

Public Disclosure Authorized

A SYNTHESIS REPORT

THE FINANCIAL SUSTAINABILITY OF HIV/AIDS AND UNIVERSAL HEALTH COVERAGE PROGRAMS IN SUB- SAHARAN AFRICA: *CASE STUDIES FROM COTE D'IVOIRE, KENYA, TANZANIA, and NASARAWA STATE IN NIGERIA*

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Foreword

The World Bank Team and Acknowledgements

The World Bank Team

This study was led by Karima Saleh, Senior Economist (Health), with the World Bank Group. The synthesis report comprised of the following co-authors: Karima Saleh, Ricardo Bitran, and Bernard Couttolenc.

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In November 2015, the research team was invited to give a presentation to the HIV/AIDS Economic Reference Group (ERG): Sustainability of HIV Financing Technical Working Group, at a meeting that was organized by a team at the School of Public Health, Harvard University. The research team had an opportunity to share the study methodology and some preliminary findings, and benefited from the expert feedback of the ERG.

In December 2013, the research team organized a consultation session at the World Bank in Washington D.C., to discuss the proposed study concept and seek feedback and suggestions. The objective of this half day consultation was to understand what experts and other partners were working on in order to build upon current knowledge and avoid duplication, and identify a niche where Bank could add value to the current discussions and support policy dialogue on strengthening HIV/AIDS financing at the country level. The consultation was attended by: Carlos Avila, Elaine Baruwa, Thierry van Bastelaer, Peter Berman, Teresa Gutherie, Markus Haacker, Kate Harris, Robert Hecht, Mead Over, Ani Shakarishvili, Sara Sulzbach. The World Bank team included: Olusoji Adeyi, Karima Saleh, Jorge Coarasa, Logan Brenzel and Manjiri Bhawalkar.

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Abbreviations

AIDS	acquired immunodeficiency syndrome
ART	antiretroviral therapy
ARV	antiretroviral
ATF	AIDS Trust Fund
BMGF	Bill and Melinda Gates Foundation
BoD	burden of disease
CDC	center for disease control
CMH	Commission on macroeconomics and health
CMR	child mortality rate
DAH	Development Assistance for Health
DALYs	disability adjusted life years
DIPI	Domestic Investment Priority Index for countries with the highest HIV prevalence
GAVI	Global alliance for vaccine initiative
GDP	Gross domestic product
GFATM	Global fund for AIDS, TB and Malaria
GGE	general government expenditure
GHE	government health expenditure
GTE	general total expenditure
HIV	human immunodeficiency virus
HLTF	WHO high-level task force
HNP	health nutrition and population
IGR	internally generated revenue
IHME	institute for health metrics
IMF	International Monetary Fund
IMR	infant mortality rate
LIC	low income countries
LEB	life expectancy at birth
LMIC	low middle-income countries
MCH	maternal and child health
MDG	millennium development goals

MHBP	minimum health benefits package
MIC	middle income countries
MMR	maternal mortality ratio
MNCH	maternal neonatal child health
MoH	ministry of health
MoHSW	ministry of health and social welfare
MTEF	medium-term expenditure framework
NCD	noncommunicable disease
NGO	nongovernment organization
NHA	national health accounts
NHI	national health insurance
OHT	One Health Tool
OOP	out-of-pocket
PEPFAR	US President’s Emergency Plan for AIDS
PHC	primary health care
PHI	private health insurance
PLWH	People living with HIV
PMTCT	prevention of mother-to-child transmission of HIV
PPP	purchasing power parity
SSA	Sub-Saharan Africa
SDG	sustainable development goal
TB	tuberculosis
THE	total health expenditure
UHC	universal health coverage
UMIC	upper middle-income countries
UNAIDS	The Joint United Nations Programme on HIV/AIDS
VAT	value added tax
WDI	world development indicators (from World Bank)
WHO	World Health Organization

Executive Summary

Rationale and objective

The efforts to achieve universal health coverage (UHC) and to end the HIV/AIDS epidemic by 2030 are both at critical junctures. And with less than 12 years until that deadline, their prospects for success—or failure—are increasingly intertwined. The fight against HIV/AIDS has long been at the center of many programs in lower-income countries and international donor funding for health. More recently, particularly with the advent of the Sustainable Development Goals (SDGs), health practitioners, policy makers, and funders are emphasizing an integrated approach to health services, with a focus on universal access within each country to a set of critical health services as part of a minimum health benefits package (MHBP). However, programming and planning for HIV and UHC have often been handled separately.

Demographic health realities and funding trends raise the need for more integration. Despite substantial progress in the global response to HIV, persistent challenges remain and by 2030, HIV is expected to be the most common cause of death in Sub-Saharan Africa (it is second now). In this environment, UHC cannot be achieved without tackling HIV. Similarly, as practitioners and funders increasingly move to an integrated approach to health services and separate funding streams for HIV stagnate or decline, those involved in HIV will find more opportunities by being cognizant of this trend and working to integrate HIV programming into the broader effort.

Understanding the costs and developing a practical, sustainable financing plan is a core requirement for each country to successfully achieve these HIV and UHC goals. This is widely understood, but many lower income countries (LIC) have not yet undertaken the necessary programmatic and financial analyses. Moreover, many LIC, including the ones covered in this study, have relied heavily on international funding to support the bulk of their HIV efforts.

This study has taken on this challenge, conducting research and analysis for three countries (Cote d'Ivoire, Kenya, and Tanzania) and in Nasarawa State in Nigeria. It quantifies each one's current costs and financial needs for UHC and HIV and then creates projections looking to the 2030 deadline. The particular focus is on the current cost in each country of a minimum health benefit package (MHBP) that includes HIV interventions as well as prospects for attaining a financially sustainable MHBP (financed by domestic and external financing where necessary) over the course of the 2015–30 period from 2015 in an environment with potential reductions in development assistance for health. A fiscal space analysis suggests what sources of domestic financing may be options for these countries to consider as they move towards financing the MHBP. The study provides cost shares of and resource needs for the MHBP¹ with HIV/AIDS programs and recommendations for policy interventions to help create sustainable financial plans to meet these goals. The findings are structured to be of use to decision makers in the countries studied and also to donors and to decision makers in other similarly situated countries.

¹ The four country MHBP's considered for this study vary, as they are country determined plans, but they have similarities in that are over broad categories of services, such as obstetric care, growth monitoring for children, child vaccinations, curative care for children, curative care for adults in health centers, in hospitals, care for NCDs, and HIV preventive and curative services. Details are given in chapter 5A and annex 5.1.

The challenge

This process involves a series of interconnected tasks for each case study country: identifying a MHBP for UHC, analyzing current and anticipated funding needs, and creating a sustainable financial plan to meet those needs.

UHC framework defined. UHC is a SDG and involves three core components: health system access, service coverage, and financial protection. An approach to defining service coverage involves the development of a MHBP. What can and should be included in the MHBP will vary depending on the resources available and local needs, but all plans should be based on an assessment of who should be covered, what services should be provided, and how the UHC will be funded (WHO 2010). One underlying goal is to ensure equity in access to services, including protection (including financial protection) of the poor and most vulnerable. This is paired with a commitment to creating a system in which the quality of services provided is good enough to improve the health of service recipients. Given limited resources, a country's MHBP could prioritize cost-effective interventions and diseases and conditions that pose the greatest threat to the population's health, while aligning to broader health system objectives such as risk protection and equity while ensuring financial sustainability.

Financing for UHC and HIV/AIDs. Moving towards UHC generally requires significant additional financing and each country must determine which services to provide. However, for low-income countries to provide a MHBP with comprehensive primary health care (PHC) services would cost approximately 5% of gross domestic product (GDP), or US\$86 per capita (McIntyre, et.al., 2017). A study of LIC and LMIC showed that many countries are currently spending considerably less: an average of about 1.4% of GDP or US\$ 39 per capita (Cotlear et al. 2015).² These figures however only indicate partial cost of a UHC package (explicitly or implicitly defined), as some costs, like personnel, are not included. HIV programs by contrast are relatively expensive. These programs currently cost approximately US\$481 per person living with HIV (PLWH) and are sustained with substantial donor support.

Fiscal space. If the currently available funding streams (fiscal capacity) cannot meet all of the needs, planners must also analyze whether the fiscal space in which they operate can be expanded. Fiscal space is the budgetary room a government can use to provide additional resources for a given desired purpose without prejudice to the sustainability of the government's overall financial position (Heller 2006). It considers five potential types of revenue: (1) macroeconomic and fiscal growth; (2) changes in budget priorities; (3) earmarking and creating new revenue streams dedicated to the particular funding need; (4) development assistance; and (5) efficiency gains.³ The latter, "efficiency gains", is a critical requirement in resource-constrained settings where available funding per person is substantially less than is available in high-income country settings. Existing literature indicates that there is variation in health spending per capita and spending per beneficiary amongst many LIC and LMIC (Cotlear, 2015), with many government providing inadequate resources to fund a MHBP at near universal access with adequate financial protection.

Financial sustainability. The analysis and planning must also be done in a way that ensures the resulting system will be financially sustainable. For the purposes of this study, financial sustainability was defined as the ability to financially sustain UHC over a fifteen-year period (2015–30) for a MHBP which includes

² For a discussion of the varying numbers produced by different studies, see chapter 5B below.

³ Cote d'Ivoire, Nigeria, and Tanzania already use earmarks for health. All case study countries have user fees and co-payments in the public health facilities and are moving towards a national health insurance program, although significant challenges remain.

comprehensive interventions⁴ for the prevention and management of HIV/AIDS—in the changing environment which may see reductions in development assistance for health (DAH).

The response: how this study was designed and implemented

Choice of case studies. These three case study countries and Nasarawa State shared a number of key commonalities: (i) heavy disease and financial burden from HIV/AIDS; (ii) a growing population with large unmet health needs; (iii) reliance on external funding for HIV/AIDS; (iv) low levels of public financing for health; (v) government decisions to move rapidly toward UHC; (vi) an ongoing internal debate on how to proceed on this path; and (vii) a rapid transition to MIC status.

Study questions. Few LIC have systematically estimated what it would cost to include HIV in a MHBP. This study is one of the first to take on that task: offering findings from four case studies in Sub-Saharan Africa: Cote d’Ivoire, Tanzania, Kenya and the Nasarawa State in Nigeria. The study includes current spending as well as providing estimates of the funding gap between current spending levels and those necessary to achieve the HIV and UHC goals in each of the countries. To that end, the study considered the following issues:

1. Quantifying current spending in each country and the anticipated *cost* of improving universal access to a MHBP (including HIV/AIDS) by 2030.
2. Which *domestic resources*, (both existing and new) can be realistically mobilized (used).
3. Which *efficiency gains* can help contribute to meeting the goals (limited to discussions on financing of the MHBP, including HIV/AIDS).

Study methods. This study uses the UHC framework (the cube) and involves five steps: (1) projecting population coverage targets; (2) defining and costing the MHBP; (3) estimating present and future funding needs; (4) estimating the financing gap; and (5) exploring and simulating fiscal space options. The modelling results should be considered with an understanding that all financial modelling is limited by the underlying data and assumptions about factors such as future events. Readers should also note the four case studies involved differing baselines due to variations in policy goals and the costing work that had been done by each government. There were varying levels of explicit definition of health services between countries and between programs and technologies within countries, requiring some judgement about exact costs at program level. For Cote d’Ivoire and Nigeria, such an explicit package did not exist, nor was there any costing of benefits packages undertaken prior to this effort.

Study report. The study generated concrete findings related to the resources needed to meet the goals, the current spending patterns in the case study countries, the gap between the two, and the possible sources of domestic financing. After an overview the study and the health and HIV situations in the case study countries (chapters 1 and 2, respectively), this report covers the study’s conceptual framework (chapter 3) and methods (chapter 4). It then discusses MHBP content (chapter 5A) and costing (chapter 5B) including related findings from this study. Finally, it conducts the fiscal space analysis (chapter 6), reviews the health and HIV financing mechanism options (chapter 7) and offers conclusions and policy implications (chapter 8).

⁴ The MHBP also includes an array of other interventions to prevent and treat maternal and child health problems as well as other health conditions of adolescents and adults.

Analytical findings

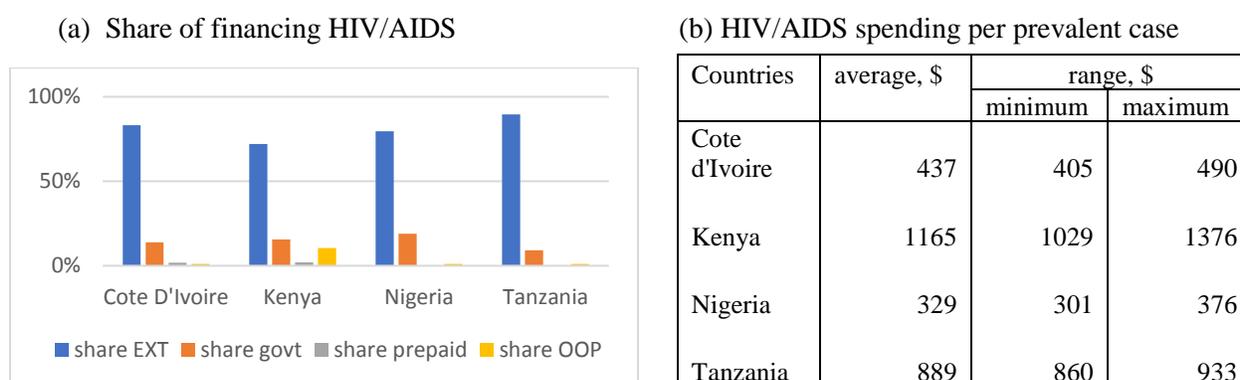
What is currently being spent?

UHC will require much more funding than the amounts currently provided through public finance in the countries covered in this study. Overall, total health expenditure (THE) in the case study countries is between 5% and 6% of GDP. This is slightly above the regional average for Sub-Saharan Africa, but in the case study countries most THE is not through public spending, but in fact through household out-of-pocket spending. Over one-half of total health spending occurs in hospitals. Financial protection remains low in both Nigeria and Cote d'Ivoire. Protection in Kenya and Tanzania is better; both benefit from significant external financing.

However, public spending for health is well below the levels needed to achieve UHC. Government health spending only accounts for a small amount of GDP,⁵ with Kenya on top at 1.6% of GDP and Nigeria the lowest (0.9%). These public resources finance a comprehensive package of services, but population and service coverage access/use is limited. None of these four countries have an explicit MHBP identified to be subsidized by public financing.

The effort to combat HIV, as measured by total spending per PLWH, has been calculated among the case study countries and compared to other countries in the region. From past studies, there are several different cost estimates per PLWH by countries. For example, Kenya has by far spent the most: averaging over US\$500⁶ (figures range from \$158 to \$1165) per PLWH between 2008 and 2012, projected to 2015 \$. Nigeria's spending per PLWH is the lowest (\$329⁷), compared to the four countries, but it has been stepping up its national response. Nigeria figures range between \$216 to \$565 per PLWH. Governments in these four countries have invested little from their own funds to pay for their HIV response: only between 11% and 21% of total HIV spending. This raises concerns about domestic self-reliance. The structure of domestic HIV financing varies: In Nigeria and Côte d'Ivoire most domestic funding is public. In Tanzania, the majority of domestic resources are private and come from households. Household financing is significant in Kenya as well, although not as large as financing from government. Figure 1.

Figure 1: Existing sources of financing for HIV/AIDS spending, 2015



Source IHME, 2017.

⁵In this report, government health expenditure (GHE) is defined as public funding, excluding external funding or funding from national health insurance schemes.

⁶ Information varies by sources. IHME (2017) reported Kenya HIV/AIDS spending per prevalent cases at \$1165 (ranging between \$1029-\$1376) in 2015.

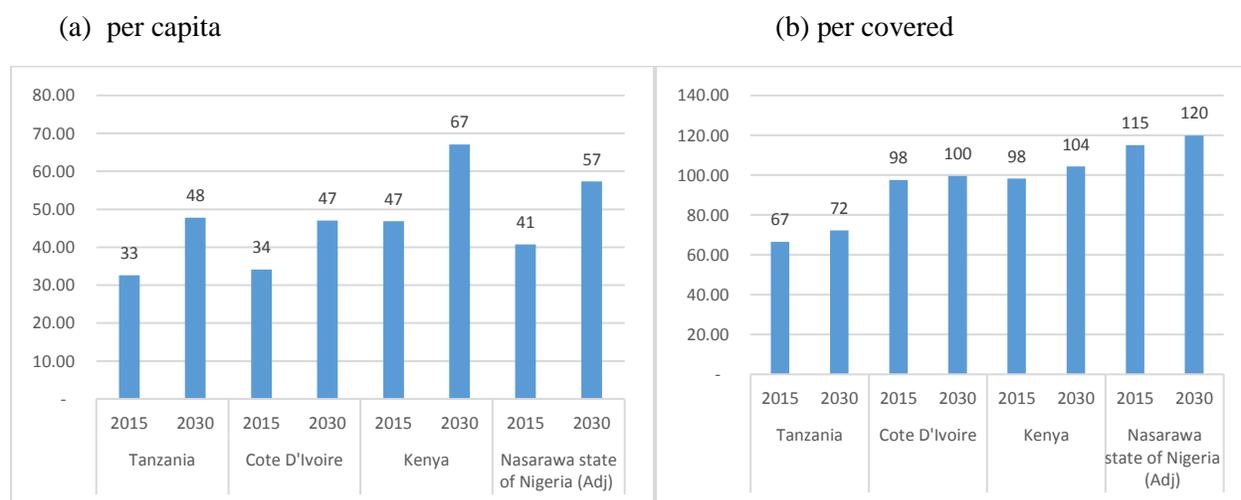
⁷ IHME 2017. Data is reported for 2015.

The financing gap: spending needed vs current spending

Spending needed. The study’s cost estimates for an explicitly defined MHBP under UHC principles were within the range of what was seen in the literature. The study estimated the 2015 per capita costs for MHBP at an average range of \$33-\$34 in Tanzania and Cote d’Ivoire to \$47 in Kenya in 2015. The real amounts increase to \$47-48 in Cote d’Ivoire to \$67 in Kenya by 2030. Kenya is expected to have a significant increase in per capita costs (over 40% increase between 2015-2030) compared to the other countries. The per capita figures are driven by population and costs (based on coverages), and health cost inflation. Efficiency, such as through procurement and distribution, and through improved project management, could bring down the per capita costs.

The researchers also recommend that an additional indicator of “per person covered cost⁸” be considered. The per person covered costs take into consideration “access”. The per person covered cost amounts ranged from \$67 in Tanzania to \$98 in Cote d’Ivoire and Kenya in 2015. The Nasarawa State in Nigeria shows a much higher cost, as current coverage levels are significantly lower than that of other countries. By 2030, the per person covered costs will increase one-and-a-half times for both Kenya and Tanzania; in Cote d’Ivoire and Nasarawa State in Nigeria they will double. Figure 2.

Figure 2: MHBP estimation on costs per capita and per covered, US\$, 2015 and 2030



Source: Author’s estimates.

Note: Per capita cost is measured by taking total costs over total population, while cost per covered is measured by taking total costs over the population actually covered by those interventions. 2030 figures are “real” numbers, and are inflation adjusted.

When estimating in PPP, all of the figures reduce the variation across the four countries, suggesting that some of the variation observed across cost estimates for UHC packages are due to external factors which should be controlled for. Table 1.

⁸ Per capita suggests how much resources are needed per person in the total population, while per covered suggests how much is needed per covered population (as UHC may have varying access targets between 2015 and 2030).

Table 1: Sensitivity analysis, MHBP cost per covered person, 2015, in US\$

Country	Unadjusted	Adjusted for size	Adjusted as % of GDP per capita	Adjusted for PPP	Adjusted for size and PPP
Tanzania	66.54	66.54	6.2	172.99	172.99
Kenya	98.31	98.31	5.2	216.28	216.28
Cote d'Ivoire	97.51	105.86	5.4	204.77	222.31
Nasarawa State in Nigeria	78.47	115.05	4.1	145.16	212.85

Source: Authors

Note: (a) Adjusted means that the MHBP for countries have been adjusted to the MHBP packages as proposed for Kenya and Tanzania (when estimating OHT package).

It is important to note that while the UHC principles set a minimum bar by calling on governments to provide resources to at least ensure UHC for the MHBP, some governments may also feel they need to cover non-MHBP costs such as hospital care, even though they lack the resources to do so comprehensively across the population. Depending on the defined scope of the MHBP and current supply of non-MHBP services, the proportion of the MHBP over total spending varies from at least 60% in Cote d'Ivoire to 80% in Tanzania's total health package (MHBP and non-MHBP). The study estimated that the resources allocated for non-MHBP will remain stagnant over the years (any new resources invested into health will be allocated towards MHBP). Consequently, MHBP will require a significant share and governments must prioritize.

A country's MHBP costs can seem comparatively higher or lower compared to other nations depending on several factors: differences in the services included in the costing exercise; differences in the relative prices of drugs; differences in the number of people covered; and whether the cost numbers are presented in per capita numbers or in per-covered person numbers. For example, the study found that Cote d'Ivoire and Tanzania have similar costs measured in per capita terms; however, measured on a per person covered basis, Cote d'Ivoire's costs are significantly higher. To address that issue, while the study generated costs using both measures, it emphasized estimated costs per person covered because the researchers believe that it gives the true picture of costs.

Public financing has often been the key source of UHC financing, relying primarily on the government budget (including central and subnational governments), followed by social security/social health insurance funds (mostly in the form of mandatory contributions). But some countries, including middle income nations, have relied on external financing. Examples include Argentina, Ethiopia, Guatemala, Kenya, and South Africa (Cotlear et. al., 2015).

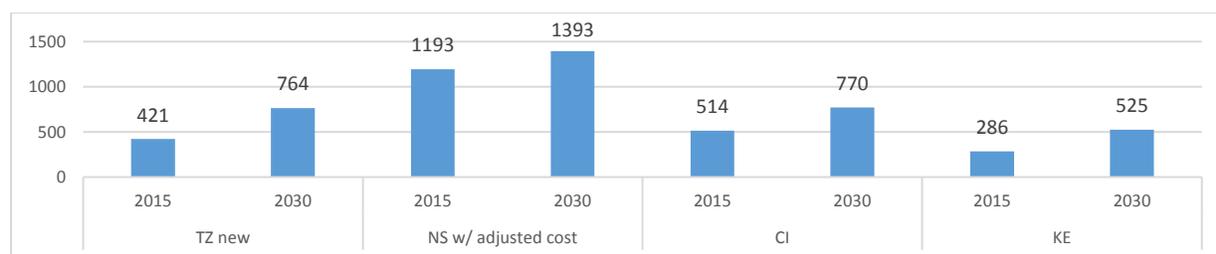
Based on the current study findings, the success of the three case study countries over the last 15 years in reducing mortality and controlling the HIV epidemic is likely to face a sustainability challenge in the coming years, given various domestic reforms and challenges, and the global development assistance environment.

The study found that HIV/AIDS programs accounted for a variable proportion of the MHBP cost. The HIV/AIDS program (including antiretroviral (ARV)) cost is around 10-15% of the MHBP in Cote d'Ivoire and Kenya and is projected to be 20% of the MHBP cost in Tanzania in 2030. Moreover, HIV/AIDS program can account for a higher percentage of spending compared to its share of the total disease burden. For example, in 2015 in Nasarawa State in Nigeria, the prevalence rate was about 7.9, while HIV

programming constituted over 25% of the MHBP costs. (Cote d'Ivoire, Kenya, and Tanzania had lower prevalence rates).

On a per PLWH covered basis, the study found that costs in 2015 ranged from US\$286 in Kenya to US\$1,193 in Nasarawa State in Nigeria. By 2030, the costs in all of the countries will increase, ranging from \$525 per PLWH per year in Kenya to \$1,393 in Nasarawa State in 2030 (all in 2015 constant dollars). In all cases, the cost per PLWH is projected to increase 50-80% by 2030 (with the exception of Nasarawa State in Nigeria). Under current estimates, ART costs are the largest driver of HIV spending. ARVs account for about 40-50% of the costs in all of the countries except in Cote d'Ivoire (13%, but likely underestimated). Figure 3.

Figure 3: HIV/AIDS program cost per Person living with HIV per year, US\$, 2015 and 2030



Source: Author's estimates.

Note: The 2030 costs estimates are in constant 2015 dollars. Refer to Chapter 5B and Annex 5.3 for Kenya figures. The research team noted that the HIV costs seem to have been underestimated under this study, especially, for Kenya (when compared to findings from other countries, and a recent one from Haacker; details are in chapter 5B). While this is the case, it would suggest that the overall projected costs would only grow, and what the study estimated are more conservative.

However, it is important to remember that MHBP financing is not simply for commodities and programs. It must also be sufficient to ensure strong health systems including information systems, governance and regulation, and infrastructure support. This latter (not included within program costs) are significant (and can be between one-third to one-half of the MHBP).

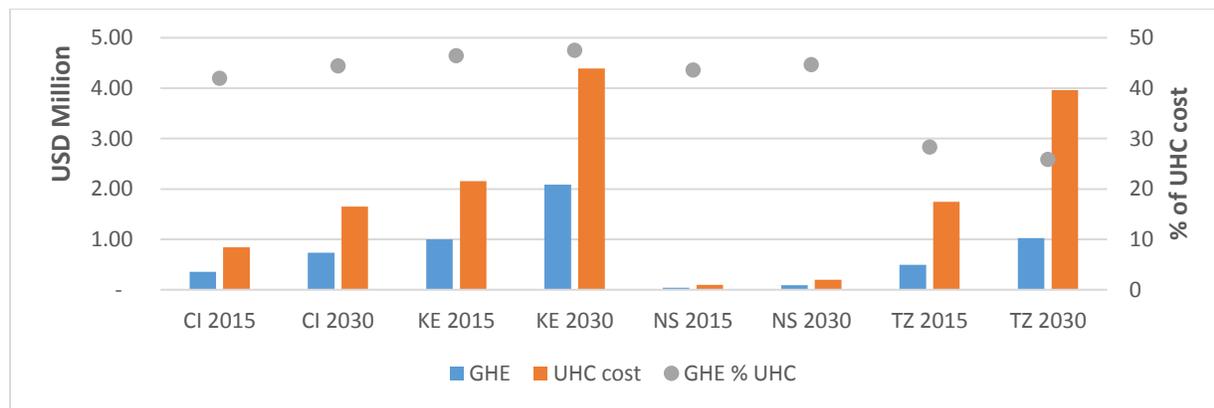
The financing gap. This study assumes access to a MHBP for at least 70% of the population would represent a substantial progress towards UHC. Presently, these countries are well below those levels. Kenya and Tanzania perform better than some, while Nigeria performs the worst. This study has found that if current health spending patterns are maintained, none of the case study countries will be able to achieve UHC by 2030. Doubling population coverage, could require a several-fold increase above existing spending levels.

All of the four case study countries will continue to need a significant share of their GDP for MHBP, ranging between 3 to 6% of GDP, especially if they are to aim for UHC by 2030. This is also advocated for in the literature, that is, to support an increase in GDP share for health. Given that the success in UHC has a lot to do with sustainable commitment, and the need for government taking on a lot more of this commitment, this spending for MHBP is expected to be allocated from government health spending (both from on-budget and off-budget). None of the four countries were spending enough on health as of 2015. Country budget constraints will therefore suggest their effective coverage over time. A simulation is provided in chapter 5B.

When it comes to HIV/AIDS, its needs are significant as well. Except for Kenya, none of the four countries were spending enough on HIV/AIDS as of 2015. Of the MHBP program package in the four countries, at

least one-fourth share of MHBP is estimated for HIV/AIDS program continuing into 2030; Tanzania would need almost one-third, Kenya and Cote d’Ivoire about one-fifth. The Nasarawa State in Nigeria would need much higher. The challenge going forward is that significant domestic financing (to replace or to add to the current external financing) will be needed to finance the HIV/AIDS program needs. Figure 4.

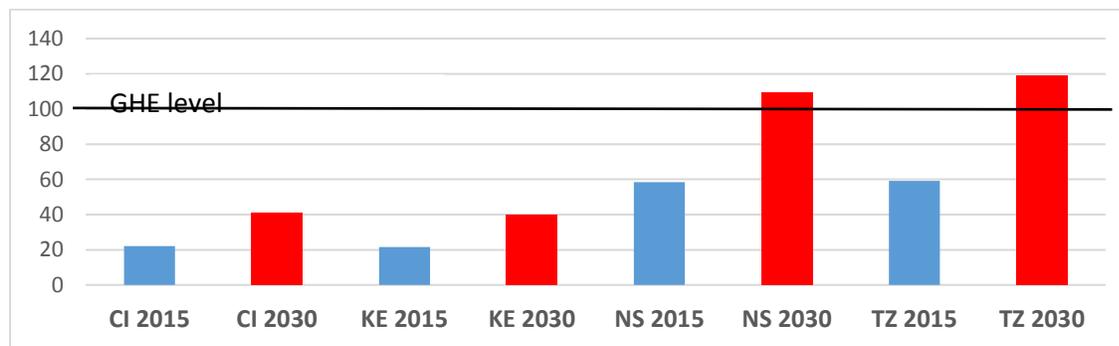
Figure 4: Estimated funding gap for attaining UHC under base scenario, 2015 and 2030



Source: Authors

Funding needs are significant for AIDS response and public resources are constrained. On the horizon 2030, the cost of HIV/AIDS will increase substantially as a proportion of available government funding (GHE) under the base scenario (HIV/AIDS coverage increasing 35% from baseline levels, and GHE remaining at the current proportion of GDP); it will represent between 40% in Cote d’Ivoire and Kenya to over 100% for Nasarawa State and Tanzania (Figure 5). This suggests that most LIC and low middle-income countries (LMIC) will be hard-pressed to finance a major part of the HIV/AIDS program, as this will compete with the goal of funding UHC at the same time, unless budget health allocation is substantially increased.

Figure 5: HIV/AIDS cost as a proportion of Government Health Expenditure, 2015 and 2030



Source: Authors’ elaboration

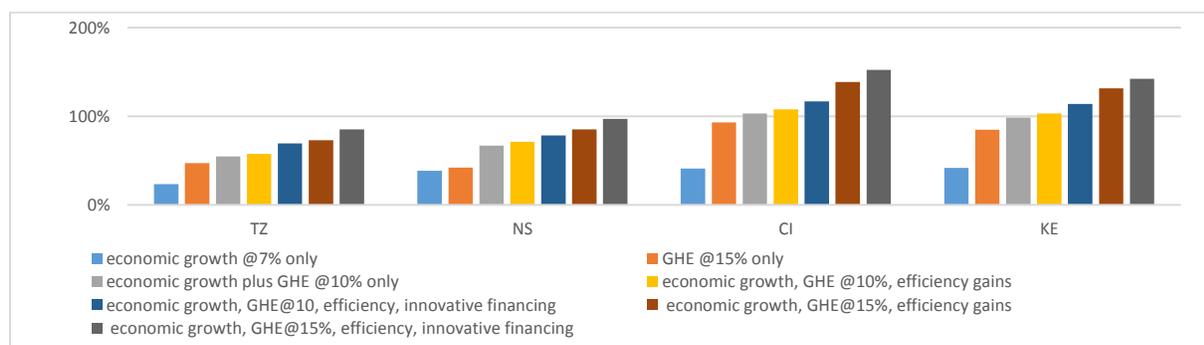
Financial sustainability. To summarize, the study concludes the following:

- Economic growth rates are insufficient to mobilize sufficient resources for health, given low revenue collection and low general government expenditure (GGE);
- Health budget prioritization is among the most important source of public financing in health;
- Budget prioritization;

- Given the volatilities experienced in annual budget allocations, other efforts will be key, including alternate financing sources: efficiency gains, and innovative financing.

All four countries must include budget prioritization for health to at least 15% of GGE by 2030. Cote d’Ivoire and Kenya are likely to mobilize additional resources to cover the MHBP cost by increasing GGE share for health to 10% and by using their resources more efficiently. Tanzania would need much more effort, including from external financing. Another point to note is that for political reasons, governments often include within their commitment, those services that might not be those considered to be essential and in the MHBP. This would of course need additional resources. Given budget constraints, it would be critical for countries to consider a package that is addressing the health needs of the population (especially the poor and vulnerable) before expanding to other services. However, the financial sustainability of the MHBP (including HIV/AIDS) can be of concern, unless drastic steps are taken by governments to immediately mobilize sustainable financing for health. Figure 6.

Figure 6: Proportion of MHBP costs covered through various sources of financing options (under fiscal space pillars) by 2030



Source: Author’s estimates.

Conclusion and recommendations

No country in this study has achieved the access and financial outcomes associated with the UHC goals; nor are they on track to do so by the 2030 deadline. However, prospects can be significantly improved with concerted action. This study highlights the following conclusions and recommendations.

Conclusions

(1) An explicit and affordable MHBP is key to success. The study shows that achieving substantial UHC coverage with an ambitious benefit package is not realistic in the medium term for all the four countries, given current levels of public revenue base and low health allocation.

(2) No single measure can solve the problem. A combination of efforts will be needed to fill the financing gaps and to meet the HIV/AIDS and UHC goals. The main study finding is that while economic growth will boost resources for health, it is not sufficient. While the case study countries have relied heavily on DAH, between now and 2030, DAH is expected to stagnate (or even diminish in some countries, in real terms) and while still may be considered as a critical source of financing (especially for HIV/AIDS

programs) cannot be relied on as the only source for financial stability in the medium term and beyond.⁹ Additional domestic resources will need to be mobilized but should be considered through budget prioritization for health, and (b) measures to improve efficiency.

(3) *The role of external financing will be limited and likely to decrease in relative terms, although low income countries will still need such assistance.* International aid flows for health have largely stagnated since 2010 and weak economic growth prospects in some donor countries suggest that trend will continue.

(4) *Economic growth alone cannot provide sufficient funds for health in the four case study countries because tax revenue collection relative to GDP remains low.* Given population growth and general inflationary adjustments, this study's estimates indicate that sufficient resources cannot be mobilized solely through annual economic growth, even with an ambitious annual economic (GDP) growth rate of 7%.

(5) *In all of case study locations, to significantly close the MHBP funding gap, the governments need to allocate notably more resources to the health budget and prioritize the MHBP.* External financing may not be able to meet the financing needs in the years to come, so domestic financing will be critical to achieve the SDGs. In Cote d'Ivoire and Kenya, allocating at least 10% of the total budget to health could provide close to the necessary resource levels. In Tanzania and Nasarawa State in Nigeria, even increasing health share to 15% of the total budget will not provide sufficient resources to cover the cost of the MHBP.

Recommendations

(1) *Creating and executing a workable plan to meet the financing needs to achieve the UHC and HIV/AIDS goals will be a multi-stage process over a number of years; governments are best advised to not attempt to accomplish everything at once.* Getting additional resources immediately will be a challenge in the case study countries, given their macroeconomic situation. However, they should aim to identify additional resources in their medium-term expenditure framework (MTEF) and with a trajectory to achieve UHC in the next 15 years by 2030. A health and HIV/AIDS financing strategy can be important inputs. Given budget constraints, they can however, start with a MHBP that is affordable either in its scope or in its scale.

(2) *As first step, governments should strive to define an "explicit" MHBP and ensure that sufficient public financing is available to sustain its cost.* Failure to carefully and realistically determine the services that will be included can lead to unrealistic expectations, undermine effective and equitable implementation, and cloud efforts to establish a sustainable financing plan that includes a workable subsidy for those in greatest need. Many countries have made the mistake of committing to a MHBP that they cannot afford and therefore have been unable to fulfil their promises for UHC. Targeting interventions and population sub-groups are also a critical path that can be pursued. For example, providing free care for all for a limited MHBP or for the poor and vulnerable through subsidies (partially or fully). UHC is about quantity and about quality of services. This should constantly be on the radar and mechanisms should be adopted to ensure that the quality aspects are not left-out.

(3) *Medium-term expenditure frameworks (MTEF)* could help improve strategic resource allocation, funding predictability, integration of donor support into the budget, shift to budget support mechanisms by development partners. However, its impact is limited if other key aspects of budget management, notably budget execution and reporting, remain weak (World Bank 2002). Several Sub-Saharan African countries have developed MTEFs that include health. However, few have attempted to include funding for the

⁹ Tanzania will still probably benefit from external financing in the medium term, because it is an LIC eligible. However, it is unclear if it will be able to mobilize sufficient external financing to help it achieve UHC.

HIV/AIDS multisector program, except Tanzania and South Africa. Better coordination with the national AIDS commissions is needed to bring them into the MTEF process as well.

(4) *Medium-term financing strategy.* Obtaining additional public resources immediately will be a challenge in the case study countries, given their macroeconomic situation. However, they should seek to do so in their health financing strategy, with a trajectory to achieve UHC by 2030. (All four countries have set up MTEF, although, not all have included health. None of them have included HIV/AIDS). These four countries were in the process of developing a health financing strategy. Given budget constraints, these countries can start with a MHBP that is affordable either in its scope or in its scale. Many countries have made the mistake of committing to a MHBP that they cannot afford and then fail to fulfil the promises they have made to their people concerning UHC. Targeting interventions and population sub-groups is another critical path that can be pursued. One example would be by providing free care for all for a limited MHBP or for the poor and vulnerable through subsidies (partially or fully). Bringing partnership among national and local governments and between public and private sectors is another prudent way to scale up recurrent spending in health.

(5) *Other domestic financing options may be explored, such as earmarking and ring-fencing.* While the International Monetary Fund (IMF) generally discourages earmarking for health, it has become a precedent in many countries where budget unreliability is a real concern. Options such as multiyear funds (e.g. trust funds, health insurance funds) and earmarking taxes (e.g. value added taxes [VAT], excise, oil revenue), may be worth exploring. All of the case study countries have gone in the direction of a prepayment scheme under the national health insurance program. Almost all have also initiated or are in the midst of initiating earmarked taxes for health and/or HIV/AIDS. For example, Cote d'Ivoire has had an AIDS solidarity fund through which 5% of tobacco tax revenue are pooled for HIV/AIDS financing; Tanzania has proposed earmarking 2.5% points of the 15% VAT for its health insurance program. In terms of ring-fencing, the premise of this study is that HIV/AIDS services should be included in a MHBP. This will create some ring-fencing for the HIV/AIDS budget. However, if a country does not include HIV/AIDS in an MHBP, other options to ring-fence the HIV/AIDS budget in the health budget should be explored. For example, Ghana has ring-fenced local government budgeting (about 1%) for HIV/AIDS programs although that does not necessarily mean these resources will be accessed.

(6) *Use of partnerships should be strengthened.* This should include identifying and nurturing potential partnerships between national and local governments as well partnerships between the public and private sectors. Nigeria's legislation for the basic health fund and the HIV/AIDS trust fund have stated the need for co-financing between national and state governments.

(7) *Steps should also be taken to improve allocative and technical efficiencies.* Addressing the fiscal gap will involve making better use of the funding that is currently available. These solutions may include improving health service efficiency through mechanisms such as provider payment reform, system redesign and better use of data and technology. Prioritizing resources for the MHBP and pooling funds should help in achieving allocative efficiency. Decentralization of HIV/AIDS programs and integrating them within existing services offered at PHC should also be among the first steps for technical efficiency. Other target areas in the case study countries include infrequent or inconsistent funds flow, weak public financial management, vertical programs, allocative inefficiencies, fragmented pools and funds flow. Efficiency improvements cannot singlehandedly close the financing gaps. However, WHO has stated that 20-40% of government health expenditure can be saved through efficiency gains, and they can and should be used in the case study countries to help reduce the financing gap. ARV costs might be a promising target.

(8) *Are there new opportunities for alternate (including private) financing?* Most of the case study countries have significant household out of pocket spending as a share of THE. They also aim to achieve

UHC, which calls for reducing the share of out-of-pocket spending. Therefore, this study did not consider this a promising financing source for MHBP. Several of the case study countries are considering increasing user fees and copayments for use of public facilities in health, either through formally instituting user fees at facilities, or by creating national health insurance prepayment programs that require households to contribute towards insurance premiums and/or copayments. However, the proportion of revenue that can be earned through user fees is likely small, may be 2.5% to 7% of the MHBP in 2030. Nonetheless, user fees and copayments could be still explored: for example, for non-MHBP or for the non-poor, but with the option of improving allocative efficiency and cross subsidizing for the poor. Additionally, some countries, have explored private corporate financing, such as Botswana. Kenya is exploring this option for ATF, but the contributions from alternate sources of financing are expected to be between 1 to 5% of the ATF budget.

(9) Household out-of-pocket spending should be reduced through prepayment mechanisms provided for either in the budget or through health insurance. A better approach than user fees would be to mobilize private funding through health insurance schemes. However, since a significant proportion of the countries' population lives below poverty levels and are in the informal sector, a large proportion of health insurance funding will still need to come from the public budget in the form of subsidies.

Where can additional domestic resources for health be sought from?

Economic growth alone is unable to provide sufficient funds for health as tax revenue collection remains low. The three case study countries do not show either the fiscal capacity or the strong commitment for substantially increasing health spending. However, there might be fiscal space to mobilize additional resources for health domestically. While all three case study countries are experiencing strong growth, given population growth, and general inflationary adjustments, our estimates do not show that sufficient resources can be mobilized just through the annual economic growth, even when ambitious annual economic GDP growth rates of 7% are considered. All three case study countries generate relatively low revenue through taxes, and several of them below the Sub-Saharan Africa average. The biggest challenge for these countries is not only to boost economic growth, but also to improve revenue collection and expenditure allocations. However, efforts are being made to improve revenue collection. For decentralized environments, such as for Nasarawa State in Nigeria, it will be key to also capture the internally generated revenues in addition to the national growth rates and transfers, as the states rely on both sources for their revenue base.

Further, all three case study countries are not allocating sufficient resources for government spending, and they are below Sub-Saharan Africa average. Unless government spending increases, health budget shares and amounts will continue to be limited. While a budget allocation to health (GHE as share of GGE to at least 10%) could improve resources for the MHBP and could provide close to the resource needs in Cote d'Ivoire and Kenya, the situation is not the same for Tanzania and for the Nasarawa State in Nigeria. For the latter, the state is already spending 10% of the GGE for health (given that the Nasarawa State in Nigeria has a relatively low state GDP). While, for Tanzania, the MHBP costs are significantly higher than the existing GHE spending. For Tanzania and the Nasarawa State in Nigeria, even increasing GHE share of GGE to 15% will not provide sufficient resources to cover the cost of the MHBP. This is an important point to note as external financing may not be able to provide the other much needed resources in the coming years, and it will hence be critical for the governments to reconsider their allocations for health given the SDG targets that they aim to achieve within the next 15 years (by 2030).

Resources can be released through gains from efficiency, but still insufficient for UHC needs. WHO states that 20-40% of GHE can be saved through efficiency gains. The case study countries have low government health spending (between 4 to 6% of general government expenditure). The countries also

show several areas of inefficiency: infrequent or inconsistent funds flow, weak public financial management, vertical programs, allocative inefficiencies, fragmented pools and funds flow, and such. So, addressing inefficiency is critical. However, among the case study countries, efficiency measures are less likely to earn sufficient resources for UHC. The study suggested that 15% of government health expenditure (or 3-5% of MHBP costs) can be gained but this is small, given the overall needs.

Health budget prioritization needs explicit focus to increase domestic resource mobilization. The main study finding is that while economic growth will boost resources for health, it is insufficient. Additional domestic resources can be mobilized but should be considered through: (a) budget prioritization for health, and (b) measures to improve efficiency. If budget for health is prioritized to aim for at least 10% of general government expenditure [GGE], in most countries, it is likely to generate the additional resources needed for UHC. This means, that many countries will have to double their allocations, from 5% to 6% of GGE to 10% and more of GGE. However, the question remains is if these four countries are able to mobilize these additional resources (given that to date that has not happened). While this (budget prioritization) is the most effective way to increase domestic resources for health, for some of the four countries, it will not generate the additional resources required, such as Tanzania (a LIC). For the latter, external financing will have to still play a critical role in financing UHC.

The Study found that the case study countries required at least 3 to 6% of GDP to cover the MHBP. For Kenya, and Cote d'Ivoire, additional new financing from economic growth and budget prioritization to about 10% of GGE and efficiency efforts could add resources to financially sustain this increased coverage in MHBP by 2030. HIV/AIDS program would need significant program costs. However, the situation for Tanzania (and the Nasarawa State in Nigeria) is such that even the additional new resource mobilization would not allow for the financial sustainability of MHBP package. The question remains is will the four countries be able bring about a highest level political commitment and double (or triple) their public allocations for health in time to aim for UHC by 2030.

Are country health financing mechanism options proving to be effective for HIV/AIDS?

The unreliability of budget revenues, and the volatility of external financing, has led ministries of health in the four countries to think more creatively, and to advocate for earmarking to give them some stability in spending. All four case study countries have started also creating multiyear funds (e.g. trust funds, health insurance funds).

AIDS trust funds. Some of the case study countries already have specific program trust funds. The Cote d'Ivoire AIDS solidarity fund, initiated in 2015, uses 5% of tobacco tax revenue to finance its HIV/AIDS program. The Kenya HIV/AIDS and NCD trust fund and the Tanzania HIV/AIDS trust fund are in preliminary planning stages. Nigeria developed a basic (primary) health care provision fund and HIV/AIDS TF. An ATF could have several advantages, including: integration among different funding sources, easier planning and financial control, and some "protection" from spreading allocation away from the priority program or subsector. However, any financing facility or arrangement that pools all funding sources would have similar advantages. The key policy is to further increase the pooling of resources. However, given that the countries are aiming for UHC, it is important to consider whether several parallel funds or earmarking could lead to inefficiencies, administrative challenges, and financial distortions. The ATF in the four case study countries seem to not necessarily look at mobilizing new resources, but more so, request for ring-fencing for HIV/AIDS within the health budget, and pooling the resources for a more efficient fund management. So far, evidence from these countries have been limited is showing sustainable financing for ATF.

