended effect of expanded donor funding.

However, the tension between finite resources and growing health needs, particularly related to HIV treatment, suggests the need to explore financing strategies to contain OOP spending for PLHIV, such as risk-pooling schemes or savings plans. In fact, private health insurance schemes that cover HIV/AIDS services exist in a handful of African countries—South Africa, Namibia, Uganda—and are being considered by other countries (Schellekens *et al.* 2009; O’Hanlon *et al.* 2010; Switlick-Prose 2010). While evidence is somewhat limited, these approaches warrant further exploration, particularly for middle-income countries that may be ‘graduated’ from donor assistance (O’Hanlon *et al.* 2010; Switlick-Prose and Loomis 2010).

#### **Management**

Another aspect we examined is the role of private companies and households in making decisions about how HIV/AIDS funds are allocated (i.e. managing funds). Not surprisingly, the

private sector is playing an increasingly marginal role in deciding how HIV/AIDS resources are spent. Perhaps more surprising is the diminished role of the public sector as the role of donors and NGOs in making decisions about the expenditure of HIV/AIDS funding becomes more prominent, largely a result of the amount and structure of donor assistance for HIV/AIDS. In fact, private management of general health funds—for which there has not been a substantial increase in donor funding—actually increased during the 4-year period in all countries except Rwanda.

Global HIV stakeholders are increasingly recognizing that in order to sustain HIV/AIDS services well into the future, not only should private sector investment be encouraged, but so should the active participation of this sector in strategic planning for national HIV responses. This is not only logical, but also provides a greater incentive for private stakeholders to get involved. There is ample evidence that the private sector has not been sufficiently included in global or national strategic planning to address HIV/AIDS. Indeed, it has been noted that increased aid can ‘make governments less receptive to a more significant role for the private sector’ (Lewis 2005).

#### **Resource consumption**

Our findings revealed a pattern of decreased resource consumption in the informal sector—traditional healers and private pharmacies—in 2006, whereas this sector consumed a significant amount of resources in 2002. Conversely, higher-level health facilities are consuming more resources. This finding suggests a positive effect of the donor influx, in that PLHIV are less inclined to resort to traditional healers for treatment of opportunistic infections. The shift toward the formal health sector is indicative of increased awareness of and access to subsidized HIV treatment and care. The fact that private facilities are largely supported by OOP payments, as opposed to government or donor funding, points to an opportunity for introducing financing arrangements, such as contracting out or vouchers, to engage private providers in HIV prevention and treatment, and in so doing, increase access to critical HIV/AIDS services while subsidizing the cost of care. Working with existing private health providers to implement innovative financing mechanisms may prove to be cost-effective, in that it entails harnessing a previously untapped resource, and thus could potentially drive down the costs of treatment (Hecht *et al.* 2009). While there is limited evidence on the impacts of these private sector initiatives, especially specific to HIV/AIDS, such mechanisms are currently being piloted in Africa and deserve further consideration.

#### **Conclusion**

Several factors support the need for an increased role for the private sector in the HIV response: the changing nature of the epidemic and increased access to ARVs, which translates into the need for long-term chronic care for PLHIV; the global economic crisis and the uncertainty of donor funding it brings; and increased political will on the part of global HIV initiatives to seriously consider the private sector as a partner in achieving universal access goals. Better integration of the private sector

into the overall health system could reduce duplication, ensure greater sustainability of service provision and ultimately lead to improved health outcomes.

## Funding

This research was conducted by Abt Associates, Inc. with support from the Office of HIV/AIDS at the United States Agency for International Development [GPO-I-00-04-00007-00].

## Conflict of interest

None declared.

## Endnotes

- <sup>1</sup> See Sulzbach *et al.* (2009) for a detailed list of included services.
- <sup>2</sup> Online at: <http://www.imf.org/external/pubs/ft/weo/2008/01/weodata/index.aspx>.
- <sup>3</sup> Although best assessed through CD4 counts, stage-of-disease profiles may be inferred from World Health Organization performance scales: Stage 1, asymptomatic, normal activity; Stage 2, symptomatic but normal activity; Stage 3, bedridden for less than 50% of the day during the last month; Stage 4, bedridden for more than 50% of the day during the last month. In Kenya, it was estimated that 12% of the HIV population is at Stage 1, 49% at Stage 2, 25% at Stage 3 and 14% at Stage 4. In Rwanda, it was estimated that 10% fall into Stage 1, 55% into Stage 2, 25% into Stage 3 and 10% into Stage 4. In Zambia, it was estimated that 65% to 70% are in Stages 1 and 2, 10% to 20% in Stage 3 and 10% to 15% in Stage 4.
- <sup>4</sup> Kenya OOP figures are not included in Table 4 due to different methodologies used in 2002 and 2006, specifically, use of an improved methodology in 2006 whereby health care expenditure questions were added to a nationally representative household survey focused on HIV/AIDS.
- <sup>5</sup> Personal care expenditures include all spending at facilities and all spending for the services of individual health care workers (including traditional healers). It is not equivalent to THE<sub>HIV</sub> in that it does not include spending on the provision of public health programmes and central administration.

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