Social health insurance programs. All four countries have already initiated or developed health insurance programs and have already decided to move in that direction. But they face lots of challenges including adverse selection and low enrollment (a common challenge in countries with significant population in the informal sector) and programmatic challenges including a not well-defined benefits package, contracting, administrative costs and financial sustainability. These issues have to be considered carefully as they move forward to an effective implementation. Cote d'Ivoire has also decided to move in the direction of a comprehensive health insurance program. There are several lessons from other countries that can help it develop a more effective and feasible program. Because health insurance programs are a choice considered by these countries, efforts need to be made to ensure that the insurance program is focused on UHC delivery (quality and accessible health services), and the MHBP is explicit and well-defined, costed and financed, emphasizes the poor and vulnerable, and has effective administration of the fund.

Most of these countries have not included HIV/AIDS within their MHBP under the health insurance program, and will not be able to include HIV/AIDS, as HIV/AIDS programs need significant resources, and as they still face low GDPs and low allocations for health. However, Kenya has made such a commitment in recent years. They have decided to integrate a package of first line ARV and outpatient treatment for opportunistic infection for its members, within their health insurance program. It will be important to support this effort and monitor its development closely.

Possible support from development partners and donors to support HIV/AIDS programs

This study has provided some evidence of what choices these four countries have taken to finance health and HIV/AIDS programs. For the latter programs, these countries have relied heavily on external financing, and expect to rely on them in the coming years. Their capacity, ability and willingness to allocate additional public financing for HIV/AIDS programs will depend on many things, some under the control of the Ministries of Health and AIDS Commission, while others out of their control, and more in the purview of the Ministries of Finance. The Ministries of Health and the AIDS Commissions, can certainly start making efforts to improve efficiency in resource allocation and use.

There are three areas that development partners can support countries: (a) provide financial support, (b) provide technical assistance, (c) provide evidence.

It is good to know that the largest external financier for HIV/AIDS programs, PEPFAR, is exploring a more effective approach to finance such programs in Sub-Saharan Africa. Their nominal budget has remained around \$6 billion annually since several years, and they expect it may remain as such in the coming years. They partner with several others, who are their implementing partners. They also partner with the Global Fund, and nongovernment organizations.

Some key messages and support that Development partners could bring are highlighted below.

Development partners can help countries to identify how they can achieve better efficiency and what efforts need to be made. Among areas where efficiency can be achieved include choice of population to cover under the programs through public resources: should it be universal or targeted on the poor and the vulnerable. Service delivery mode choices can also be explored to help gain efficiency, through integration of program, through community outreach and through efforts to prevent and to catch the patient facing disease in its earlier stages. Budget resource allocation, financing mechanisms, such as pooling, and risk sharing, can be explored through pilots to gain evidence, and through capacity building.

Development partners should continue to support health systems strengthening, as countries will need to strengthen their drug supply chains, public financial management, and planning and monitoring systems.

There are several opportunities to learn from the “vertical” programs (e.g. supply chains) that were set up and how to integrate these into an integrated system. Much efficiency can be gained if health systems are strengthened, and planning, management and monitoring are effective.

Development partners have also explored possibilities of ARV price reductions, through global and bulk procurement, generics, and price negotiations with big pharmaceuticals and forming an alliance on medium term planning of needs. This may also be explored for other commodities, such as laboratory reagents. This will certainly help use resources more effectively.

Development partners can also provide the needed technical assistance to help with some analytics and help gather evidence to inform policies. The countries should develop a strategy, that includes health and HIV/AIDS financing. Technical assistance in this area will help governments re-think their challenges, explore options, and dialogue with other policy makers, financiers and implementers to form partnership in UHC.

Development partner support in health financing policy considerations would be helpful. Encourage countries and support them in the preparation of a health financing strategy that is endorsed at the highest level to support its recommendations.

- Encourage countries to pool resources and develop prepayment and risk sharing mechanisms. The larger and the more diversified the risk pool, the better.
- Can development partners also consider pooling their own resources along with the budgets? And provide their support to finance one (government) strategy for financing and for delivery of services? This pooling of resources, or support around one strategy can be extremely helpful to countries. Prepare countries to get ready for this pooling.
- Given the significant level of poverty and these countries, and some of them continue to face low financial protection of its population, can development partners support the “no user fees” policy for MHBP (that includes HIV/AIDS programs). [As income rises, cross subsidization can be explored with the upper income tiers and the more expensive tertiary care programs (non-MHBP) can start to introduce copayments that could cross-subsidize the poor].
- Budget prioritization dialogue along with allocative efficiency needs to continue at the country level, and especially with inclusion with the Ministries of Finance and Treasuries. The latter may be keen to explore options that improve efficiency in spending and can deliver upon outputs. Global Funds exploration of co-financing should be supported, where possible. The Bank’s own instrument, Payment for Results (PforR) seems to have received support by many Ministries of Finance, as they promise to monitor and pay upon results.
- Another area of interest is exploring public-private partnership in financing and service delivery.

Debt2Health is an innovative financing initiative of the Global Fund. It helps channel money of developing countries away from debt repayment and towards life-saving investments in health. Cote d’Ivoire is an example for other countries to learn from. This is another area that countries and partners could explore.

While this section has mostly discussed HIV/AIDS financing, it is understood that HIV/AIDS is among the critical program of the MHBP in these four countries. Whether the HIV/AIDS program is currently vertically financed or financed through a pool remains to be seen in the country context. Countries are going through a “health financing transition”, and as they increase their incomes, and as population moves to formal sectors, and risk sharing mechanisms are explored, many vertically run financing pools should be merged into a larger risk sharing financing pools. Consequently, external financing needs will also decline.

But, country public policy has to be prepared from the onset to help the country get to that stage with smoother transition. There are several lessons to be learnt globally on their success in doing so.

Concluding remarks

In this context the financial sustainability of the UHC agenda and the HIV/AIDS programs is in question. Ambitious UHC expansion plans may not be financially sustainable in the medium term (or even in the long term) under the current health financing scenario in the four case study countries. This is the result of a combination of factors: the heavy dependence of many developing countries on external funding for priority programs, such as HIV/AIDS; fragmentation of financing and delivery channels; and continuous expectations placed in the mobilization of additional funding. For countries to meet their SDGs they will have to increase their commitment to health spending through domestic resource mobilization (public sector, prepayment schemes), and through efficiency gains to finance the UHC, including the HIV/AIDS programs.

This study showed that no single initiative can leverage enough additional funding to support the ambitious plans governments in the four study countries have put forward. Rather, ensuring medium-to-long term sustainability for UHC requires a comprehensive set of initiatives focusing on increasing health allocation and defining a well-delimited and less ambitious health benefit package. Our analysis suggests that the most promising funding sources are (i) increase budget allocation to health to at least double of what is allocated presently (to 10% to 15% of total government budget (GGE)), (ii) mobilize private resources through innovative financing (such as a well-designed health insurance program), and (iii) promote efficiency gains through careful analysis, identification of opportunities and strong implementation. Further, given a significant agenda for UHC, which has a comprehensive coverage need (including HIV/AIDS), it is critical that policy makers be not overly ambitious but be inclusive in their planning, budgeting and medium-term dialogue with the ministries of finance and treasuries. External financing will still be critical to these countries especially during their transition to a greater reliability on domestic public financing.

SECTION I – BACKGROUND ON THE CASE STUDY COUNTRIES

Chapter 1: Introduction and Objectives

The Millennium Development Goals (MDGs) moved the momentum to meeting key development targets by 2015. While overall achievements were visible, several indicators, regions, and countries fell short. The Sustainable Development Goals (SDGs), which are due to be achieved by 2030, have incorporated many similar indicators as in the MDGs. Some of the achievements and challenges of MDGs suggest that, overall, Sub-Saharan Africa remains among the most vulnerable for several health indicators. There are vast inter-country and intra-country variations in health outcomes. SDGs are promoting countries to achieve universal health coverage (UHC) and financial protection.

This is a study on the financing of UHC in three countries in Sub-Saharan Africa (Cote d'Ivoire, Kenya, and Tanzania) and one state (Nasarawa State in Nigeria). All four countries have low coverage of basic health care and also carry a high burden of disease from HIV/AIDS. The study assesses the prospects of these countries attaining financial sustainability for UHC over a period of 15 years (2015–30) for a minimum health benefits package (MHBP) that includes HIV/AIDS programming. The assessment has also been done in light of the changing environment of global financial crisis and implications of reducing development assistance for health (DAH).

HIV/AIDS has been singled out as a disease within minimum health benefit package (MHBP), as HIV/AIDS will be the leading cause of death in Sub-Saharan Africa by 2030 (it is second now). Controlling the HIV epidemic requires vast amounts of financing, particularly in high prevalence countries that have adopted a strong response. Unlike UHC efforts, HIV/AIDS programs have primarily relied upon external financing. Following the 2008–09 world economic crisis, with some lag, aid flows have hardly increased between 2010 and 2014. Given the weak prospects of economic growth in many donor countries, it is quite possible that flows will stagnate or even decrease globally in the coming years, especially for countries at or reaching lower middle-income countries (LMIC) / middle income countries (MIC) status.

This is one of the first studies globally to have considered the financial needs for HIV/AIDS program coverage within the larger UHC agenda. Most other studies have either concentrated efforts on HIV/AIDS financing or UHC financing. The study emphasizes on the potential trajectories of revenues in relation to program expenditures, with a particular focus on development assistance, the importance of increased financing from domestic sources, and financial sustainability.

What is universal health coverage?

The World Health Organization (WHO) developed a framework for understanding the dimensions of UHC and planning it, often dubbed “the cube.” The cube addresses the three key questions underlying the design and implementation of UHC:

- (i) Who should be covered?

(ii) Which services should be covered—i.e., included in the MHBP?

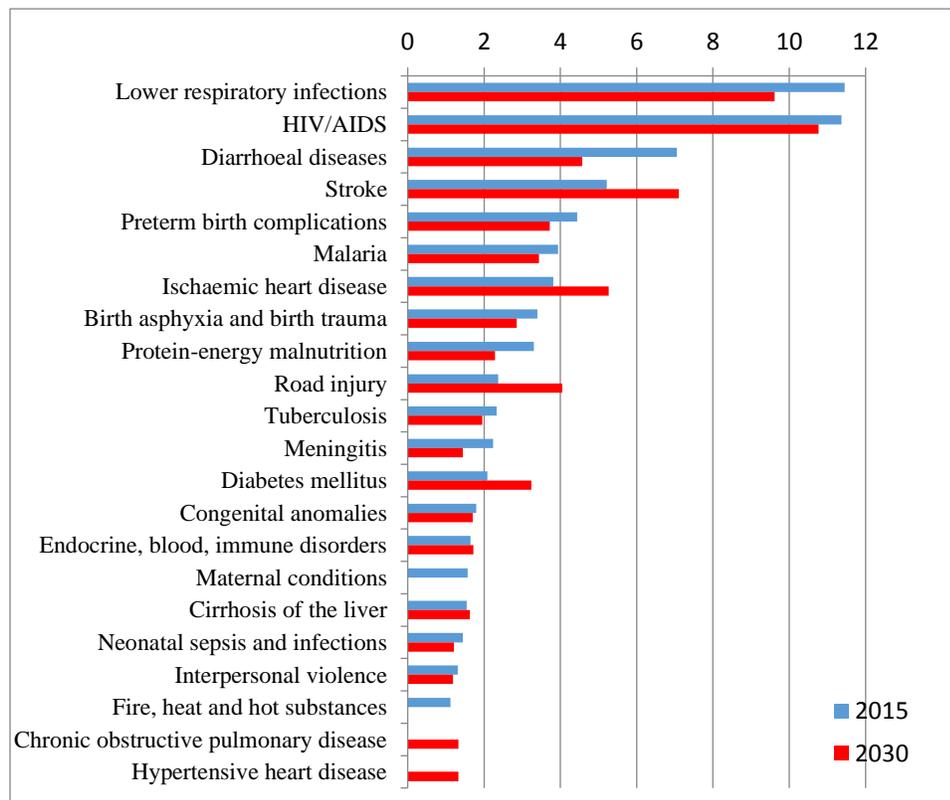
(iii) How much of the total cost of UHC will be funded from public resources, and how much will be covered by other sources?

A UHC strategy seeks to optimize financial protection—especially for the most vulnerable—while remaining affordable. Balancing these two dimensions is the central discussion in UHC planning and implementation.

What will be the largest disease burdens in Sub-Saharan Africa by 2030?

Despite significant gains made in combatting the epidemic, HIV/AIDS will be the leading cause of death in Sub-Saharan Africa by 2030 (it is second now). At the same time, the burden of infectious and parasitic diseases will decline from 32% to 27%, as will the importance of maternal and child conditions (13% to 10%), while that of the noncommunicable diseases (NCDs) will increase (9% to 14%) by 2030. However, no major change is predicted in the mortality patterns over the period between 2015 and 2030, as the main causes of death will shift but remain important. This calls for immediate attention on combatting HIV/AIDS in Sub-Saharan Africa. Figure 1.

Figure 1: Current and projected main causes of mortality for the Africa Region, 2015 and 2030, in percent



Source: Institute for Health Metrics and Evaluation (IHME) Global Health Data Exchange (GHDx) database

Universal health coverage financing and HIV/AIDS financing

UHC financing

Achieving UHC generally calls for significant additional financing to pay for the universal provision of priority health interventions for all citizens. McIntyre, et.al. (2017) estimated that the goal of UHC and financial protection would require domestic government spending on health of about 5% of gross domestic product (GDP). For low income countries (LIC) to achieve UHC in primary health care (PHC) would cost annually of at least US\$86 per citizen (in 2012 terms). Other sources have estimated the cost of an UHC package at between US\$60 and \$80 per capita in 2015 dollars (see, e.g., WHO 2001; WHO 2009; Avila et al. 2013). These amounts exceed total per capita health spending in many LICs in Sub-Saharan Africa. It suggests that external financing will be necessary to supplement domestic public spending in health for many LICs in Sub-Saharan African to attain UHC by 2030.

When reviewing how much was spent by countries when aiming for UHC, we found a wide range: some spending much less than what experts estimate is needed, while others are spending beyond those estimates. The spending on the UHC package varied across countries and programs, depending on the benefit package covered, its target group of beneficiaries, and the type of organization adopted in the purchasing and delivery of health services. Cotlear et al. (op.cit.) indicated that the average spending was US\$39 per capita (in 2011 US\$) or 1.4% of GDP, but spending in specific countries ranged from less than US\$1 to \$600 per capita. These figures however only indicate partial cost of UHC, as some costs, like personnel, are not included. Usually, UHC systems based on social security or social health insurance were substantially more expensive, while narrowly defined packages for target populations were the least costly.

Public financing was often the key source of financing for UHC. The main source mobilized for financing UHC in most countries is government budget (including central and subnational governments), followed by social security/social health insurance funds (mostly in the form of mandatory contributions rather than voluntary contributions). Brazil has the most decentralized financing, with state and municipal governments contributing the larger part. But some countries, including a number that are not LICs, have relied on external financing. Examples include Argentina, Ethiopia, Guatemala, Kenya, Rwanda, and South Africa. (Cotlear et al., 2015).

HIV/AIDS financing

Controlling the HIV epidemic requires vast amounts of financing, particularly in high prevalence countries that have adopted a strong response. A strong increase in donor funding for HIV/AIDS since the 1990s has allowed the strengthening of many countries' response to the epidemic and significant reductions in incidence of, and mortality resulting from, the epidemic. However, in spite of the substantial success seen in curbing the HIV epidemic in many countries, the need to sustain this effort and further expand coverage under the HIV/AIDS program over many years to come will require continued financial commitment. After estimating the need for future HIV/AIDS funding in 12 Sub-Saharan Africa countries at around US\$481 per year per PLWH, Resch et al. (2015) found that only upper-middle-income countries (UMIC) have the capacity to become self-reliant in HV program funding; most LIC are unlikely to be able to mobilize sufficient domestic resources to meet funding needs, leaving a large proportion to be funded with external or private resources.

Unlike UHC efforts, HIV/AIDS programs have primarily relied upon external financing. Moreover, in many LICs in Sub-Saharan Africa there seems to be disproportionate support from external financing for

HIV/AIDS compared to the support for health overall. Haacker (2015) shows that the proportion of external financing of HIV/AIDS spending in LIC was 76% compared to an average proportion of external financing of 28% for health expenditures overall.

In many Sub-Saharan Africa countries, external financing accounts for as much as 80-100% of total HIV/AIDS spending in the country, with a few countries sharing the funding burden through public and private domestic sources of financing. The proportion of external financing has varied depending on GDP per capita, but has not varied much depending on HIV prevalence (Haacker, 2015¹⁰). In countries with high HIV prevalence, as much as nearly one-half of all health spending can go towards control of HIV, with Botswana as one such example. However, not all countries show similar commitments. Swaziland with a similar prevalence of HIV as Botswana but allocates much lower shares of health spending towards HIV/AIDS response. Several researchers have shown that while there are some high spenders, spending for HIV/AIDS has often been in proportion to the overall burden of HIV. While spending for HIV/AIDS is related to HIV prevalence, allocation of external financing for HIV/AIDS is related to GDP per capita (Amico et. al 2010¹¹, Haacker 2015). See Box 1 and Figure 2.

Box 1: Magnitude of the AIDS response in Sub-Saharan Africa

The relative magnitude of the AIDS response varies from one country to another, even among countries with an epidemic of similar intensity. For example:

Botswana is among the ten countries in Sub-Saharan Africa with the highest HIV prevalence. In 2011, 17.1 percent of its population was HIV positive. Spending on HIV/AIDS accounted for nearly one-half of all health spending.

The HIV prevalence in Swaziland, at 16.5 percent, was similar to Botswana's, although the former allocated a comparatively much smaller share (26 percent) of health expenditure to its AIDS response.

Countries with a relatively smaller epidemic may also allocate a large share of all financing to the fight against the epidemic, although the share also varies considerably among them, even for those with epidemics of similar severity. For example:

In Kenya the HIV/AIDS budget share of 46 percent was similar to Botswana's. However, Kenya's prevalence of 3.1 percent, while high in the regional context, was only a fraction that of Botswana.

Tanzania's HIV prevalence was similar to Kenya's, yet Tanzania's HIV/AIDS expenditure accounted for only 20 percent of total health spending.

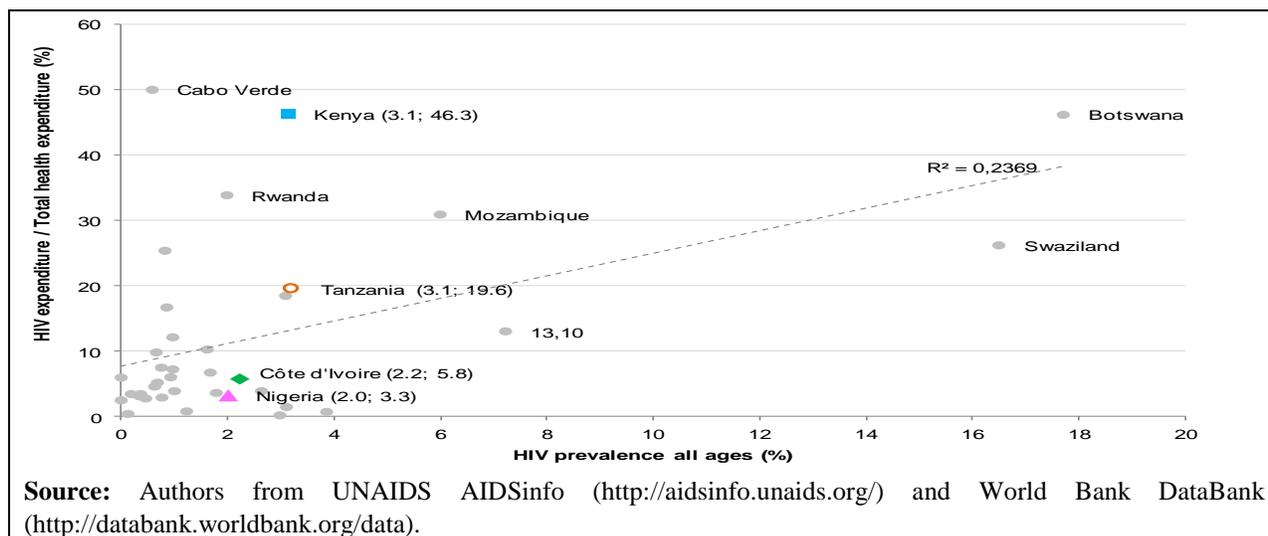
Both Cote d'Ivoire and Nigeria had a similar HIV prevalence (2.2 percent and 2.0 percent, respectively). Their respective HIV/AIDS expenditure represented a comparatively much smaller share of total health expenditure (5.8 percent and 3.3 percent, respectively).

Rwanda, in contrast, with a similar prevalence of 2.0 percent, devoted as much as one-third of all health financing to the fight against AIDS.

¹⁰ <http://content.healthaffairs.org/content/28/6/1606.full>

¹¹ Amico, Peter, Christian Aran, Carlos Avila. 2010. HIV Spending as a Share of Total Health Expenditure: An Analysis of Regional Variation in a Multi-Country Study. <https://doi.org/10.1371/journal.pone.0012997>

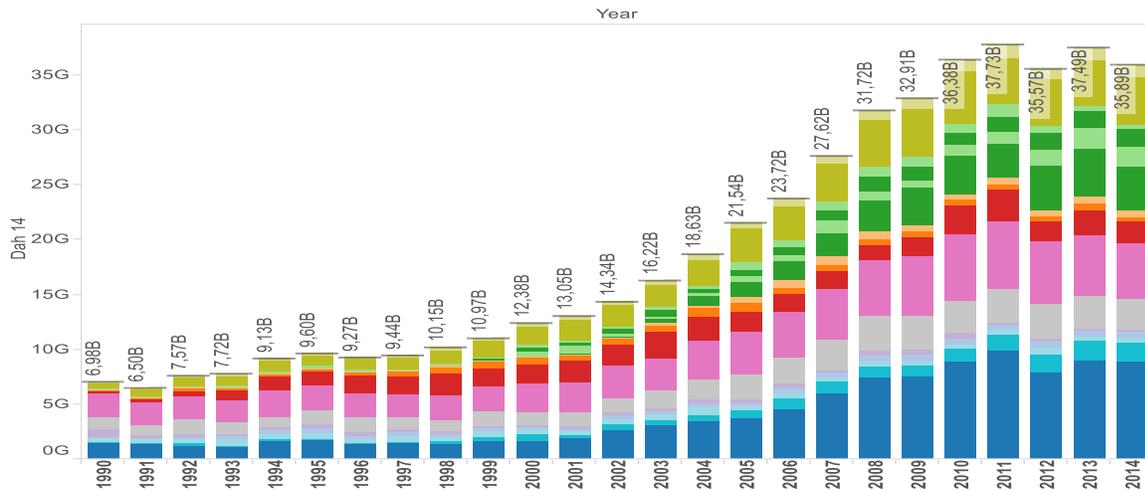
Figure 2: HIV/AIDS health expenditure as a share of total health expenditure and HIV prevalence, all ages in Sub-Saharan African countries, 2011 (%)



External financing trends in health

External financing has been declining in recent years, especially since the 2008-09 world economic crisis. More generally, international DAH has increased steadily during two short periods since 1990: between 1992-94, due to an increase in aid from the World Bank and bilateral donors such as the United States (U.S.); and since 2000, due to the entry of the Global Fund for AID, Tuberculosis and Malaria (GFATM), Global Alliance Vaccine Initiative (GAVI), and the Bill Melinda Gates Foundation (BMGF), and increases from the United Nations (UN) system, nongovernment organizations (NGOs) and bilateral donors (especially the U.S. and the United Kingdom [U.K.]). But following the 2008-09 world economic crisis with some lag, aid flows hardly increased between 2010 and 2014. Given the weak prospects of economic growth in many donor countries, it is quite possible that flows will stagnate or even decrease globally in the coming years, especially for countries at or reaching LMIC/MIC status, given that funders such as GAVI have a policy of ceasing aid to MIC (Elovainio and Evans, 2013). Figure 3.

Figure 3: Flows of international Development Assistance for Health, by channel, 1990-2014

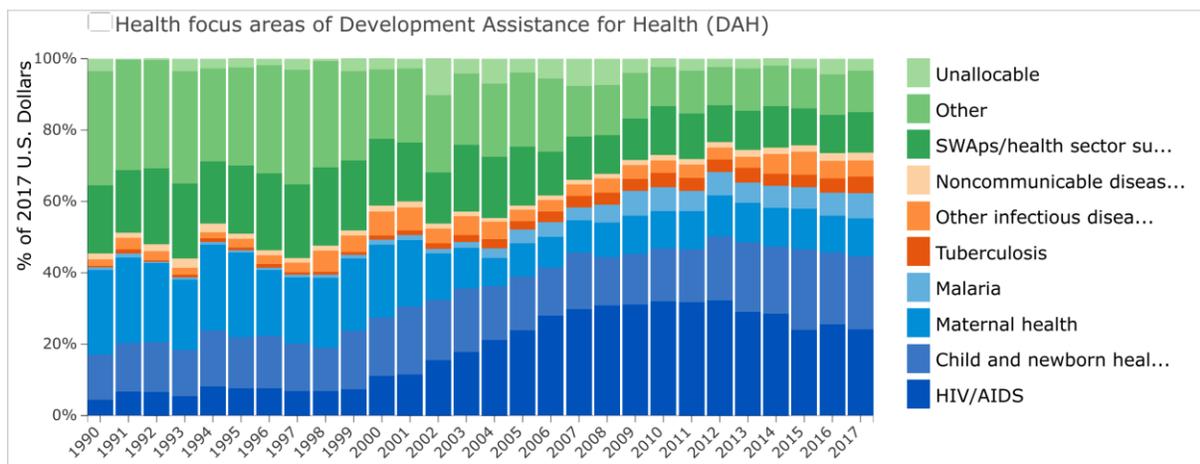


Source: IHME DAH database. Channel colors: Bilateral in (shades of) blue and grey, UN system in pink, World Bank group in red, other development banks in orange, funds and foundations in green, NGOs in yellow. Scale is in Billion USD.

Both globally and in the four case countries, external funding has been increasingly channeled primarily to HIV/AIDS, other communicable diseases (especially Malaria), and child and newborn health, at the expense of sector-level support and other areas (figure 4). In spite of its increasing burden in developing countries, Non-Communicable Diseases (NCD) still receive a very small proportion of external funding. It is also worth noting that globally, allocation to HIV/AIDS has been declining in relative terms since 2012.

As a result, countries’ dependence on foreign aid is much higher in these areas (for CDC and MNCH) than for NCDs, injuries and other rising health issues. Data for Kenya and Tanzania illustrate this varying degree of external dependence. This means that a stagnant or declining external funding will have a very different impact across diseases, with HIV being the most critical one.

Figure 4: Comprehensive data on donors allocation to diseases.



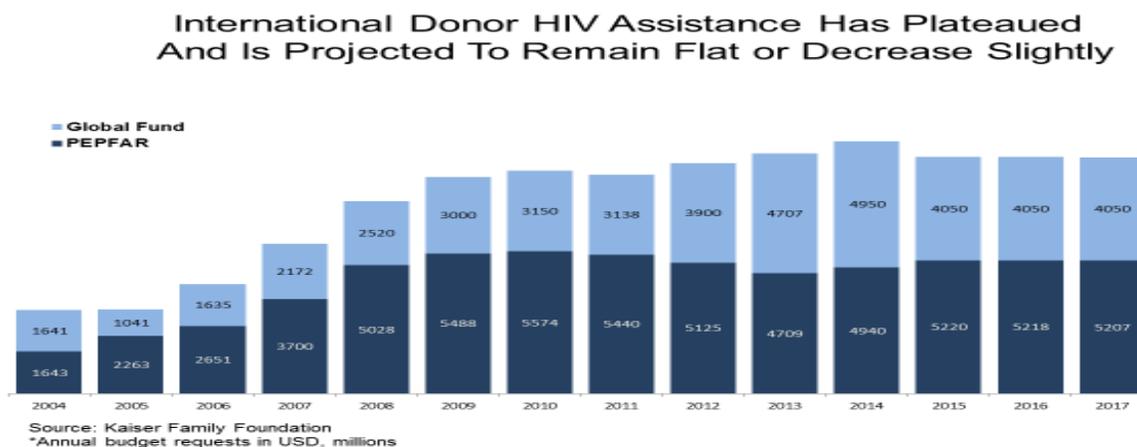
Source: IHME, 2017.

Discussion

While SDGs are calling for increasing global spending in health, in parallel, the global architecture for financing health programs is changing. The heydays of 1990 seem to be over. To attain UHC, countries will need to step up their efforts through domestic resource mobilization. The priority of external financiers is moving towards financing selected programs in selected countries. GAVI has decided to start reducing financial commitments to countries in a gradual manner as they graduate to middle income country (MIC) status, United States President's Emergency Plan for AIDS Relief (PEPFAR) funds are expected to remain nominally flat¹², and GFATM, in a resource-constrained environment, is prioritizing their support to critical countries. This huge demand to address UHC and AIDS surely cannot be met with the assistance of only a few financiers. Donors are stepping up effort by creating funds to support other priority areas such as reproductive, maternal, neonatal, child, and adolescent health (RMNCAH) to address the unachieved agenda under the MDG and now under the SDG. However, donors are sending a clear message that partnership is needed and countries must pitch in by increasing the amount of their own resources they commit to these efforts.

In 2017, \$9.1 billion was allocated for HIV/AIDS as development assistance. Over 50% of this was allocated by the US government (e.g. PEPFAR). About one-fifth of the US funds are channeled through the Global Fund. About 58% (\$5.6 billion) of the HIV/AIDS funds is allocated for Sub-Saharan Africa. Despite this significant allocation for HIV/AIDS, it is noted that development assistance for HIV/AIDS has declined by about 5.4% per annum since 2012 (IHME, 2017). Figure 5. It is expected that this decline can be detrimental and domestic financing and commitments have to step up efforts to reverse the HIV/AIDS epidemic. Kenya, Tanzania and Nigeria, are among the top five recipients of the development assistance for HIV/AIDS. Cote d'Ivoire is among the top 15 recipients (IHME, 2017).

Figure 5 : International Donor HIV/AIDS Assistance from PEPFAR and Global Fund, 2014-2017.



¹² Across channels, the US provided 46.1% of its funding through its bilateral aid agencies, including the United States Agency for International Development (USAID), as well as the President's Malaria Initiative (PMI) and the President's Emergency Plan for AIDS Relief (PEPFAR). DAH disbursed through US bilateral agencies decreased by 19.2% in 2017. (IHME, 2017). PEPFAR contributions remained at about \$6 billion (nominal) annually, and is expected to remain at these levels in the coming years. They provide assistance to 37-40 countries, and most of which are in Sub-Saharan Africa, but also include Vietnam and Haiti.

The US government and PEPFAR are committed to financing HIV/AIDS programs in Sub-Saharan Africa (they support programs in 37-40 countries). They partner with the Global Fund and piggy back on health programs (subsidizing government run clinics, public private partnerships, and non-profit nongovernment organizations). They are also taking steps to improve the efficiency of effectiveness of spending. Among the areas for consideration are: a lower cost (but yet effective) ARV drug and regimen¹³, bulk multi-year procurement, and others.

In summary, more funding will be required to respond to the SDGs call for UHC and for halt and reversal of the HIV/AIDS epidemic¹⁴. Following the SDGs, many Sub-Saharan Africa countries are facing a double challenge in the years to come: (1) they need to strengthen and expand their programs to fight HIV/AIDS to further control the epidemic and reduce the financial burden it generates; and (2) they are also embarking on ambitious plans to achieve UHC in the medium term. Both require substantial amounts of funding, and there is expectation that countries must step up efforts in partnership to meeting the SDGs, that is, commitment for domestic financing will be as critical. In many cases under the existing situation of domestic financing allocated, many Sub-Saharan Africa countries, especially LICs, may not be able to generate the additional resources needed through their own funding sources.

International lessons learnt on universal health coverage

The path toward delivering and financing UHC may take many forms, and this needs to be carefully considered in the country context. Many developing countries have moved toward or achieved some form of UHC, but have done so through different paths and strategies. A recent report by Cotlear et al (2015) provides a useful framework to identify major trends and options in the pursuit of UHC. As the basic dimensions presented in the WHO cube, the key questions in planning and implementing UHC are:

- Who should be covered and how can we expand coverage?
- What services should be covered and how can we expand the UHC package?
- Who are the major financiers, and how can we finance UHC expansion?

There is mixed evidence about how countries expanded population coverage. Some countries have increased coverage through supply-side interventions by expanding the supply of priority health services and improving access to them. Others have adopted demand-side policies by initially targeting certain groups of beneficiaries and gradually expanding to cover other groups of beneficiaries. Some countries started by prioritizing the poor and vulnerable groups, or informal workers, and then expanding to cover formal workers; this approach provides a faster way of reaching those most in need of financial protection. Other countries have chosen the opposite approach for sustainability reasons, seeking to cover initially those most easy to mobilize and reach—usually urban formal workers—and then expanding to more

¹³ Matthew Barnhart, James D Shelton. 2015. ARVs: The Next Generation. Going Boldly Together to New Frontiers of HIV Treatment. Global Health: Science and Practice. Volume 3. Number 1.

¹⁴ Development assistance for HIV/AIDS has decreased 5.4% annually since 2012.

In 2016, sub-Saharan Africa received \$12.3 billion, or 32.9% of global DAH for the year, up 0.2% from \$12.3 billion in 2015. The US provided \$6.5 billion or 52.3% of this funding, and the Gates Foundation provided \$619.2 million or 5.0%. Of all DAH to the region in 2016, \$5.6 billion or 45.3% went to HIV/AIDS. Maternal, newborn, and child health received \$3.2 billion or 25.9% of the region's funds in 2016. Nigeria, Tanzania, Kenya, and Mozambique were the countries receiving the most DAH for the region in 2016. (IHME, 2017).

difficult to reach groups of beneficiaries, such as rural workers and the informal sector. Few have defined upfront a legally mandated full UHC; Brazil is one that has.

UHC programs in different countries cover varying sets of services, from a narrowly defined explicit list to a broader and often implicit list. Narrow MHPB have tended to focus on the MDGs or PHC services. Where an explicit package is defined based on priorities, the criteria used for prioritization may include the burden of disease, intervention cost-effectiveness or affordability. However, in some countries such criteria are not explicitly stated or not linked to evidence. Also, a difference may exist between the formally defined package and the services covered. Cotlear et al. (2015) showed that 58% of the countries under their study had a broader scope covering both PHC and hospital care, while 27% focused on MDGs or PHC, and another 15% went beyond MDGs. However, the scope of services covered was usually in the two extremes: 42% had an explicit and narrow list of services, while 46% had a comprehensive or ill-defined package definition. The recommendation coming out of the report is that it may be best to use a bottom-up approach, starting with a limited package of essential PHC services targeted at the poor and vulnerable groups, and then gradually expanding this package to other services and groups as more funding becomes available.

There are some trade-offs between a single payer/purchaser approach versus a multi-payer/purchaser approach, in terms of efficiency versus equity. With regards to the organizational form taken by UHC, an important issue is whether to (a) choose a unified approach to UHC through a single program or scheme and a single-payer approach, or (b) establish various schemes targeting specific groups of beneficiaries, that can later be consolidated. The former tends to be easier to manage and avoid duplications of efforts, but the latter is usually easier to set up initially and better at addressing inequalities and filling coverage gaps. Each option has implications for efficiency and equity. Prioritizing the poor and vulnerable emphasizes the need for equity. Prioritizing the management of one fund emphasizes the need for efficiency.

Cotlear et al. (2015) report that most countries they studied used demand-side financing but with some variation, although some relied on supply side financing. Thirty-one percent of countries under their study used supply-side approaches, 27% demand-side approaches targeting the poor, 19% demand-side approaches targeting the informal sector, and 23% demand-side approaches within a broad social security or social health insurance scheme, through a mix of mandatory and voluntary contributions (15%) or exclusively mandatory contributions (8%).

Study motivation

This study has been motivated by the challenge of achieving the SDGs in the context of the changing global architecture of financing in health, and by the concern voiced by several Sub-Saharan African countries about how to finance UHC. While the SDGs encourage countries to aim to attain UHC for several health indicators and financial protection, external financing for health is falling.

In general, Sub-Saharan Africa is off track in meeting maternal mortality MDG 2015 targets, and reported the highest child mortality globally in 2014. Sub-Saharan Africa continues to report significant prevalence of infectious diseases, and it has the highest HIV incidence in the world. Refer to “*Tracking Universal Health Coverage: 2017 Global Monitoring Report*” (WHO, World Bank, 2017). Annex 1.1.

The incidence of HIV is significant in Sub-Saharan Africa, as is the region’s dependence on external financing for its control. A few Sub-Saharan Africa countries have mobilized domestic resources to combat

the HIV/AIDS epidemic, but most have not. Several key international agencies financing HIV/AIDS program were, however, expected to try to slowly wean countries off this dependency.

While the SDGs are urging countries to aim for UHC (at least 80% coverage of the essential health package, including HIV/AIDS) by 2030, many countries, especially in Sub-Saharan Africa, lack sufficient resources to finance this increase in coverage on their own. Many Sub-Saharan African countries continue to rely on significant out of pocket expenditures to finance health—showing limited financial protection against illness costs. Financial protection is another goal of the SDGs. In some cases, low public financing may be a result of limited commitment from governments to finance health and HIV/AIDS programs, or the result of a substitution effect between external and domestic financing. However, in other cases, countries have limited own revenue and therefore low budget to allocate for health and HIV/AIDS programs. Going forward, growing external financing may not be an option for many countries, especially those that are graduating to LMIC status.

Many countries in Sub-Saharan Africa may need to address the financing requirements and consider options for domestic resource mobilization, without increasing financial burden on the households. The study was motivated to explore how this could be done and what policy options could be explored by the governments.

Study questions

The aim of this policy research is thus to assess the financial sustainability of the combined expansion of UHC for an essential health care package, and the stepping up of HIV/AIDS programs. The study also identifies policy options and strategies to make it possible for these countries to aim for financial sustainability in their UHC efforts including HIV/AIDS programs. The study considered the following issues:

1. Quantifying current spending in each country and the anticipated *cost* of improving universal access to a MHBP (including HIV/AIDS) by 2030.
2. Which *domestic resources*, (both existing and new) can be realistically mobilized (used).
3. Which *efficiency gains* can help contribute to meeting the goals (limited to discussions on financing of the MHBP, including HIV/AIDS).

Study's contribution to the literature

Many LIC and LMIC have made systematic efforts to estimate the resource and financing needs to prevent and treat HIV/AIDS. Fewer have done the same for their financial needs to achieve UHC and fewer still have calculated what it would cost to include HIV/AIDS in a UHC package. This study looks at the latter. The study's contribution is made on the conceptual framework level, which not only follows the UHC framework, but also looks at a financial sustainability framework. It also provides contribution when modeling and simulating costs and fiscal space options. The study's main learning has been on the challenge that it faced when trying to understand the financial needs countries would have when aiming to achieve UHC. The study gives the readers a better understanding of how HIV/AIDS – a chronic condition – and its financing needs weigh in along with the commitments that countries are making on an ambitious MHBP. The study also goes on to understand fiscal space and country constraints. While the study does not go into depth on “efficiency” discussions, it highlights its critical role in creating fiscal space for health, and that is not only in the health sector but also beyond. This study is timely given the debate on the financial sustainability of the HIV/AIDS and UHC agenda under the SDG.

Selection of three case study countries and one state

To provide answers to these questions, the World Bank commissioned an investigation of three Sub-Saharan Africa countries: Cote d'Ivoire, Kenya, and Tanzania. Nasarawa State in Nigeria was also considered to better understand countries where health is devolved to the local governments.

Many countries in Sub-Saharan Africa have or are in the process of decentralizing health care to the local government authorities. This devolves responsibility to local governments, but with expectations that central government authorities will contribute towards some financing role as well. There are mixed lessons learnt from decentralized environments: some positive, some neutral, and some not so positive. To capture this diversity, this study intentionally selected one country where health is decentralized and studied the situation in a particular state in this decentralized environment: Nasarawa State in Nigeria. Nasarawa State faces challenges posed by both low health care coverage and a high HIV/AIDS burden. Nigeria has also committed to UHC. Given this combination of factors, Nasarawa State provided an opportunity to learn from how a country that has decentralized health, manages the goals and finances for covering UHC of a basic health package and of HIV/AIDS package.

These three case study countries and Nasarawa State shared a number of key commonalities: (i) heavy disease and financial burden from HIV/AIDS; (ii) a growing population with large unmet health needs; (iii) reliance on external funding for HIV/AIDS; (iv) low levels of public financing for health; (v) government decisions to move rapidly toward UHC; (vi) an ongoing internal debate on how to proceed on this path; and (vii) a rapid transition to MIC status. All are also in the process of designing a strategy for achieving UHC in the next decade. Moreover, their governments are concerned about the possible retreat of external funding because the countries are already or will be soon reaching MIC status, and are debating how to become more self-reliant in financing of basic care. (The countries were selected based on their HIV burden, their HIV/AIDS financial reliance on external sources, and on the country's own commitment for UHC. Examples of specific criteria considered include the following: (i) HIV/AIDS prevalence, (ii) the share of total disease burden accounted for by HIV/AIDS, (iii) the country's HIV/AIDS disability adjusted life year DALY figures, (d) the countries' commitments for HIV (estimated through the domestic investment priority index [DIPI] and through development assistance for HIV), (e) public spending on health, and finally (f) country commitment for UHC. Annex 1.2.

Study data sources, challenges and limitations

This study is in essence a projection and simulation exercise, and suffers from the usual limitations of this kind of study. The research team chose to use the baseline cost estimates as given by the OneHealth Tool (OHT), but also redid the projections based on transparent assumptions of population and coverage growth when estimating it for 2030. This study made use of long-term projections (over 15 years), and as such it carries the risks of any long-term exercise, especially in the case of low- to middle-income countries where economic trends and policies can change rapidly. The study found several data challenges. Annex 1.3.

- **Missing information.** The data required for the simulation were not always available or precise, and had to be proxied by some related variable or another period.
- **NHA trend issues.** National health accounts (NHA) data was sometimes old (2009 for Nigeria), and discrepancies were identified between sources, and within the same time series, possibly due to changes in the definition or content of the variables. Some discrepancies in data for NHA and others were noted in the four countries.

- ***GDP rebasing.*** For Tanzania, the recent (2013 and onwards) GHE level and composition given by World Development Indicators (WDI) are much different from historical averages, with much higher contributions from OOP and other private health expenditure (PHE). This may have been caused by the GDP rebasing exercise, which included more informal activities in the GDP calculation.
- ***Past research could not be easily adopted.*** The previous researchers' work costing UHC and HIV/AIDS could not entirely be adopted as they exhibited some inconsistencies when the 2020 projections were used to project for 2030. For example, MHBP cost estimates and projections (to 2020) obtained from previous researcher exercises (using the OHT) some inconsistencies. This was especially true of projections for Kenya and Tanzania which were inconsistent across diseases or programs and with expected demographic and epidemiological trends. In the case of Tanzania, using the previous estimates would suggest that when projections for malaria, dental care, and some other diseases implied by 2030 the programs would hardly exist at all, and immunization needs would decrease substantially.
- ***Different countries have different goals and policy definitions.*** The contents of the MHBP costed by OHT (for Tanzania and Kenya) are similar, but not identical, because they reflect policy definitions of the different governments. In the case of Cote d'Ivoire and Nasarawa State in Nigeria, the research team used a simplified approach to the OHT model because the countries had yet to define their MHBP. In addition, information was not available for some components of the MHBP, especially in the case of Nasarawa State in Nigeria.

The report

After an overview of the health and HIV/AIDS situations in the case study countries (chapter 2), the remainder of this report covers the study's conceptual framework (chapter 3) and methods (chapter 4), before turning to a discussion of MHBP content (chapter 5A) and costing (chapter 5B) including related findings from this study. Finally, it conducts the fiscal space analysis (chapter 6), reviews the health financing mechanism options (chapter 7), and offers conclusions and recommendations (chapter 8).

Chapter 2: Health and HIV/AIDS Status in the Case Study Countries

This chapter provides background for the four case study countries,¹⁵ providing a summary of where each of the country lies in comparison to some of its comparators in both responding to the HIV epidemic and to its health outcomes. It also provides information on some of the health and socio-economic outputs so the reader can better contextualize the way forward for these countries in aiming to achieve universal health coverage (UHC). Finally, the Chapter helps illuminate the motivations that undergird the subsequent chapter on packaging a minimum health benefits package (MHBP).

Macroeconomic and demographic context

The four case study countries are all developing countries of the Sub-Saharan Africa, and thus share similar features, but substantial differences are also apparent.

Rapid demographic growth: All of the countries are experiencing population growth between 2 and 3% per year. Tanzania's population is growing fastest at nearly 3.2%, while the others are projected to grow at a slower rate over the next 15 years: 2.47% for Nigeria and around 2.35% for Kenya and Cote d'Ivoire (World Bank Health, Nutrition, and Population projections). Nigeria is the most populous country in the Sub-Saharan African region, with 168 million people, but Nasarawa State is one of its smallest states in population (2.4 million). Kenya and Tanzania have similar size populations (42.5 and 48.6 million), while Côte d'Ivoire has a population of about one-half the size of these East African countries. The most urbanized of the four countries is Côte d'Ivoire, with more than one-half of its population living in urban areas; the most rural one was Kenya, followed by Tanzania. Whereas Tanzania has some of the best education indicators of the four countries, its population has the most restricted access to basic services (potable water and sewerage).

Rapid economic growth: Over the last 10–15 years, many countries in Sub-Saharan Africa have experienced rapid economic growth of around 5% a year or even more, and three of the four case study countries are no exception. Cote d'Ivoire is the exception, having gone through a period of political instability and internal violence that greatly reduced growth between 2002 and 2011. The world economic crisis of 2009 did temporarily slow this economic growth trend, but all four countries have been growing steadily since 2010, especially Cote d'Ivoire and Tanzania. Growth in Nigeria has been slowing down due to the drop in international oil prices, the largest source of Nigeria's gross domestic product (GDP) and government revenue. Nigeria and Tanzania have recently rebased their GDP estimates, leading to a 31% increase in GDP level for Tanzania.

Three of the four case study countries are in the Lower-Middle-Income Country (LMIC) group; Nigeria is clearly ahead with a GDP per capita twice that of Kenya and Cote d'Ivoire. Tanzania is still in the Low-Income Country (LIC) group, but due to rapid growth and GDP rebasing, it is fast approaching LMIC status.

An important difference between the four case study countries arises from the role of oil. Nigeria derives a large part of its GDP and most of its government revenue from hydrocarbons, while, to date, the others extract modest revenues from them. This makes Nigeria and its states richer, but it also renders them heavily

¹⁵ This includes Nigeria where the study covers one state: Nasarawa State.

vulnerable to the recent oscillations in international oil prices. However, large offshore deposits of hydrocarbons have been discovered on the East African coast, and Tanzania is poised to benefit substantially from them in the future. The latest projections from the International Monetary Fund (IMF) indicate that three of the four case study countries are expected to maintain or accelerate their economic growth to around 7% between 2015 and 2020, while Nigeria, after growing 9% per year in the 2000s, is expected to slow down to below 5%. Table 1.

Table 1: Macroeconomic trends

Indicators	Côte d'Ivoire	Kenya	Tanzania	Nigeria	Sub-Saharan Africa	LIC	LMIC
GDP per capita, 2014 (current US\$)	1,546	1,358	955	3,203	1,792	581	1,882
GDP per capita, 2014 (PPP US\$)	3,258	2,954	2,538	5,911	3,513	1,422	5,295
GDP growth 2000-08 (%)	0.42	3.60	6.63	9.15	5.15		
GDP growth 2009-14 (%)	4.89	5.57	6.50	5.94	4.01	6.12	5.48
GDP growth projection 2015-20 (%)	7.34	6.86	6.93	4.59	na		
Tax revenue as a share of GDP (%)	14.26	15.88	11.68	1.56	13.81	12.17	10.94
Unemployment (%)	4.10	9.20	3.50	7.50	7.63	5.17	5.27
Inflation, GDP deflator (annual %)	4.12	9.38	10.74	9.27	5.51	6.00	4.87
Labor force in informal sector (%)	37.03	39.22	48.31	31.31	n.a.	n.a.	n.a.

Source: World Bank, WDI 2015 and IMF, World Economic Outlook, Oct. 2015.

Note: PPP = purchasing power parity.

The HIV/AIDS epidemic and countries' responses

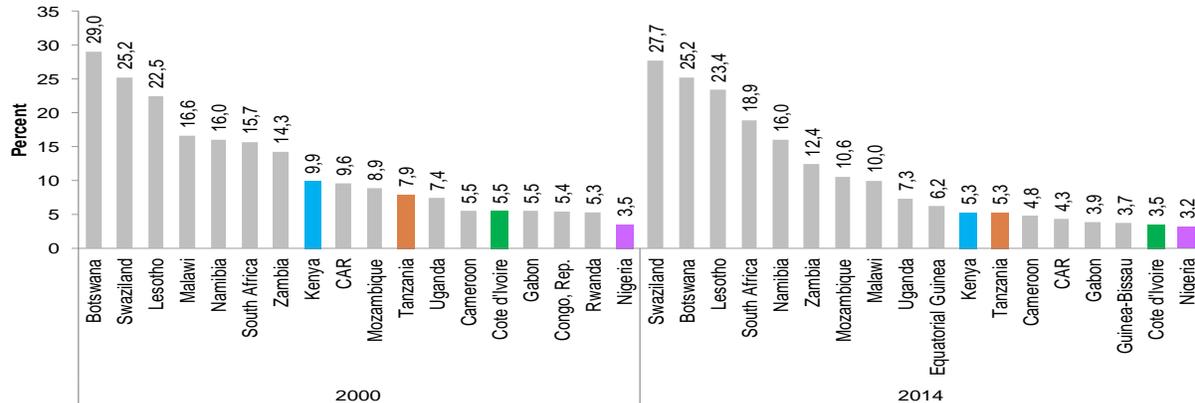
Sub-Saharan Africa has the highest HIV prevalence and AIDS mortality rates in the world. The four case study countries are among those with a high burden of disease from HIV/AIDS. HIV prevalence reached a peak of 2.87 percent in 2002 in Sub-Saharan Africa and has since slowly declined, reaching 2.50 percent in 2014. Figure 6.

They have followed a similar pattern, with peaks between 1997 (Kenya) and 2005 (Nigeria), followed by a steady decline until today. They also exhibited important differences in some aspects of the epidemic. In Kenya, the epidemic was the most explosive, more than doubling its prevalence in only seven years between 1990 and 1997. Subsequently, the decline in prevalence has been just as pronounced, approaching the regional average by 2014. This suggests that Kenya's HIV response has been very effective. Nigeria, in contrast, has had the lowest prevalence rate relative to the four case study countries and the Sub-Saharan Africa region in 2000. It reached a maximum of 2.15 percent in 2005. Unlike Kenya, Nigeria's decline in prevalence has been small. At first glance (see more in the next paragraph), Nigeria's HIV response appears to have been sufficient to contain the epidemic but not enough to curb it in a significant way. However, the distribution of the epidemic is very unequal across states; Nasarawa State has one of the highest prevalence in Nigeria, at 7.9% (2.5 times the Nigerian national rate) and the highest among the four case study countries. Figure 7.

Behind the convergence in prevalence in these four case study countries and in Sub-Saharan Africa as a whole, there is a convergence in incidence. In 2014, incidence in the four countries and Sub-Saharan Africa was around 0.13 percent. Thus, while Nigeria's effort to control the epidemic may appear weak judging

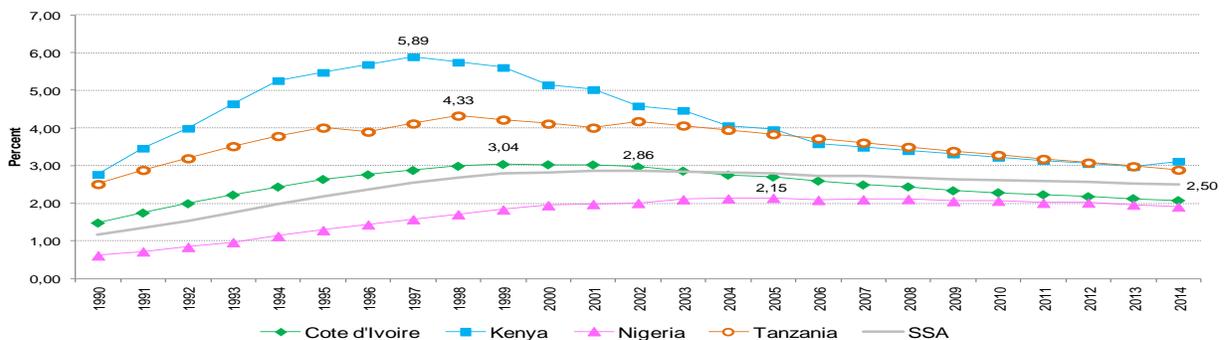
on its prevalence, it has managed to bring incidence down to the same level as the three other case study countries and the Sub-Saharan Africa region as a whole. Figure 8.

Figure 6: Top 18 countries from Sub-Saharan Africa with the highest HIV prevalence in population ages 15-49, 2000 and 2014 (percent)



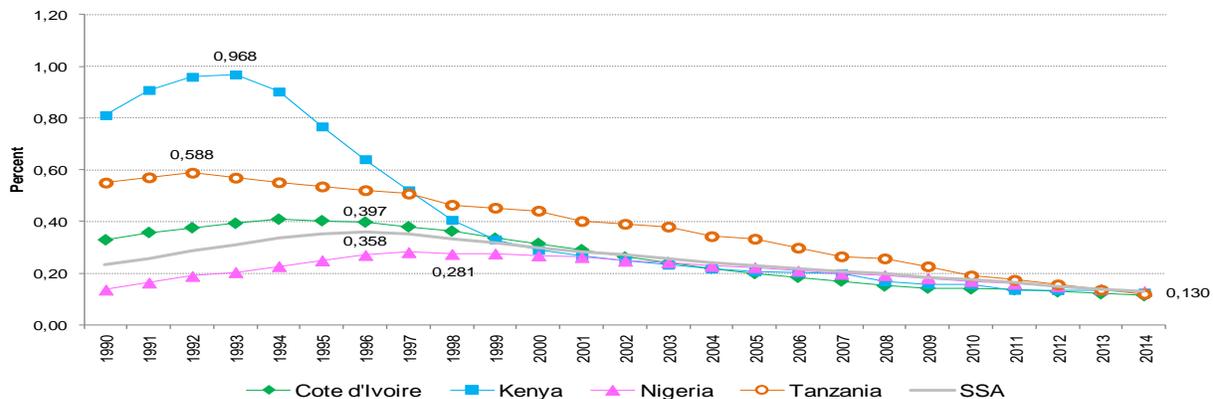
Source: Authors from World Bank DataBank.

Figure 7 Total HIV prevalence in case study countries and Sub-Saharan Africa, 1990-2014 (%)



Source: Authors from UNAIDS AIDSinfo (<http://aidsinfo.unaids.org/>) and World Bank DataBank (<http://databank.worldbank.org/data>).

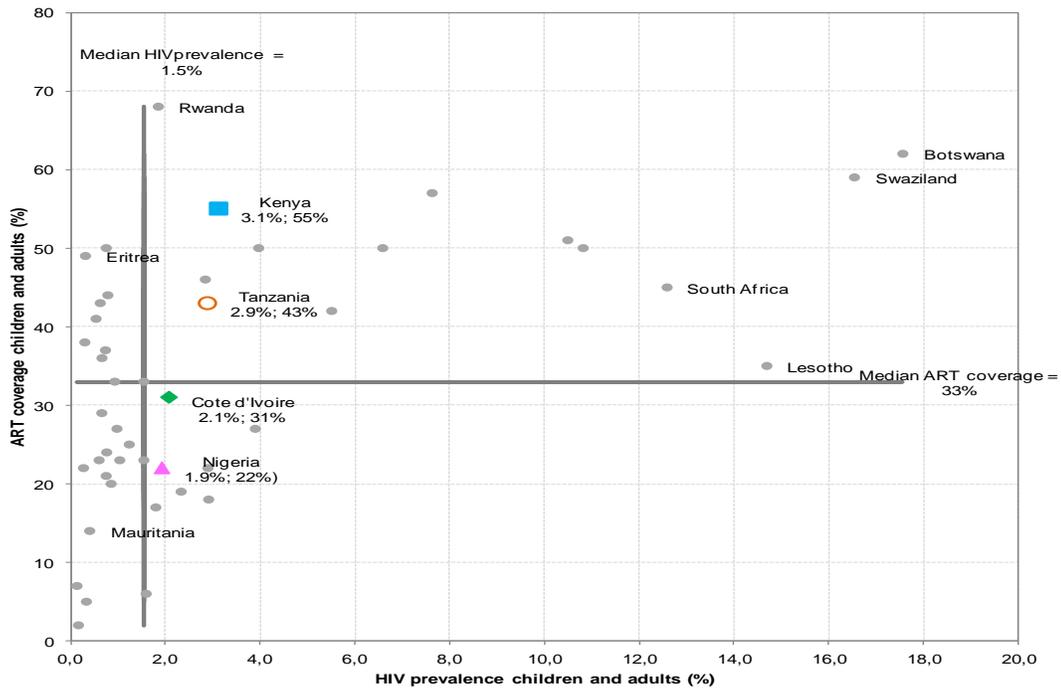
Figure 8: HIV incidence in case study countries and Sub-Saharan Africa, 1990-2014 (%)



Source: Authors from UNAIDS AIDSinfo (<http://aidsinfo.unaids.org/>) and World Bank DataBank (<http://databank.worldbank.org/data>).

The magnitude of the epidemic in the case study countries and the scope of their responses can partly be visualized by comparing HIV prevalence and antiretroviral therapy (ART) coverage (Figure 9, Table 2 and Table 3). Countries from Sub-Saharan Africa fall into four quadrants, reflecting their HIV prevalence and ART coverage rates. The quadrants are formed by drawing the HIV prevalence and ART coverage lines at the respective medians in the Sub-Saharan Africa region. Both Kenya and Tanzania fall in the upper-right quadrant, with high HIV prevalence and high ART coverage. Côte d'Ivoire and especially Nigeria instead fall in the lower-right quadrant, with a lower HIV prevalence but also with lower ART coverage rates. Overall in the region, HIV prevalence and ART coverage do not seem related. For example, there are several countries, like Mauritania, which have low prevalence and coverage, while there are many others, like Eritrea, with low prevalence and high coverage.

Figure 9: HIV prevalence and ART coverage for children and adults, Sub-Saharan Africa, 2014 (%)



Source: Authors from World Bank DataBank (<http://databank.worldbank.org/data>)

Table 2: Selected health status, demographic, and other socioeconomic indicators in case study countries and in developing regions of the world, 2012

Indicators	Côte d'Ivoire	Kenya	Tanzania	Nigerian	Sub-Saharan Africa	Low income countries	Lower-middle income countries
Health status							
Life expectancy at birth (years)	50	61	60	52	56.38	58.74	66.36
Infant mortality rate (per 1,000 live births)	72.80	39.20	38.80	76.20	61.40	58.10	44.20
Child mortality rate (per 1,000 live births)	102.50	55.60	55.70	120.90	92.90	85.50	59.00
Maternal mortality rate (per 100,000 live births)	735	430	435	585	535	540	250
Burden of disease (millions of DALYs)	12.8	19.4	26.8	127.2	689.4	285.1	1,095.3
Burden of disease per 100,000 population (DALYs)	60.838	45.613	55.013	75.625	74.773	48.373	39.207
Prevalence of HIV/AIDS in adult population (15 years +) (%)	2.80	6.10	5.20	3.30	4.59	2.96	0.70
Incidence of HIV/AIDS (%)	0.15	0.23	0.17	0.15	0.38	0.18	0.05
People living with AIDS (PLWH) (% of total population)	2.18	3.06	3.08	2.02	2.55	n.a.	n.a.
Burden of disease (BOD) of HIV/AIDS (% of total BOD)	10.30	15.60	13.20	7.30	10.00	n.a.	n.a.
Demographics							
Total population (million)	21.1	42.5	48.6	168.2	922.0	589.4	2,793.7
Population growth rate (%)	2.39	2.68	3.18	2.69	2.77	2.74	1.51
Fertility rate	4.89	4.46	5.29	6.00	5.11	4.92	2.86
Urban population (%)	52.04	24.37	29.49	45.23	36.22	28.95	37.64
Population under 15 years (%)	43.22	42.42	45.17	44.07	43.47	43.26	31.83
Education and other socioeconomic indicators							
Adult literacy rate (%)	40.98	72.00	78.98	n.a.	60.33	57.50	73.26
Gross enrollment ratio for primary education (%)	94.22	114.36	93.01	n.a.	99.66	104.38	106.95
Primary completion rate (%)	61.20	n.a.	80.75	76.00	69.25	66.59	90.86
Households with access to potable water (%)	80.20	61.70	53.20	64.00	64.43	63.02	87.43
Households with access to sewerage (%)	21.90	29.60	12.20	27.80	29.58	27.14	48.52

n.a. Not available.

Source: World Bank WDI.

Table 3: Selected health sector-related indicators in case study countries and in developing regions of the world, 2012

Indicators	Côte d'Ivoire	Kenya	Tanzania	Nigeria	Sub-Saharan Africa	Lower-MIC
Access to health services						
Access to HIV/AIDS services (coverage of ARVs)	24.0	46.0	29.0	16.0	31.0	n.a.
Access to HIV/AIDS services (coverage of PMTCT)	75.0	63.0	73.0	27.0	n.a.	n.a.
Children under 5 with a fever in the past 30 days who obtained antimalarials (%)	17.5	35.1	59.1	32.7	33.4	n.a.
Children under 5 with diarrhea in the past 30 days who obtained oral rehydration salts treatment	17.2	39.0	44.0	33.7	n.a.	n.a.
Births attended by skilled health staff (% of total)	59.4	61.8	48.9	48.7	48.8	56.8
Pregnant women receiving prenatal care (%)	90.6	95.5	87.8	66.2	77.2	77.2
Postnatal care coverage (% mothers)	70.4	50.6	5.4	39.6	32.0	n.a.
Fully immunized rate (% of children age 12-23 months)	50.5	67.5	64.3	21.4		
Immunization, BCG (% of one-year-old children)	93.0	84.0	99.0	51.0	80.1	87.3
Immunization, DPT (% of children ages 12-23 months)	82.0	83.0	92.0	42.0	71.9	79.8
Immunization, measles (% of children ages 12-23 months)	74.0	93.0	97.0	42.0	72.1	79.0
Immunization, Pol3 (% of one-year-old children)	83.0	82.0	90.0	42.0	72.2	78.7
Contraceptive prevalence (% of women ages 15-49)	18.2	45.5	34.4	17.5	23.6	52.1
Health system resources						
Number of physicians (per 1,000 population)	0.1	0.2	0.0	0.4	0.2	0.8
Number of nurses & midwives (per 1,000 population)	0.5	0.8	0.4	0.9	1.1	1.7
Number of hospital beds (per 1,000 population)	0.4	1.4	0.7	0.5	1.0	n.a.

Source: World Bank WDI.

Note: n.a. = not available. PMTCT = prevention of mother-to-child transmission. DPT = diphtheria, pertussis, and tetanus.

Income and health

Income is a key determinant of health status. It is highly correlated with most health measures, with the exception of HIV. The analysis of country characteristics that follows thus begins with a brief overview of economic performance variables for the country studies. Performance is compared among the four case study countries and with the averages of the Sub-Saharan Africa region, low-income countries (LICs), and lower-middle-income countries (LMICs). It is followed by an analysis of government total and health expenditure, as well as the structure of health care financing.

The per capita incomes of Côte d'Ivoire, Kenya, and Tanzania (though lower) were similar in 2014 to one another. They were also below the average for Sub-Saharan Africa, about twice as high as the average for

all LICs, and one-half the average income of LMICs. Nigeria, however, owing to its considerable oil revenue, had a per capita income that was similar to the LMIC average, and twice as high as that of the three other case study countries. Economic growth was high in the case study countries but somewhat below that of the Sub-Saharan Africa region as a whole. Kenya featured the highest tax revenue as a share of GDP, followed by Côte d'Ivoire and Tanzania. Nigeria's tax revenue, at 1.6 percent of GDP, was only a fraction of that of its peer countries. The counterpart to this country's low tax collection was its high oil revenue, which on average represented 16.5 percent of GDP between 2006 and 2010.¹⁶ Table 4.

Table 4: Economic and health expenditure indicators, 2014

	Côte d'Ivoire	Kenya	Tanzania	Nigeria	Sub-Saharan Africa	Low income countries	Lower-middle income countries
GDP per capita (current USD)	1,546	1,358	955	3,203	1,791	640	2,008
GDP per capita (PPP international dollars)	3,258	2,954	2,538	5,911	3,513	1,591	6,031
Average annual GDP growth over the past 5 years (%)	5.2	6.0	6.7	5.7	4.4	6.4	5.9
Tax revenue as a share of GDP (%)	14.3	15.9	11.7	1.6	13.8	12.2	10.9
Government total expenditure (GTE) as a share of GDP (%)	20.9	27.4	18.0	12.6	23.0	20.0	24.0
Total Health Expenditure per capita	88.37	77.70	51.72	117.52	96.98	36.80	89.30
Total Health Expenditure as % of GDP	5.7	5.7	5.6	3.7	5.6	5.7	4.5
Government health expenditure (GHE) as a share of GTE (%)	7.3	12.0	12.3	8.2	11.1	12.9	6.4
Government Health Expenditure (GHE) as % of THE	29.4	61.3	46.4	25.1	42.4	39.1	36.3
Public Health Funds (PHF) as % of GTE	5.0	5.6	5.6	8.2			
PHF as a share of THE	18.1	31.5	25.9	25.1	Na	na	na
Out-of-pocket health expenditure (OOP) as a share of THE	50.8	26.1	23.2	71.7	34.7	40.1	55.5
Donor health expenditure (DHE) as % of THE	9.4	27.5	35.9	6.7	11.5	34.4	3.2

Source: Authors from UNAIDS AIDSinfo (<http://aidsinfo.unaids.org/>) and World Bank WDI DataBank; Public Health Funds was projected from countries' NHA 2014 data.

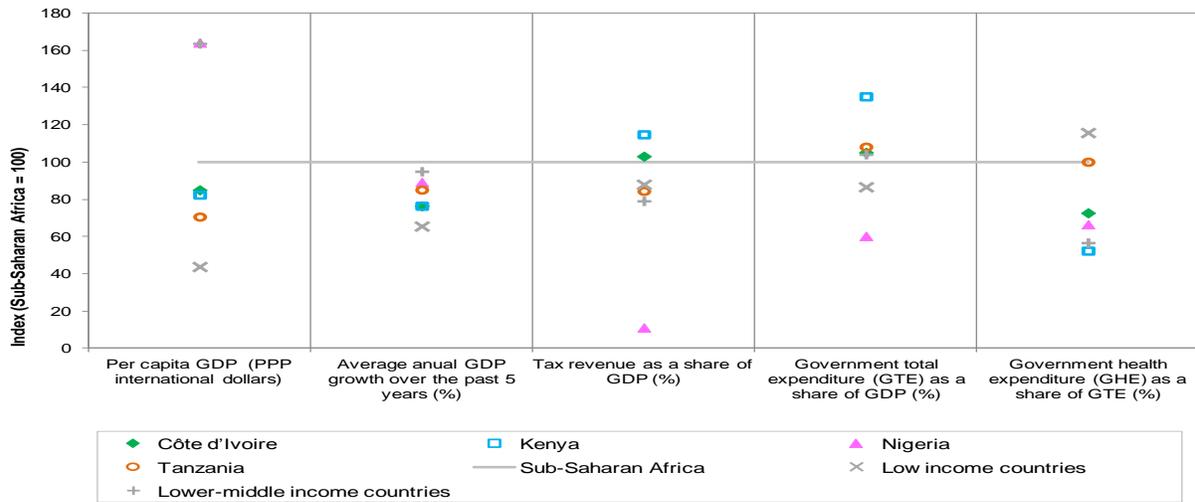
Nigeria's relatively low tax revenue appears prominently at the bottom, whereas Kenya's appears at the top, above the Sub-Saharan Africa regional average. Kenya also shows the highest rate of public spending, significantly above the three other case study countries and the Sub-Saharan Africa regional average.

In contrast, Kenya features the lowest allocation to health in the public budget, while Tanzania features the highest, equal to Sub-Saharan Africa's regional average. In comparison with the Sub-Saharan Africa region, the public share of total health spending in the case study countries is low, and is Nigeria's is the lowest. Accordingly, Nigeria has the highest reliance on out-of-pocket health financing of all four countries, while all four are at or above the regional average.

The final issue of note is the importance of donor health financing. Tanzania is by far the most reliant, followed by Kenya. This is largely explained by the considerable resources that donors contribute to the HIV response of these two countries. In 2012, Nigeria, with its large oil revenue, was the least dependent on external funding for health, although the recent drop in oil prices may change this situation. Figure 10 and Figure 11.

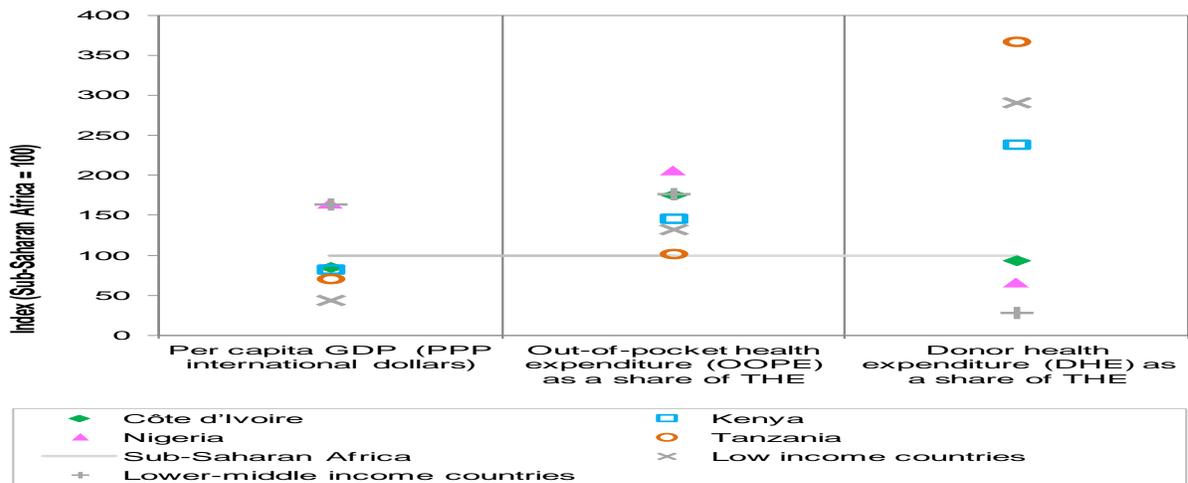
¹⁶ World Bank <http://data.worldbank.org/indicator/NY.GDP.PETR.RT.ZS>

Figure 10: Economic and health expenditure indices, 2012 (Part 1)¹⁷



Source: Authors from UNAIDS AIDSinfo (<http://aidsinfo.unaids.org/>) and World Bank DataBank (<http://databank.worldbank.org/data>).

Figure 11: Economic and health expenditure indices, 2012 (Part 2)

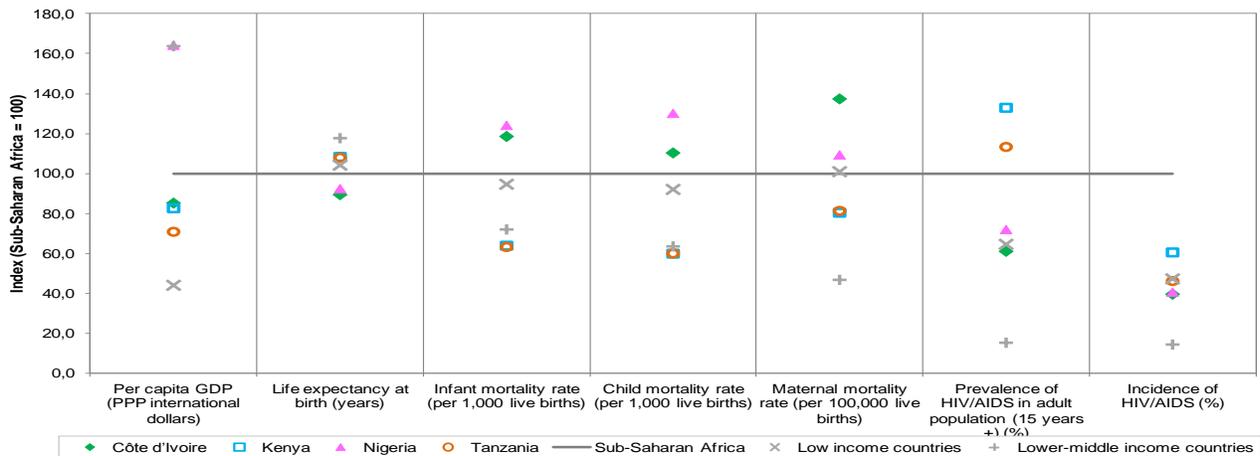


Source: Authors from UNAIDS AIDSinfo and World Bank DataBank.

¹⁷ Analyzing the above numerical information covered in the previous paragraph is difficult. Therefore, the following explanation proposed a graphical way of looking at it in order to facilitate an analysis of similarities and differences among countries and regions. To construct the figure, each of the variables in the table has been expressed in relation to the corresponding Sub-Saharan Africa average, which for simplicity has been arbitrarily set at the value 100, thus acting as an index. For example, if average per capita income in the Sub-Saharan Africa region (US\$3,232) is set at 100, then the per capita income indices for the other countries and regions become 85 for Côte d'Ivoire ($100 \cdot 2,753/3,232$), 83 for Kenya, 164 for Nigeria, 71 for Tanzania, 44 for LICs, and 164 for LMICs. The variable—*per capita GDP (PPP international dollars)*—is shown at the bottom left. The per capita income index of the four case study countries is represented by the four symbols assigned to them while the average for the Sub-Saharan Africa region is shown as a horizontal line. Nigeria, represented by a triangle, appears way above the Sub-Saharan Africa average with a value of 164, while the three other countries appear below the 100 line. The seven other variables are presented in order along the vertical axis of the figure.

Mostly, we found a positive relationship between country's income status and health outcomes, but there are some exceptions. Nigeria is an outlier among the four case study countries. Nigeria's per capita income is by far the highest in the group, yet this country's health status indicators are among the worst. Nigeria has the second lowest life expectancy at birth (LEB), after Côte d'Ivoire, the highest infant and child mortality rates (IMR and CMR, respectively), and the second highest maternal mortality ratio (MMR). Côte d'Ivoire's comparatively poor health status indicators are consistent with its relatively low income. Kenya, in contrast, may be viewed as a good performer. While its per capita income is similar to that of Côte d'Ivoire and Tanzania, Kenya, like Tanzania, has the highest life expectancy and the lowest child, infant, and maternal mortality rates. Figure 12.

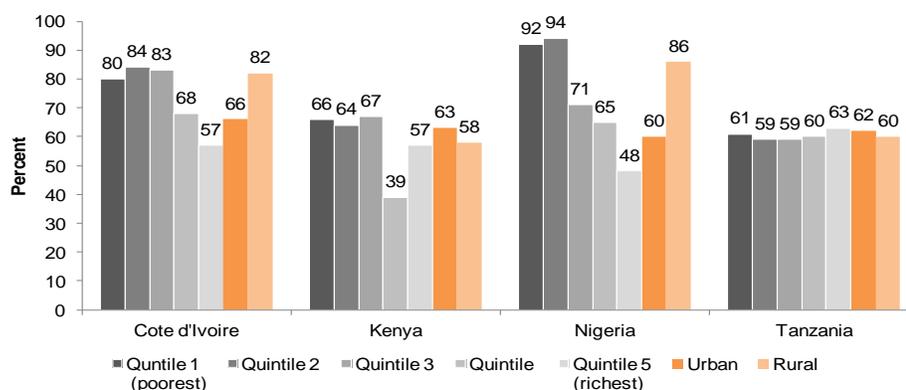
Figure 12: Health status indices, 2012



Source: Authors from World Bank DataBank (<http://databank.worldbank.org/data>).

Inequity. Kenya and Tanzania show much better pro-poor reach in bringing down IMR than Cote d'Ivoire and Nigeria, both of which exhibit considerable inequality in IMR: children from wealthier households have a much lower probability of dying before their first year than those living in poorer households. Likewise, in Côte d'Ivoire and Nigeria IMR is significantly higher in rural areas than in urban areas. There is some inequality in Kenya and in Tanzania, but IMR is equally distributed among wealth groups. It would be important to know what Tanzanian's health authorities have done to achieve such a desirable result. Figure 13.

Figure 13: Infant mortality rate in case study countries, 2012 (%)



Source: Authors from (National Bureau of Statistics and ICF Macro 2011, Institut National de la Statistique and ICF International 2012, National Population Commission and ICF International 2014, Kenya National Bureau of Statistics, Ministry of Health et al. 2015).

Health financing

The success of the four case study countries over the last 15 years in reducing mortality and controlling the AIDS epidemic is likely to face a sustainability challenge in coming years, given various domestic challenges, and the global development assistance environment. The relatively low level of public funding for health in all four case study countries, coupled with the heavy dependence on external funding in some, make it unlikely that the government budgets of these countries can finance a substantial increase in coverage in the present circumstances.

Overall, total health spending (THE) in the four case study countries is above Sub-Saharan Africa regional average, but most of it is not through public spending. Their THE shares some commonalities including the following: (i) all four spend between 5-6% of GDP on health, a little more than the average Sub-Saharan Africa country; and (ii) the contribution of government health spending is low¹⁸ (between 1 and 1.6% of GDP), with Kenya being the bigger spender (1.6% of GDP) and Nigeria the lowest (0.87%).

Whereas Kenya has the highest government spending as a share of the total economy (31.2%), its government allocates the smallest share of its budget to the health sector (5.9%), while Tanzania allocates substantially more. Among the four case study countries, Nigeria's health system has the greatest dependency on household financing through out-of-pocket spending. Per capita health spending, in international dollars, is highest in Nigeria and lowest in Kenya—a seemingly paradoxical fact considering that Kenya has some of the best health indicators in the group and Nigeria has the worst. Table 5 and box 2.

¹⁸ Throughout this report, Government Health Expenditure is defined as public funding, at the exclusion of external funding or funding from National Health Insurance schemes.

Table 5: Health financing indicators for the four case countries and comparable groups, 2014

Indicators	Côte d'Ivoire	Kenya	Tanzania	Nigeria	Sub-Saharan Africa	Low middle income countries
Total Health Expenditure (THE) per capita (USD)	88.37	77.70	51.72	117.52	96.99	89.30
Total Health Expenditure (THE) per capita (PPP)	187.02	168.98	137.41	216.87	198.59	267.68
Total Health Expenditure (% of GDP)	5.72	5.72	5.58	3.67	5.58	4.47
Government total expenditure (GTE) (% of GDP)	24.2	31.2	24.9	13.9	23.0	24.0
Government health expenditure (GHE) (% of GTE) – this includes on-budget external financing	7.35	12.80	12.31	8.17	11.1	6.3
Government health expenditure (GHE) (% THE)	29.36	61.25	46.41	25.15	42.40	36.29
Government Health Expenditure (GHE) % GDP	1.68	3.50	2.59	0.92	2.30	1.62
Out-of-pocket health spending (OOPS) (% of THE)	50.81	26.11	23.21	71.67	34.71	54.54
Donor health expenditure (DHE) as a share of THE	9.37	27.55	35.94	6.72	11.49	3.22
HIV/AIDS expenditure as a share of THE (%)	5.6	37.5	24.7	2.9	n.a.	n.a.
HIV/AIDS expenditure per person living with AIDS (current US\$)	216.0	569.2	400.0	167.7	n.a.	n.a.
HIV/AIDS spending per inhabitant (current US\$)	4.7	17.4	12.3	3.4	n.a.	n.a.

Source: World Bank WDI 2016 Databank.

Notes: n.a. Not available. GHE in its definition under WHO and WDI data includes on-budget external funding and social security funds.

Box 2: The case of Nasarawa State in Nigeria and Public spending in health

Regarding the government's health financing effort as a proportion of General Government Expenditure (GGE), Nasarawa State in Nigeria comes out ahead, with 10.37% of GGE for health, while the others in this study had levels of 5-5.5%. The contradictory performance of Nasarawa State is explained by the fact that GGE represents a very low proportion of GDP: 8.35%, which is a little lower than Nigeria as a whole (11%), and much lower than the other case study countries (varying from 19.1% in Tanzania to 28.5% in Kenya) and the average for Sub-Saharan Africa (17-22%). Partially compensating for that, the Nigeria State and local governments allocates a relatively high proportion of their budget on health, but most of this goes towards personnel salary.

Source: Authors

External financing varies by country characteristics. Kenya and Tanzania have had a higher reliance on donors, while Cote d'Ivoire and Nigeria have not. The contribution of other sources also varies substantially across countries. Tanzania and Kenya rely much more on external financing (38% and 22% of THE

respectively) than the two other countries (around 8%)¹⁹ and the Sub-Saharan Africa regional average (11%).

Off-budget sources of health financing may be important to these countries. Kenya and Tanzania rely less on household's out-of-pocket payments (23% and 24%) than Cote d'Ivoire and Nigeria (57% and 83% of THE respectively). Revenues from national health insurance (NHI) and user fees (internally generated funds) also play different roles in the four case study countries. They represent 8.5% of THE in Kenya and 4.2% in Tanzania, where both NHI schemes and user fees are present, but only 3% in Cote d'Ivoire and 0.3% in Nigeria, where only a limited NHI scheme is in place.

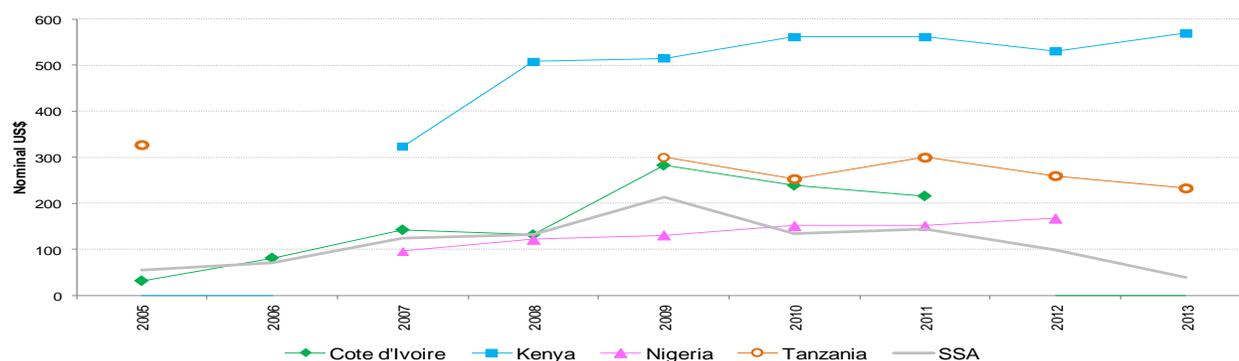
Catastrophic health spending and poverty have an impact on overall access to health and social protection. There is evidence of this from Sub-Saharan Africa and the four case study countries. For example, in Kenya, strong reliance on household out-of-pocket (OOP) spending for health financing limits people's access to health care, particularly the poor and vulnerable. This can result in catastrophic health spending and may lead to impoverishment. Chuma and Maina (2012) concluded that "each year, Kenyan households spend over a tenth of their budget on health care payments. The burden of out-of-pocket payments is highest among the poor. The poorest households spent a third of their resources on health care payments each year compared to only 8 percent spent by the richest households." The recent abolition of user fees at the primary health care level may contribute to improved accessibility to these services by the poor and vulnerable (World Bank 2013). In Tanzania, the prevalence of inequalities in socioeconomic factors played a significant role in determining the nature of both out-of-pocket and catastrophic health expenditures (Brinda, Andrés et al. 2014). Because of the political troubles in Cote d'Ivoire, the government decided to suspend charging user fees at public facilities to improve access to care, but it is now intent on reinstating them.

HIV/AIDS financing

The effort to combat HIV, as measured by total spending per PLWH, has varied in an important way among the four case study countries and in the Sub-Saharan Africa region. By far the greatest effort has been in Kenya, which, between 2008 and 2012, annually spent over \$500 per PLWH. This higher spending reflects this country's response to its relatively high prevalence rate. Nigeria's spending per PLWH is the lowest among the four case study countries and is similar to the Sub-Saharan Africa regional average—a finding that is consistent with Nigeria's relatively lower prevalence rate. However, Nigeria has been stepping up its national response, as seen in its rising HIV/AIDS spending per PLWH. Figure 14.

¹⁹ Funding estimates from external and private sources were not available for Nasarawa State, and we used the funding levels of Nigeria as a whole as proxies.

Figure 14: HIV/AIDS spending per person living with HIV in case study countries and Sub-Saharan Africa, 1990-2014 (nominal US\$)



Source: Authors from UNAIDS AIDSinfo (<http://aidsinfo.unaids.org/>) and World Bank DataBank (<http://databank.worldbank.org/data>).

On the other hand, governments have invested little in HIV/AIDS from their own funds, only 11-21% of total funding for the HIV/AIDS programming in their countries. This is the reason for concerns about domestic self-reliance. The structure of domestic financing for HIV/AIDS has significant variations among the four case study countries. In both Nigeria and Côte d'Ivoire, majority of domestic funding is public. However, in Tanzania, the majority of domestic resources is private and comes from households. Household financing of HIV/AIDS services is significant in Kenya as well, although not as large as financing from government. Table 6 and Figure 15.

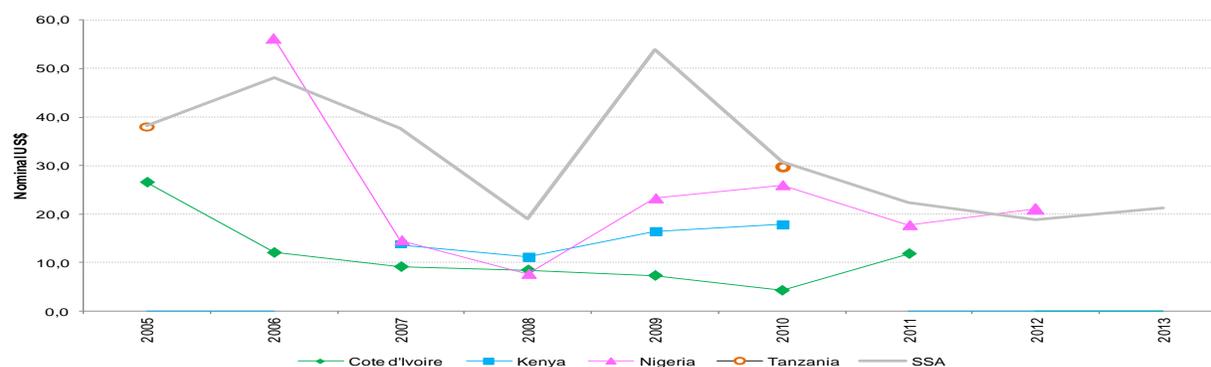
Table 6 Financing structure of the HIV/AIDS response in case study countries, 2010-12 (%)

Funding sources		Côte d'Ivoire (2011)	Kenya (2011)	Tanzania (2010)	Nigeria (2012)
Domestic	Subtotal	12.4	29.7	31.9	22.9
	Public	11.7	11.5	17.4	21.3
	Private	0.7	18.3	14.5	1.6
	For-profit	0.1	1.0	2.0	
	Households	0.6	17.3	12.5	1.6
	Other private	0.0	0.0	0.0	
International	Subtotal	87.6	70.3	68.1	77.1
	Bilateral	77.8	70.3	62.1	72.5
	Multilateral	8.5		2.9	4.4
	NGOs	1.3		3.1	0.2

Source: Authors from Conseil National De Lutte Contre Le SIDA (2013), Republic of Kenya (2014), and sources for Nigeria and Tanzania.

Note: Disaggregated data were not available for Nigeria private spending or for Tanzania international spending.

Figure 15: Domestic share of HIV/AIDS spending in case study countries and Sub-Saharan Africa



Source: Authors from UNAIDS AIDSinfo (<http://aidsinfo.unaids.org/>) and World Bank DataBank (<http://databank.worldbank.org/data>).

Prospects for external financing for HIV/AIDS

Most countries in the Sub-Saharan Africa region rely heavily on external assistance to finance their HIV/AIDS response, although the Sub-Saharan Africa region as a whole is less dependent on external financing than the four case study countries. The Sub-Saharan Africa average share of spending accounted for by external assistance was at its lowest in 2009 (46 percent), with the remaining 54 percent financed by government and households. Among the case study countries, Côte d'Ivoire was the most dependent on external financing for HIV/AIDS in the past five years (2010-2015). (Refer to table 2.6). Kenya's extensive HIV/AIDS response has been financed mostly through external assistance as well. In 2010, it achieved its highest share of domestic financing for HIV/AIDS: 18 percent of the total. However, the next year Kenya financed only 11.8% of its HIV/AIDS response with domestic resources while donors picked up the remaining 88.2 percent. Tanzania's dependence on external support for its HIV/AIDS interventions increased from 51.1 % in 2005 to 69.3 percent in 2010.

For these four case study countries, external funding represents upwards of two-thirds of all resources, with much of the external funding coming from bilateral donors, notably the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). For HIV/AIDS and a few other vertical programs, however, dependency on external funding is much higher for all countries, reaching between 70 and 90%. This means that if international development assistance does decrease in future years, programs such as HIV/AIDS, malaria and tuberculosis are likely to suffer most.

Service use

Health status is partly explained by the population's access to various curative health services and/or by its use of preventive services (also referred to as effective coverage). It is striking that Nigeria, with its comparatively high per capita income, has some of the worst indicators of access to curative and preventive services among the case study countries. Kenya and Tanzania feature the opposite phenomenon: whereas they have the lowest per capita incomes in the group, they have some of the best indicators of access. Table 7 and Figure 16.

The case of Tanzania is interesting from a health policy perspective. Its government allocates the highest share of its public budget on health among the four case study countries, while household out-of-pocket spending in health (OOPS) as a share of total health spending is the lowest. This may reduce financial

barriers to access, and thus possibly explain the greater use of services in Tanzania compared to the other case study countries.

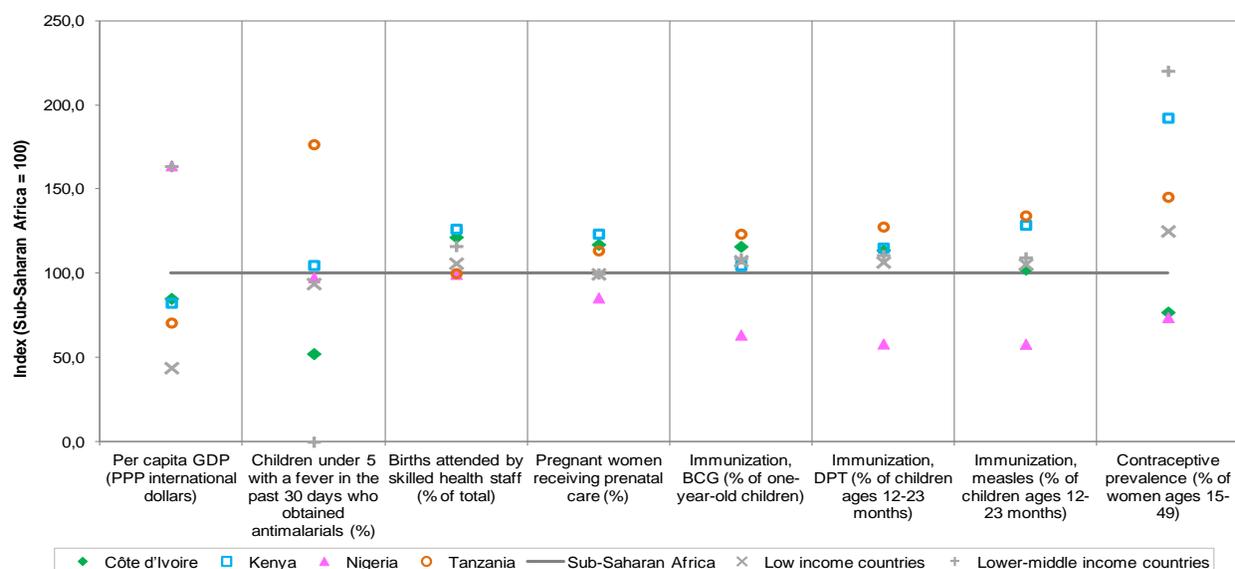
Access to services also varies amongst the studied countries. Access to antiretroviral (ARV) medicines is highest in Kenya (46 percent), while ARV coverage to prevent mother-to-child transmission (PMTCT) is highest in Côte d'Ivoire and Tanzania (above 70%). Nigeria has by far the lowest levels of access for both ARV (16.8%) and PMTCT (30.2%, 2015). For other health services, coverage is generally highest in Tanzania and Kenya, and followed by Cote d'Ivoire. Coverage is lowest in Nigeria, despite the fact, that it has the highest number of physicians and nurses per capita. Table 7 and Figure 17.

Table 7: Access to health services

	Côte d'Ivoire	Kenya	Tanzania	Nigeria	Sub-Saharan Africa	Low income countries	Lower-middle income countries
Per capita GDP (PPP international dollars)	2.753	2.670	2.288	5.310	3.232	1.422	5.295
Children under 5 with a fever in the past 30 days who obtained antimalarials (%)	17.5	35.1	59.1	32.7	33.4	31.4	..
Births attended by skilled health staff (% of total)	59.4	61.8	48.9	48.7	48.8	51.8	56.8
Pregnant women receiving prenatal care (%)	90.6	95.5	87.8	66.2	77.2	77.0	77.2
Immunization. BCG (% of one-year-old children)	93.0	84.0	99.0	51.0	80.1	86.2	87.3
Immunization. DPT (% of children ages 12-23 months)	82.0	83.0	92.0	42.0	71.9	76.8	79.8
Immunization. measles (% of children ages 12-23 months)	74.0	93.0	97.0	42.0	72.1	76.2	79.0
Contraceptive prevalence (% of women ages 15-49)	18.2	45.5	34.4	17.5	23.6	29.6	52.1

Source: Authors from World Bank DataBank (<http://databank.worldbank.org/data>).

Figure 16: Access to health services indices, 2012



Source: Authors from World Bank DataBank (<http://databank.worldbank.org/data>).

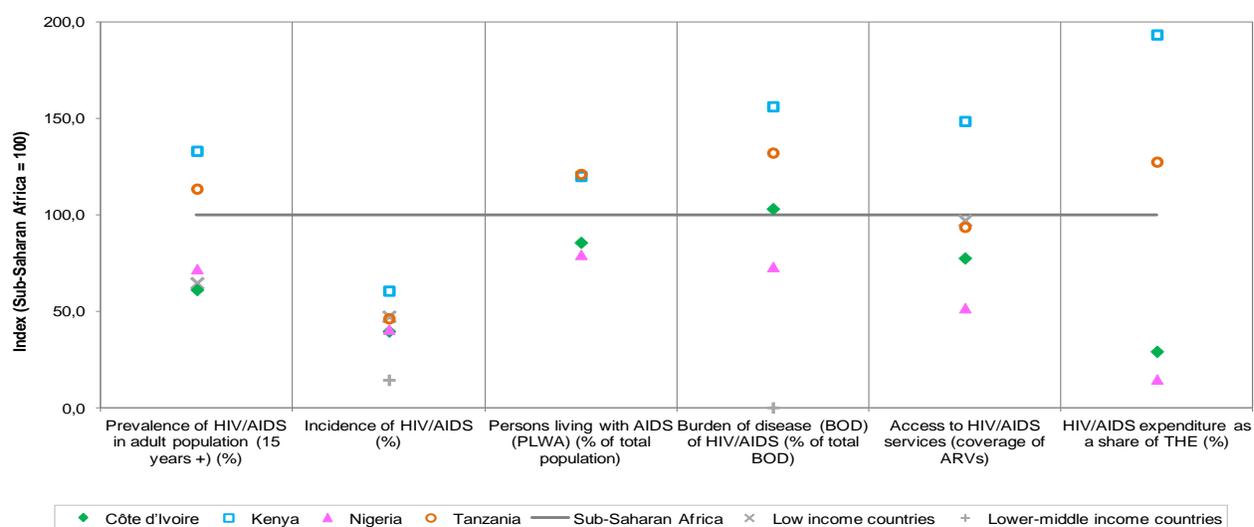
Note: The research team has taken Sub-Saharan Africa average as “100” and then compared if the case study countries were above or below that average.

Table 8: Epidemiology, coverage and financing of HIV/AIDS

	Côte d'Ivoire	Kenya	Tanzania	Nigeria	Sub-Saharan Africa	Low income countries	Lower-middle income countries
Prevalence of HIV/AIDS in adult population (15 years +) (%)	2.80	6.10	5.20	3.30	4.59	2.96	0.70
Incidence of HIV/AIDS (%)	0.15	0.23	0.17	0.15	0.38	0.18	0.05
People living with AIDS (PLWH) (% of total population)	2.18	3.06	3.08	2.02	2.55
Burden of disease (BOD) of HIV/AIDS (% of total BOD)	10.30	15.60	13.20	7.30	10.00	0.00	0.00
Access to HIV/AIDS services (coverage of ARVs)	24.00	46.00	29.00	16.00	31.00	30.06	..
HIV/AIDS expenditure as a share of THE (%)	5.64	37.48	24.70	2.86	19.40

Source: Authors from World Bank WDI DataBank (<http://databank.worldbank.org/data>), UNAIDS AIDSInfo database, and IHME.

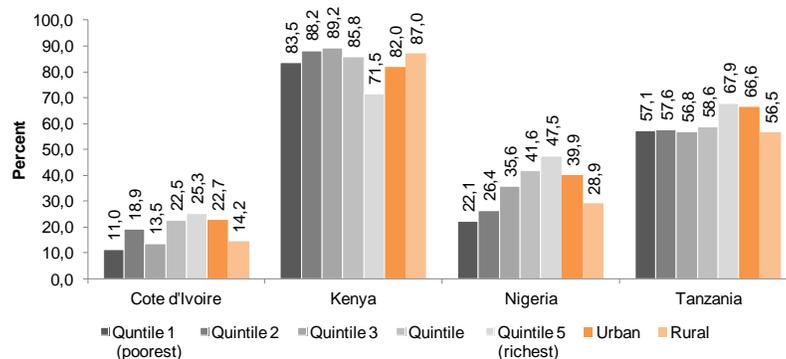
Figure 17: Epidemiology and coverage and financing of HIV/AIDS indices, 2012



Source: Authors from World Bank DataBank (<http://databank.worldbank.org/data>).

Kenya and Tanzania show much better pro-poor reach in improving access to malaria treatment than Cote d'Ivoire and Nigeria. Côte d'Ivoire and Nigeria also exhibit a marked inequity in access to malaria treatment in children under 5 years, while access to this treatment is fairly equitable among socioeconomic groups in Kenya and Tanzania. In all four countries except Kenya, access to antimalarial medicines for children is better in urban areas than elsewhere. Figure 18.

Figure 18: Children under 5 with a fever in the past 30 days who obtained antimalarials



Source: Authors from National Bureau of Statistics and ICF Macro 2011, Institut National de la Statistique and ICF International 2012, National Population Commission and ICF International 2014, Kenya National Bureau of Statistics, Ministry of Health et al. 2015)

Concluding remarks

As explained in this chapter, all four case study countries are similar in many ways, especially with regard to population, economic growth rates and epidemiological profile. However, their response to these challenges and the resulting outcomes are different. Generally, Kenya and Tanzania exhibit better socioeconomic indicators and better health inputs and outcomes, while Nigeria (and/or Nasarawa State) often lags behind the three other countries in spite of its higher income.

Tanzania is still a low-income country (LIC), although fast approaching MIC status, and it faces more challenges than the others, in that it faces a higher economic and demographic challenge, and has the most restricted access to basic services among the four case study countries. But in many respects, its health and education indicators are better than some of the others. Nigeria, on the other hand, is a low middle-income country (LMIC). It is the richest of the four countries, but it is facing lower economic growth, as its economic growth is much dependent on a small set of goods and services, namely hydrocarbons, and which is affected by global markets. Its health indicators have been among the worst of the four.

There are mixed results of how the four case study countries fair on their fundamental economic indicators against the Sub-Saharan Africa regional average. Mostly, they are performing worse than the Sub-Saharan Africa regional average, but there are some exceptions. Kenya seems to have better economic fundamentals than the other four case study countries. Kenya has a higher tax revenue as share of GDP as well as higher public spending as share of GDP compared to the Sub-Saharan Africa regional average and the other three case study countries. Cote d'Ivoire is trailing not too far behind. Nigeria on the other hand, has the lowest tax revenue as share of GDP, as well as low overall public health spending as share of GDP.

There are some mixed results on health outcomes. Kenya and Tanzania have very similar indicators for other measures of health status, such as life expectancy at birth (LEB), infant and child mortality rates (IMR and CMR) and maternal mortality ratio (MMR). Both performed better than Côte d'Ivoire and Nigeria. Kenya and Tanzania also have much better pro-poor reach in bringing down IMR than Cote d'Ivoire and Nigeria. There is considerable inequality in IMR both in Côte d'Ivoire and in Nigeria. All four case study countries have much to do to achieve UHC.

All four case countries have a high burden of disease from HIV/AIDS. Kenya, however, has shown remarkable progress in controlling and even reversing the HIV epidemic. While Nigeria had the lowest prevalence of the four countries, it has not made sufficient efforts to significantly curb the HIV epidemic. It is notable, however, that while Nigeria's effort to control the epidemic may appear weak judging on its decline in prevalence, this country has managed to bring HIV incidence down to the same level as the three other countries and the region, as a whole. While all three case study countries seemed to have improved access to ARV, Nigeria has fallen behind. (Refer to figures 2 and 3).

The four case study countries have seen limited public sector commitment for spending in health. Tanzania performs better than the other case study countries in terms of public spending in health (as share of total government spending), and its spending is on par with the Sub-Saharan Africa regional average. However, Tanzania also is highly dependent on external (donor) financing for health. The three other countries are below Sub-Saharan Africa regional average in their public spending in health. Nigeria has the lowest public spending on health (as share of total government spending) and the highest for household out of pocket spending in health (as share of total health spending).

SECTION II: CONCEPTUAL FRAMEWORK AND METHODS

Chapter 3: Conceptual Framework for Financial Sustainability

This chapter presents a conceptual framework for analyzing the policy challenge facing developing countries regarding the financing of HIV/AIDS and other UHC health services.

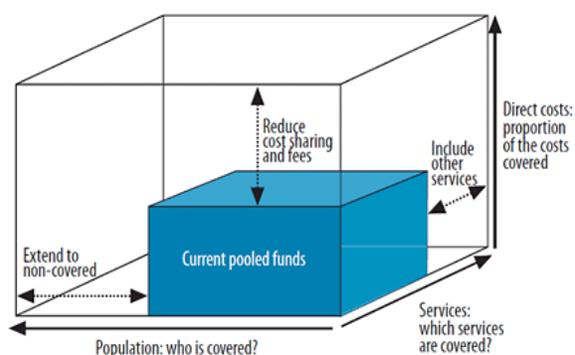
Universal health coverage

UHC framework: The cube

The World Health Organization developed a framework for understanding the dimensions of universal health coverage (UHC) and planning it, often dubbed “the cube”. The cube in Figure 19 indicates the three key questions underlying the design and implementation of UHC:

- (i) Who should be covered?
- (ii) Which services should be covered—i.e., be included in the MHP?
- (iii) How much of the total cost of UHC will be funded from the public resources, and how much will be covered by other resources?

Figure 19 The three dimensions to consider when moving towards universal coverage



Source: World Health Organization (2010)

A UHC strategy seeks to optimize financial protection—especially for the most vulnerable—while remaining affordable. Balancing these two dimensions is the central discussion in UHC planning and implementation.

- The **first policy question** is known as the *external efficiency* question. It asks: On what basis should society decide how many resources to allocate to the health sectors?
- The **second policy question** is how should government allocate its health resources among various competing health-related aims. This is typically known as the *allocative efficiency* question. It involves allocation decisions among alternative health uses (for example, HIV prevention versus HIV cure, or mass education to improve public sanitation versus emergency obstetric care).
- The **third policy question** concerns *technical efficiency*, that is, the search for ways to produce and deliver quality health services at minimum cost. In the case study countries there is empirical evidence of technical inefficiency in the production (or provision) of government health services.
- The **fourth and final policy question** is who should receive the health services produced. This question deals with the issues of *equity in access* and *equity in financing* of health services.

The cube also illustrates the fact that coverage and the scope of the benefit package can and need to be adjusted to the amount of resources available. They can be expanded gradually. Important questions to ask include: How much coverage can we afford at any point in time? Which package can we afford? How can we maximize risk protection and equity while ensuring financial sustainability? Is there room for cost recovery in UHC?

UHC involves supplying a defined package of priority health services to the whole population, to ensure that even the poor and vulnerable have access to at least this minimum package. The primary reason why developing countries are moving toward UHC is the existence of important inequalities in the access to and the use of health services, with vulnerable groups often deprived of essential services. This, in turn, reduces the effectiveness of health systems in improving the health status of the country, and of vulnerable groups in particular.

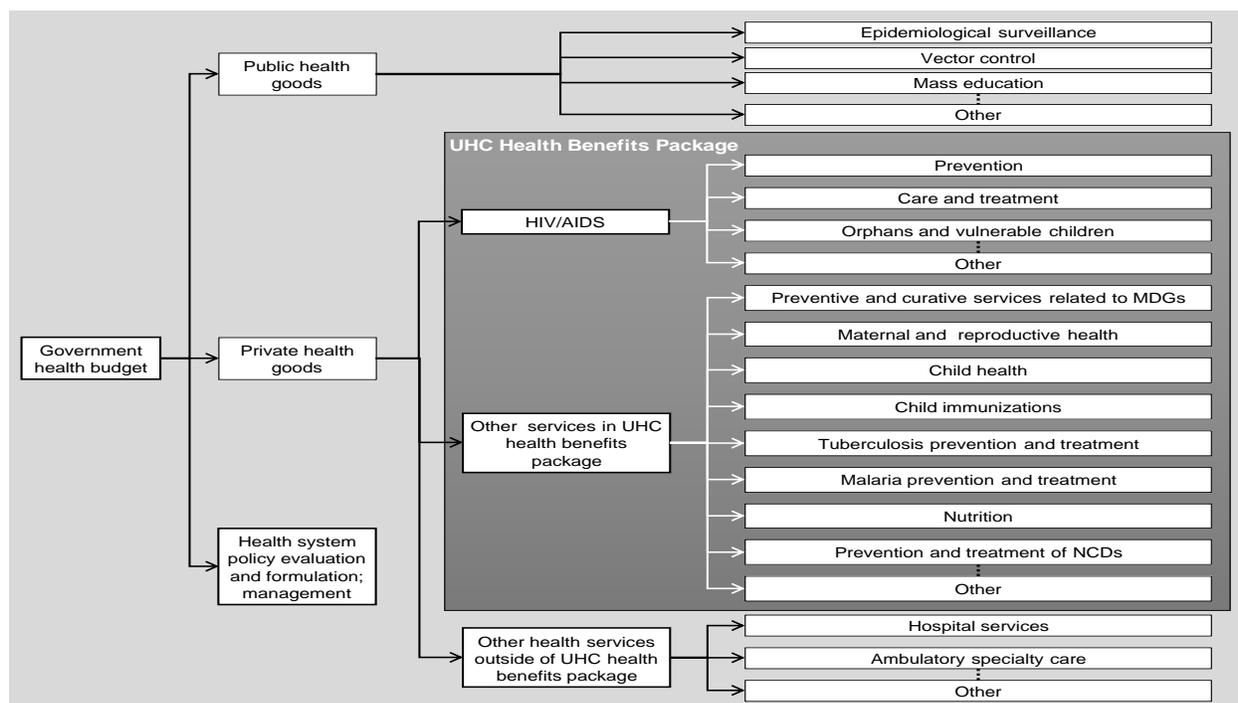
Moving toward UHC is about prioritizing certain services to which all, and especially the vulnerable, will have real access. A recent report identified two main approaches for UHC: (1) supply-side programs aimed at expanding the capacity for service provision, with a special focus on primary care; and (2) demand-side programs that seek to enroll the target populations and purchase services on their behalf (Cotlear et al, 2015).

Financial protection is currently recognized as one of the three ultimate objectives of health systems, the other two being health status improvement and health system responsiveness (Roberts, Hsiao et al. 2002, World Health Organization 2007). Gottret and Schieber (2006) laid out three basic principles of public financing related to the health sector, and embedded financial protection in them. First, countries should raise enough revenues to provide individuals with a basic package of essential services and financial protection against catastrophic medical expenses caused by illness and injury in an equitable, efficient, and sustainable manner. Second, countries should manage these revenues to pool health risks equitably and efficiently. Third, they should ensure the purchase of health services in ways that are allocatively and technically efficient. Risk pooling, through social health insurance or other insurance mechanisms, is a tool that allows those covered to spread their individual financial risk resulting from poor health.

To define the services to be covered, one needs to analyze current financing patterns and healthcare delivery in light of the current and future burden of disease. Figure 20 shows health resource allocations by service type and disease. Because UHC is meant to ensure access to basic services for all, an UHC package should prioritize disease or conditions that pose the greatest threat to population health but are also relatively cheap to diagnose and treat.

Up to this point in this chapter the discussion as dealt with efficiency and equity criteria regarding the allocation of public resources for HIV/AIDS and other health services. Efficiency criteria are concerned with achieving the greatest possible gains in health status with available resources. Equity criteria deal with the distribution of public resources for health to achieve equitable access to services and equitable financing. The focus of this discussion will now turn to another important policy concern: financial protection in health. Figure 20.

Figure 20: Resource allocation by type of service



Source: Authors' elaboration

Fiscal space

If the available funding streams (fiscal capacity) cannot meet all of the expected needs, planners must also analyze whether the fiscal space in which they operate can be expanded. Fiscal space is the budgetary room a government can use to provide additional resources for a given desired purpose without prejudice to the sustainability of the government's overall financial position (Heller 2006). It considers five potential types of revenue (Tandon and Cashin 2010). Table 9.

Table 9: Five potential sources of new fiscal space

Potential source	Definition/Example
Conducive macroeconomic and fiscal conditions	economic growth and increases in government revenue
Re-prioritization	of health in the government budget
Health sector-specific resources	such as earmarked taxes
Development assistance	health sector-specific grants, foreign aid or loans
Efficiency gains	through better use of existing expenditures

Source : Tandon and Cashin (2010).

The first action involves promoting economic growth and improving tax collection to increase the available public financing. To the extent that fiscal space is undertaken to expand to overall public budget, it is an action beyond the purview of health policy makers.

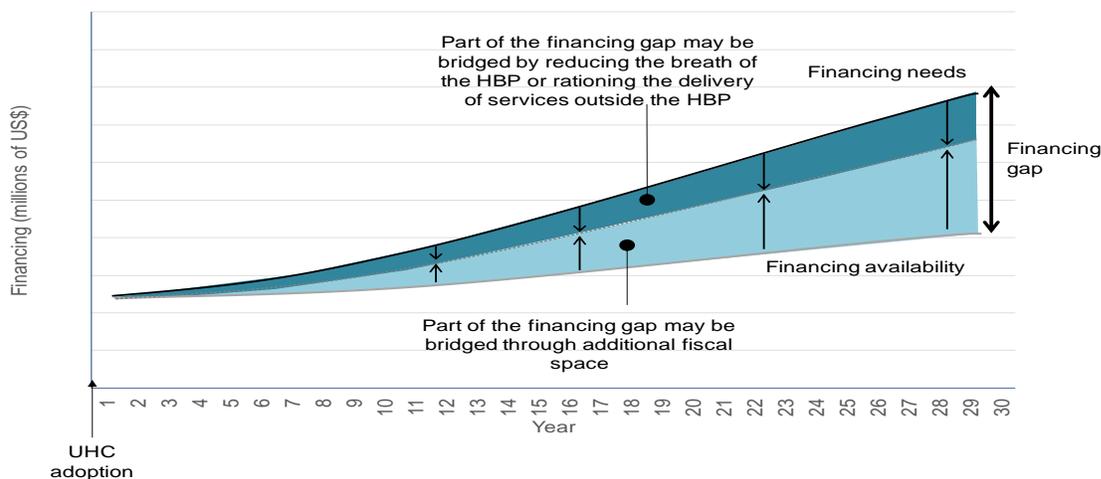
The second action involves reallocating government financing towards health spending and away from other uses. This is the so-called external efficiency problem, as described above. Health policy makers often engage in discussions with representatives from the ministry of finance to attempt to obtain a higher share of the public budget.

The third is the adoption of new taxes or other means of revenue collection and their exclusive allocation to health spending. As will be explained below, all four case study countries considered a variety of new taxes earmarked for the health sector.

The fourth is securing new grants or loans for health from international development organizations. The fifth is the implementation of measures to free up existing financing for more and better quality health services by improving the efficiency of current spending.

In accordance with the above framework, any future gaps in financing can be bridged by collecting additional revenue, or by improving efficiency of health spending, or both, as is illustrated in Figure 21.

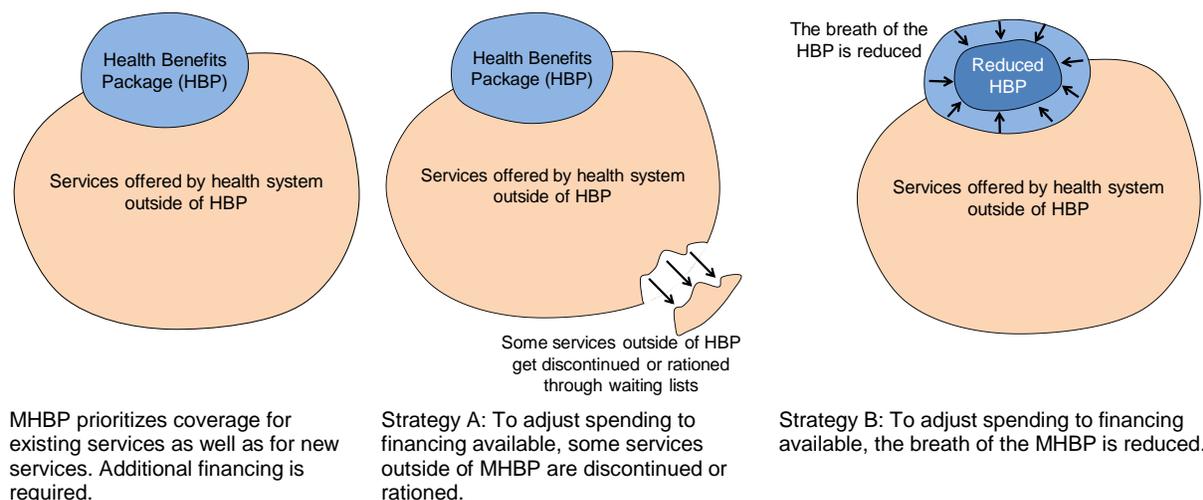
Figure 21: Bridging the health-financing gap



Source: Authors.

An additional approach is to adopt a benefits package of more limited breadth (scope), or with fewer or less costly services covered (see the UHC cube in Figure 22 and which depicts the policy options to match UHC costs with financing). Another possible approach is to ration some of the services outside of the MHP. Fiscal space options are discussed for the four countries in Chapter 6 on fiscal space.

Figure 22. Financing consequences of adopting an MHBP and strategies available to preserve financing balance



Source: Authors.

Financial sustainability

The central issue discussed in this report is financial sustainability. Langenbrunner et al. (World Bank, 2014) developed a framework for assessing the sustainability of HIV/AIDS financing that can be more generally applied to health. The framework involves the following steps:

1. Understanding the HIV/AIDS disease profile, current and projected.
2. Assessing current spending patterns and its allocation.
3. Assessing the current coverage gap. Assessing optimal current and future spending.
4. Analyzing the macroeconomic and fiscal context and environment.
5. Determining the government priority setting for funding of HIV/AIDS.
6. Raising additional revenue for the health sector and HIV/AIDS programs.
7. Pooling of funds and governance.
8. Identifying options for improving efficiency and value for money.
9. Assessing the possibility of integration and health systems strengthening issues.
10. Analyzing other system issues for strengthening and capturing savings and efficiencies.
11. Implementing the HIV/AIDS financial sustainability framework.

This framework was applied to the analysis of joint sustainability of HIV/AIDS and UHC. The methodology used in the study merges the sustainability framework developed by Langenbrunner et al. (World Bank, 2014) and the fiscal space framework, described earlier in this chapter. Figure 23.

Figure 23: Conceptual framework guiding this study



Chapter 4: Methods for Financial Sustainability

This chapter describes the five main methodological steps in the fiscal space analysis of the selected countries. Among the methods described are: (a) projecting the burden of disease; (b) defining the MHBP; (c) estimating the future costs of the HIV/AIDS and UHC expansion through 2030; (d) estimating present and future funding and the existence of any financing gaps; and (e) simulating fiscal space and resources that can be mobilized to cover any financing gaps.

In this study context, there are some challenges in estimating costs of the MHBP package, because the package varies across countries. Estimating the amount of resources a country needs to expand coverage is a challenge because it requires hard to get empirical information about current coverage, the current cost of services, and the behavior of unit costs as coverage expands. Yet estimating the additional costs and associated resources requirements to achieve full coverage of HIV/AIDS interventions may be simpler than estimating costs for MHBP. That may be because there are international standards that define the scope of preventive and curative services countries must deliver to cover HIV/AIDS, although one might still face some challenges with HIV/AIDS programs. For example, the unit costs of some services may increase as the coverage of HIV/AIDS interventions expands if diseconomies of scale are reached, or they may drop (Bishai, McQuestion et al. 2006). In contrast, there is no international standard for what is or should be included in an MHBP. Different countries have different definitions of MHBPs; richer countries tend to define more expansive MHBPs, while poorer countries define less comprehensive packages.

Furthermore, any costing effort must consider the costs of MHBP and non-MHBP services so that the available funding for UHC can be determined, and the costing effort must look for financing for both types of services. Estimating the costs of services in the MHBP is much simpler, conceptually, than measuring the costs of services outside of it. Output volumes for MHBP services times the unit costs of those services can provide an estimate of the associated costs (more on this below). A conceptually more difficult task is the estimation of costs for services outside of the MHBP. How much money should government set aside to pay for non-priority services such as secondary and tertiary care in public hospitals?

Costing methodology

Many costing exercises have been undertaken in different countries to estimate the cost of a given program or a package of services, using different methodological approaches and tools. Such studies usually tend to use one of two approaches: measuring the actual direct cost of specific services in a sample of facilities (positive), or estimating the expected cost of services based on the amount of resources needed to produce a standard service (normative). The positive involves collecting data from a representative sample of facilities, while the second is often based on an expert panel (or clinical guidelines) to identify the type and quantity of each input used in the production of a given service. One example of the former is the OPM (Oxford Policy & Management) study in Tanzania, which estimated the cost of different packages of health services based on a sample of facilities (OPM, 2013b). One example of the normative approach is a series of costing studies using the OneHealth Tool (OHT), developed by the Futures Group (Avenir/Palladium)

under the sponsorship and oversight of the WHO and the UN InterAgency Working Group on Costing (IAWG-Costing)²⁰, and used in several countries of Sub-Saharan Africa.

Aside from the data collection requirement and the challenge of obtaining reliable data (for the facility-based costing), the main difference between the positive and normative approaches (actual direct costs or estimating the expected costs of services) lies in the underlying assumptions.²¹ The positive approach for estimating healthcare costs, measures the actual cost incurred by real facilities in producing a given service, as it is actually done in real life. Any (in)efficiency in the production process is incorporated in the resulting cost, as is the effect of stringent budget constraints. The normative approach implies estimating what the cost of a service would be if produced using a standardized process to produce efficiently a service of a given quality; and estimates do not necessarily reflect the amount of resources actually used in a specific facility or process. These conceptual differences can result in significant variations in the estimated costs: a facility-based cost estimate can be lower than the standard cost if the activity is significantly underfunded, or greater if substantial inefficiency and waste is built in the production process. These methodological differences and the quality of data available explain to a large measure the variation encountered across studies for the cost of a given service (explained in subsequent sections of this report).

The OHT is one such tool. It was designed primarily for MDG gap assessment and the costing of this gap. There is a systematic and detailed structure for costing out the MDG-related programs. This has been a substantial contribution to the literature. However, due to its primary focus on the MDGs, it does not provide the same level of details or precision in considering a more comprehensive costing of government programs – beyond MDG. However, because its approach is limited to the MDGs, it does not provide the same level of details or precision in considering a more comprehensive costing of government programs beyond the MDG context. Despite this limitation, the OHT has been used in several Sub-Saharan Africa when estimating costs for the minimum health service package. In Kenya and Tanzania, numerous health service package costing studies had been undertaken, including the ones using the OHT. However, OHT could not be used [in the same way] for the costing estimates in Cote d'Ivoire and Nigeria because of the limited information available. Even when using similar tools (e.g., OHT), the comparison of costs across the four countries showed substantial variations, the reasons of which are discussed below. It also showed variations when compared to the findings in the literature that used other methodologies. While estimating current service costs is challenging, projecting such costs into the future is even more so. This study therefore considered the various estimates and their limitations, and adopted its own approach to come up with a range of future cost estimates. OHT specifics and limitations are in Annex 4.1.

Box 3 provides the highlights of the OHT model. Some key information needed for this model includes population size and growth, disease incidence, prevalence and mortality, service utilization for each major disease or condition, and service unit costs to estimate the current and future service needs and costs for the benefit package.

The structure of OHT consists of two main modules, one to estimate the direct costs of service delivery and management for the specific programs and services of interest, and another to estimate indirect health system costs. Direct health service delivery costs include labor, medicines, and other supplies, as well as costs related to the management of these programs. Indirect health system costs include human resources

²⁰ It is now managed by Avenir Health.

²¹ More broadly, costing studies can be categorized in six main methods: (i) direct costing, (ii) cost accounting methods, (iii) standard unit costing, (iv) market prices, (v) estimation/extrapolation, and (vi) economic costs (Mogyorosy and Smith, 2005). These will not be reviewed here for the sake of brevity.

not directly engaged in the production of the health services of interest, logistics, infrastructure, health financing, health information systems, and governance (Avenir Health/Palladium, nd). Box 3.

Box 3: Highlights of the One Health Tool (OHT) model

The OHT model estimates the costs of services provided from a normative perspective, i.e., estimates what the costs should be under normal conditions, rather than how much resources have actually been used in the process.

Total costs are broken down in three categories: commodities costs (drugs and medical supplies), program costs (the direct cost of managing the program), and system costs (which include all general costs relating to unallocated human resources, infrastructure, governance and financing, logistics, information systems).

The OHT tool projects population and health service delivery growth over a user-defined period of several years. It contains explicit health intervention production functions and assumes that production costs are linear with output. The user must specify the types, amounts, and local prices of inputs required to deliver each intervention as well as the desired delivery volume, or output, in each of the years of the projection horizon.

Comparison adjustments across findings in the literature

Overall, the various estimates on the cost of MHBP and HIV/AIDS packages given by different studies in the literature differ due to several factors. Broadly, the issues concern (a) costing assumptions and methodology, (b) population coverage projections, (c) the scope of the health services package, and (d) underlying assumptions on epidemiological trends. Some of the highlights are given below:

- Health services cost estimates in the literature are heavily affected by the costing methodology used by the respective studies. Some studies have used bottom-up costing, while others have used expected costs or actual expenditures. The methodology and assumptions used have a bearing on the results.
- The assumptions used regarding population growth, incidence and prevalence rates, the impact of existing health programs, and future inflation rates, are important elements to consider, and variations in these assumptions can result in sizeable differences in the resulting cost estimates. For some, like the OHT, the demographic and epidemiological factors were built into the model and were not assessed.
- The main driver of future costs is usually the speed of coverage expansion, which depends on the degree of ambition of government-defined targets and the projected amount of resources allocated to the MHBP. In many studies, governments tend to assume very ambitious coverage targets with little consideration of the resource constraint.
- The scope of the minimum health services (or benefits) package considered was not uniform across the case study countries. For example, some countries have defined their minimum health service package only including PHC services, while others include both PHC and secondary/hospital care.
- The lack or unreliability of data needed for estimations and projections also play an important factor, as data gaps have to be filled by indirect estimations or approximations.

- The type and scope of cost elements (direct and indirect) included, such as whether and how indirect and central level costs (system-wide costs) are included and allocated, also affect final estimates, given their importance in the total costs.
- The general level of prices prevalent in each country, affects the cost of health inputs and thus final cost estimates; to some extent, these can be addressed by converting all estimates to purchasing power parity dollars (PPPs).
- The denominator defined for unit costs, such as per capita costs. In some studies, per capita costs are estimated based on the total population, while in others it is based on actual coverage and service utilization of the program. To avoid this confusion, in this report, the research team used the transparent concept of cost per person covered.

The study approach

In order to obtain relevant estimates in a relatively short time, the Study primarily relied on secondary sources of information on the costing of the minimum health service package. For the initial costing of the minimum health services, the research team used information from the OHT model baseline estimations. Modifications were made in modeling future costs. They adjusted the OHT version of the model they received from *Futures* (Avenir Health/Palladium) in several ways.

- OHT baseline estimates (standardized as 2015) were used for Kenya and Tanzania, where costing exercises took place; projections for 2020 were done using our own assumptions;
- For Cote d'Ivoire and Nasarawa State in Nigeria, because no costing exercise had taken place, a simplified model based on the OHT model was used;
- In the Kenya case, the original version estimates were deemed to be overly ambitious; reduced health interventions' outcomes and coverage rates were assumed for in our projections, based on Haacker, 2014;
- In the case of Tanzania, some OHT cost projections, were deemed unrealistic²² for some diseases or conditions, and were replaced by our own assumptions regarding coverage increase;
- The so-called *health system costs*, some of which were assumed constant over time in the original version, in this study were assumed to also increase with population and coverage growth;
- Health sector-specific inflation was assumed at 2% per year.

In addition, after the first round of estimation, the research team decided to harmonize these packages to make costs comparable for the four countries and adjusted the resulting costs accordingly. The specific adjustments include:

²² Linear projection of the trends resulting from the OHT simulations would reduce by 2030 Malaria spending per capita by 82%, Immunizations by 74%, eye care and health promotion by over 90% and HIV by 14%, while NCDs would grow to consume 71% of all program costs. A later revision of the OHT report produced more realistic projections.

- Population coverage is the key driver of future healthcare costs under a UHC framework. Because no comprehensive population coverage indicators are available by level of care and for the entire minimum health service package, population coverage tracers were used to estimate the level of program coverage at baseline. For HIV/AIDS, the research team used ARV coverage as tracer; for PHC the authors used the average of (1) program coverage data for ANC, (2) child immunization, and (3) birth delivery by a trained professional;
- Essential drugs and ARV costs are included in the program costs, based on OHT estimations. For projecting ARV costs, the research team used the OHT proportion of drugs costs relative to total program costs at baseline, assuming a gradual reduction over time;
- The research team focused on the indicator of “cost per person covered”, as the most relevant indicators for costing to make resulting estimates comparable across countries with different coverage rates;
- The research team computed income (GDP) elasticities for the four case study countries of interest and other country groups for two reasons: first, to allow for checking our expenditure and funding growth projections against historical trends; and second, to project growth for a few aggregates for which other basis was not available, especially private funding/expenditure for health. Finally, the Sub-Saharan Africa regional elasticities were taken to make projections in financing (for the fiscal space analysis);
- In some of the case study countries, such as Cote d’Ivoire and Nigeria, an explicitly defined minimum health service package was not yet defined at the time the study was being conducted. So, many baseline information requirements were not available. This also restricted at times what information was used (actual or simulated);
- In most cases, when data were not available, the research team used the closest regional average for the variable. For Nasarawa State, data were not available for many variables, and national data for Nigeria were used instead.

Sensitivity analysis

To reduce the impact of a given assumption, the authors used scenarios and sensitivity analyses. Because MHBP can be deployed at different speeds, the research team used three alternative scenarios for estimating the cost of interventions in the MHBP, based on three coverage growth assumptions: (1) a base or *natural growth* scenario, with a coverage increase over the baseline of 35% by 2030, and an annual growth rate of 2 percent; (2) an intermediate or *conservative scaling up* scenario, with an annual rate of increase in coverage of 2.74 percent, equivalent to a 50 percent increase over the 15-year period; and (3) an *ambitious scaling up* scenario, with a total increase in coverage of 100 percent over the next 15 years, equivalent to an annual increase in coverage of 4.73 percent. Coverage rates were capped at 100 percent for all interventions. We also computed the per capita cost of UHC assuming it would correspond to 3% of GDP per capita.

Estimating present and future funding

A sensitivity analysis was also conducted for the estimation of current and future funding needs. To estimate future funding available for health, the research team developed a model that projects the main aggregates used for NHA exercises. The key concepts and variables are taken from the NHA terminology, with some modifications for clarity. Box 4.

Box 4: National Health Accounts and study variables

The key variables relating health expenditure were taken from the NHA framework and are defined in brief below.

Total Government Expenditure (GTE): the sum of consumption and capital expenditures by the government.

Total Health Expenditure (THE): the sum of all expenditures on health in a country from all sources.

Government Health Expenditure (GHE): expenditures on health by the national and subnational governments with their own general revenue (excluding donor funding, user fees and public insurance schemes).

National Health Insurance expenditure: expenditures on health incurred by NHI schemes, mandatory or voluntary (not included in GHE).

Internally Generated Revenue (IGR): the revenue generated at the facility level from user charges.

Out-of-Pocket Expenditure (OOP): health expenditures incurred by households while paying directly at the point of service.

Private Health Insurance (PHI): expenditures paid for by private insurers or firms.

Nonprofit Institutions (NPI) Spending: spending made by NPI or NGOs on behalf of households; for simplicity, the category may include any unallocated private expenditure.

External or Donor Expenditure (EXP): health expenditures funded by foreign donors, whether bilateral or multilateral.

The model involved a number of key baseline parameters. Real GDP estimates for the baseline year were taken for 2015. In addition to projecting GDP based on recent (2010-14) growth rates, three scenarios were considered for real GDP growth per year: a pessimistic 3 percent growth rate, an intermediate growth rate of 5 percent, and optimistic growth rate of 7 percent.²³ Recent performance by the four countries may correspond to one or the other of the three scenarios. Table 10 shows the recent macroeconomic variables for the four case study countries, along with the values assumed in the scenarios. Annex 4.2.

- GTE was assumed to remain constant as a share of GDP at the level observed in recent years (2010-14); the average for 2010–14 was used to reduce the impact of year-to-year variation

²³ In three of the four countries, recent GDP growth was close to the optimistic scenario.

- GHE was simulated in three scenarios: one where its long-term share of GTE up to year 2030 remains equal to the share observed in the 2010–14 period; another where it increases gradually to 10% of GTE; and a third where it is assumed to increase to the so-called “Abuja target” of 15% of GTE (World Health Organization, 2011).
- Based on the prospects for donor funding over coming years in LMIC/MIC, discussed in Section 4.2, EXT was assumed to remain flat over the next 15 years (2015-30) in real terms, thus gradually reducing its contribution to sector financing.
- Private health spending (essentially OOP) was assumed to behave in the long term according to the international evidence given by international elasticity estimates.
- All monetary values are in constant U.S. dollars of 2015, but a healthcare specific inflation (above the general CPI inflation) was assumed as 2% a year, to reflect that healthcare inflation tends to be significantly higher than general inflation.

Table 10: Key variable assumptions, in % change

Variable	Base for assumption	Cote d'Ivoire	Kenya	Nasarawa	Tanzania
GDP growth	Recent 09-14	4.98	6.02	6.17 ¹	6.73
GDP growth	IMF projected	7.34	6.86	4.59 ¹	6.93
GDP growth	Model	5 , 3 , 7 per year (3 scenarios)			
GGE as % GDP	Constant	22.68	28.54	8.35	19.11
GHE as % GGE	Constant	5.77	7.20	10.37	5.29
NHIF coverage ²	2 scenarios	15	35	15	35
IGR revenue	1/2 of OOP	2.5			
External funding	Constant in real terms	0			
Out-of-Pocket	Elasticity	4.5			
Private health insurance and Non-profit	Elasticity	5.5			
Population growth	HNP projections	2.35 per year	2.37	2.47	2.97
Healthcare inflation	Above CPI	2.02 per year			
UHC increase over current	3 scenarios	35 , 50 , 100 by 2030 (3 scenarios)			

Sources: Author's assumptions.

Note: Numbers are % change observed or assumed for each variable, either on an annual basis, or total change over the period. ¹Figures are for Nigeria; Coverage target from current level for Kenya and Tanzania.

Elasticities

The elasticity estimates were constructed with the most recent data for Sub-Saharan Africa using the model used by Fleisher (2014). Elasticities were estimated for the four case study countries and Sub-Saharan Africa, based on the WHO data (Global Health Expenditure database) and using average spending over two separate five-year periods (1995-99 and 2009-13) to reduce the impact of year-to-year fluctuations and values in constant USD. The average elasticities for Sub-Saharan Africa were used for projecting private

health expenditure in the four case study countries over the next 15 years (2015-30). The assumption underlying this choice was that the four countries will, over time, converge to the regional averages. Table 11 and Annex 4.3.

Table 11: Income elasticities of spending estimated for Sub-Saharan Africa

Spending category when income (GDP) changes	Income elasticities of spending (Study Authors) for Sub-Saharan Africa Using 2010–14 data (a)	Income elasticities of spending (Fleisher, 2014) for Sub-Saharan Africa using 1995-2010 data (b)
THE	0.91	1.11
GHE	1.34	1.17
OOP	0.67	1.00
External Financing		1.75
Social health insurance (and other social security)	0.74	
Private health insurance	1.19	
GGE		1.06
Government revenue		1.19
	Expenditure elasticities on spending	Expenditure elasticities on spending
GHE changes due to GGE changing		1.092
GHE changes due to Government revenue changing		0.963
GHE shares of GGE changing due to GGE as share of GDP changing		0.011
GHE shares of GGE changing due to government revenue as share of GDP changing		0.009

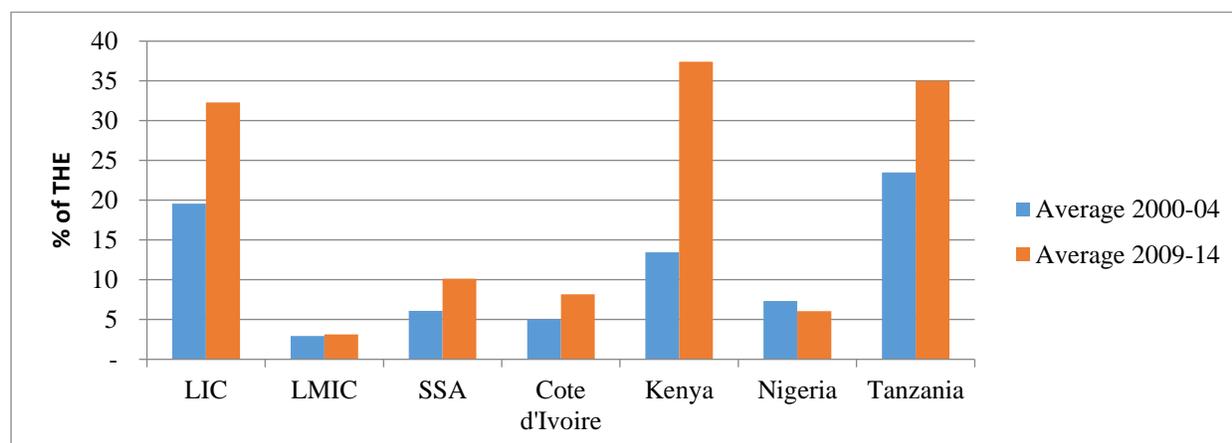
Source: (a) Author estimates; (b) Fleisher (2014)

External financing

An analysis of the long-term trends of external financing in different groups of countries suggests that the four country governments' concern with funding sustainability for UHC is warranted and supports the conservative assumption used in our estimations. Between 2000-04 and 2009-14, external financing increased substantially as a share of total health expenditure (THE) among LICs, while it remained much lower and hardly increased among LMICs. Even among the four case study countries, it increased in Tanzania and Kenya, the countries with lowest GDP per capita. It increased much less in Cote d'Ivoire and decreased in Nigeria, which has a higher GDP per capita. Figure 24.

Our analysis of elasticities of health expenditure relative to GDP also showed that the elasticity for external funding decreases substantially between LIC (7.7), LMIC (4.05), and UMIC (3.47). Since these estimates are for 2000-13—a period of rapid economic growth internationally and of giant increases in international aid—that the prospects for further decreases in external financing in coming years is likely.

Figure 24: Long-term trends for external financing as a proportion of total health expenditure, 2000–14



Source: IHME and WHO NHA database

Simulating fiscal space

This step sought to identifying the options available for channeling existing financing sources or mobilizing additional funding for UHC. Following the fiscal space framework described in chapter 3, the research team looked into four main sources for expanding the fiscal space for UHC:

- Macroeconomic growth, measured by GDP growth. Even though this is not actually a policy option for increasing financing and is not under control of health authorities, it can generate substantial additional funding, and is thus usually considered in fiscal space analyses.
- Expanding government funding through prioritizing UHC expansion in budget allocation. This implies reallocating budget resources to UHC within the health budget (at the expense of other services not covered by UHC), or from other sectors to health, or both.
- Mobilizing new financing sources through establishing new taxes (earmarked or not), mobilizing new funding from the private sector, or innovative financing arrangements. Some countries have already designed, and in some cases implemented, such new financing schemes, and if they have, the schemes are taken into consideration. International experience with innovative funding for health or HIV/AIDS is also considered.
- Improving efficiency in the organization and provision of health services. This has been shown to be an important source of new funding by reducing the cost of service provision. Since limited evidence was available in the four case study countries concerning how much can be mobilized through this approach, we relied on international literature on the topic and assumptions to simulate the potential amount of resources that can be mobilized.

SECTION III: MINIMUM HEALTH BENEFITS PACKAGE AND COSTING

Chapter 5A: Defining the Minimum Health Benefits Package

This chapter reviews how the case study countries have defined the MHBP for their country. It also provides some lessons learnt from other countries and defines the MHBP considered for the study.

Literature review

Should countries adopt a universal health benefits package for all or have a targeted approach for sub-populations? With regard to the organizational form taken by UHC, an important issue is whether to choose a unified approach to UHC through one single program or scheme and a single-payer approach, or to establish various schemes targeting specific groups, that can later be consolidated. The former tends to be easier to manage and avoids duplications of efforts, but the latter is usually easier to set up initially and better at addressing inequalities and filling coverage gaps.

UHC programs in different countries cover varying sets of services, from a narrowly defined explicit list of services to broader and often imprecise list. Narrow MHBP tend to focus on the MDGs or PHC services. Where an explicit package is defined based on priorities, the criteria used for prioritization may include the burden of disease, intervention cost-effectiveness, or affordability. However, in some countries, such criteria are not explicitly stated or not linked to evidence.

There is some mixed evidence from case study countries about what the MHBP will provide. Cotlear et al., 2015 conducted a study of 22 countries. They found that a difference may exist between the formally defined health benefits package and the services covered. Fifty-eight percent of the countries in their study had a broader scope that covered both PHC and hospital care, while 27% focused on the MDGs or PHC, and 15% went beyond the MDGs. However, the scope of services covered was usually in the two extremes: 42% countries had an explicit and narrow list of services, while 46% countries had a comprehensive or ill-defined package definition. Cotlear et al. (2015) recommended defining the MHBP through a bottom-up approach, starting with a limited package of essential PHC services targeted at the poor and vulnerable groups, and then gradually expanding to other services and groups as more funding becomes available.

Current plans for universal health coverage in the case study countries

All four case countries have recently developed plans for achieving UHC, or are in the process of doing development plans. UHC is therefore now at the center of the policy dialogue in these countries. All of the plans in the four countries include the continuation and strengthening of the HIV/AIDS programs, although whether all services are included or not is unclear. Generally, the current plans tend to be very ambitious and rely on weak projections of funding needs and availability, and limited evidence of what is feasible within a given period of time. For example, Tanzania sought to achieve a 45% coverage through national

health insurance (NHI) by 2015 and full UHC by 2025. Cote d'Ivoire aimed at reaching 24% already in 2015 and 39% by 2020 (Cote d'Ivoire, 2013). None of these ambitious targets has been reached by 2015, mostly because they were not supported by a commensurate increase in public spending or any other financing source. Table 12.

Table 12: Key features of current plans for universal health coverage

	Cote d'Ivoire	Kenya	Nasarawa State in Nigeria	Tanzania
Legal & policy	Universal Health Insurance Law (2001, 2014)	Kenyan constitution, Sessional Paper no. 7 of 2012 on universal health care; Jubilee Manifesto (2012) outlined social protection and health goals	National Health Bill 2015, Health Strategic Plan (2008), State Health Development Plan (NSG 2010)	Tanzania Development Vision 2025, National Health Policy
Formal plan	<i>Projet d'Instauration d'un Systeme de CMU, no specifics; Cadrage Actuariel</i>	--	NHSP 2010, PCRPP	Not specific, various documents
Date of plan	2011, Launched in 2015	--	NHIS/NHIF 1999 2010, 2013	TDZ NHP: 2007 PHSD: 2010 HSSP: 2015 HFS: 2015 NMSF for HIV
Coverage target by year	PMCT & ART: expected 80% by 2015 (not achieved)	--	Three schemes under NHIF, only Formal Sector advanced. NHIS coverage 3% in 2012, only	TDZ: 100% by 2025 HSSP: doubling by 2012 NHIF: 45% by 2015 Others: no target
MHBP definition	No, proposed	--	NA	NEHCIP-Tz, NHI & others, broad & different
MHBP costing	<i>None, just global estimates in Cadrage Actuariel</i>	OHT, Haacker (HIV)	No	Various studies: OPM, OHT, NHI, PHSDP, NHSP, NMSF for HIV
Financing strategy	Budget to Abuja target, NHIF, efficiency gains in drug procurement & management	Increased budget allocation, technical efficiency,	Increase budget allocation (Abuja target), earmarked taxes, efficiency gains, NHIS	NHIF/NHIS as key strategy, proposed Abuja target, ATF
Governance	Fragmented between MOH and MESAS, no single structure	Unclear	NHIF and FMOH	Split: MOHSW, NHIF, TACAIDS, PMO-RALG

Sources: Authors' elaboration based on country policy documents.

Notes: MOH is Ministry of Health, MOHSW is Ministry of Health and Social Welfare, FMOH is Federal Ministry of Health, NHIF is National Health Insurance Fund, NHIS is National Health Insurance Scheme, TACAIDS is Tanzania

Commission for AIDS, ATF is AIDS Trust Fund, OHT is OneHealth Tool, OPM is Oxford Policy Management, PMTCT is prevention of mother to child transmission of HIV, ART is antiretroviral therapy, PMO-RALG is regional administration and local government.

While the governments of the four case study countries have been in the process of defining their MHBP, in most cases, several proposals have been made and there has not been a clear policy decision on the scope of the package. The key features of the main proposed package in each country are summarized in Table 10. None the four case study countries have an explicitly defined package of health services. In general, the literature has found that when the package is defined for use by the national health insurance program, the package is more explicitly defined. However, in the case study countries the ministries have defined their MHBPs more implicitly. Some examples of broad terms used in MHBPs include "fighting HIV/AIDS" and "malaria," without an explicit list of which activities and services will be covered.

Who is to be the purchaser of services also influences the nature of the MHBP. When the ministries of health have defined an overall MHBP to be financed through general taxes, the packages have been more comprehensive in nature. Packages developed by and for prepaid health insurance schemes tend to exclude most of the public health interventions and communicable disease prevention (health promotion and community health among them), because they are seen as the exclusive responsibility of the government. Another ambiguous area is what may be services that are "included" or "excluded" of specific activities and interventions within broad disease-based definitions. International experiences show that countries often define explicitly an MHBP that shows either "services included" or "services excluded", which provides clearer information to purchaser, provider and beneficiaries.

The MHBP varies in the four case study countries (Refer to Annex 5.1 for country proposed list of interventions):

- For Tanzania, the defined MHBP (National Essential Health Care Intervention Package - NEHCIP_Tz) agreed to by the Ministry of Health and Social Welfare is comprehensive, but other packages proposed (e.g., for the Tanzania National Health Insurance Fund) are more restrictive. The situation for other countries is different.
- In Kenya, it is not clear if the proposed MHBP will be implemented; Kenya also has another package under the Kenya National Health Insurance Fund as well, which is more restrictive.
- In Cote d'Ivoire, there is proposal to integrate various schemes but no clearly defined MHBP.
- Nigeria does not have a national-level UHC MHBP policy. The National Health Insurance Fund (NHIF), established in 1999, offers different packages of services to different sub-population. For the formal workers, Nigeria offers a comprehensive package of services (preventive, outpatient and inpatient care for common diseases). For the informal workers, Nigeria offers a more restrictive package of services (NHIF Operational Guidelines). For the MDG package (a basic maternal and child health scheme funded by MDG National Special Fund and aiming at accelerating the achievement of MDGs, and a Community Based Health Insurance program operating in a decentralized manner in certain states), which they were charged to manage, the evidence is limited. These national special funds, however, ended in 2015. Overall, UHC was expected to reach 70 million people by 2015, but seems to have achieved less than 10% of the target. The subsequent National Health Act (2015) aims to accelerate the transition to UHC.

Table 13: Comparison of MHBPs in the four case study countries

	Cote d'Ivoire	Kenya	Nigeria/NS	Tanzania
Main MHBP	Proposed integration of various schemes	Proposed, unclear if implemented	National Health Insurance Plan (National level, Nasarawa does not participate)	National Essential Health Care Interventions Package (NEHCIP-Tz),
Other MHBPs	NA	NHIF	Formal sector, informal sector, MDG program, CBHI	NHIF (more restrictive), several proposals
Source of main MHBP information	Min. Employment, Social Affairs & Solidarity	MOH	NHIF	Ministry of Health and Social Welfare (MOHSW)
Status of the MHBP	Proposed	Proposed, unclear if adopted	Various packages for different groups	Defined, unclear adoption
Year	2012	N.A.	1999, 2005, 2008	2000, rev. 2013
Explicit list	Yes	Yes	No	No, only by disease
<i>Maternal and Child Health</i>				
Maternal & Reproductive Health	Yes, ANC, delivery, feeding, post-abortion mgt	Yes, ANC, PMCT	Yes	Yes
Child health	Yes	Yes, Newborn	Yes	Yes
<i>Public health interventions</i>				
Immunizations	Yes	Yes	Yes	Yes
Disease surveillance		Vector control		?
Family planning	Yes	Yes, Population Mgt	Yes	Yes
Prevention, Promotion & Education	STIs, IDU outreach, Sex workers, Condoms	Hygiene practices, HIV/STI, Education on violence, Youth services	Yes	No?
School health, Work health	STI/HIV education, Workplace programs	Workplace health & safety, Sexual Education, Physical activity, School H.	No	Yes
WASH	No	Yes		Yes
Environmental health	No	Port health, Safe water, Promotion & Education, Pollution control	Yes	Yes
Drugs, food	Blood safety,	Food quality & safety, Blood safety,	--	Yes
Community health	Community mobilization	--	--	Yes
<i>Selected Communicable Disease (ATM)</i>				

Malaria	Yes, nets, prev. & treatment	Yes	--	Treat & control
Tuberculosis	Yes, Diagnostic & Treat HIV testing	Yes	--	Treat & control
HIV/AIDS	Yes, ART, Opportunistic infections, Screening	Yes	--	Treat & control
Leprosy	No	?	--	Treat & control
Other CDs & Neglect. Tropical Disease.	Diarrhea, Measles	Control & prev. of NTDs	--	Cholera, Measles, Meningitis, Schist.
Noncommunicable Diseases and Injuries				
Anemia & nutritional deficiencies	Yes, Vitamin A, Nutrition support, Counseling	Nutrition, Deficiencies monitoring	Yes	Yes
NCDs	Yes, Prevalence & Control, Screening, CVD, Diabetes, Cancer, Asthma	Promotion & education, Screening, Special. Clinics	Some	Control of CVDs, Diabetes, Cancers,
Trauma	No	Yes, Management of injuries, Rehabilitation	--	Yes
Mental disorders	No	NA	--	Yes
Substance abuse	No	Yes	No	Yes
Congenital diseases	No	--	--	Yes
Other common diseases				
Eye, Ear & Skin diseases	Not mentioned	--	Yes	Yes
Respiratory dis.	Yes, Pneumonia	--		
Oral conditions	Yes,	--	Preventive and pain relief	Yes
Emergency	Yes,	Yes, Pre-hospital care, OPD	Yes	Yes
Diagnostics etc.	Some	Clinical & Special. lab, Imaging, Pharmaceuticals	Yes	Some

Source: Authors elaboration based on country documents. Note that not all information is available or explicit for all countries. Note – means “information not available”

Defining the minimum health benefits package

The first step in this study was to describe the general burden of disease (BOD) for each country, for UHC and specific for HIV/AIDS. BOD data was taken from the Institute for Health Metrics and Evaluation (IHME) Global Health Data Exchange (GHDx) database. For HIV/AIDS, the study used current prevalence, mortality, and coverage indicators from UNAIDS online.

While the governments of all four case study countries have expressed their decision to pursue UHC and have discussed the scope of services to be included, none of them have, to date, officially defined and created an explicit MHBP. Ideally, the MHBP to be covered through UHC should be defined through a national prioritization process led by the government. However, the four case study countries are still in the process of finalizing their MHBPs. Some progress has been made by Kenya and Tanzania. Kenya has formulated an explicit MHBP in the context of UHC, but it has not been officially adopted and some observers in Kenya believe that the package—referred to as the Kenya Essential Package for Health (KEPH)—may be too ambitious given present and future financing availability (Republic of Kenya 2014). And while the Ministry of Health and Social Welfare (MOHSW) in Tanzania has defined a health package, it is not yet implemented or clearly linked to the UHC policy. On the other hand, the costing studies available in Tanzania and Kenya (see below) were based on a package resulting from consultations with the government and are broadly consistent with the principles of a MHBP, although they do not necessarily completely reflecting the proposed MHBP in the country. Nigeria and Cote d’Ivoire have not yet formulated an MHBP as part of the nascent UHC policy.

To be consistent and to the extent possible, this study decided to adopt a MHBP that was similar across countries, but not identical. If a country had already defined a MHBP (even if not explicitly), the research team used those packages. In other countries, it was difficult to adopt a similar package primarily because of data constraints. For Kenya and Tanzania, the research team adopted a package used by other researchers (e.g. by the Avenir Health/Palladium Group working with these countries using the OHT to cost out a comprehensive benefits package). There were several constraints that meant the team could not have a package that would be consistent across these four case study countries. For example, in the absence of clearly defined packages in Nigeria, the limited scope of one currently under discussion in Cote d’Ivoire, and limited availability of information on the coverage and cost of certain services in both countries, resulted in a smaller MHBP in Cote d’Ivoire and for Nasarawa State in Nigeria.

The adoption of maternal and child health component under the MHBP is consistent with the low rates of utilization of essential health services reported for the four case study countries and shown in under “Utilization of health services.” For example, in the four case study countries, the percentage of births attended by skilled health personnel varied between 38.9 percent in Nigeria and 56.8 percent in Cote d’Ivoire, while the percentage of children receiving Oral rehydration solution (ORS) treatment for diarrhea varied between 17.2 percent in Côte d’Ivoire and 44.0 percent in Tanzania. The research team also included family planning services in the MHBP, in order to address the high fertility rates of the four case countries (they vary from 4.3 births per women in Cote d’Ivoire to 6.0 births in Tanzania (see Table 2); and the low contraceptive prevalence rate (which is as low as 17.5 percent in Nigeria and as high as 45.5 percent in Kenya).

Services and other health activities outside of the minimum health benefits package

The adoption of an MHBP, however, does not imply that the delivery of services and health financing are only limited to those priority interventions. No country can finance all of the health services offered by modern medicine to all of its citizens. Constructing a MHBP that contains priority services is a way of recognizing this limitation, by channeling available financing with greater priority to those services. Other services of lower priority, such as referral care or less common diseases, are likely to continue to be delivered and receive some public financing, in addition to financing coming from patients and their families. For example, many developing countries in Latin America, such as Argentina, El Salvador, Nicaragua, and Guatemala, have defined MHBPs that focus on maternal and child health services and are

targeted to low-income families. Hospital services, not contained in the MHBP, continue to be offered universally to all citizens, or to the poor, but with considerable rationing through queues, demand deflection, and low quality of care. The MHBP services receive the funding needed to achieve the coverage targets set out by the ministry of health, while hospital and other services excluded from the MHBP receive residual funding.

Box 5 illustrates the approach taken by one country to model the need for the financing of health services within and outside of the UHC health benefits package. A tentative package was defined comprised of preventive and curative health interventions. (Barroy, Bitran et al., 2015, unpublished report from the Democratic Republic of Congo). The approach these researchers took was to project MHBP and other health system costs separately using different criteria. For MHBP services they used normative production functions that included some human resources, medical supplies, transportation costs, and medicines, cost out using local input costs, as well as expected output. For services outside of the MHBP, they relied on country-specific knowledge about the costs of hospital services, public health services, medical institutes, and the management of the health system to project future needs of human resources, infrastructure, and other operating expenditures.

Concluding remarks

This study used as basis the similar benefit packages defined by Ministry of Health in Kenya and Tanzania and applied to the OHT costing exercise in these countries, and harmonized the preliminary packages under discussion in Cote d'Ivoire and Nigeria to these packages. This MHBP is focused on basic health care, including HIV/AIDS, and with service provision at primary health care level and some secondary care for priority diseases. This MHBP is strongly justified (a) given the health outputs faced in these countries, and (b) vulnerable population, including poor, who would benefit from it. This MHBP is therefore also justified to be covered by public financing.

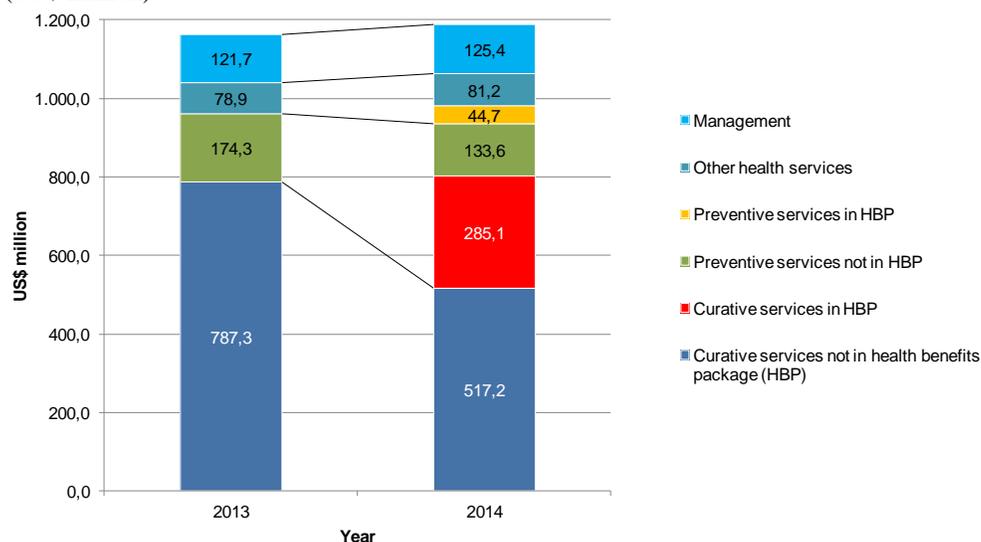
Box 5. Estimation of government expenditure on priority and non-priority health services in Democratic Republic of Congo

This box describes the approach taken by Barroy, Bitran et al. (2015) to model the need for the financing of health services within and outside of the UHC health benefits package in the Democratic Republic of Congo. A tentative benefits package (BP) was defined comprised of preventive and curative health interventions. The authors calculated the cost of the BP in the baseline year of 2014. Next, they obtained from the country's latest national health accounts study estimates of actual government expenditure on different categories of services, such as preventive and curative, and different settings where the services are provided, such as in primary health care facilities or in hospitals. Services being provided were then classified into two broad groups: those that will be included in the MHBP and those that will remain out of it.

The result of this categorization is shown in the left bar of Figure B.5.1, which depicts the actual government expenditure breakdown among those categories in the year 2013. The above-described classification of services led to the breakdown of government expenditure estimated for 2014, shown in the right bar of the figure. The estimated expenditure for services included in the BP package are shown in red for curative services, and in orange for preventive services. All other costs outside of the BP package are shown in blue and green.

The future cost of the BP was calculated using normative production functions and local unit costs as well as expected output. The costs of services outside of the MHBP were assumed to grow annual, in real terms, in proportion to the population growth.

Figure B.5.1: Structure of health spending in Democratic Republic of Congo, 2013 and 2014 (US\$ million)



Source : Barroy, Bitran et al. (2015).

Chapter 5B: Costing Health and HIV/AIDS Benefits Package

This chapter provides background on costing of MHBP, lessons learnt from other countries, and their application for the case study countries. It also provides a comparison of study findings against findings in the literature for both MHBP and for the HIV/AIDS program.

Literature review

Achieving UHC generally calls for significant additional financing to pay for the universal provision of priority health interventions for all citizens. McIntyre, et.al. (2017) estimated that the goal of UHC and financial protection would require domestic government spending on health of about 5% of GDP. For LIC to achieve UHC in PHC would cost annually of at least US\$86 per citizen (in 2012 terms). Other sources have estimated the cost of an UHC package at between US\$60 and \$80 per capita in 2015 dollars (see, e.g., WHO 2001; WHO 2009; Avila et al. 2013). These amounts exceed total per capita health spending in many LICs in Sub-Saharan Africa. It suggests to the global community that external financing will be necessary to supplement domestic public spending in health for many LICs in Sub-Saharan Africa to attain UHC by 2030.

When estimating how much was spent by countries when aiming for UHC, this study found a wide range of spending levels. The cost of the UHC package varied across countries and programs, depending on the benefit package, its target groups, and the type of organization adopted. Cotlear et al (op.cit.) indicated that the average cost was US\$ 39 per capita (in 2011 US\$) or 1.4% of GDP, while the spending by specific countries ranged from less than US\$ 1 to US\$ 600 per capita per year. Usually, UHC systems based on social security or social health insurance were substantially more expensive, while narrowly defined packages for target populations were the least costly.

Controlling the HIV epidemic requires vast amounts of financing, particularly in high prevalence countries that have adopted a strong response. A strong increase in donor funding for HIV/AIDS since the 1990s has allowed the strengthening of many countries' response to the epidemic and significant reductions in incidence and mortality of the epidemic. However, in spite of substantial success in curbing the HIV epidemic in many countries, the need to sustain this effort and further expand coverage under the HIV program over many years to come will require continued financial commitment. After estimating the need for future HIV/AIDS funding in 12 Sub-Saharan Africa countries at around US\$481 per year per person living with HIV, Resch et al (2015) found that only UMIC had the capacity to become self-reliant in HIV/AIDS program funding; most LIC are unlikely to mobilize sufficient domestic resources to meet funding needs, leaving a large proportion to be funded with external sources or private sources.

Minimum health benefits package estimated costs

Study findings

The MHBP cost estimates produced by this study varied by country, but on average the cost was similar to what the literature has estimated (for example, McIntyre, et.al. (2017)). The cost of the MHBP was on

average \$87 per person covered (or \$38 per capita²⁴) per year at baseline for the three main countries (Cote d’Ivoire, Kenya and Tanzania) for 2015. However, variations were observed across countries. The MHBP costs more in Cote d’Ivoire (\$106) and Kenya (\$98) than in Tanzania (\$68) per population covered. The Nasarawa State in Nigeria had the highest cost per covered person (\$115). The 2015 cost estimates suggest that it costs Cote d’Ivoire significantly more to cover its population than it costs Tanzania, while on a per capita basis, both countries have similar costs. Three main factors explain these differences in per capita costs: first, differences in the scope of services included in the costing exercise; second, differences in relative prices across countries; and third, the number of people covered.

When taking both MHBP and non-MHBP essential services into account, the study estimates costs to be an average of \$128 per covered person per year (or \$54 per capita) in 2015, and ranging between \$84 in Tanzania to \$162 in Cote d’Ivoire. The MHBP share is 60% (Cote d’Ivoire) to 80% (Tanzania) of total package (MHBP and non-MHBP essential services) costs in 2015.

The study found that health systems needed a significant share of resources—about 45% (of total costs) in 2015. Human resources represented the largest part with around 35%-40% of the total, followed by infrastructure (around 30%) and logistics costs (25%). Governance, information systems, and health financing together represent between 5-10% of the total. Table 14.

Table 14: Composition of MHBP “system” costs for the four countries in USD millions at baseline (2015)

Cost component	Cote d’Ivoire	Kenya	Tanzania	Nasarawa State in Nigeria
Human Resources	255.30	485.60	358.35	16.22
Infrastructure	152.10	466.78	285.53	10.30
Logistics	159.40	379.07	187.68	20.80
Governance		44.14	56.56	
Health Financing		13.55	44.40	
Health Information Systems		6.26	15.80	
Total System costs		567.10 (44%)	1,395.41 (46%)	
Programs costs	442.50	1,071.85	994.09	57.14
System costs to Non-MHBP	234.82	309.71	199.14	6.46
MHBP Cost – total (a)	774.78 (60%)	2,157.55 (72%)	1,743.25 (79%)	98.01 (58%)
Non MHBP Cost – total (b)	509.08	845.64	463.17	71.02
Total Health Cost in USD millions (c=a+b)	1,283.86	3,003.19	2,206.42	169.03
MHBP cost per capita in USD	34	47	33	41
MHBP cost per person covered in USD (adjusted)	106	98	67	115

Source: Authors’ estimates using OHT (adjusted).

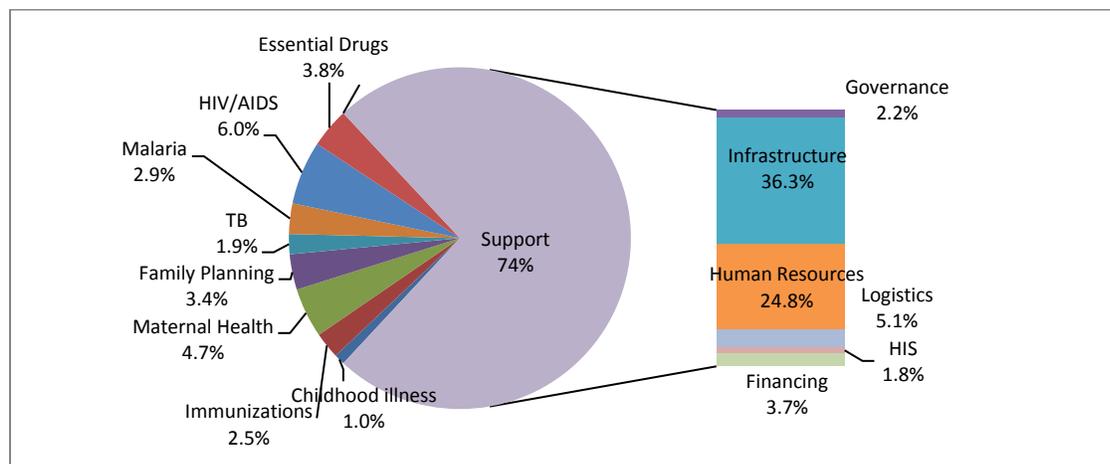
²⁴ Cotlear (2015) estimated US\$39 per capita (in 2011 terms) from the 22 countries it studied, and McIntyre, et.al. (2014) estimated US\$86 per capita (in 2012 terms) (or per covered) from the countries it studied. These are not based on costs, but, it is based on actual public spending.

Discussions

The evidence from the current study is similar to what we find in the literature. The WHO High Level Task Force (HLTF) estimated the cost of the package around US\$54 per capita per year (equivalent to US\$65 in 2015)²⁵ for scaling up the MDGs (WHO, 2009). For the additional costs implied in scaling-up between 2009 and 2015 in 49 low-income countries (WHO, 2009), the total additional resource needs were estimated at \$251 billion, or an average of \$24.57 per capita over six years (doubling from \$14.20 in 2009 to \$29.30 in 2015 in 2005 US\$). The larger part (74 percent) would go to expand and improve infrastructure and ensure support services, while program-specific costs for HIV/AIDS, maternal health, child health, family planning, and essential drugs made up the remaining 26 percent. Figure 25.

The Commission on Macroeconomics and Health (CMH) arrived at a cost per capita of \$71 (expressed in 2012 US\$),²⁶ and Avila et al (2013) considered a target funding for UHC of \$60 in 2010. A more recent study (McIntyre, et.al., 2017) updated the HLTF and CMH estimates to \$86 and \$71 in US\$ of 2012; as shown in the figure, the package includes a comprehensive set of PHC services and infrastructure and support services.

Figure 25: Cost composition of scaling up the MDGs in 49 low-income countries



Source: WHO, 2009 (HLTF)

As is described in McIntyre, et.al. (2017):

The HLTF examined a wider range of services than did the CMH. Besides MDG-related services, it considered the cost of health promotion for MDGs Nos 4–6, two interventions that address chronic diseases (tobacco control and salt reduction in processed foods) and essential drugs for chronic diseases, some cancers, neglected tropical diseases, mental health and general care (HLTF, 2009a). Thus, the HLTF estimates approximate a more comprehensive range of PHC services.

The CMH Report focused on a limited set of services dealing with AIDS, tuberculosis and malaria (ATM diseases) as well as immunizations, acute respiratory infections, diarrheal diseases, maternal and perinatal conditions and malnutrition; it predicted

²⁵ The additional cost was of US\$ 24.57 in 2005 US\$.

²⁶ Source: McIntyre,

coverage levels of only 70–80 percent for most services and 90 percent for immunizations, antenatal care and skilled birth attendance by 2015 (World Health Organization 2001).²⁷

For Tanzania, OPM’s study of 2013 and the subsequent Ngowi et al. paper (2013) produced a comprehensive estimation of the costs of three service packages based on the burden of disease: a smaller one, consisting of maternal neonatal child health (MNCH) services, communicable diseases control and treatment, and injuries and trauma (MHBP 1); an intermediate package (MHBP 2) consisting of MHBP 1 and a few additional interventions (anemia, nutritional deficiencies, eye, ear, and skin infections, and health education); and a third, broader package (MHBP 3) including MHBP 2 plus several common NCDs (cardiovascular diseases, diabetes, cancers, and mental health). Both packages 1 and 2 correspond broadly to services currently provided at the district level. To estimate the total package costs at the population level, Ngowi et al. used an estimated population coverage, based on actual service utilization statistics. The resulting per capita costs were broadly consistent with those in this study. Table 15.

Table 15: Comparative per capita costs of MHBP and HIV/AIDS in the literature, in US\$ of 2015

	Locale	Year	Scope	MHBP for UHC	HIV/AIDS*
Our estimates/OHT	CIV, KE, TZ, and NS	2015	Broad but MHBP	66 (TZ) 98 (KE) 97 (CIV) 115 (NS - state)	286 (KE) 421 (TZ) 514 (CIV) 542 (NS - state)
WHO HLTF	LIC & LMIC	--	Mid-size	77	
CMH	LIC	--	Limited	75	14-18 / capita
MDG	LIC	2010	Limited	54	--
McIntyre and Meheus	--	2012	--	86	--
Cotlear et al	Mixed: 22 countries	2011	Varying	39 (1-589) 1.4% of GDP	--
OPM	Tanzania	2011	3 levels	38/46/81	--
UNAIDS	LIC & MIC	2013	--	--	262-886
Resch	6 LIC, 6 MIC	2011-2013	--	--	199-647
Haacker	Kenya	--	--	--	1,305 (KE)
NMSF III	Tanzania	--	--	--	425 (TZ)
KNASP III	Kenya	--	--	--	600 (KE)
MOH/CDC	TZ, Kenya	2011	ART alone	--	249 (KE) 430 (TZ)

Source: Ngowi et al, 2013.

* per PLWH. Costs are given per person covered (or beneficiary); KE=Kenya, TZ=Tanzania, CIV=Cote d’Ivoire, NS=Nasarawa State in Nigeria.

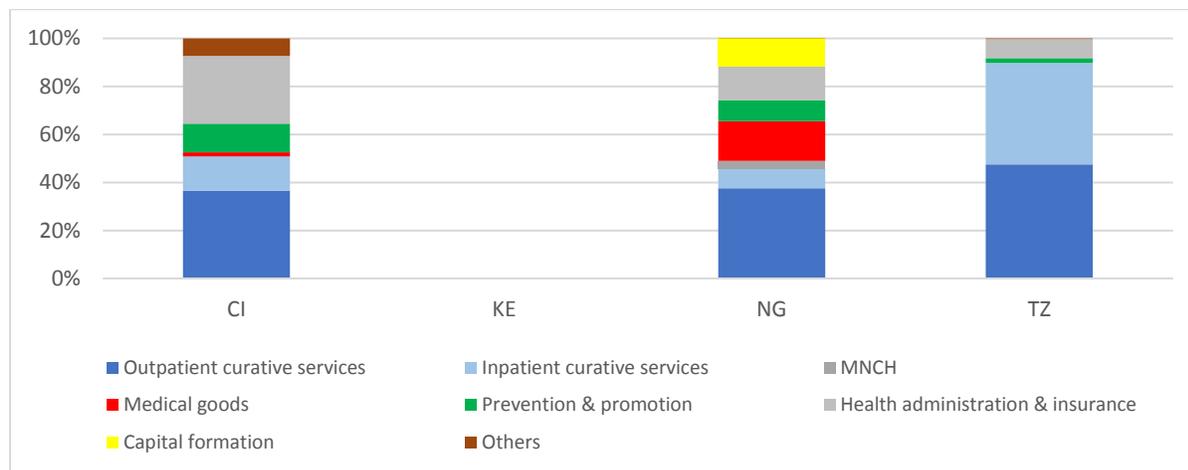
Comparing to the latest national health accounts

The NHA suggests that much lower amounts are currently being spent by the public sector for the four case study countries. Governments tend to spend a large part of the budget on curative and hospital care, especially in view of the prevailing disease pattern. In three of the four case countries allocate less than 15% of the budget to health promotion and disease prevention. Actual spending shares are almost 50% of resource needs, and, in some cases, like Tanzania, where significant external finances are sought, actual spending shares are even lower. If MHBP must be financed by the public sector, far more resources will need to be mobilized, as well as resources will need reallocation to support MHBP (present public health

²⁷ McIntyre, et.al. (2014), p. 25.

spending patterns are in figure 26). However, one should note that NHA data produced by different studies or sources are not fully consistent, as illustrated in Annex 5.2.

Figure 26: Government health expenditure by function, latest years



Source: Latest NHA estimates for each country (2013 for Cote d’Ivoire, 2012-13 for Kenya, 2009 for Nigeria, and 2011-12 for Tanzania).

Note: Kenya NHA details were not available.

HIV/AIDS estimated costs

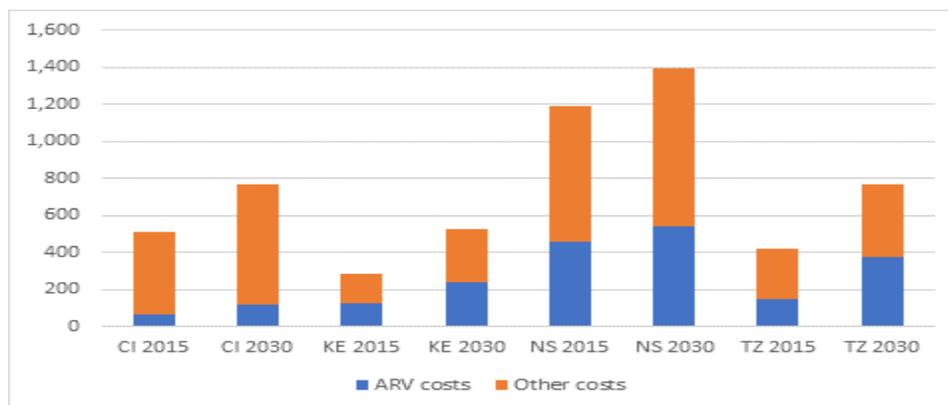
Study findings

HIV/AIDS accounted for a variable proportion of the MHBP cost in the case study countries. This proportion ranged from 18% in Cote d’Ivoire and 20% in Kenya to 29% in Tanzania. In Nasarawa State in Nigeria, which also had significant HIV prevalence, the cost estimate for HIV/AIDS was 44% of the total MHBP cost.²⁸ The actual cost at baseline (2015) was US\$ 514 per capita (per PLWH covered) in Cote d’Ivoire, US\$ 286 in Kenya, and US \$ 421 in Tanzania; it was only US\$ 192 in Nasarawa State.

For 2030, this study found a projected cost for Nasarawa State of US\$ 1,137 if the MHBP cost per capita is standardized at 3% of GDP. In all case study countries, the cost per capita increased 50-80% by 2030 (with the exception of Nasarawa State). About 40% of the cost was for ARVs: 35% in Tanzania, 42% in Kenya, and 40% in Nasarawa State (after adjustment), but only 13% in Cote d’Ivoire (likely underestimated). Figure 27.

²⁸ The research team believes the Nasarawa State package has been underestimated.

Figure 27: Costs per person covered for HIV/AIDS, in US\$, 2015 and 2030



Source: Authors based on OHT cost estimations.

Note: Under the base scenario, the author's projected the funding requirements (or future costs) for UHC and HIV/AIDS assuming a moderate 35% (or 2.02% a year) increase in UHC coverage over current levels, the projected population growth (varying between 2.97% a year in Tanzania and 2.35% in Cote d'Ivoire), and increasing slightly to \$96 by 2030 (as a result of sector specific inflation and economies of scale).

HIV costs estimated through OHT vary markedly across the case study countries. Of greater concern is that while the MHBP cost per beneficiary is within a similar range across the other sources in the literature, the cost estimates from the OHT for HIV/AIDS are usually markedly lower than other estimates given in the literature. They are also lower than the costs as estimated by the national expenditure on HIV/AIDS reported in the latest country national health accounts exercise. The apparent implication of this difference is that the actual cost of providing HIV/AIDS services would be lower than the current expenditure levels of the program. This is unlikely. Menzies et al. (2011) compared the per patient costs of the HIV/AIDS package in 43 outpatient clinics in five developing countries (Botswana, Ethiopia, Nigeria, Uganda, and Vietnam), and reported a median cost of patients under ART in 2006 at US\$ 880, of which US\$ 582 were for ARVs alone (and US\$ 202 for pre-ART patients). The observed cost variation could reflect price differences across countries, variation in clinical practice, service mix, cost methodology, with the time under therapy (initiating patients cost more than established ones), as well as the time of the study and resulting input cost change over time²⁹. In addition, per patient cost estimates ranged widely across sites and treatment regimes, from US\$ 26 to US\$ 3,301; they varied less widely across countries (from US\$ 682 in Uganda to US\$ 988 in Nigeria for total cost ART patients). Table 16.

Given the importance of the observed cost variation in relation to HIV/AIDS component of MHBP, the research team for this study performed a sensitivity analysis to re-estimate the impact of using alternative cost estimates on the sustainability of MHBP (including HIV/AIDS). Given our initial choice of using existing costing studies whenever available and preferably using estimates made using the same methodological approach, the OHT cost was retained for both HIV/AIDS and UHC. Applying an alternative estimate of US\$ 500 per PLWH (obtained by adjusting the UNAIDS framework figure to 2015) would result in new estimates shown in Table 17. It would result in increasing the UHC cost in Kenya (by 8%) and Tanzania (by 3%) while reducing it for Nasarawa State (by 15%).

²⁹ These costs are likely to have decreased since the date of the study, along with international prices of ARVs and other commodities.

Table 16: Conflicting estimates of HIV/AIDS costs in US\$ by various sources

	Cote d'Ivoire (CIV)	Kenya (KE)	Nigeria (NG)	Nasarawa State in Nigeria	Tanzania (TZ)	Other sources for LIC/LMIC
Total cost or expenditure in US\$ millions						
OHT adjusted estimates	78.20	215.91	NA	11.36	291.52	NA
<i>Expenditure</i>						
Country studies*	NA	986	NA	NA	343	NA
NHA expenditure	113	538	NA	NA	689	NA
UNAIDS expend**	106	813	565	NA	529	NA
NASA	105	737	565	NA	254	NA
IHME (2015)	437 (409-490)	1165 (1029-1376)	329 (301-376)	NA	889 (860-933)	NA
<i>Alternative estimate</i>	<i>76.13</i>	<i>377.79</i>	<i>NA</i>	<i>10.48</i>	<i>346.29</i>	<i>NA</i>
Cost per PLWH (covered or all) in US\$						
OHT adjusted estimates/ covered	514	286	NA	542	421	NA
OHT adjusted estimates /PLWH	165	158	NA	95	189	NA
UNAIDS /Resch	886	413	329	NA	363	481
NASA	224	548	--	--	165	--
CDC ART only	NA	276	NA	NA	451	NA
Country studies*	NA	720	216	NA	223	880
<i>Alternative estimate</i>			<i>500</i>			<i>500</i>

* Haacker for Kenya, OPM for Tanzania, Aliyu et al. for Nigeria, Menzies et al for LIC/LMIC ** UNAIDS/NASA estimates do not include private spending (which for Nigeria was 259). All original values were projected to 2015; IHME (2017).

Discussions

With regard to HIV/AIDS, CDC studies have estimated the mean cost of HIV/AIDS treatment in Kenya and Tanzania. For Kenya, the estimates were \$240.33 per patient per year, 50% of which relating to ARV alone (MOHSW and CDC, 2011). Newly initiated patients had a 10% higher cost than established patients, and pediatric patients had a cost 20% higher than adults. For Tanzania, the HIV/AIDS per capita cost was higher at US\$ 430 (in 2008 US\$), of which US\$ 270 (63%) was for ARV alone.

Haacker (2014) estimated the costs and returns of scaling up HIV/AIDS programs in Kenya to answer three strategic questions: (1) Why invest in HIV/AIDS? (2) What are the consequences, or returns to investments, of alternative HIV/AIDS strategies? (3) How can this be financed? Regarding the first question, the author points to the high disease burden from HIV/AIDS (it accounts for one-third of general mortality among those aged 15-59) and its impact on health indicators (a drop of 12 years in life expectancy at the peak of the epidemic, and 3 years in 2011) constitute a threat to households' integrity, economic stability, and food security. The costs of fighting HIV/AIDS were estimated under three scenarios: (1) a baseline scenario, which assumes continued current coverage rates; (2) an "investment framework" scenario, which assumed expanded coverage (to 90%) and improved preventive interventions; and (3) an "enhanced efficiency" scenario, assuming several efficiency and effectiveness gains in prevention and treatment.³⁰ At baseline, the total cost of HIV/AIDS was estimated at US\$ 986 million, or US\$ 598 per PLWH, equivalent to 1.4%

³⁰ Such efficiency gains would be achieved through better alignment of the HIV/AIDS response to local needs, the choice of more effective modes for delivering care, better control over the cost structure, and addressing sources of inefficiency.

of GDP in 2014 and in 2030 (after a peak of 1.75% in 2019). This is much higher than the value estimated by the OHT study, which is the basis for this study.

The Tanzania Ministry of Health and Social Welfare (MOHSW) and Tanzania AIDS Commission (TAC AIDS) have estimated the cost of the Tanzania Third Multi-Sectoral Strategic Framework for HIV/AIDS (2013/14 – 2017/18) at around US\$ 600 million per year over the period or US\$ 625 per PLWH—higher than the OHT estimates used in this study—of which 53% was for commodities (41% for ART alone), 33% for other health-related costs, and 13% for non-health costs.

The costs of the three strategies were projected to increase substantially from baseline (2014) to 2029, but at different rates. Under the baseline scenario, annual costs would increase 84%, from US\$ 0.87 billion to US\$ 1.59 billion by 2030, while under the investment framework and enhanced efficiency scenarios it would increase to US\$ 2.13 billion and US\$ 2.02 billion respectively (Table 17). As a proportion of GDP, the strategy costs would decrease from 1.45% to 1.1% by 2019 and remain constant thereafter under the baseline scenario, while increasing to 1.8% by 2020 and then decreasing to 1.5% by 2030 under the two scaling-up scenarios. The scaling up scenarios would reduce the number of PLWH by 25% or 30% on the 2030 horizon (for the investment and enhanced efficiency scenarios respectively) and the prevalence by 22% or 32%. The average cost per death averted would be similar in the two scaling up scenarios, around US\$ 10,000–11,000. Haacker’s cost estimates are substantially higher than those resulting from this study, both in Kenya and the other countries considered. Table 17.

Table 17: Haacker’s projections for Kenya, 2014–30

	2014	2020	2030
Annual costs (US\$ million)			
Baseline scenario	868	959	1,595
% of GDP	1.40	1.15	1.15
Investment framework scenario	868	1,497	2,130
% of GDP	1.40	1.75	1.45
Enhanced efficiency scenario	868	1,472	2,021
Annual HIV infections			
Baseline scenario	102,358	130,856	167,663
Investment framework scenario	102,358	47,848	51,596
Enhanced efficiency scenario	102,358	40,486	36,811
Cost per death averted (US\$)			
Baseline scenario	-	-	-
Investment framework scenario	-	11,190	10,522
Enhanced efficiency scenario	-	10,846	9,563

Source: Haacker, 2014.

Note: Given missing data, some information is not available and marked as “—”

Projection of minimum health benefits package costs to 2030

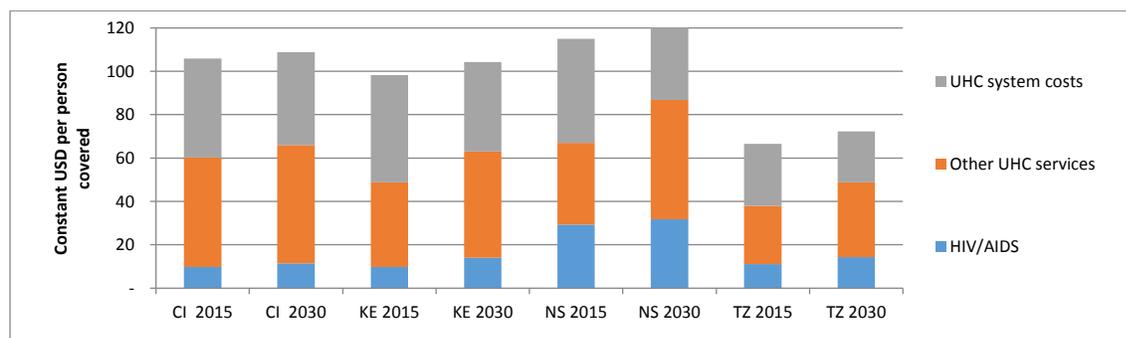
Generally, this study found that total per capita MHBP costs are projected to increase slightly between baseline (2015) and target (2030) due to an increase in program costs (for both HIV/AIDS and other services) and a relative decrease in system costs (associated with economies of scale). This study estimated the cost of the MHBP and its components per person covered at baseline (2015) and at target (2030). Some specifics of the study findings are given below. Figure 28.

The cost share of HIV/AIDS under the MHBP varied by country. HIV/AIDS accounts for the smaller part, ranging from 10% of the total in Cote d'Ivoire and Kenya to 17% in Tanzania and Nasarawa State; however, it accounts for 20-40% of the direct program costs (excluding system costs).

Other key findings included:

- Other MHBP services (including MCH, treatment of communicable diseases, and other common diseases) accounted for 40-47% of the total in the three main countries but only 22% in Nasarawa State (due to lack of information on the cost of NCDs and other services).
- System costs, which included infrastructure, human resources, logistics, information systems, and governance costs) accounted for 43-50% of total MHBP costs, except in Nasarawa State (where it represented 61% of the total). The large share of system costs is due to the inclusion of most human resources costs, which by the construction of the OHT model are included in system costs except when they relate to direct program management.
- When dissecting MHBP “systems costs” (using the breakdown used by the OHT model), human resources (other than those directly related to the included programs) represent the larger part with around 40% of the total MHBP systems cost, followed by infrastructure (around 30%) and logistics costs (25%). Governance, information systems, and health financing together represent between 5% and 10% of the total.

Figure 28: Cost of the MHBP package and its components per person covered in US\$ (constant) at baseline 2015 and 2030



Source: Authors' elaboration. Cost is adjusted for MHBP size.

Minimum health benefits package funding gap

In spite of the clear success of the four case study countries in controlling the HIV epidemic and improving health status of the majority of the population, the study showed that the long-term sustainability of these successes is threatened. None of the study cases covered in the study could afford significant advances in UHC under a "status quo" scenario, in which current spending patterns continue to be used. Under this baseline scenario, Cote d'Ivoire, Kenya, and Tanzania would continue to spend the recently observed levels of between 5% and 7% of the government budget on health, and Nasarawa State in Nigeria would spend around 10%. (The precise numbers are Cote d'Ivoire 5.77%, Kenya 7.20%, Nasarawa State 10.37%, and Tanzania 5.29%.) If GDP increases annually at 5%, all of the case study countries would experience a "MHBP (or UHC) funding gap" (defined as the difference between projected cost and projected public funding (GHE) that increases substantially over time).

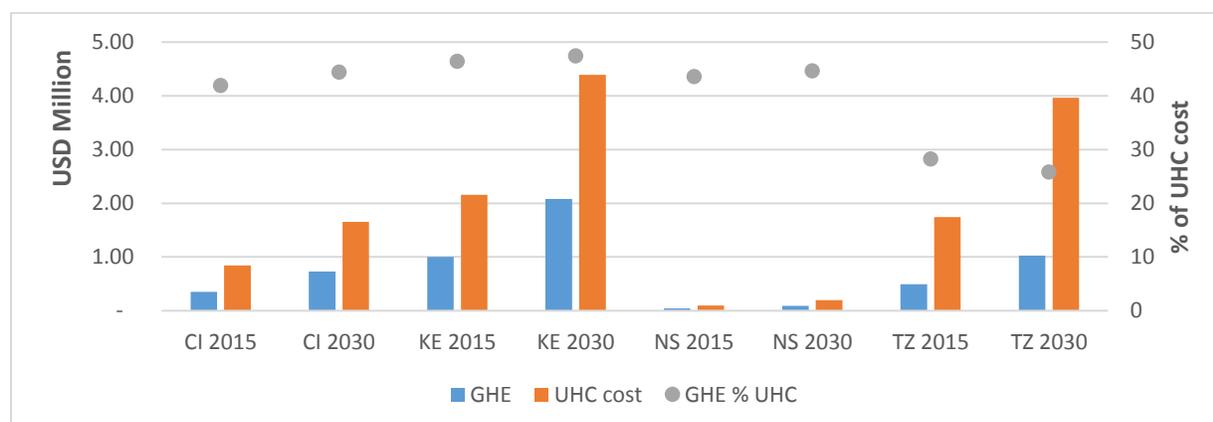
The MHBP funding gap estimated under the base scenario is substantial for the four country cases, increasing 100% or more by 2030 in each case. The gap is largest for Tanzania at US\$ 1.25 billion, and lowest for Cote d'Ivoire (US\$ 0.42 billion) among the three countries, with Nasarawa State in Nigeria showing a much lower gap due to its size (US\$ 0.11 billion). Expressed in a different way, GHE would cover between one-quarter and one-half of the MHBP cost in every country, a proportion that remains relatively stable by 2030. Table 18 and figure 29.

Table 18: MHBP funding gap under the base scenario, in US\$ millions, 2015 and 2030

	Cote d'Ivoire		Kenya		Nasarawa State in Nigeria		Tanzania	
	2015	2030	2015	2030	2015	2030	2015	2030
GHE	352.71	733.25	1002.08	2083.25	42.72	88.82	492.98	1024.86
UHC cost	774.78	1512.36	2157.55	4388.37	98.01	198.74	1743.25	3963.96
UHC gap	-422.07	-779.10	-1155.47	-2305.11	-55.29	-109.92	-1250.28	-2939.10
GHE % UHC	45.52	48.48	46.45	47.47	43.59	44.69	28.28	25.85

Source: Authors' simulations. Figures are in US\$ million.

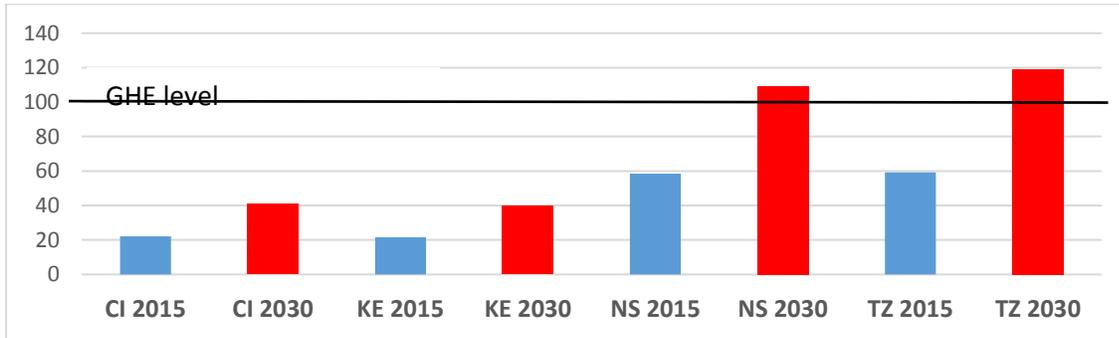
Figure 29: Estimated funding gap for attaining UHC under base scenario, 2015 and 2030



Source: Authors

Funding needs are significant for AIDS response and public resources are constrained. On the horizon 2030, the cost of HIV/AIDS will increase substantially as a proportion of available government funding (GHE) under the base scenario (HIV/AIDS coverage increasing 35% from baseline levels, and GHE remaining at the current proportion of GDP); it will represent between 40% in Cote d'Ivoire and Kenya to over 100% for Nasarawa State and Tanzania (figure 30). This suggests that most LIC and LMIC will be hard-pressed to finance a major part of the HIV/AIDS program, as this will compete with the goal of funding UHC at the same time, unless budget health allocation is substantially increased.

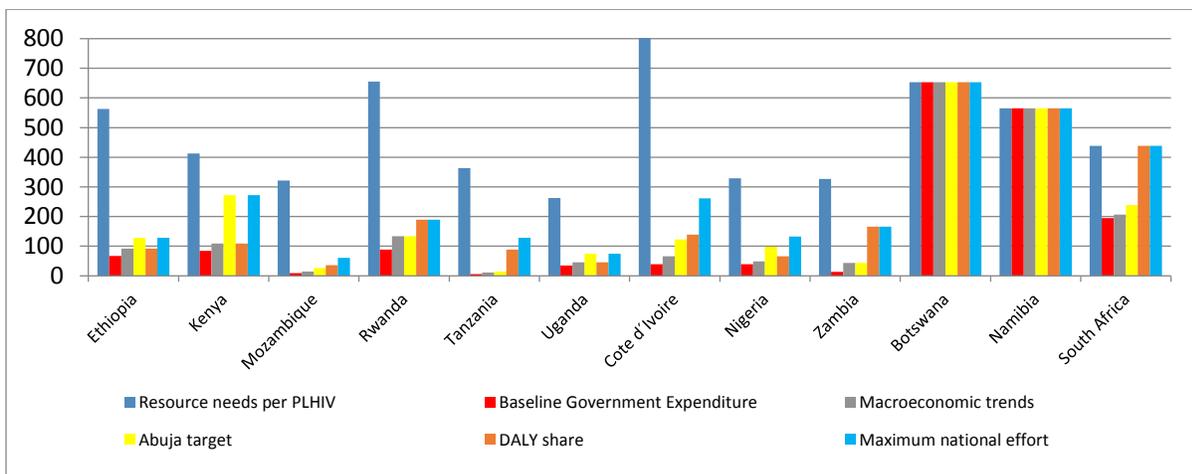
Figure 30: HIV/AIDS cost as a proportion of Government Health Expenditure, 2015 and 2030



Source: Authors' elaboration

This finding is consistent with other studies. Resch, Ryckman, and Hecht (2015) contrasted the needed investment in HIV/AIDS (from the UNAIDS Investment Framework) and the amount of funding currently (2013) available for 12 countries in Sub-Saharan Africa. They then projected four scenarios for mobilizing domestic sources for filling the funding gap: (1) macroeconomic trends (funding increasing from GDP growth and slight increase in allocation to HIV/AIDS); (2) reaching the Abuja target of 15% of the budget allocated to health; (3) HIV/AIDS allocation proportional to its importance in the country's burden of disease (in DALYs); and (4) a combination of these strategies to achieve the maximum government mobilization. Funding requirements per PLWH averaged US\$ 481, and only two high-income countries were able to meet them under the current funding arrangement (Botswana and Namibia); all the others had a funding gap of about 90% of the needs. Under the most optimistic scenario (scenario 4), only one country (South Africa) would be able to mobilize sufficient public funds to fill the gap through reallocation of health funding. Figure 31.

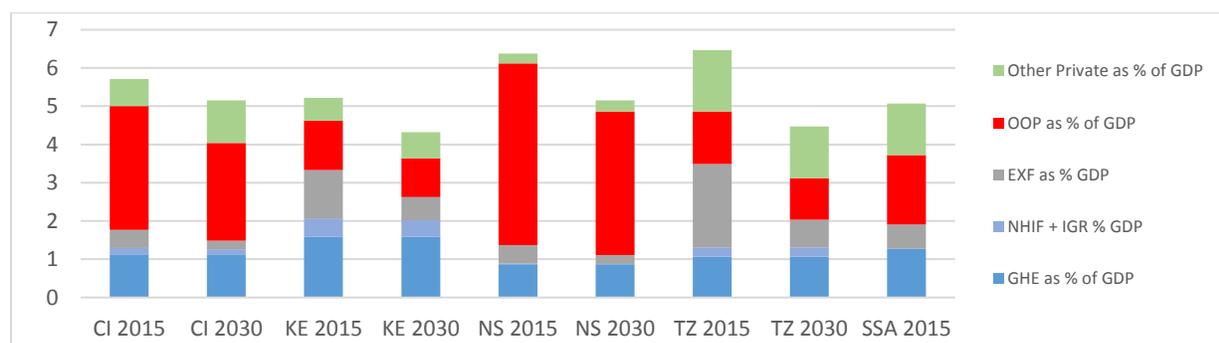
Figure 31: HIV/AIDS funding needs, resources under different scenarios in 12 Sub-Saharan Africa countries in US\$



Source: Resch, Ryckmans, and Hecht, 2015.

In this current study, projected estimates under the base scenario³¹ are also shown in figure 32. In all cases, total health expenditure (THE) will decrease as a proportion of GDP, due mostly to the projected freezing of external financing (EXT) at the current level. For this reason, the countries with the greatest reduction in THE share are those most dependent on external funding: Tanzania and Kenya.

Figure 32: Projected funding for health by source for the case countries and Sub-Saharan Africa under the base scenario, in percent of GDP, 2015 and 2030



Source: Authors elaboration from country NHA exercises and WDI.

Sensitivity analysis

As discussed above and in Chapter 4, a sensitivity analysis was performed to control for the external factors affecting the cost of the UHC and HIV/AIDS packages in the four countries. Table 20 shows the different adjustments made for the sensitivity analysis. Specifically, we controlled for

- (i) the scope of the MHB package, by adjusting its size in Cote d'Ivoire and Nasarawa State to that of Kenya and Tanzania, which was reasonably homogeneous (full package in the table);
- (ii) converting the MHB cost from nominal USD to PPP dollars;
- (iii) estimating the MHB at 3% of GDP across the four countries;
- (iv) and estimating the fully adjusted cost by applying both the scope adjustment and the PPP adjustment (last column in the table).

All of them reduce the variation across the four countries, suggesting that some of the variation observed across cost estimates for UHC packages are due to external factors which should be controlled for. Table 19.

Table 19: Sensitivity analysis, MHB cost per covered person, 2015, in US\$

Country	Unadjusted	Adjusted for size	Adjusted as % of GDP per capita	Adjusted for PPP	Adjusted for size and PPP
Tanzania	66.54	66.54	6.2	172.99	172.99
Kenya	98.31	98.31	5.2	216.28	216.28
Cote d'Ivoire	97.51	105.86	5.4	204.77	222.31
Nasarawa State in Nigeria	78.47	115.05	4.1	145.16	212.85

³¹ As defined, this scenario assumes that GDP will grow 5% per year until 2030, that all countries will maintain the current level of government spending (GGE over GDP and GHE over GGE), that donor funding will be frozen at the current level, and that private expenditure will grow according to the elasticities defined.

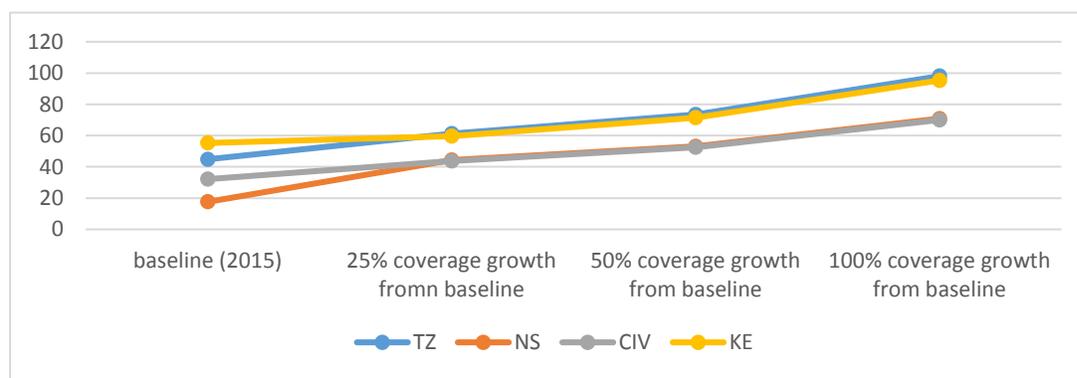
Source: Authors

Note: (a) Adjusted means that the MHBP for countries have been adjusted to the MHBP packages as proposed for Kenya and Tanzania (when estimating OHT package).

Gap in finances for universal health coverage

MHBP costs increase with program population coverage. The simulation took three scenarios: (a) to estimate costs when coverage increase by 2030 was conservative at 25% increase from baseline (2015), (b) a status quo at 50% increase in coverage from baseline, and (c) the final coverage increase was taken at 100% (or doubling) coverage increase from baseline. Figure 33.

Figure 33: Population coverage projection for HIV/AIDS program, 2030



Source: Author's estimates.

Note: Tracer indicator for HIV/AIDS was taken as ART coverage.

This study assumes access to a MHBP for at least 70% of the population would represent a substantial progress towards UHC. Presently, these countries are well below those levels. Kenya and Tanzania perform better than some, while Nigeria performs the worst. This study has found that if current health spending patterns are maintained, none of the case study countries will be able to achieve UHC by 2030. Doubling population coverage, could require a several-fold increase above existing spending levels.

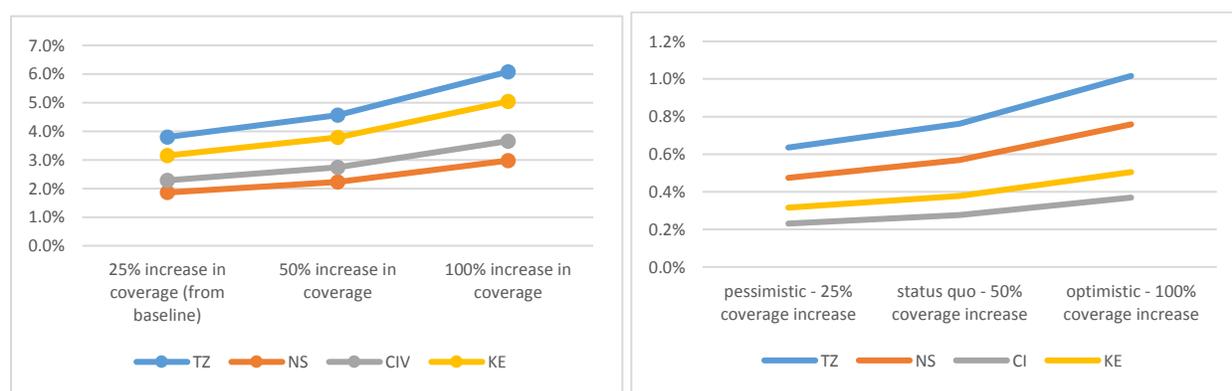
All of the four case study countries will continue to need a significant share of their GDP for MHBP, ranging between 3 to 6% of GDP, especially if they are to aim for UHC by 2030 (Table 20). This is also advocated for in the literature, that is, to support an increase in public spending for health as share of GDP. Given that the success in UHC has a lot to do with sustainable commitment, and the need for government taking on a lot more of this commitment, this spending for MHBP is expected to be allocated from government health spending (both from on-budget and off-budget). None of the four countries were spending enough public resources for health as of 2015. Country budget constraints will therefore suggest their effective coverage that can be achieved over time. Figure 34.

Of the MHBP program package in the four countries, at least one-fourth share of MHBP is estimated for HIV/AIDS program continuing into 2030; Tanzania would need almost one-third, Kenya and Cote d'Ivoire about one-fifth. The Nasarawa State in Nigeria would need much higher. The challenge going forward is that significant domestic financing (to replace or to add to the current external financing) will be needed to finance the HIV/AIDS program needs into 2030.

Literature suggests that generally HIV/AIDS spending (or at least ART spending) of 1% of GDP should be viewed as affordable, anything above that can be considered unaffordable given that one disease would demand such resources, and domestic resources away from other critical burden of diseases³². When it comes to HIV/AIDS, its needs in these case study countries are significant as well. The study only estimated the costs of HIV/AIDS public programs (given the constraints of the OHT program). As a share of GDP, Tanzania’s HIV/AIDS public program costs are the highest (1.3% of GDP), Cote d’Ivoire and Kenya the lowest (0.5% of GDP) by 2030. Except for Kenya, none of the four countries were spending enough on HIV/AIDS as of 2015. In 2015, Tanzania was already spending 1% of GDP for HIV/AIDS programs (IHME, 2017). At least four-fifth (80%) of their HIV/AIDS spending was from external financing in 2015. Their cost estimates grow in the coming years, and it is expected to be a significant share of GDP by 2030. (see Annex 5.3).

Figure 34: HIV/AIDS and MHBP estimated cost as share of GDP as program population coverage increases, 2030

(a) MBHP (including HIV/AIDS) cost as share of GDP (b) HIV/AIDS program cost as share of GDP



Source: Author’s estimate

Note: The OneHealth Tool under-estimates HIV/AIDS costs as it only takes into consideration the cost of the government program. In many countries, the nongovernment sector takes on more of the HIV/AIDS program implementation than government programs. Total health cost package includes both MHBP and non-MHBP. Public programs include ART as well. What is not included here under HIV/AIDS public programs are: (a) health systems costs, and (b) non-public program costs.

³² Williams and Gouws constructed an affordability index for universal antiretroviral therapy in which less than 1% of GDP is viewed as affordable, between 1% and 2% is viewed as marginal, and more than 2% is viewed as onerous and unaffordable, since it draws funds away from other domestic priorities.

Table 20: Projected 2030 financial needs (as share of GDP) at 100% population coverage above 2015 baseline (total cost as basis)

Countries	Projected financial needs in 2030 at 100% coverage above 2015 baseline (using total cost)		
	HIV/AIDS program cost as share of GDP, %	MHBP (including health systems) as share of GDP, %	HIV/AIDS program as share of MHBP (excluding health systems), %
Tanzania	1.3	6.1	29%
Cote d'Ivoire	0.5	3.7	18%
Kenya	0.6	5.0	20%
Nasarawa State in Nigeria	0.9	3.0	44%

Source: Authors

Notes: a) state level GDP; This table uses total cost for the program to reach an effective coverage over total GDP, as the basis for estimation. By increasing coverage 100% above 2015 baseline, projections for 2030 are about over 90% coverage for Kenya and Tanzania, and about 70% for Cote d'Ivoire and Nasarawa State in Nigeria. 2015 baseline coverage of the latter set of countries (and state) were lower than the former set of countries.

Concluding remarks

While MHBP cost estimates from this study were within the range as that estimated in the literature, the HIV/AIDS program costs as estimated in the study have been lower than those shown in the literature. This is primarily as the OHT program estimated public program costs, and not comprehensive country cost in most cases. Nevertheless, the significant increase expected in the funding needs to achieve HIV/AIDS coverage are noteworthy. If the estimated costs in the literature prove more realistic, that would suggest that even more funds would be required for countries to achieve HIV/AIDS coverage targets.

The cost share of HIV/AIDS direct program costs under the MHBP varied by country. HIV/AIDS accounts for a share that is not proportional to the burden of disease in the country. HIV/AIDS program cost share ranged from one-fifth of the MHBP program cost (excluding health systems strengthening) in Cote d'Ivoire and Kenya to on-third in Tanzania and over that in the Nasarawa State in Nigeria.

Other MHBP services (including MCH, treatment of communicable diseases, and other common diseases) for 40-47% of the total in the three main case study countries. Health system costs (which included infrastructure, human resources, logistics, information systems, and governance costs), accounted for 40-50% of total MHBP costs. When dissecting MHBP "systems costs," human resources represent the larger part with around 40% of the total MHBP systems cost, followed by infrastructure (around 30%), and logistics costs (25%). Governance, information systems and health financing together represent between 5% and 10% of the total.

MHBP would take a significant share of the total health costs. In a country like Tanzania, it could be at least 80% of total health costs, and about 60-70% in other countries, by 2030. The public sector currently spends a significant share of their budget on non-MHBP (e.g. tertiary hospitals and inpatient services), and on other than HIV/AIDS programs. These countries would have to prioritize and reallocate resources towards MHBP and HIV/AIDS over other programs, to meet their 2030 targets.

SECTION IV: FISCAL SPACE AND FINANCIAL MECHANISMS

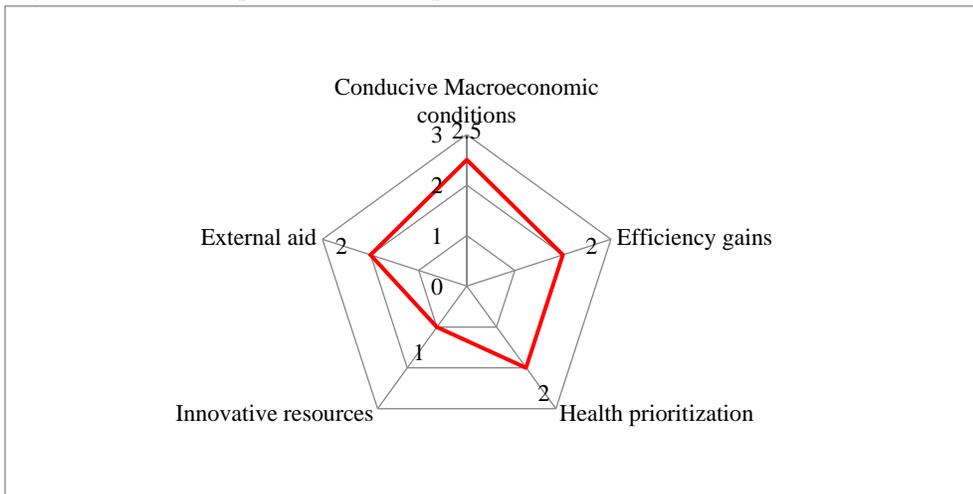
Chapter 6: Fiscal Space for Health and HIV/AIDS

This chapter discusses the potential fiscal space for additional resources for health in the four case study countries. It then looks at country initiatives that have been taken to improve fiscal space for health. The next chapter (chapter 7) reviews country initiatives to use resources more effectively through pooling and purchasing mechanisms for health and HIV/AIDS.

Several concepts are important for this chapter. Fiscal capacity is “the amount of funds going into government revenues as a share of GDP” and relative prioritization is “government allocations for health care relative to other sectors.” Fiscal capacity analysis is in Annex 6.1.

Fiscal space is defined as the “availability of budgetary room that allows a government to provide resources for a given desired purpose without any prejudice to the sustainability of a government’s financial position” (Heller 2005). Figure 35 shows the five pillars of fiscal space: conducive macroeconomic conditions, health prioritization, efficiency gains, innovative resources, and external aid (Cashin and Tandon 2010).

Figure 35: The five pillars of fiscal space



Source: Cashin and Tandon (2010)

Note: the red line signifies how much the country has gained in fiscal space from each of the pillars. For example, the figure shows that the largest fiscal space presently comes from macroeconomic conditions, while the least comes from innovative resources. There is potential to increase fiscal space from innovative resources, and others that have not reached up to “3”.

This section considers the fiscal space for health (specifically for UHC inclusive of HIV/AIDS), along the dimensions defined above. It does not explore the external aid pillar because this study is focused on ways to mobilize additional domestic resources to increase self-reliance and sustainability. This study therefore assumed that external financing will not grow in the next decade or so (2015-2030), due to weak economic growth prospects globally, as well as the fact that many countries are now graduating from LIC to LMIC

status and may not be eligible for as much external financial support (see chapter 4 on methods for more specifics on elasticity estimates).

Conducive macroeconomic conditions

Will economic growth alone help increase resource needs to cover the MHBP for the four case study countries? In analyzing the data for the four countries, this study concluded that:

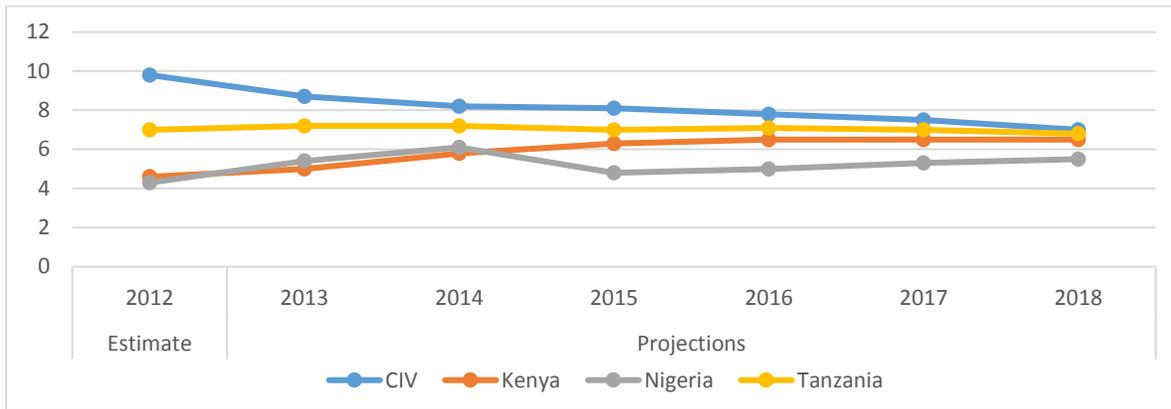
- Given population growth, and general inflationary adjustments, sufficient resources cannot be mobilized for health solely through annual economic growth, even with an annual GDP real growth rate of 7%;
- The four countries must not only boost economic growth, but also improve revenue collection – currently very low in most of these countries - and expenditure allocations;
- In environments with decentralized governance structures, it will be key to also capture the internally generated revenues (IGR) in addition to the national economic growth rates and transfers, because the states rely on both sources for their revenue base.

While conducting the fiscal space analysis, certain assumptions were considered. Currently most of the four countries are reporting a 5% annual real economic growth rate (2015-2020). The IMF-projected growth rate for some of these countries would be even higher: about 7%. Given the less-than-sanguine global economic growth projections, the research team also considered a pessimistic scenario in which the annual real economic growth rate would be 3%. Three rates were considered for sensitivity analysis as annual real economic growth rate: 3% (pessimistic or low growth scenario), 5% (status quo) and 7% (optimistic or high growth scenario).

International evidence suggests that increasing GDP growth is likely to increase government expenditures in health (GHE) as share of GDP. The elasticity estimates in the four countries suggested that GHE grows more than proportionally compared to GDP (see chapter 4). Additionally, other studies in Sub-Saharan African countries also showed that government revenue is likely to positively affect general government expenditure (GGE), which in turn will have a more than proportional effect on increasing GHE. This finding, also in McIntyre, et.al. (2014), suggests that government revenue as a share of GDP is among the key indicators to monitor, as well.

All four countries, except Cote d'Ivoire, experienced strong economic growth between 2000 and 2015, and all are expected to achieve positive economic growth in the near term. As of 2014, Cote d'Ivoire was recovering from political and economic crisis and was experiencing a GDP annual growth rate of 9%. The near- to medium-term real GDP growth projection remains positive in all case study countries. The anticipated rates mostly ranged between 6% and 8%, although estimates of Nigeria's rate were 4.8% to 5.3% due to the challenges it faces from low prices of oil globally. Figure 36.

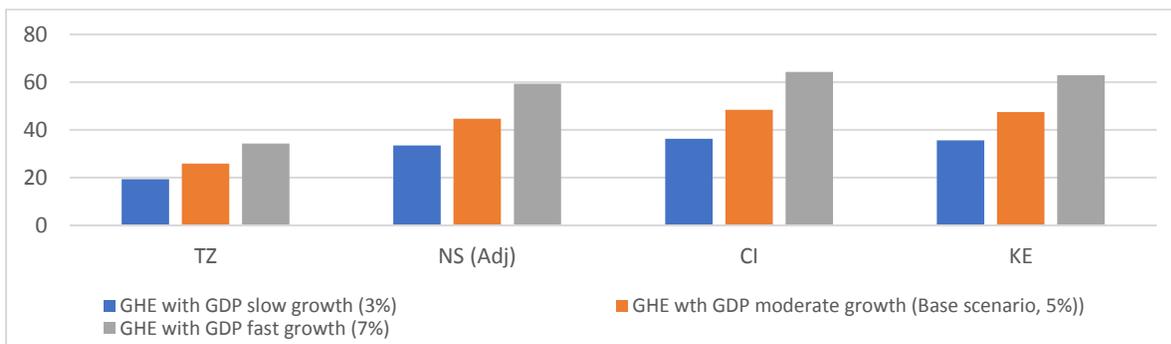
Figure 36: Real GDP growth, annual percent change, projection



Source: IMF, Article IV, 2015

Given the low overall general revenue base in these four countries, and subsequently low general government expenditure as a share of GDP, economic growth alone is not likely to generate additional resources needed to cover the cost of the MHBP. The more ambitious GDP growth rate scenario of 7% would be able to secure about 60% of the MHBP cost in the three countries (Kenya, Cote d’Ivoire, and the Nasarawa State in Nigeria), but the 7% growth rate in Tanzania (a low-income country) would secure less than 40% of the MHBP costs by 2030. The challenge for all these countries is that they must boost economic growth while also improving revenue collection and expenditure allocations. Figure 37.

Figure 37: Real economic growth and its effects on how much of the MHBP cost can be covered by GHE, %, 2030



Source: Author’s estimates

This low revenue collection is a result of (1) a lack of comprehensive and long-term view on revenue collection policies (e.g. Nigeria); (2) weak enforcement systems for revenue collection; (3) high levels of tax exemptions offered to various subgroups for different incentives (e.g. Tanzania); and (4) significant leakage of revenues collected. Efficiency gains are seen as among the priority policy for improving tax collection. All three case study countries, Tanzania, Kenya, and Cote d’Ivoire, are aiming to improve tax revenue collection through reducing exemptions, increasing rates, and improving tax collection management. They expect to reach overall revenue of around 20% of GDP in the near term. Nigeria remains a challenge in the near term. (Annex 6.1).

For decentralized economies, revenue generation can happen at several levels, including at the state level through their IGR. However, in many countries, including in Nigeria, information illustrates that states often do not have sufficient IGR, and continue to rely on federal funds. The case of Nasarawa State in Nigeria illustrates the challenge. Box 6.

Box 6: Nasarawa State in Nigeria: the case of a decentralized environment

In decentralized environments where states rely heavily on federal government transfers, specific attention needs to be given to the national and local situations. The fiscal space analysis therefore has had to take into consideration the possibility of increasing both (a) federal transfer to the state and (b) internally generated revenue (IGR).

In Nasarawa State, fiscal space can be generated by increased federal transfer driven by improving macroeconomic conditions—i.e., higher national economic growth rate is expected to increase federal government revenue, and thereby increase federal fund transfers to the states. This in turn will increase the state and local government budgets and thereby the health budget. Additionally, federal transfer can be increased through (a) improved tax and customs administration at the federal level; (b) changes in federal tax policy (i.e., increasing the value added tax (VAT) rate, broadening the corporate income tax base, international trade taxes, etc.); and (c) changes in the resource allocation formula in favor of state and local government. However, the latter assumption (of changes in federal to local resource allocation formula) requires constitutional changes. All these measures would increase total revenue pooled into the federal account and VAT pooled account. They would also increase transfer to state and local governments and thereby increase the health sector budget. However, increased state government revenue via an increase in federal transfer as discussed above is beyond the control of the Nasarawa State government and this recommendation may not be implementable and achievable.

Alternatively, the Nasarawa State government could expand fiscal space in the health sector by increasing its IGR, including both tax and non-tax revenue. This could be achieved through strengthening its state's tax administration (the Nasarawa State internal revenue service) and accelerating state GDP growth. State tax revenue includes personal income tax, property tax, stamps and duties, etc., while non-tax revenue includes fines and fees, interest income, rental property, etc. In 2015, IGR collection in Nasarawa State is low (10% of total state revenue) and the state has greater IGR potential that could be exploited as its growth benefits from Abuja's economic growth and urbanization. Strengthening the state's tax administration (simplified tax procedures and processes, introduction of electronic processing to eliminate leakages and corruption, strengthened tax audit and enforcement, and taxpayers' education to increase compliance, etc.) would improve IGR. Moreover, a policy to accelerate growth in Nasarawa State would also have a positive impact on IGR. Note that the actions to strengthen tax administration and accelerate growth are within the power of the Nasarawa State government.

Finally, fiscal space can be generated by increasing efficiency of public expenditure through allocative and technical efficiency in the use of the funding available at the current levels in the state budget. Allocative efficiency could lead to inter-sector allocation to increase the overall resource envelope to the health sector and intra-sectoral allocation to increase resource envelope to the priority health interventions. Technical efficiency could be achieved through PFM reform (especially budget planning and execution to increase funding predictability), procurement reform to increase value for money, strengthening internal auditing, and increasing health budget transparency. Improved funding predictability would go a long way to help with fiscal space in the health sector. However, the fiscal space gained from some of the above measures focusing on institutional reform could take more time to bring results.

Source: Jariya Hoffman, World Bank, 2015.

Budget prioritization

Budget prioritization means the reallocation of the public budget to direct a greater proportion to health; it is a critical source to ensure sufficient resources can come from domestic public sources. Although government budget prioritization for health may not always lead to match the resources needed for health,

this study found that it is among the best options to increase public resources for health. In analyzing the data for the four countries, this study concluded that:

- The Abuja target estimates (GHE as 15% of GGE) has not been reached by the four countries, in fact they are significantly below, and the countries could continue to aim for that target.
- When government health expenditure (GHE as share of GGE) is close to that target, Kenya, and Cote d'Ivoire, are closer to mobilizing sufficient funds to cover MHBP costs;
- However, this Abuja target is not necessarily sufficient for all countries. Tanzania, a LIC, is unable to meet the MHBP costs, even if Abuja targets are met. This is because, GDP is low, as are revenue collection and GGE. The share of GGE going to health (even at 15%) is not able to generate sufficient funds. If revenue collection and GGE as share of GDP goes up, it is likely to have a positive effect for GHE as well;
- For this reason, literature (e.g. McIntyre, et. al., 2014) are advocating for an indicator to target (and monitor) of GHE as a share of GDP.

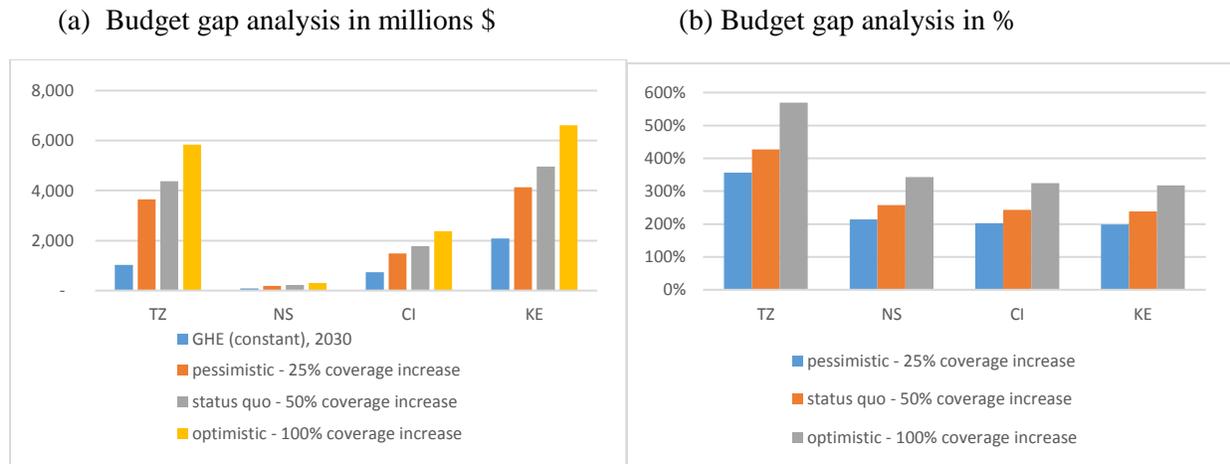
Government health expenditure (GHE) is likely to increase as: (a) share of revenue increases: as total government revenue increases, GHE is likely also to increase, but less than proportionally (elasticity of 0.9, Fleischer, 2014), and (b) share of government expenditure (as a share of GDP) increases: as total government expenditure increases, GHE is likely also to increase, but more or less proportionally (elasticity of 1.1, Fleischer, 2014). However, revenue and GGE as a share of GDP has generally been low in the case study countries, except Kenya. The past increases in GGE share of GDP in these four case study countries have often reflected reforms supporting infrastructure investment or human resources. (See Annex 6.1).

Government health expenditure shares and amounts in these four countries is low. While ensuring domestic financing for UHC may require spending equal to an estimated 5% of GDP (McIntyre, et.al., 2014), in these four countries, currently, this spending amounts to about 1.1% of GDP for Tanzania and Cote d'Ivoire, about 1.6% of GDP for Kenya, and about 0.9% of GDP in Nigeria. Their respective GHE per capita ranged between US\$ 9 for Tanzania and US\$ 22 for Kenya (last NHA, 2015).

Government health expenditure, at the current levels, is underfinanced to even cover a very small increase in population coverage. If no additional financing is sought, MHBP costs are unaffordable. The MHBP cost, even for a pessimistic scenario of only 25% increase in population coverage (above 2015 baseline levels), is not attainable. Figure 38.

When reviewing the financial needs for HIV/AIDS program coverage, the research team find that government health expenditures is insufficient to finance a full coverage (ambitious coverage scenario) in Tanzania and the Nasarawa State in Nigeria. For Cote d'Ivoire and Kenya, the main point to note is that this one disease may require at least 40% of the GHE (constant) share by 2030. Figure 39.

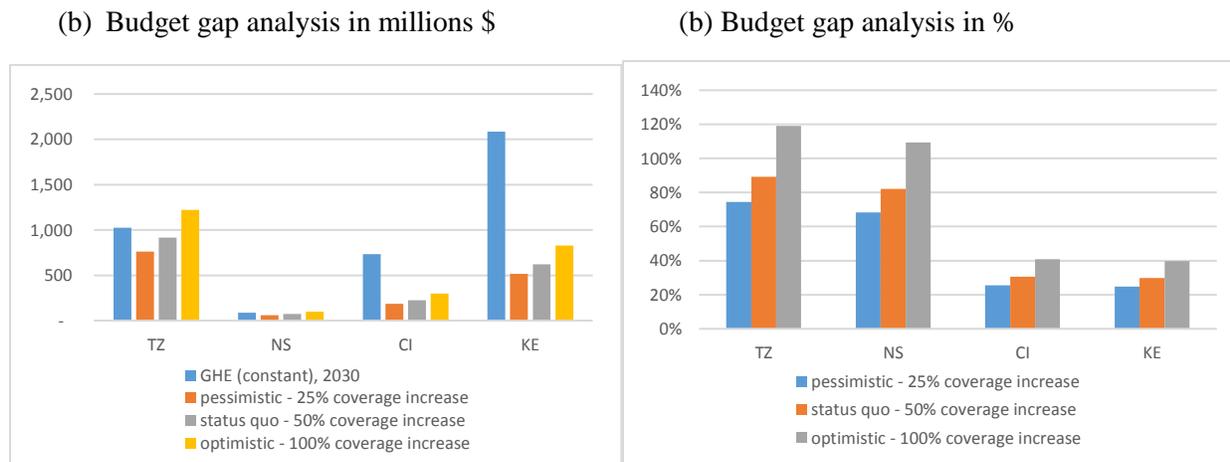
Figure 38: Budget gap analysis: MHBP projected costs as share of constant GHE, in millions \$ and %, 2030



Source: Authors.

Note (b): Above 100% means health budget (GHE) deficit to cover MHBP cost. The MHBP package includes HIV/AIDS program.

Figure 39: Budget gap analysis for programmatic approach: HIV/AIDS projected costs as share of constant GHE, in millions \$ and %, 2030



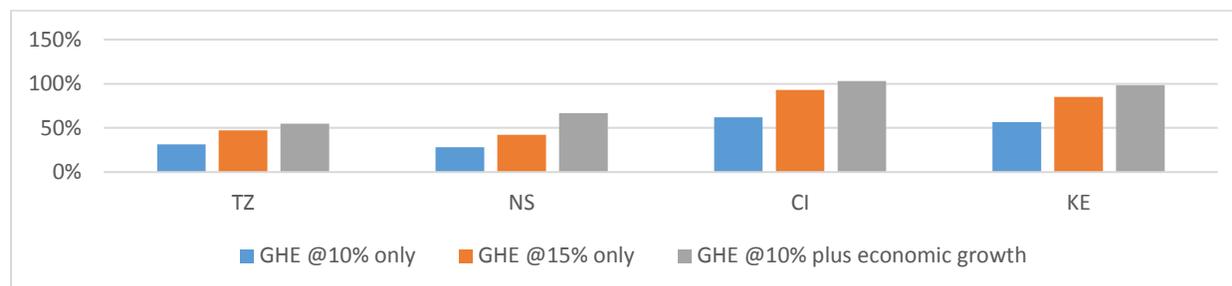
Source: Authors.

Note (b): Above 100% means health budget (GHE) deficit to cover HIV/AIDS cost. This only includes HIV public program costs, and overall health systems strengthening costs are not included.

While a larger budget allocation to health (GHE as share of GGE of at least 15%) could provide close to the MHBP resource needs in Cote d'Ivoire and Kenya, that is not the case for Tanzania and the Nasarawa State in Nigeria. In Nasarawa State, which has a relatively low state GDP, the state is unable to mobilize sufficient resources for health or HIV/AIDS. For Tanzania, the MHBP costs are significantly higher than the existing GHE spending. For Tanzania, in particular, even increasing GHE share of GGE to 15% would not provide sufficient resources to cover the cost of the MHBP. This is an important point to note because as external financing may not be able to provide the other much-needed resources in the coming years, it will hence be critical for the governments to reconsider their allocations for health given the SDG targets

that they aim to achieve by 2030. Combining economic growth and GHE as 10% of GGE, Cote d'Ivoire and Kenya are likely to cover their MHBP costs. Figure 40.

Figure 40: Health prioritization: MHBP cost share coverage through GHE, resulting from an increase in GHE share of GGE (10%, 15%), 2030



Source: Author's estimates.

Note: GHE is government health expenditure. Total percentage can go beyond 100%, suggesting that more than the MHBP cost can be mobilized.

For Kenya and Cote d'Ivoire, additional new financing from economic growth and budget prioritization to about 10% of GGE could add resources to financially sustain this increased coverage. However, the situation for Tanzania is such that even the additional new domestic resource mobilization would not allow for the financial sustainability of MHBP package, let alone, the HIV/AIDS program.

Within the discussions of budget prioritization, it is also important to consider how resources are allocated. Budget resource allocation decisions should be based on equity and efficiency considerations. Efficient resource reallocation is an important way of making more funding available for a particular use. The main reallocation strategies for expanding fiscal space for specific health programs such as UHC and HIV/AIDS are: (i) increasing the health funding envelope by allocating a greater proportion of the budget to health, (ii) give greater priority to these programs by allocating funds away from other uses (such as non-MHBP) in health, and (iii) reallocating funding within each program to obtain gains in allocative efficiency and achieve greater impact with similar resource levels.

Prioritizing MHBP – inclusive of HIV/AIDS - was one of the key assumptions in our modelling. Unless the government allocates substantially more of the budget to health, ensuring sustainable UHC will require ministries of health to place a cap on the funding growth for non-MHBP activities (for example, most tertiary services and some secondary services), so that more funding can go to MHBP and HIV/AIDS. Choosing the specific services to prioritize or de-prioritize is a tricky and politically charged affair, but a clear vision of the contribution of various illnesses to the country burden of disease and which interventions can be offered given equity and efficiency considerations would be a good start.

What tools can be used to improve budget prioritization for MHBP (health and HIV/AIDS)? Is MTEF effective?

There is potential to prioritize for health in the budget in all the four case study countries. Aligning health budget to (1) results and performance, (2) the medium-term strategy, and (3) the other national priorities (such as poverty reduction strategy), would be beneficial for these countries to bring about some national commitment and some stability in planning and implementing their programs.

General revenue is an important domestic resource for health. Its alignment for the sector comes from national government priority setting exercises that take place through the medium-term planning and

budgeting processes; a medium-term expenditure framework (MTEF) is often developed. Countries develop the MTEF for a period of 2 to 5 years. The process therefore has a potential to bring some stability in sector prioritization, planning, and budgeting. Additionally, annual planning and budgeting processes are supposed to re-align priorities with the aim of meeting the medium-term development goals.

Of the four case study countries, all but Cote d’Ivoire had MTEFs for the health sector. Kenya and Tanzania had developed MTEFs earlier; Tanzania developed a MTEF with the Ministry of Health and Social Welfare (MOHSW) as early as 2000 (2002-2004), and linked its MTEF to its Poverty Reduction Strategy. Kenya adopted a MTEF in early 2000, although the Ministry of Healthy (MOH) adopted it after 2005.³³ However, the MTEF in Kenya has not been as effective as its counterpart in Tanzania because the Kenya MTEF has been used more as a planning rather than a budgeting instrument within higher level prioritization³⁴. Nigeria developed its first MTEF for 2015-2017. Cote d’Ivoire has a MTEF (2014-16) based on program budgets with its preparation through 11 pilot ministries, but it does not include the MOH (IMF, 2013). Table 21.

Table 21: Actions being pursued by countries to harmonize national strategies and plans.

	Kenya	Tanzania	Nigeria	Cote d’Ivoire
Does the country have a poverty reduction strategy	Yes	Yes	Yes	Yes
Does the country have a medium-term expenditure framework – when was it initiated?	Yes; initiated in 1998; implemented in 2001/2002 ³⁵	Yes; Launched in 1998	Yes; The Fiscal Responsibility Act 2007 provides legal backing for the MTEF; MTEF implemented for the first time in 2010 ³⁶	No; first expected in 2014 (in 2013 documents – did not find any report saying that it was actually implemented)
Does the MTEF include health – when was it included?	At the national level, MTEF has eight SWGs; health sector has moved into and out of an exclusive group. At times it has shared a group with education and labor ³⁷	For the 2002/03-2004/05 MTEF, the priority sectors included health sector ³⁸	Did not find any document related to MTEF that suggests that health is included as a separate sector.	NA

³³ International Journal of Health Planning and Management 2015. Benjamin Tsoga, Sassy Molyneux, and Catherine Goodman. Health sector operational planning and budgeting processes in Kenya—“never the twain shall meet”

³⁴ http://siteresources.worldbank.org/INTKENYA/Resources/spa_mtef_ws_report.pdf

³⁵ http://erepository.uonbi.ac.ke/bitstream/handle/11295/11045/Ochanda_The%20impact%20of%20medium%20term%20expenditure%20framework%20on%20operational%20efficiency%20of%20government%20ministries%20in%20Kenya.pdf?sequence=4

³⁶ Okpala, K. E. (2014). Medium Term Expenditure Framework and Budget Effectiveness in Nigeria.

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http://www.healthpolicyinitiative.com/Publications/Documents/1115_1_Kenya_Resource_Allocation_FINAL_05_13_10_acc.pdf

³⁸ http://www.tanzaniagateway.org/docs/MTEF_Tanzania.pdf

MTEF can lead to several positive developments. It has led countries to develop and implement strategic resource allocation, greater predictability of funding, integration of donor support into the budget, shift to budget support mechanisms by development partners. In Tanzania, it was also the basis of the development of the national poverty reduction strategy paper (PRSP)³⁹.

MTEFs alone cannot deliver improved public expenditure management in countries in which other key aspects of budget management, notably budget execution and reporting, remain weak.⁴⁰ Several constraints have been highlighted in the preparation of MTEFs in many countries. These include institutional contexts, the power relationships between stakeholders, weak joint planning and budgeting processes into a common cycle and framework, weak public financial management (PFM) systems, weak information management systems, low training and capacity of staff to understand basic PFM principles (especially among sector ministries), and weak accountability mechanisms. PFM systems, such as the integrated financial management information system (IFMIS), are in place in many countries. However, several challenges exist. For example, countries have devolved sector responsibilities to state and local governments, but parallel capacity and systems do not exist at the local levels. Another example is that PFM systems rely on appropriate data being collected and reported from bottom up, such as through a cash management system, but the capacity and systems remain weak at lower levels, and data are not necessarily aligned or reported with much accuracy and reliability. In several countries of interest, while the research team was able to find budget data from the health sector, it was unable to find reliable expenditure data with the same confidence. NHA data, which the research team often relied upon, therefore also often have questionable data, especially for public sector spending. In this study, while three countries were assessed at national levels (Cote d'Ivoire, Kenya and Tanzania), for one country, Nigeria, the assessment was undertaken for the Nasarawa State in Nigeria. The greatest challenges were faced in accessing reliable data at decentralized levels in Nigeria.

While several Sub-Saharan African countries have developed a MTEF and several of those have now included health, few have however attempted to include the HIV/AIDS multisector program, except Tanzania and South Africa. Better coordination with each country's AIDS commissions will be needed to bring them under the MTEF process as well. Table 22 and Box 7.

³⁹ The World Bank. Robert Utz. The Tanzania MTEF: Linking MTEF to PRSP. Power point presentation.

<http://siteresources.worldbank.org/INTPRS1/Resources/Attacking-Poverty-Course/Attacking-Poverty-Course/present17.pdf>

⁴⁰ The World Bank. February 2002. Medium Term Expenditure Frameworks: From Concept to Practice. Preliminary Lessons from Africa. Africa Region Working Paper Series No. 28

Table 22: Actions being pursued by countries to prioritize spending in social sectors.

	Kenya	Tanzania	Nigeria	Cote d'Ivoire
Priority set for spending (growth, infrastructure, poverty reduction)	Fiscal policy would help mitigate the impact of the shocks, by reprioritizing spending to cushion vulnerable groups; education	Sustain high growth and further reduce poverty	Deal with the impact of oil price shock	Sustain fiscal discipline over the medium term, while preserving space for pro-poor and infrastructure spending
What is the country doing to improve spending for social sectors?	Increase the efficiency, effectiveness, transparency, and accountability of public spending,	Better tax collection and reduce unnecessary expenditure to make room for social and development priorities	Suggests: The broader streamlining review could also incorporate a strategic prioritization of spending towards high sustained growth and social development.	Broadening the tax base, limiting current spending, and strengthening tax and expenditure administration to create fiscal space for higher investment and social spending

Source: IMF Article IV.

Box 7: HIV/AIDS programs within the medium term expenditure framework: examples from Sub-Saharan Africa

The MTEF for Tanzania states, “The Government emphasizes the implementation of the Primary Health Service Development Program at central and local government level. This includes enhancing the quality and access to health services including maternal health care services, child health, improving referral system at all levels of the government, scaling up immunization services, provision of non-ARV interventions, including TB preventions and treatment of opportunistic infections in PLWH. Other areas include intensifying the fight against infectious diseases such as Malaria and HIV/AIDS (including encouraging voluntary HIV testing and counseling).”

Source:

<http://www.mof.go.tz/mofdocs/budget/Budget%20Background%20and%20Medium%20Term%20Framework%20Paper%20December%20finale%20FINAL.pdf>

The MTEF for South Africa states, “Government is committing more funds to developing an intersectoral strategy and transforming social services to combat the spread of HIV/AIDS in South Africa”.

Source: <http://www.treasury.gov.za/documents/mtbps/1999/4.pdf>

Efficiency gains

This section discusses the study’s findings about what additional resources could be earned by these four countries through efficiency gains. In analyzing the data, this study concluded that:

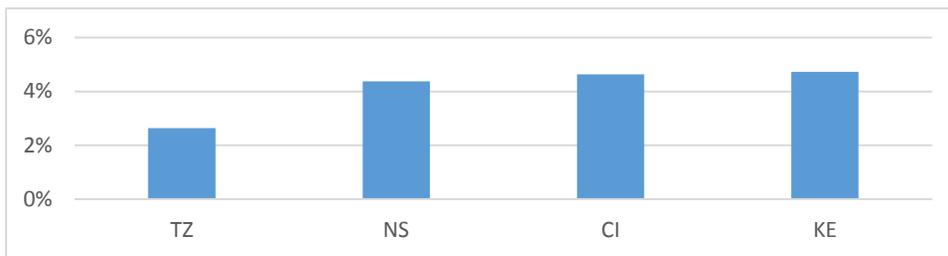
- Given the constrained budget environment, there is significant benefits to gain from efforts to improve efficiency;
- Given low levels of GHE, the gains from efficiency efforts are expected to be limited, and not significant to add to fiscal space for health;

- Even though there is limited addition to fiscal space, efficiency gain efforts can help countries consider appropriate and effective use of constraint public resources. Also, as budget (and off-budget) grows, this effort on efficiency gains is likely to free up even more resources.

WHO notes that 20-40% of government budgets can be released from steps taken to improve efficiency. Efficiency improvement is also a notable part of the solution: both allocative and technical efficiency for fiscal space for health. It is important to ask whether the existing resources are allocated efficiently, and can it be used more effectively? Among the allocative efficiency questions lay those related to financing certain programmatic parts from domestic financing, such as preventive versus curative services and commodities, or targeting versus complete population coverage. While in the technical efficiency questions lay those related to delivery mode and human resource skills mix, and such.

The four countries also show several areas of inefficiency: infrequent or inconsistent funds flow, weak public financial management, vertical programs, allocative inefficiencies, fragmented pools and funds flow, and such. In addition to improved domestic resource mobilization, fiscal gap can be narrowed by implementing in-country initiatives to improve allocative and technical efficiency so as to optimize existing resources and reduce the costs of providing the MHBP. Given literature estimates, the conservative assumption is that 15% can be gained through efficiency improvements in public programs and allocations. The four countries are expected to gain between 3% and 5% of MHBP costs resulting from efficiency efforts. Figure 41.

Figure 41: Increase in fiscal space resulting from efficiency gains (as share of MHBP), %, 2030



Source: Author's estimates.

Efficiency related efforts in health programs

“Priority setting” for health is the process of determining which interventions, services and programs should be prioritized for funding (Galssman, 2012). The aim of priority setting is to provide a structured and evidence-based approach to determining access to interventions, and can provide policy makers with the information required to improve technical and allocative efficiency of all funded services and interventions, including MHBP and non-MHBP services.

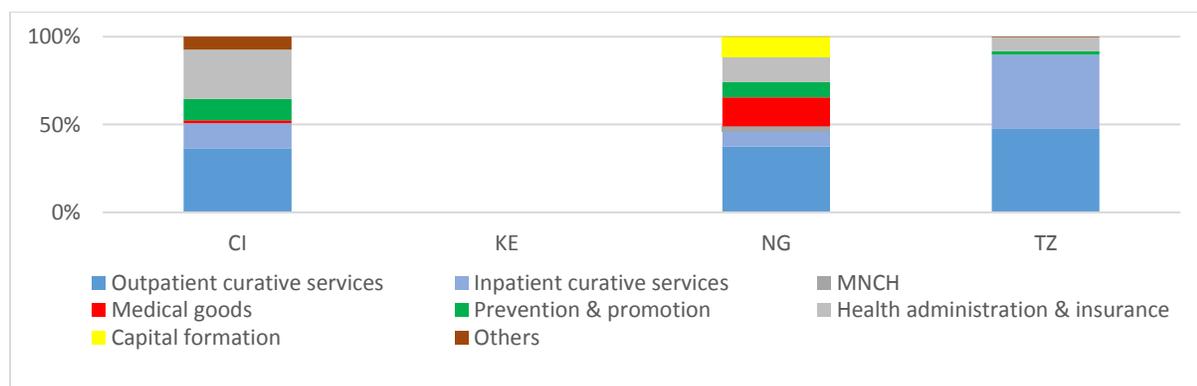
The 2014 World Health Assembly Resolution noted the importance of priority setting through health intervention and technology assessment as a critical component of UHC and urged member states to consider local institutions to conduct research to inform local decision making about funding and access to health technologies (World Health Assembly, 2014). Box 8 provides an example of a successful approach to priority setting in Thailand.

Box 8: Priority setting in Thailand: the Health Intervention and Technology Assessment Program

The Health Intervention and Technology Assessment Program (HITAP) in Thailand is an example of a successful priority setting institution that provides recommendations on the content of Thailand’s UHC health benefits package (HBP) and national essential drugs list. Formed in 2007, HITAP conducts research on a range of interventions to assist decisions about inclusions and exclusions to the UHC HBP, from dialysis and cancer medicines to vaccines and HIV treatment and prevention. A central tool used by HITAP is health technology assessment (HTA), a systematic and multidisciplinary approach to evaluating the social, economic, organizational and ethical issues of a health intervention or technology (WHO, 2015). HITAP also provides recommendations on the optimization of services within the MHPB including screening schedules and clinical standards to improve the quality of care (reference 6). HITAP has assisted the Thai Ministry of Health in achieving substantial commodity price reductions. An analysis conducted by HITAP on the human papillomavirus vaccine (HPV) utilizing local clinical and epidemiological burden evidence estimated that a 60% unit price reduction for the was required for the HPV vaccine to be a cost effective investment in the Thai health sector (Teerawattananon and Tritasavit, 2015).

All four countries could benefit from allocative efficiency discussions. Most public financing in these countries goes towards hospitals and non-MHBP care, rather than PHC and public health programs. Prevention and promotion services, as maternal and child health care services, receive significantly lower public allocations. On the other hand, governments tend to spend a large part of the budget on curative and hospital care, especially in view of the prevailing disease pattern. Three of the four case countries allocated less than 15% of the budget to health promotion and disease prevention. In this respect, the ministry of health in Cote d’Ivoire spends much of its budget funds on tertiary care facilities in Abidjan and regional hospitals (30-32% of the total, but around 60% of facility-level spending), while only 7% are spent on primary and secondary care (Ministère de la Santé et de l’Hygiene Publique, 2010). Rebalancing these two components and strengthening PHC is likely to greatly increase the system’s effectiveness at lower cost. Figure 42.

Figure 42: Government health expenditure by function, 2011-2013



Source: Latest NHA estimates for each country (2013 for Cote d’Ivoire, 2012-13 for Kenya, 2009 for Nigeria, and 2011-12 for Tanzania). Note: Specifics for Kenya are unknown.

As several of the four countries spend a lot more on hospitals, there are some lessons learnt from other countries on how efficiency efforts in hospitals can release funds for other more critical programs.

A technical inefficiency assessment from Kenya also established government financing could be freed up through some efficiency measures. A report by Kioko (2013), titled “*Health Sector Efficiency In Kenya: Implications For Fiscal Space,*” used the Data Envelopment Analysis (DEA) method to assess technical efficiency in a sample of government-run health providers in Kenya. The researcher found high levels of technical inefficiency in the use of health system resources among hospitals, health centers and dispensaries. For instance, average technical efficiency score for hospitals was 72.6 percent, for health centers 50.7 percent, and for dispensaries 43 percent, implying that these facilities were technically inefficient and could have used fewer inputs to produce their outputs. His analysis also showed that public hospitals were on average less efficient than private ones, although public dispensaries performed slightly better than their private competitors. Kioko’s findings have important policy implications. They suggest that large amounts of government health resources could be freed up to pay for more and better health services and to expand population coverage. It would require that concrete measures be taken to improve technical efficiency.

La Forgia and Couttolenc (2008) showed that the typical Brazilian hospital was producing approximately 1/3 of its efficient peers with a given amount of resources; three factors contributing to this high inefficiency were (i) a high use - and waste - of human resources (of nearly 10 staff per occupied bed), (ii) small size of many hospitals (the average size was 62 beds), and low bed occupancy (averaging 40%). Addressing inefficiencies in bed use (longer than necessary stays), performing small surgeries in an outpatient setting, reduce over-staffing, optimizing the use of operating theaters and diagnostic services, performing tests prior to hospitalization, among other interventions, were shown to reduce unit costs of hospitalizations by about 30% in Brazil.

Efficiency-related efforts in HIV/AIDS programs

Efficiency gains in HIV/AIDS can generally be obtained by better targeting populations most at risk in a particular country context, prioritizing most cost-effective interventions, eliminating bottlenecks in critical inputs, improving implementation and reducing program management costs (Gorgens, 2012).

HIV/AIDS programs may also benefit from allocative efficiency decisions. The allocative efficiency analysis in Cote d’Ivoire within the HIV/AIDS program is a useful example of the approach that can be taken. A HIV/AIDS allocative efficiency study in Cote d’Ivoire addressed the existing funding allocation within countries’ HIV/AIDS program (World Bank, 2016). In common with this fiscal space analysis, the allocative efficiency study found that substantial additional resources would be required to achieve the National Strategic Plan (NSP) target for HIV/AIDS. However, utilizing the Optima HIV Model (a mathematical model of HIV transmission and disease progression (Kerr et. al., 2015) and local evidence including disease burden and discussions with policy makers, the study was able to make a series of recommendations about ways to improve existing resources and how any new resources should be allocated. The study found that a small reallocation of existing funds expected to decrease new infections by 4% and annual number of HIV-related deaths by 5% within a 5-year period. In addition, a reduction in management and administration of the HIV program (which represented 20% of cost at baseline) and reallocation of expenditure to HIV treatment would decrease annual number of HIV deaths by 11%. The study recommended an optimal distribution of any increase in HIV program funding from either domestic resource allocation or external donors and highlighted the importance of targeting the right programs to the right locations using local geographical variation in disease burden and epidemiological profile.

A study using the Optima model in South Africa was also able to strategically recommend allocative efficient options for interventions: a) Strategic investments in proven interventions such as medical male

circumcision, an expanded condom programme, and comprehensive packages for FSWs and young females will help “get” Johannesburg the 90 targets (and with these, the 95 targets too) ; c) Evidence-informed programmes for young women and adolescent girls (like DREAMS) are likely to make a significant contribution to incidence reduction in these age groups, if implemented at scale ; d) An innovative mix of HIV testing approaches is needed to reach more PLHIV not sufficiently covered with current services (an additional 100–160 thousand diagnoses needed by 2020, and finding new HIV cases is becoming harder to achieve). Details are given in Annex 6.2.

Better allocation of HIV/AIDS funds can have multiple efficiency gains. In the Kenya study, Haacker’s work (op.cit.), who estimated the impact of the “enhanced efficiency” scenario, including better allocating HIV/AIDS resources to where they are needed and tailoring HIV/AIDS interventions to specific population groups. The resulting efficiency gains relative to the simple scaling up scenario amounted to 5% of the annual cost of the national response, while increasing the reduction in the number of annual infections by 29% by 2030. As a result, the cost per infection averted was reduced by 19% (to USD 4,725) and the cost by death averted by 9% (to USD 9,563).

Another strategy to improve financial sustainability is to lower program costs through efficiency improvements in the HIV/AIDS program and the health sector. Efficiency gains can be achieved through various means, including from improving the service intervention mix, reducing leakages in resource use and flows, improving hospital bed use, improving rational use of medicines, and improving human resource use and allocation.

More specific sources of inefficiency have been identified in the HIV/AIDS programs. For example, Gloyd et al. (2014) found inefficiencies in the delivery of PMTCT in Cote d’Ivoire. Specifically, not all clinics had good recordkeeping, not all clinics were fully staffed; and dropout of HIV positive pregnant women from some clinics was high. Another study (HFG 2014) found that there are insufficient numbers of health workers in the country - especially in smaller cities and rural areas - and this is a limiting factor for service delivery and a source of inequity. It would be useful to conduct a more systematic study on efficiency of the health sector to develop more concrete recommendations for improvements.

Cost drivers too need to be well understood and assessed. For example, Cote d’Ivoire’s cost drivers in the HIV/AIDS program were found to be: the condom distribution program, the PMTCT program, the commodities (ART) and program administrative levels. Some of the challenges are systemic, such as drug procurement and distribution systems, public financial management systems, while other are more programmatic, such as program administration of a vertically drive program. Further effort to improve efficiency in spending can be critical. A HIV/AIDS program cannot be seen in isolation to the health system.

In Tanzania, systemic efficiency gains will also affect HIV/AIDS programming, where the country could save some TZS 433 billion annually by 2030 (30% of total HIV/AIDS expenditure) if the same gains can be effective. Even in Tanzania, precedents of integration of vertical programs exist. For example, the malaria program has been fully integrated within PHC service provision, with good results; however, no actual estimate of the efficiency gains or costs obtained was available. Also, the country is moving toward performance-based financing arrangements, through the program of “Big Results Now” and performance-based financing projects for the Health Basket Fund. These initiatives are expected to induce significant efficiency gains, both directly in the programs concerned, and indirectly through a ripple effect. In addition, part of the HIV/AIDS services are already provided alongside other programs in public facilities.

As countries are contemplating increasing domestic funding for HIV/AIDS and at the same time moving toward UHC, the question of whether to integrate HIV/AIDS funding and interventions into the broader UHC framework becomes more and more relevant. The main argument in support of integration is that it would reduce duplication of efforts, funding channels and support activities, and thus save resources and reduce system fragmentation. The UNAIDS 2013 Global Report indicates that for 90% of countries integration was a priority (UNAIDS, 2013). Blanchet et al. (2014) have assessed the degree and merits of integration in different settings by measuring the degree of integration in revenue collection, resource pooling, and purchasing. Overall, a wide range of integration is found across countries, with Vietnam being an example of low integration (or vertical structure of HIV/AIDS program), Ghana of intermediate integration, and Thailand or Brazil of high integration. Where donors account for a large part of HIV/AIDS funding there is a greater tendency to maintain the vertical structure of HIV/AIDS funding and operation; where domestic/government funding is dominant, as in Brazil and Thailand, greater or full integration is more likely. Full or nearly universal coverage is also associated with greater integration. Table 23.

Table 23: Global: Integration of HIV/AIDS and health across countries

Country	Region	Epidemic Type	2012 Adult HIV Prevalence	Income Level	Collection	Pooling	Purchasing
Zimbabwe	Africa	Generalized	14,70%	LIC	Low	Low	Low
Kenya	Africa	General	6,20%	LIC	Low	Medium	Low
Rwanda	Africa	Generalized	2,90%	LIC	Low	Medium	Medium
Nigeria	Africa	General	3,70%	LMIC	Low	Low	Low
Ghana	Africa	Generalized	1,40%	LMIC	Low	Medium	Medium
Vietnam	Asia	Concentrated/Low-level	0,40%	LMIC	Low	Low	Low
Philippines	Asia	Low-level	<0.1%	LMIC	Medium	Medium	Medium
South Africa	Africa	Generalized	17,90%	UMIC	High	Medium	Medium
Brazil	LAC	Concentrated/Low-level	0,30%	UMIC	High	High	High
Colombia	LAC	Concentrated/Low-level	0,00%	UMIC	High	High	High
Thailand	Asia	Concentrated	1,10%	UMIC	High	High	High
Mexico	LAC	Concentrated	0,20%	UMIC	High	High	High
Chile	LAC	Concentrated/Low-level	0,40%	HIC	High	High	High

Source: Results for Development, 2014.

Notes: LAC is Latin American countries. LIC is low income countries; LMIC is low middle-income countries; UMIC is upper middle-income countries.

While integration has the potential of reducing duplication of efforts and inefficiency, and more generally to reduce health system fragmentation, there are specific challenges of integration. These include AIDS as a chronic disease among other NCDs, the existence of public and private goods components, the fragility of the health system in low-income countries, potential long-term costs, and the stigma still attached to HIV and AIDS.

Integration of HIV within UHC implies defining explicitly which HIV services are to be included in the UHC package. The first point to make is that the inclusion of HIV services should be aligned with the general principle that defines the benefit package for UHC. If UHC is designed and funded as a national health service, it is likely that public health services and interventions (and others characterized as public goods) will be included in the package. If it is defined as a health insurance scheme (which generally pays

for individual services), it will often be the case that public goods will not be covered, but funded and provided directly by the government (see Blanchet, 2014). The second point for some researchers is that inclusion of services should be based on cost-effectiveness criteria (services providing most benefits for their cost), for some, the importance of equity considerations. Efficiency gains in HIV/AIDS can generally be obtained by better targeting populations most at risk in a particular country context, prioritizing most cost-effective interventions, eliminating bottlenecks in critical inputs, improving implementation and reducing program management costs (Gorgens, 2012). The third point is that funding available will determine how much will be covered and how much will be left out; in this respect it is probably wise to define the package in flexible terms, so that it can be extended as more funding becomes available. If funding is sufficient the whole package could be funded within HIV/AIDS, but it is more likely that expensive and specific interventions such as ARV treatment and care for specific at-risk groups would be left out of the main package, and would be prioritized by the declining donor funding and other sources.

Innovating financing

More specifically the study analyzed the potential cost impact of improving earnings through (1) user fees or IGR; (2) other earmarked taxes; and (3) prepayment and cross subsidies from health insurance coverage and claims. For user fees, the simulation assumed earnings would be about 10% of GHE. For other earmarked taxes, several earmarked taxes were considered (for example, when setting up trust funds, including AIDS trust funds). For social health insurance, the assumption was the premiums earned from increasing population coverage to about 35%. In analyzing the data for the case study countries, this study concluded that:

- While user fees are not a response in countries with significant population living below poverty levels and significant out of pocket expenditures in health, after a decade of no user fees, several countries have returned to introducing user fees for services and/or copayments for drugs since the early to mid-1990s;
- Earnings through user fees are small, but are often considered an important source in running public health facilities, and especially in filling gaps in medicines;
- Several pooling mechanisms are being considered (e.g. trust funds and health insurance programs) and effort to mobilize additional resources through various earmarked taxes.

User fees. All four countries have reversed their policies and have imposed user fees and copayments in the public health facilities. Several programs offer services such as public health goods, immunization, and donor-financed programs for malaria, tuberculosis, and HIV/AIDS at no cost in public health clinics. In most of these countries, drug co-payments (through health insurance or a drug revolving fund) are also expected for curative care at PHC clinics and at hospitals. The policy on user fees for PHC has been a controversial one. After a decade of no user fees, several countries have returned to introducing user fees for services and/or copayments for drugs since the early to mid-1990s. The reason for this reversal in policy is often a result of low and unreliable budgetary flows for facility running budgets, including for medicines. Household out-of-pocket (OOP) health spending as a percentage of total health spending in the four countries varies from about 30% (Tanzania) to 78% (Nigeria). In countries with formal user fees exemptions, patients may be paying informally (under the table). In Tanzania, about 10% of IGR is earned

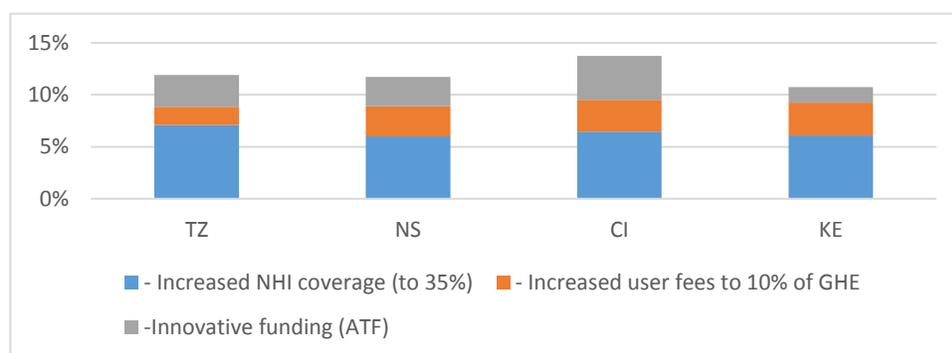
through user fees (World Bank, 2016).⁴¹ Earnings through this means are small, but are often considered an important source in running public health facilities, and especially in filling gaps in medicines.

Other earmarked taxes. Evidence from several other studies suggest a trend in off-budget sources of financing in health. The Cote d'Ivoire government introduced an earmarked tax on tobacco in 2012 and some of these revenues are used to fund HIV/AIDS programming. This earmarked tax was expected to generate an increase of 0.5% in government revenue in subsequent years. During the first year that the tax was introduced, approximately \$5 million was raised, or 1.5% of GHE. Several other initiatives are being considered, including value added taxes (VAT), oil revenue, and others.

Prepayment or cross subsidies. Social health insurance programs are likely to benefit more than proportionally as GDP increases, as its elasticity is greater (countries tend to move toward health insurance as their income increases). This phenomenon is most evident in LMICs.

Each of the interventions discussed above may not earn sufficient amount independently, but as a package they can provide significant additional earnings. This study estimated that through alternative sources of financing, the case study countries could earn an additional 10-15% of MHBP costs. This indicates that it would be prudent for countries to focus on one or two innovative sources and enforce their collection. This would be much more effective than establishing a basket of different taxes and contributions with a low incidence for each, as the cost of revenue collection may end up consuming a large proportion of the revenue collected. Figure 43.

Figure 43: Gains in financing for MHBP cost coverage from alternative sources of financing, %, 2030



Source: Author's estimates.

Note: Innovative funding includes AIDS Trust Fund.

International lessons learnt from earmarking taxes for MHBP (health and HIV/AIDS)

The three most popular choices for taxes are consumption, income, and wealth. The Organization for Economic Cooperation and Development (Johansson and others, 2008) identified which taxes are most conducive to growth found the following to be the most effective (list in order of impact): (1) property taxes; (2) consumption taxes; (3) income taxes; and (4) corporate taxes. The equity of a tax system is evaluated using two criteria. First, people who are equally situated should be treated equally horizontal equity. Two households with the same income and characteristics should pay the same taxes. Second, the

⁴¹ World Bank. 2016. Cost sharing and Resource Tracking Study in Tanzania; National Health Accounts.

level of taxes paid should vary directly with the ability to pay—vertical equity. What constitutes ability to pay, however, is often a matter of opinion (World Bank, Gillingham, 2014).

Other countries have leveraged earmarked taxes for health, including a special levy on large companies (Australia, Pakistan), a levy on currency transactions (Rwanda), a financial transaction tax (Brazil), a mobile phone levy (Rwanda), "sin" taxes on tobacco, alcohol or unhealthy foods (Romania and others), and a tourism tax (WHO, World Health Report 2010). The contribution of these sources varies, depending on the source itself, the country's ability to collect it, and the funding base. For example, the financial transactions tax (CPMF) in Brazil was able to contribute around 30% of federal health spending, but the country has a large and sophisticated financial sector that is not found in many LICs. An airline levy generated substantial revenue in Kenya and Burkina Faso, but not much in Botswana and Cameroun; an alcohol levy covered 17% of the funding gap in Botswana; a mobile phone generated substantial revenue in Rwanda and Burkina Faso, but less than 2% in Cameroun and Botswana (Lievens, 2011). Also, it is worth noting that the establishment of a new earmarked tax or levy is no guarantee that it will in fact be used for its intended purpose, and has the potential of crowding out traditional funding sources, as the government may reduce its funding from general taxes as the new tax revenue increases (the case of CPMF in Brazil was illustrative of these two points).

In the past, ministries of health (MOH), relied on the ministries of finance to develop policies and to influence revenue generation. In recent years, MOH are getting involved in considering how on-budget and off-budget revenue policies can be influenced. For example, the recent developments of tobacco and alcohol (sin) taxes and payroll taxes (e.g. through the social health insurance programs) may generate additional revenue for health.

Of the four countries, three of them (Cote d'Ivoire, Nigeria, and Tanzania) have already embarked on earmarking for health. For example, Tanzania has revenue from earmarked value added taxes (VAT) for financing the health insurance fund, while Nigeria has earmarked oil revenue taxes for the basic health care provision fund. Cote d'Ivoire has earmarked tobacco taxes for the AIDS solidarity Fund. Table 24.

Table 24: Earmarked taxes for health

	Kenya	Tanzania	Nigeria	Cote d'Ivoire
Taxes earmarked for health	No	Yes; VAT is charged at 15% of which 2.5% is earmarked for health insurance [2008]	National Health Act 2014 sets the background to earmark adequate public resources (including from oil revenue) to health towards strengthening primary health care through the Basic Healthcare Provision Fund. ⁴²	Yes, revenue earned from 5% tax on tobacco goes to the AIDS solidarity fund ⁴³ [2005]

Source: IMF Article IV.

⁴² [http://thelancet.com/journals/langlo/article/PIIS2214-109X\(15\)00088-1/fulltext](http://thelancet.com/journals/langlo/article/PIIS2214-109X(15)00088-1/fulltext)

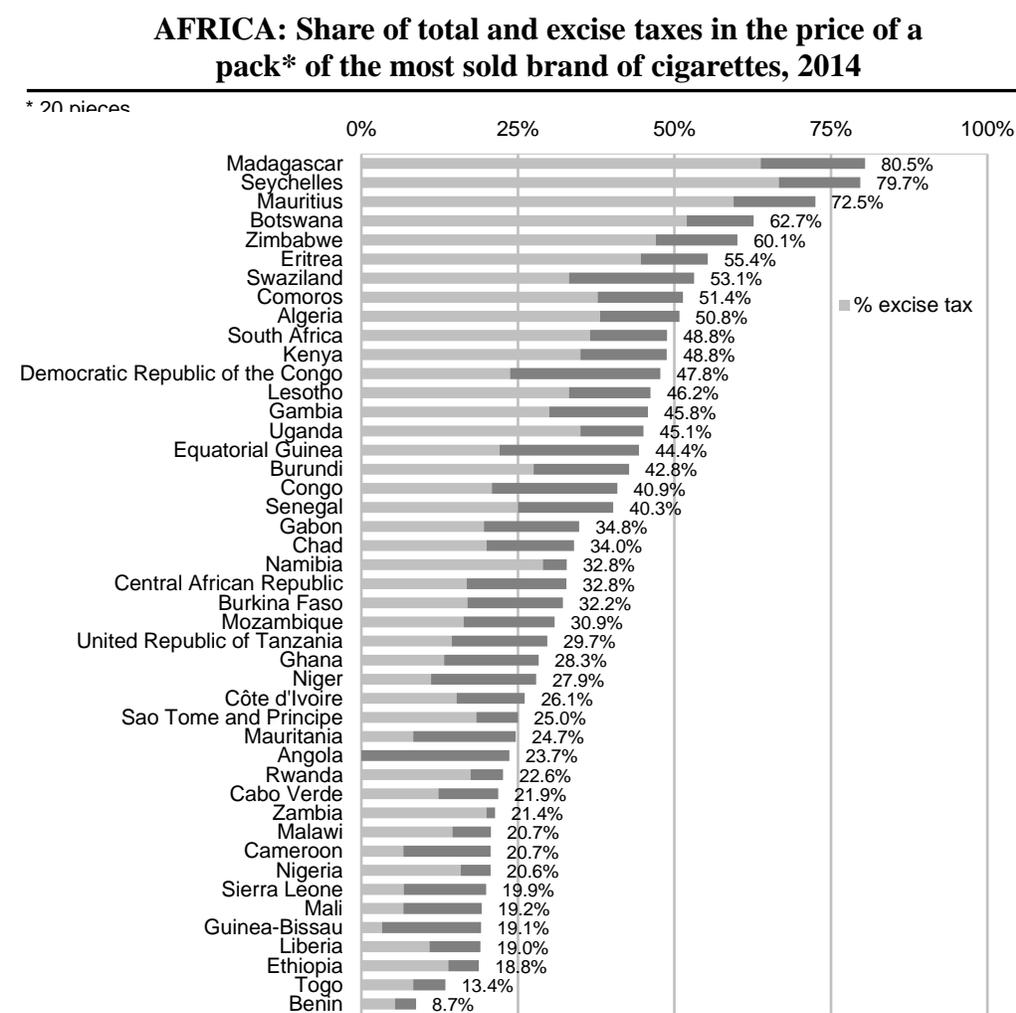
⁴³ <http://www.2015inhp.org/file/11.18%20PDF/10.%20Tan%20Yen%20Lian.pdf>
https://scholar.google.com/scholar?hl=en&q=Beyond+fragmentation+and+towards+universal+coverage%3A+insights+from+Ghana%2C+South+Africa+and+the+United+Republic+of+Tanzania&btnG=&as_sdt=1%2C9&as_sdtp=

The example of tobacco taxes as an innovative financing source for MHP (health and HIV/AIDS)

Should a new tax be earmarked for health? Increasingly, taxes are being levied specifically on goods that adversely affect health, such as tobacco and alcohol. This is justified by the “externalities” associated with consumption (costs to others). Higher taxes can discourage consumption and reduce illness and accidents, and possibly reduce demand for health services. How much new revenue is possible depends on the current tax rates, the current consumption rates, and the response or “elasticity” of change. Care must be taken to make sure these are not regressive.

One of the areas for earmarking, taking traction globally has been earmarking for health through sin (tobacco, alcohol) taxes. Of the 40 countries that introduced earmarked tobacco taxes for health 7 of them were from Sub-Saharan Africa. WHO recommends that on average taxes on tobacco should be about 60% of retail price. However, many Sub-Saharan Africa countries do not meet this target. In most Sub-Saharan Africa, excise taxes have a significant earning capacity from tobacco consumption, while in others, VAT is very important. Box 9.

Box 9: Tobacco Taxes in Sub-Saharan Africa

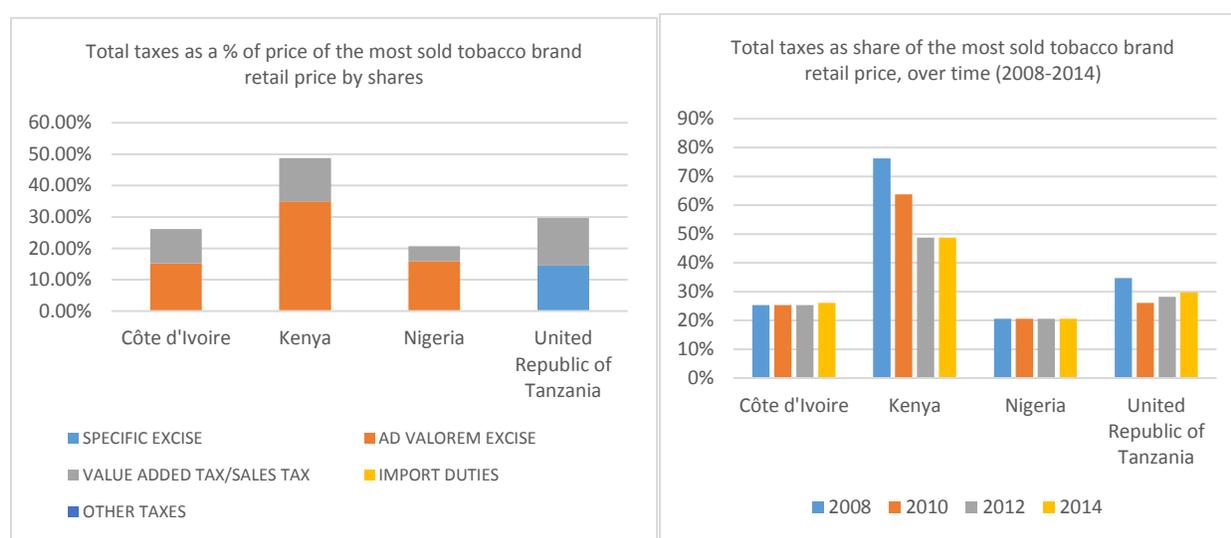


Data not reported/not available for: Guinea and South Sudan.

Source: Roberto Iglesias

Of the four countries, Kenya has adopted a policy on tobacco taxes that is closest to the recommendations (60% of retail price) of WHO. However, in Kenya, the tax share on tobacco retail prices (of the most popular brand of tobacco) was 50% in 2014, having declined from 76% in 2012. The decline was due to the fact that tobacco was being smuggled from neighboring countries. Nigeria is among the lowest with taxes at 20% of the retail price of the most popular brand. All of the other case study countries are below WHO recommended benchmarks (Cote d'Ivoire at 25% and Tanzania at 30%), and has a potential to increase excise taxes and to earn revenue from these taxes, and to change behavior of reduced consumption. While for most countries, excise taxes take a larger share of the tobacco tax revenue, in Tanzania, VAT is as important as the excise taxes for generating revenue from tobacco consumption (refer to Figure 44). Tanzania decided to reduce its tax rates amid high inflation adjustments. However, it has not returned to its 2008 tobacco tax rates.

Figure 44: Taxes earned from excise.



Source: Roberto Iglesias

Note: See footnote.⁴⁴

Case of Cote d'Ivoire

The Cote d'Ivoire government introduced an earmarked tax on tobacco in 2012 and some of these revenues are used to fund HIV/AIDS programming⁴⁵. This earmarked tax was expected to generate an increase of 0.5% in government revenue in subsequent years. Mobilizing an additional 0.5% of government revenue through the tobacco tax as planned (or other earmarked taxes), by strengthening its revenue collection and management, is expected to result in an increase of GHE by FCFA 20 billion, or 7% of GHE at baseline.

⁴⁴ (i) An ad valorem tax is charged based on the value of the good being sold. As the price of a good rises, the amount of the tax rises at a proportionate rate. Perhaps the most common example of an ad valorem tax is the sales tax. (ii) An excise tax is a tax on each item sold. It is based on volume rather than the price of the good. Excise taxes are paid to the government by the suppliers of goods. The suppliers typically build this tax into the price of a good and charge an equivalent amount to the purchaser of the good, which effectively passes the tax along to the consumer. An excise tax shifts the supply curve up by the amount of the tax, because producers are willing to sell less than before. Thus, an excise tax has the effect of decreasing the supply of a good. A common example of an excise tax is the tax charged on alcoholic beverages. Liquor, beer, and wine are all taxed based on the number of units purchased.

⁴⁵ Personal communication from Ibrahim Magazi, World Bank.

This would be a small but significant increase. A more aggressive initiative to establish new earmarked taxes to the level of 15% of GHE would have a greater impact. However, as the experience so far is showing, doing so is not necessarily easy.

Shortly after establishing the earmarked taxes, the tax revenue declined substantially. During the first year that the tax was introduced, approximately \$5 million was raised, or 1.5% of GHE. However, during the second and third years, the annual revenue from the tax declined to approximately \$1 million per year. This finding suggests that a much stronger effort, including more communications and enforcement, would be required to make this tax (or some other progressive tax) a substantial source of revenue for health. Households already contribute a significant share of total health expenditure in Cote d'Ivoire, and mobilizing additional resources through new taxes may prove counter-productive unless they substitute for out-of-pocket expenses, and households see a clear improvement in coverage and quality of services.

If earmarked taxes as devised so far appear unlikely to make a large contribution toward the cost of UHC, they could be considered as a source earmarked for HIV/AIDS alone, where their contribution would be substantial: they would contribute 62% (in the first case of tobacco tax only) or 143% (in the expanded case of new earmarked taxes⁴⁶) to the cost of HIV/AIDS. However, this possibility would make more sense in the case that HIV/AIDS is not fully integrated in the UHC package, or as a "guaranteed" revenue for the HIV/AIDS program.

In summary, all four case study countries, could initiate an exercise to assess the benefits that such an increase in excise taxes could generate in their respective countries. A tobacco (sin) tax, as the term suggests, may be a good way to change people's behavior away from bad behavior. It could also help the governments create fiscal space, but that should be a lesser reason to go that direction, as the amount that the sin tax is able to create additional fiscal space for will depend on various factors, including prevalence and incidence of smoking, and the amount of the excise tax, as well tax collection efficiency. Over time, if tobacco (sin) tax is effective in reducing smoking, tax revenue through this source will also reduce.

Other global initiatives are worth considering. Debt2Health is an innovative financing initiative of the Global Fund. It helps channel money of developing countries away from debt repayment and towards life-saving investments in health. While Debt2Health has financed several HIV/AIDS programs worldwide, Côte d'Ivoire is the only African country to benefit from this instrument. Cote d'Ivoire agreed to a buy-down under Debt2Health. In exchange for the creditor (Germany) forgoing the US\$ 27 million debt, Côte d'Ivoire was required to invest at least half of the proceeds on national HIV/AIDS treatment and prevention program. Through this arrangement the government was able to provide US\$ 27 million in 2010 to the domestic HIV/AIDS response in the country.

Summary

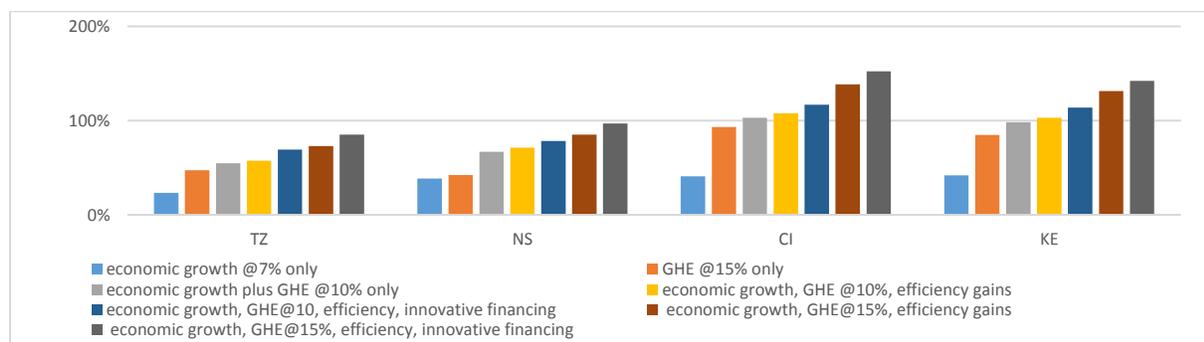
To summarize, the study concludes the following:

⁴⁶ A recent paper on Cote d'Ivoire fiscal space for health (MoH 2015, MSLS) is proposing that some other possible earmarked taxes be introduced to raise funding for the health sector: 1) a 'sin' tax on alcohol and soda; 2) carbon tax on automobiles; 3) airline carbon tax; 4) tax on mobile phones; 5) tax on retransmission of sports matches; and, 6) tax on cosmetic products.

- Economic growth rates are insufficient to mobilize sufficient resources for health, given low revenue collection and low government general expenditures;
- Health budget prioritization is among the most important source of public financing in health;
- The researchers emphasize that budget prioritization aiming to meet target of at least 10% of GGE may be a good target for countries to keep;
- Given the volatilities experienced in annual budget allocations, other efforts will be key, including alternative financing sources: efficiency gains, and innovative financing.

All four countries must include budget prioritization for health to at least 15% of GGE by 2030. Cote d’Ivoire and Kenya are likely to mobilize additional resources to cover the MHBP cost by increasing GGE share for health to 10% and by using their resources more efficiently. Tanzania would need much more effort, including from external financing. Another point to note is that for political reasons, governments often include within their commitment, those services that might not be considered as “essential” and within the MHBP. This would of course need additional resources. Given budget constraints, it would be critical for countries to consider a package that is addressing the health needs of the population (especially the poor and vulnerable) before expanding to other services. Figure 45.

Figure 45: Proportion of MHBP costs covered through various sources of financing options (under fiscal space pillars) by 2030



Source: Author’s estimates.

Health Financing in Transition

The four case study countries are typical examples of economies starting to face (early stages of) “health financing in transition⁴⁷”, as in the next 15 years (or less) as these countries graduate into LMIC status they will experience rising levels of health expenditures, accompanied by an increase in the domestic publicly financed share of health spending as national incomes increase. The rising public financing should decrease both external financing and household out-of-pocket expenditures shares. To date, the four countries, while increasing national incomes, have experienced limited rising publicly financed health expenditure shares. Many of them continue to experience a significant share of external financing and may be starting to see reductions in household out-of-pocket shares, although limited at times. Going forward, these are important policy implications to set for the appropriate environment of a growth in publicly financed health expenditure and a declining household out-of-pocket expenditure.

⁴⁷ Victoria Y. Fan, William D. Savedoff. 2014.

Experience from the four countries, however, suggest public spending for health has remained limited despite the increase in country incomes over the past decade (2005-2015), although two of the four countries were affected by global events that adversely influenced their revenue streams. Each of the country situation is shown here. Strategic public policy engagement between the ministries and health, HIV/AIDS Commission and ministries of finance would be important. Annex 6.3.

Concluding remarks

This chapter illustrates that while the case study countries have been innovative in mobilizing resources, and there are opportunities to do more, it is key that some fundamental and systemic issues be addressed, such as tax revenue allocation, and budget prioritization for health. These will be critical to ensuring appropriate public financing for MHP. While efficiency in resource allocation and use is among the important recommendations, the chapter also illustrates that as long as budget for health remains low, efficiency gains measures may not add too much to fiscal space for health.

For the revenue generation side, there is scope for improvement. Progressive taxes could have multiple benefits. The tax policy has to therefore be thought through carefully. Tobacco (sin) taxes have the potential for reducing bad behavior and increasing tax revenue. Although there are mixed results on it being progressive or regressive (some consider that sin taxes are progressive in the medium term). However, in countries where tax collection mechanisms remain weak, revenue generated through such means also may not be as effective. Again, efficiency measures in health systems strengthening, such as improved PFM and tax collection can add benefits to revenue generation.

Budget prioritization decisions for health, are however, in the hands of policy-makers. There are mechanisms through which a higher-level commitment can be sought for health, such as through the MTEF process. The same process can also be used for bringing in commitment for a UHC and prioritization of budget for such purposes. A unified approach, rather than competing effort (e.g. separating health and HIV/AIDS), has a better likelihood to prioritize commitment for UHC.

Efficiency measures will also be critical to ensuring appropriate resource allocations and that these resources are used effectively for UHC. Today, in the four case study countries, public resources are not allocated efficiently, and they can certainly benefit from programs to improve technical efficiency (better use of resources). Efficiency gains can be sought in many areas, programmatically and systemically, and in financing mechanisms choices made. It will be one of the critical areas for additional fiscal space for health.

One of the central challenges the four case study countries will be facing is the flat lining (or stagnating in real terms) external financing for health, and especially for HIV/AIDS. While some of the countries have the potential to mobilize domestic public resources for health, some, such as Tanzania (and the Nasarawa State in Nigeria) are likely to rely on other assistance: external financing for Tanzania, and national allocations or IGR for the Nasarawa State in Nigeria.

The main findings coming out of this chapter is that particular effort will be required to double or triple budget allocations for health. Another key finding is the need to focus on efficiency in resource allocations and use.

The other finding is that Abuja target may not be central, but perhaps GDP share for health may be critical consideration, given that revenue collection and government expenditures remain low. The researchers are not advocating for any particular indicator or target to be considered, except that they suggest that the current allocations are extremely low and each country may need to thoroughly assess their needs and set their country targets for the medium term accordingly.

Chapter 7: Financing Mechanism Options for Health and HIV/AIDS

The previous chapter (6) reviewed the fiscal space for health, and how additional revenue could be generated through the four pillars of the fiscal space framework. This chapter reviews what financing mechanisms the four case study countries have adopted for pooling and purchasing health services. Pooling could be an effective efficiency strategy. Among the four countries, earmarking funds for health or HIV/AIDS use, such as the development of AIDS trust funds (ATF) and a basic health fund, has increased. In addition, there has been movement towards setting up of risk sharing mechanisms through the national health insurance programs. Some of these mechanisms have effectively earmarked resources and improved efficiency. On the other hand, achieving some goals remains a work in progress, such as increasing population coverage under the program and providing financial risk protection. This chapter draws lessons from relevant experiences in the case study countries.

AIDS trust funds

The experiences of case study countries that have trust funds for specific health care packages, such as HIV/AIDS, provide a number of useful insights, including the following key points. Following those points, the discussion turns to a review of the relevant experiences of each case study country.

- Several of the countries have already initiated earmarked taxes for a specific health package. All four case study countries have tried various mechanisms to diversify sources of financing and improve prepayment financing. Cote d'Ivoire, Kenya, and Tanzania have earmarked taxes for health. Cote d'Ivoire and Nigeria have earmarked taxes for the HIV/AIDS Trust Fund.
- Several of the countries already have specific program trust funds. Cote d'Ivoire has developed a HIV/AIDS Trust Fund, while Kenya (HIV/AIDS and NCD trust fund) and Tanzania (HIV/AIDS trust fund) are in the preliminary planning stages. Nigeria has developed a basic (primary) health care provision fund and HIV/AIDS trust fund: the legislative instruments are already prepared, but the regulatory and administrative mechanisms have yet to be put in place.
- These trust funds rely on both on- and off-budget sources of financing. At times, they have generated additional resources through new sources, such as from oil revenue for the Nigeria basic healthcare provision fund, or from tobacco taxes for the Cote d'Ivoire HIV/AIDS solidarity fund. Both Kenya and Tanzania, while proposing diverse off-budget resources, have shown limited success in mobilizing additional resources. Instead, their plans continue to rely on on-budget sources to finance a significant share of their proposed trust funds.
- The administrative costs of these trust funds can be significant and can exceed the recommended 10%. Several trust funds have also faced governance challenges. Often PFM mechanisms, such as auditing and transparent reporting, can enhance the effectiveness of such systems.

- The IMF has generally advised countries against earmarking resources for specific sectors/programs, because it can lead to inefficiencies and distortions in fiscal management.⁴⁸

Case of Nigeria

Reliance on limited diversified source of financing can be detrimental, as can be seen from the case of Nigeria, where both of its funds (the Basic Health Care Provision Fund [BHCPF], and the President's Comprehensive Response Plan [PCRP]) for AIDS, had difficulty accessing resources from federal government sources, and subsequently state government sources, when federal government financing sources were adversely affected following global oil crisis. The cases are provided below.

Nigeria continues to face challenges in mobilizing resources for the BHCPF. The financing for this is expected to come as 1 percent⁴⁹ of Nigeria's Consolidated Revenue Fund and from national and state budgets. The challenge is that the sources of financing identified for the BHCPF under the Consolidated Revenue Fund have been affected by the fiscal revenue crisis faced caused by falling global oil prices. Secondly, the expectation that the states will partner in this effort by matching or cost sharing for the BHCPF was not realized. Many states do not have sufficient IGR: some are low resourced, others have made little effort to generate IGR, others have not adequately committed themselves to financing health care. That said, provision of health care has devolved to the states in a decentralized environment in Nigeria. This requires close monitoring to improve incentives for partnership between the federal and state levels. Such a scheme could potentially improve sources of financing for health. However, careful thought is required to determine how best to address the limited IGR in the states and the realities of poorer resourced states that may not be able to generate sufficient IGRs anytime in the near future. Lessons from international experiences, such as the equalization fund for capital investment in Indonesia, and the on-granting and on-lending federal program from the Philippines, could be useful.

The PCRP has had similar challenges. The PCRP was created in 2013 to, among other things, improve HIV/AIDS program coordination and funding, increase the involvement of state and local governments, and introduce program improvements and efficiency gains. To stimulate investment, a matching grant model with the federal and state governments providing resources to the pool in a 50/50 ratio was proposed. If fully implemented, the proportion of domestic funds invested in HIV/AIDS response was expected to increase from 28% in 2012 to 60% in later years. Overall, the plan sought to ensure that Nigeria would take greater ownership for a sustainable HIV/AIDS response. Federal government funding of the PCRP for 2014 and 2015 was provided through the subsidy re-investment and empowerment program (SURE-P) under the social safety net programs. SURE-P is driven by the resources that accrued to the government as savings from the partial removal of fuel subsidy, and the goal is to accelerate economic transformation through investments in critical infrastructural projects and provision of social safety net program that targets

⁴⁸ Excessive earmarking introduces distortions in fiscal management and, in some cases, reduces the space for investment. Such rigidities also constrain the space for reallocation in response to changing needs or in the pursuit of efficiency gains and force any spending reduction to be borne by a narrower subset of budget items. IMF (2015).

⁴⁹ For the Nigeria BHCPF, as stated in the Nigeria National Act, half of the 1% of the Consolidated Revenue Fund would go towards funding the National Health Insurance Scheme to provide health coverage for pregnant women, children under the age of five, the elderly, and persons who are physically challenged. The other half of the 1% of the Consolidated Revenue Fund is proposed to be used to provide commodities such as essential vaccines and consumables for eligible primary health care, maintenance of facilities, equipment, and transport for health facilities. In addition, the bill proposes that primary health care will be extended to hard-to-reach rural communities.

the poor and vulnerable (Olakunde, 2015).⁵⁰ At the end of the SURE-P program, government funding remained fairly short, following the national financial crisis.

Case of Tanzania

The government of Tanzania is on the way to establishing an AIDS Trust Fund (ATF). Establishing such a trust fund has been part of the mission of the Tanzania AIDS Commission (TACAIDS) since the body was established, but the fund received little attention for quite some time. Finally, in April 2015, the necessary legislation was ratified by Parliament. TACAIDS and other policy makers place great expectations on the ATF, which is supposed to contribute 36% of funding for HIV/AIDS programs in the medium term (TACAIDS, ATF Update to WB and TACAIDS, 2015).

Tanzania is considering earmarked funds for the ATF. Based on international experience, several options have been considered, including the following: (1) establishing new earmarked taxes, such as a levy on all passenger and freight traffic (of US\$ 2.50 per passenger and \$0.05 per ton), and a sin tax (on alcoholic beverages and tobacco); (2) channeling additional government funds to HIV/AIDS; (3) earmarking of part of the VAT, the increase of health insurance coverage and revenue, a new contribution from government employees (equal to 30% of the current contribution); (4) mobilizing private sector funding through a special contribution (a corporate responsibility levy of 0.5% on corporate gross earnings); and (5) fundraising campaigns. TACAIDS and other policy makers place great expectations on the proposed ATF.

These new sources were estimated at TZS 65 billion per year, or US\$ 1.3 per capita per year. Given the amounts involved, they are expected to have a limited impact on reducing the funding gap for UHC. However, if these new sources were used only for funding HIV/AIDS, they would represent a sizeable contribution of 16% of the cost of HIV/AIDS by 2030. However, the largest amount is expected to come from budget.

Private firms already contribute to the fight against HIV/AIDS, mostly through free condom distribution (80% of the firms surveyed in 2011), and support for VCT programming (55%), and ART (40%)—in a total worth TZS 4.32 billion. However, this involvement does not necessarily imply a willingness to support the new ATF financially; responses to a 2011 rapid survey of large corporations were mostly negative or vague (TACAIDS, 2011). Table 25.

Table 25: Tanzania Expected revenue from AIDS Trust Fund funding sources

	Unit value	Projected revenue per year (TZS bill)
Levy on air traffic	US\$ 2.50/pass and 0.5/ton	30
Corporate social responsibility levy	0.5% of gross earnings	29
Government employees' contribution	30% of employee levy	1
Fundraising campaign		3
Best management practices		?
Government of Tanzania health allocation	5% of government revenue	360

Source: TACAIDS, 2011.

Note: TZS is Tanzania Shilling.

⁵⁰ [http://www.annalsofglobalhealth.org/article/S2214-9996\(15\)01265-5/abstract](http://www.annalsofglobalhealth.org/article/S2214-9996(15)01265-5/abstract)

Case of Kenya

Kenya has established a high-level steering committee, which has been generating proposals for sustainable domestic financing of the HIV/AIDS response. The key proposal is the establishment of an HIV/AIDS and non-communicable diseases trust fund that would pool additional public and private resources. The current proposal is for the allocation of 0.5% to 1% of government ordinary revenues to the trust fund, which may enhance its income by additional innovative financial strategies such as an airline levy. It is estimated that the revenue from the trust fund will fill 70% of the HIV/AIDS funding gap between 2010 and 2020.⁵¹

Multiple sources of new funding have been considered in Kenya in an effort to bridge the financing gaps in HIV/AIDS that would arise with a progressive withdrawal of donor support. The options include an AIDS trust fund, borrowing through the issuing of a bond, new taxes, premium revenue at the national health insurance fund (K-NHIF) as it expands population coverage toward UHC, an AIDS lottery, greater contributions by patients and households, and a commission on dormant bank accounts.

The AIDS trust fund is not an innovative mechanism to generate new public revenue, but is instead a mechanism to earmark existing tax revenue to help finance Kenya's AIDS response. The obvious advantage of this proposed mechanism is that it automatically sets aside and protects a considerable sum of public financing for a specific health purpose, in this case, AIDS.

Several studies in Kenya have focused on the feasibility of creating new sources of revenue for Kenya's health sector.

There is expectation that a limited benefit package of HIV/AIDS services could be affordable under a trust fund with additional revenue through an innovative source sought for its sustainability. The Health Systems 20/20 Project (2010) carried out a detailed analysis about the feasibility and revenue raising potential of airline levies to finance HIV/AIDS services. It concluded that as much as US\$ 32 million could be raised annually from such levies while having little detrimental consequences on air travel. Such an amount would have covered about 3 percent of the health financing gap projected for the fiscal year 2014/15.

While innovative financing would add to the revenue needed, it would not be sufficient. Most of the additional resources for AIDS is still considered to be from among the current revenue stream. Another study by Oxford Policy Management (2013) estimated the combined revenue potential of several innovative new sources of funding for HIV/AIDS in Kenya, several of which were examined by other authors as well. They proposed 1% of general tax revenue be allocated, and of which 90% would go into the AIDS trust fund. Another 20% would be sought from other specific levies, some developed for AIDS (like the AIDS Bond – borrowing at 0.1% of GDP, AIDS lottery). Most of this 20% would be sought from AIDS Bond and following which airline and airtime levies and the K-NHIF. Refer to Table 1 of Annex 7.1.

Of all the options in Kenya, by far the most significant is the AIDS trust fund, which would channel 90 percent of its revenue to prevent and treat this disease. Other innovative sources of revenue are only tentative and their implementation would be progressive. Funding for AIDS trust fund would come from the general budget and therefore this mechanism would belong in the second of the five potential source of new fiscal space for health envisioned: that is prioritization for HIV/AIDS.

In summary, many Sub-Saharan African countries are adopting the idea of an AIDS Trust Fund. However, it is key to note that, as the experiences in the case study countries show, that there is less potential for such

⁵¹ Efficient and sustainable HIV responses: Case studies on country progress, UNAIDS, 2013

trust funds to generate additional revenue, but they do have the potential to improve pooling and thus efficiency in fund management. While many of the sources of financing proposed are from various taxes already being generated, most resources are still secured from the government budget in both Tanzania and Kenya.

International lessons learnt

AIDS (or health) trust funds (ATF) have been established in a number of countries, including Bhutan, Zimbabwe, Botswana, South Africa, Zambia, Thailand and Mexico⁵². However, the first thing to note is that a trust fund does not necessarily constitute a source of funding. Moreover, it could be a channel and management mechanism for new or existing funding sources. In most of the Sub-Saharan African countries, trust funds imply (1) significant devolution from government control, (2) multi-stakeholder involvement (through the fund board), (3) a notable focus on civil society organizations and nongovernmental organizations, and (4) direct government funding complemented by some innovative sources (Lievens, 2011). An ATF could have several advantages, including: integration among different funding sources, easier planning and financial control, and some "protection" from spreading allocation away from the priority program or sub-sector. However, any facility or arrangement that pools all funding sources would have similar advantages. The key policy is to further increase the pooling of resources. Box 10.

Box 10: Case studies on AIDS Trust Funds in Sub-Saharan Africa

Zimbabwe established a National AIDS Trust Fund in 2000, financed by a mandatory levy of 3% on taxable income of individuals and firms (AIDS Levy).⁵³ Given the low salaries and poor performance of industry in an economy that was contracting since 2000, resources raised through the AIDS levy were not significant until 2009. With real gross GDP growth averaging some 9.5% during 2010–11, resources generated through the AIDS Levy jumped significantly from US\$ 5.7 million in 2009 to US\$ 26.5 million in 2011.⁵⁴ Based on projections of personal and corporate income tax⁵⁵ by the Zimbabwe Ministry of Finance, revenue from the AIDS Levy was expected to be around US\$ 48 million by 2016.

Botswana, South Africa and Tanzania are in the process of establishing a similar fund for HIV/AIDS services.⁵⁶

Uganda announced a plan to establish a US\$1 billion-dollar HIV/AIDS trust fund in September 2012. According to a working paper entitled "Justification for Increased and Sustainable Financing for HIV/AIDS in Uganda," the fund will generate cash through levies on bank transactions and interest, air tickets, soft drinks, cigarettes and beer. The levy will also target civil servants' salaries, and corporate and withholding taxes⁵⁷.

⁵² Several high-income countries have also instituted an AIDS Trust Fund, including the UK, USA and Australia.

⁵³ National AIDS Council of Zimbabwe Act Chapter 15:14 of 2000

⁵⁴ Audit Reports of the National AIDS Council of Zimbabwe.

⁵⁵ Projections of Income Tax- 2013 Budget (Table V), Ministry of Finance. Zimbabwe

⁵⁶ Sustainability Review of Global Fund Supported HIV, Tuberculosis and Malaria Programs, Report commissioned by the Technical Evaluation Reference Group (TERG), Global Fund, 2013

⁵⁷ Uganda: HIV trust fund in the works, IRIN News, UN Office for the Coordination of Humanitarian Affairs, 3rd October 2012

Health insurance programs

Evidence from several other studies suggests a trend in increased interest in and use of off-budget sources of financing in health. All four case study countries are working towards a national health insurance program. Kenya (1998), Nigeria (1999), and Tanzania (2000) launched their national health insurance funds around the same time. (Cote d'Ivoire is currently in the planning stages). While Kenya (22%, 2013) and Tanzania (17%, 2014) had comparatively higher enrollments, their enrollments are still considered low. All three countries have low coverage rates and have faced challenges in enrolling the poor and informal sector workers. For Tanzania, the challenge has been in using the health insurance program to adopt a MHBP; for Kenya, the interest has been to consider the integration of HIV/AIDS into their health insurance program. The following list summarizes some key findings from country experiences.

- Kenya offers a hospital insurance fund, and Nigeria offers a national health insurance program. Both these funds have managed to include only civil servants and formal sector workers. On the other hand, Tanzania also offers a national health insurance program through various diversified schemes. They include all population, but their coverage, especially for the informal sector and poor remain limited.
- Health insurance coverage of population remains a challenge, especially informal sector and the poor. The case study countries' population coverage rates range from 3% (Nigeria) to 22% (Kenya). Many of the schemes have been voluntary; issues of access and adverse selection are prevalent.
- Health insurance benefits package have not always been explicit, and PHC has not been part of some of those packages, such as in Nigeria and Kenya. While PHC is included in the package of benefits in Tanzania, a broad implicit package is also covered, and claims for PHC remain low. To date, none of the case study countries include HIV/AIDS programming in its health insurance benefits package.
- Financing for health insurance comes from various sources, earmarked taxes, payroll taxes, national and state budget and household out of pocket payments.
- The administrative costs of running the health insurance program in these countries have been expensive, given the fragmented nature of the program (e.g., Tanzania), limited contractual and purchasing mechanism (e.g., Kenya), and limited population coverage (e.g., Nigeria).
- While health insurance programs have the potential to expand its service package to cover the MHBP in these four countries; however, the health insurance program is less likely to be financially feasible when the HIV/AIDS programs are included. For example, the results of a relevant feasibility study in this area conducted by Kenya did not show readiness for such an integration. (UMIC, such as Colombia and Chile do cover HIV/AIDS treatment, but they already have achieved UHC and adverse selection is no longer a problem. They also face much lower HIV prevalence rates).

Case of Tanzania – health insurance to support MHPB

Tanzania has a number of health insurance schemes targeting on different segments of the population, resulting in fragmented pools. There are two main schemes and some smaller voluntary schemes: Tanzania National Health Insurance Fund (T-NHIF), a mandatory scheme covering civil servants and private sector formal employees; and the Community Health Fund (CHF)/ Tib Kwa Kadi (TIKA)), a voluntary community-based scheme covering informal rural and urban workers through the CHF and TIKA components respectively. Tanzania also has other schemes, all of which are voluntary. The National Social Security Fund/Social Health Insurance Benefit scheme (NSSF/SHIB)) covers private sector employees, nonprofit organizations, and international organizations. The Community-Based Health Insurance (CBHI) system is a set of micro-insurance schemes provides additional coverage. Several private health insurance companies also operate in Tanzania. As most of the schemes are voluntary, they tend to result in adverse selection and weak regulatory enforcement.

Tanzania faces challenges in expanding the coverage provided by its national health insurance system. Established in the early 2000s, the program works toward UHC. As of 2014, Tanzania's two main schemes—T-NHIF and CHF—covered 8.3 million people or 17% of the population; CBHI and private health insurance schemes cover about 0.5 million beneficiaries each, while NSSF/SHIB covered 50,000 people.

CHF, the program for the poor, does not function very effectively and has significant weakness in its funds management and financial sustainability. It is affected by system-wide weaknesses involving health insurance fragmentation, program design and management, as well as the issues created by shortcomings in the regulatory environment (see Bultman and Mushy, 2013). In addition, CHF also is hampered by its own specific challenges. First, enrollment into CHF is voluntary, and young rural families see little incentive in enrolling, as access to accredited providers is not always easy or the services are not always of good quality. Second, because CHF contributions are determined by communities themselves at the district level, the contributions are usually very low: between TZS 5,000 and 20,000 per family of 6 per year, an average of TZS 9,200 per enrollee in 2013-14, or US\$ 0.90 per year, compared to US\$ 51.50 for NHIF. Third, the value of the contribution of the Ministry of Health and Social Welfare provides through a matching grant for CHF is in practice lower than the expected value because of cumbersome and poorly understood claim procedures. This is exacerbated by the fact that the local government officials and health facility staff who prepare and process the claims are not motivated or trained to effectively collect CHF contributions or claim for reimbursement.⁵⁸ Finally, the management of health insurance funds is inefficient, with administrative and other indirect costs representing up to 50% of reimbursement to providers.

T-NHIF has focused on expanding coverage, and has lacked the strong contracting capacity that is required for efficiency-promoting purchasing. But as health insurance coverage expands and becomes a more important source of revenue for health facilities, T-NHIF will need to strengthen its capacity and develop a strong contracting framework whereby facilities would be rewarded for better performance, as planned by the government's Big Results Now program (2015).

The health insurance schemes in Tanzania are not sophisticated with limited claims from PHC services. For both CHF and T-NHIF, expenditure on health services (i.e. payments to providers) is less than 50% of the revenue collected, and the two schemes accumulate large unspent balances yearly (equal to almost 3 times the contribution revenue for T-NHIF). It is also worth noting that the majority of T-NHIF payments

⁵⁸ Additionally, figures for matching fund payments are not reliable, as they vary widely across document sources.

go to secondary and tertiary hospitals, and only 21% go to PHC facilities (district level). Therefore, in its current configuration health insurance constitutes a very small source of funding for PHC.

While health insurance in Tanzania has potential as a prepayment mechanism, as in other developing countries, the system faces challenges related to adverse selection and limited enrollment especially among the informal sector workers. For Tanzania, the next steps should be concurrent efforts to (1) improve health insurance enrollment; (2) enhance cross-subsidization between various population segments by pooling; (3) streamline the benefit package; (4) improve outreach to and advocacy on behalf of beneficiaries; (5) enhance strategic purchasing efforts; and (5) ensure efficient reimbursement to providers.

The current proposal for UHC in Tanzania assumes a broad set of services without a clear delineation of what should—and can—be included in the MHBP and for what reasons. It also assumes that health insurance (mostly T-NHIF and CHF) will be the main mechanisms for moving toward UHC. The Ministry of Health will need to lead a more solid debate to clarify what should be prioritized given a certain level of funding, what should be left out, and what should be funded by different financing mechanisms. In any case, it is imperative that good public HIV/AIDS services such as preventive and educational interventions (e.g., HIV testing and counseling) are guaranteed sufficient financial coverage, whether under UHC or directly through the government, since they are critical in containing the epidemic.

Case of Kenya – proposal for health insurance to include HIV/AIDS into the MHBP

The K-NHIF has had limited population coverage, mostly covering civil servants and formal sectors workers. K-NHIF covers only 22 percent of Kenya’s population and the vast majority of those covered are formal sector workers and their families⁵⁹. The major challenge has been covering the poor and the informal sector workers. The country is working to do so.

As part of that effort, Kenya is looking at expanding the benefits package by including HIV/AIDS services and drugs. The Health Systems 20/20 Project (2010) evaluated the feasibility of inclusion of first-line ARV and outpatient treatment of opportunistic infections for its members. It concluded that such an objective would be feasible if K-NHIF used its surplus fund and increased its premiums by 25 percent. The K-NHIF feasibility assessment shows that while K-NHIF may be able to finance some of the HIV/AIDS costs of its beneficiary population, it should not be viewed as a panacea for financing HIV/AIDS costs in Kenya at the present time. While the potential benefits may be promising, the HS 20/20 project result shows that K-NHIF could cover first line ARV and outpatient treatment of opportunistic infection of its members, but it should still be viewed with caution. If it did offer such an additional benefit, K-NHIF could quickly attract large numbers of families with PLWH members and incur large losses. The resource needs for HIV/AIDS programs are significant, and K-NHIF does not have sufficient resources for its financial sustainability along with the MHBP. If resources are however not added to the K-NHIF, but PLWH enrollment increases, the estimated cost of the ARV treatment, when included under the K-NHIF, is likely to create a deficit (lead to insolvency of the K-NHIF). If the AIDS trust fund and the proposed additional financing including from AIDS Bonds and others are realized that could be considered as a starting point and later on the trust fund and its financing is integrated into the K-NHIF (Hacker, 2014. Refer to Table 2 of Annex 7.1).

⁵⁹ The Policy project recently published a report (Kori, Maina et al. 2014) which concluded that NHIF had an “enormous capacity to generate resources for healthcare financing.” These authors projected future NHIF revenue by making several assumptions about the size and structure (formal public, formal private, informal) of the labor force, the wages, and the contribution rates to NHIF. In accordance with a recent review of the literature on health insurance and the informal sector (Bitran 2014) they made rather conservative assumptions about the total amount of revenue that NHIF could raise from the informal sector. However, these authors did not seem to consider the large additional costs that NHIF would incur if it covered informal sector workers.

The analysis in this study suggests that it is unlikely that K-NHIF or an expansion of social health insurance through other institutional arrangements in Kenya will yield considerable additional resources to finance HIV/AIDS or the additional costs of a UHC policy. International experience shows that informal sector workers are reluctant to enroll and contribute to health insurance schemes, even when enrollment is compulsory, and that those that enroll tend to be individuals and families with high anticipated health costs (adverse selection). Successful schemes to cover informal workers and their families with health insurance are largely reliant on government subsidies and deliver a considerably more limited set of health benefits than the package of services currently covered for formal sector workers in Kenya.

Kenya's HIV/AIDS prevalence is still too high to consider covering this disease the way other diseases can be covered through health insurance and without the benefit of large public subsidies. Conceivably the family members of PLWH could join K-NHIF to benefit from improved access to health services given their reduced income and other negative household consequences of having a member with HIV/AIDS. But such coverage would only be possible if government compensated K-NHIF the actuarially correct amount through subsidies.

In April 2015, the K-NHIF contribution rates went up by about 550 percent for high-income earners and by 200 percent for informal sector workers. In return, K-NHIF said it would offer coverage for both outpatient and inpatient services including HIV/AIDS (first line ARV and outpatient treatment of opportunistic infections for its members). This development was not analyzed in this report and the research team remains skeptical that K-NHIF will manage to enroll a significant share of the informal sector. With the increase in premiums, K-NHIF might not draw in informal sector workers suffering from HIV/AIDS and other expensive illnesses, i.e., adverse selection.

For Kenya, it is not viable to include HIV/AIDS services in health insurance programs. The World Bank (Stanciole, Oelrichs et al. 2012) reviewed the feasibility of covering HIV/AIDS services through health insurance in LICs and LMICs. It concluded that the high HIV/AIDS prevalence and low per capita income made it unviable for most Sub-Saharan African countries to do so. Higher-income developing countries, such as Chile and Colombia, do cover HIV/AIDS treatment, but they already have achieved UHC and adverse selection is no longer a problem. Further, their HIV/AIDS prevalence rates are only a small fraction of those seen in Sub-Saharan African countries (in Chile it is 0.01 percent). In Chile, the national health benefits package known as AUGE (the Spanish acronym for Universal Access with Explicit Guarantees) covers 80 priority diseases including HIV/AIDS. Actuarial studies have shown that the costs of covering HIV/AIDS within the AUGE account for 10 percent of the insurers' total claims costs.

International lessons learnt

In many countries that have achieved UHC, public financing was often the key source of financing. The main source mobilized for financing UHC in most countries is the government budget (including central and subnational governments), followed by social security/social health insurance funds (mostly in the form of mandatory contributions rather than voluntary contributions). But some countries have also relied on external financing, and these are not necessarily LICs. Examples include Argentina, Ethiopia, Guatemala, Kenya, Rwanda, and South Africa.

There is no single, standard path towards UHC. Countries have adopted several different mechanisms to reach their goal. Table 26 summarizes important international lessons learnt.

Table 26: Key strategies used in implementing universal health coverage

Dimensions	Expanding coverage	Expanding benefits	Financing UHC	Supporting actions
Expansion strategies	Supply-side: expand supply of and improve access to priority health services	Narrow MHBP, explicit list of services (PHC or MDGs)	Non-contributory schemes, through government funds (taxes)	Improve care quality and effectiveness
	Demand-side 1: target vulnerable groups and expand gradually,	Selected services based on BoD, including CDs and some NCDs	Contributory approach through SHI, voluntary or mandatory	Improve efficiency in organization and delivery of care
	Demand-side 2: start with "easy to reach groups" and expand gradually	Broadly defined groups of services, with no explicit list	Cost-sharing	Strengthen accountability mechanisms
UHC organization	Single scheme prioritizing (or not) vulnerable groups	One standard BP	Single payer and risk pool	
	Various schemes targeting specific groups	Different packages	Fragmented sources and pools	

Source: Adapted from Cotlear et al, 2015.

Concluding remarks

While the four countries have moved towards various financing mechanisms, with the aim to earmark and mobilize off-budget multi-year funds, these funds have not always been financially sustainable. Several of these countries have continued to rely on on-budget sources to finance ATFs. While ATFs have been able to pool resources (for those that are being financed through various means including private sector), administration and management of the funds require attention. Further, many donors are unwilling to pool their resources within budget or an ATF, given their concerns about PFMs and governance mechanisms installed. Countries have also started exploring whether HIV/AIDS can be integrated into their national health insurance programs. However, among the many challenges is the low enrollment of the population, and limited premium collection from private sector (including households) to diversify financing under their national health insurance scheme. Health insurance programs remain a limited scope for mobilizing additional resources, as a significant population is in the informal sector – adverse selection -, a significant population living poverty levels – whose premiums must be subsidized through public resources. While health insurance programs can aim for financial protection, their realization remain limited in the study countries. Few questions that need to be considered are: (i) can countries mobilize sustainable financing for the funds, (ii) can countries reduce development of parallel funds and increase the pooling of beneficiaries, packages and financing (should it a program at a time, before integration or an integrated program to start with), and (iii) can countries increase enrollment of larger population groups, including the informal sector, the poor and the vulnerable, and benefit from cross-subsidization.

SECTION V: CONCLUSION

Chapter 8: Conclusion and Policy implications for Financial Sustainability

This chapter explores the policy options for the four case study countries as they move towards UHC. Among the areas of consideration are the three dimensions of UHC. The chapter discusses these within two important aspects: service delivery for UHC, and financing for UHC. Among the key options for consideration, in addition to budget prioritization, is that of both allocative and technical efficiency gains. In the context of HIV/AIDS, and given the challenges of limited resources and need to rationalize, the chapter explores (a) budget prioritization and allocation decisions, (b) prioritizing in financing HIV/AIDS programs, (c) efficiency gain initiatives to open up fiscal space for HIV/AIDS programs in particular, and (d) pooling and financing mechanism for HIV/AIDS. While in many ways the UHC strategy has been identified but the financing of it has not been established. The chapter further provides options for policy makers and options for donor consideration.

Health service delivery for universal health coverage

This section discusses the tenets of UHC, various aspects of the service package to offer, the population to cover, and options to consider for technical efficiency in service delivery. All four case study countries have policies supporting UHC. While UHC is about full population coverage, the equity dimension is often missed.

A MHBP is a package of services and goods with the aim to cover all population, without resulting in additional financial burden to households. The contents of a MHBP are determined by burden of disease and could be prioritized by using cost effectiveness of available interventions, or based on equity consideration. It becomes imperative that significant government subsidy support this package. Whether full or partial subsidy is offered for the MHBP depends on country policies, macroeconomic, demographic, and epidemiological situation. UHC promotes prepayment and away from out of pocket payments.

Government may want to consider an “explicit” minimum health benefits package for UHC. Achieving substantial UHC coverage with an ambitious benefit package is not realistic in the medium term for all the four countries, given current levels of public revenue base and low health budget prioritization. None of the four countries have a well-defined, explicit minimum health benefits package; nor do they have a plan in place to ensure sufficient public financing is available to sustain its cost. And none of the countries include HIV/AIDS in the MHBP, although Kenya, in recent times, has considered an inclusionary approach to include HIV/AIDS under a health insurance program. When considering the contents of a potential MHBP, it is important to understand the legal foundations that undergird the UHC efforts in the country. The foundations of the UHC work in the case study countries are presented in Table 27.

Table 27: Summary of universal health coverage foundational documents in the case study countries

UHC commitment	Cote d'Ivoire Universal Health Insurance Law (2001, 2014)	Kenyan constitution, Sessional Paper no. 7 of 2012 on universal health care; Jubilee Manifesto (2012) outlined social protection and health goals	Nigeria National Health Bill 2015, Health Strategic Plan (2008), State Health Development Plan (2010)	Tanzania Development Vision 2025, National Health Policy; Draft Health Financing Strategy 2015
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Governments may want to ensure that the poor and vulnerable are included in their UHC programs from the outset. Should the population be targeted (such as to the poor, vulnerable) or should the MHBP be provided to the full population? This will depend on both programmatic needs and budget constraints. Some countries, such as Tanzania, have programs (e.g., health insurance) that include a scheme for the poor and the vulnerable, such as people working in informal sectors of the economy. Other countries have done the opposite, focusing first with those who can easily be reached and where additional revenue can be earned (such as payroll taxes from those working in the formal sector). The latter approach is evident in the health insurance program coverage in Kenya and Nigeria. The challenge in all four case studies countries is that the most vulnerable of society have not been prioritized through public subsidies.

Governments must pay attention to not only access care, but also access to quality care. The four countries have demonstrated low health outcomes, and while in some cases, universality in access has been achieved, they suffer from universality in access to quality of care. This is an important “implicit” dimension in the UHC tenets. If the latter is not addressed, it will not help countries achieve UHC and the SDGs in an effective manner. UHC is about quantity and quality of services. This should constantly be on the radar and mechanisms adopted to ensure the quality aspects are not omitted.

Governments may want to consider a service delivery model that improves equity and efficiency. The four countries have been offering HIV/AIDS services through vertical programming. The administration of the programs and their financing are also often managed separately. There are lessons to be learned from the case study countries (e.g., from Tanzania, on integration of programs such as malaria), and from other countries, such as South Africa and Thailand, on the integration of HIV/AIDS. Presently, all four countries suffer from relatively low service outputs, with elements of inequity in access to and service use of. This is evident in both HIV/AIDS programs and basic health services. Policy makers must decide whether a program should be run separately as a vertical program or be integrated with other efforts. This decision should be made based on the appropriateness of each option given the particular country’s setting. The main question to ask is whether integrating the program allow the country to widen access to its program beneficiaries, and whether integration will produce efficiency gains. It is also important to ask who will provide MHBP services (public, private), and which level of care (outreach, clinics, hospitals) will be the most effective options.

For now, the case study countries face various systemic inefficiencies, and steps could be taken to improve allocative and technical efficiencies. Multiple measures could be used to improve allocative and technical efficiencies, and the appropriateness of each option must be determined in light of the country’s specific needs and conditions. However, several options should be definitely considered. For example, prioritizing resources for the MHBP and pooling funds should help in allocative efficiency. Technical efficiency can be gained through various mechanisms, such as task shifting/distribution of human resources, integrating HIV/AIDS programs within PHC, ensuring the service package is appropriate, using generic drugs, carefully calibrating procurement choices, and systems strengthening PFM systems.

Health financing for universal health coverage

This section discusses the health financing functions of revenue generation or fiscal space, considering which options the case study countries may want to pursue. It also addresses pooling and purchasing options for the inclusion of HIV/AIDS in the MHBP. What are some next steps for the case study countries?

General macroeconomic challenges

When looking at the revenue generation potential in the four case study countries, past trends and IMF future projections have not been overly optimistic. The tax revenue collection situation is worth particular consideration. All of the case study countries have low tax revenue collection rates and below Sub-Saharan Africa regional averages, with Nigeria being among the worst. The foremost tax revenue for Cote d'Ivoire came from trade revenue and goods and services taxes. For Kenya and Tanzania, income taxes (generally a progressive tax) and value added taxes (VAT – can be considered a regressive tax) have been key, and for Nigeria, excise is the foremost tax revenue earner (excise taxes can also be considered regressive or proportional since everyone is taxed at the same rate). Efficiency gains are seen as among the priority policy consideration for improving tax collection. All three case study countries, Tanzania, Kenya, and Cote d'Ivoire, are aiming to improve tax revenue collection through reducing exemptions, increasing rates, and improving tax collection management. They expect to reach overall revenue of around 20% of GDP in the near term (still below Sub-Saharan Africa regional average). Nigeria remains a challenge in the near term. So, prospects (at least in the near-term) do not look that promising for significant additional tax revenue collected through the current plans in place. (See Annex 5.1). While the discussions (in chapter 7) have shown new tax options under consideration, example, sin tax (Cote d'Ivoire), private sector/corporate social responsibility levy (Tanzania), airline levies and AIDS Bonds (Kenya), etc. through these revenue sources sometimes one-third to one-fifth of the HIV/AIDS program needs are met (e.g. for Tanzania and Kenya), it remains low under the current estimated needs for MHBP and even for HIV/AIDS programs.

Another challenging scenario shared by the four case study countries is that of low expenditures as share of GDP (all, except Kenya, remain below Sub-Saharan Africa regional average). Three of the case study countries, except for Kenya, have a general government spending that is below average for countries of similar income. Nigeria stands out as it spends (GGE as share of GDP) way below average of the other countries with similar income. All countries are advised by IMF to improve efficiency and systems, as there is wastage in spending that could be minimized. In Kenya, devolution will continue to demand government spending, while in Tanzania, a LIC, government expenditures will continue to be high, given their investment needs. Nigeria has to make the greatest effort to reduce government spending, given the large reductions it faces in revenue collection and in economic growth in recent time.

The low revenue collection can result in low government spending. Several countries have addressed this gap by borrowing from domestic and external markets and additionally have benefitted from external financing through grants. Debt burden is seen to be in some but not all case study countries. Tanzania and Kenya are expected to have public debt burden above 40% of GDP in the medium term. While Cote d'Ivoire is expected to create space for further borrowing, Nigeria has much lower public debt burden. Both these countries may be in a position to borrow for health. The analysis for this study suggests that besides Kenya, fiscal capacity remains low, and especially in Nigeria. While over time Kenya is projected to be closing the gap between revenue and expenditures, in Tanzania the gap will remain large in the medium term, with a heavy deficit and debt burden. So, the challenge of sustaining higher levels of expenditures, without a more than proportional revenue increase, remain a challenge.

Domestic financing options

Additional public financing for UHC. International lessons show that effective use of public financing is instrumental in achieving UHC. In most cases, reliance on external financing has not been a successful means to sustain UHC. Eventually, domestic and public financing need to kick in. Public financing for health remains limited in the four case study countries, and HIV/AIDS programs rely much on external financing. Unless additional public financing is injected into the system, it may not be possible for these countries to achieve UHC targets. Even Nasarawa State in Nigeria, which presently relies on federal government financing, can and should consider ways to mobilize additional local domestic resources through IGR.

Prioritizing health and securing additional budgetary allocations. Prioritization of public financing for health and allocating additional budget for health are critical. This is important, especially since public financing for health has been limited in all the four case study countries. The findings of this study stress the importance of considering (a higher share of budget (of at least 10% of general government expenditure) as a target to maintain for health). It is likely that such a target can help some countries mobilize sufficient resources to achieve UHC. However, given low GDPs (e.g., Tanzania), and the low revenue generation and government general expenditures in the case study countries, mustering sufficient resources to meet such a target is a challenge for these four countries. For Tanzania, even the 10%-15% of GGE will be insufficient to cover the costs for MHBP. The findings of this study also identify the need for governments to consider improving “revenue generation, example through tax collections in a progressive manner”. While this has more to do with the ministry of finance, then the ministry of health, in recent years, the ministry of health has started engaging with ministry of finance to access off-budget and multiyear financing commitment for health.

Identifying the appropriate indicator to advocate for sufficient public financing for health. The Abuja target has certainly not helped countries access sufficient public resources for health, when they do not meet such criteria. Literature has started aiming for another indicator: GHE as share of GDP. This may be more reliable and can bring a stronger commitment for health. It also does not rely on other intermediate indicators, such as “revenue collection” and “government expenditures” as these are likely to lead to risk and unreliability of public resource allocation for health. Other indicators supported in the literature is to move towards the indicator GHE as share of GDP to aim for the resource needs for UHC (McIntyre et. al, 2014).

Medium-term financing strategy. Obtaining additional public resources immediately will be a challenge in the case study countries, given their macroeconomic situation. However, they should seek to do so in their health financing strategy, with a trajectory to achieve UHC by 2030. (All four countries have set up MTEF, although, not all have included health. None of them have included HIV/AIDS). These four countries were in the process of developing a health financing strategy. Given budget constraints, these countries can start with a MHBP that is affordable either in its scope or in its scale. Many countries have made the mistake of committing to a MHBP that they cannot afford and then fail to fulfil the promises they have made to their people concerning UHC. Targeting interventions and population sub-groups is another critical path that can be pursued. One example would be by providing free care for all for a limited MHBP or for the poor and vulnerable through subsidies (partially or fully). Bringing partnership among national and local governments and between public and private sectors is another prudent way to scale up recurrent spending in health.

Partnerships for UHC. Several countries have decentralized health to local governments, and have decided that in order to mobilize resources, partnerships are needed between federal and state governments, and

between the public and private sectors. This is an important aspect to consider. In the legislation in Nigeria, state government co-sharing (or the provision of matching financing) are important components for success. In practice, this has not happened. Some lessons can be learnt from other countries, such as from the Philippines, through their on-lending and on-granting arrangements between central and local governments; from Indonesia through their “equalization fund” to support poorer districts through central block grants for PHC; and from examples of legislations requiring local governments to prioritize a certain share of their budgets for health (Ghana shows such an example for HIV/AIDS).

Efficiency gains. While efficient use of public resources in health has been emphasized as key to effective use of public resources, the low allocations of public financing for health in the four case study countries suggest that efficiency gains may be limited in creating the additional fiscal space for health. However, given that many countries can benefit from allocative and technical efficiency, this still needs to be prioritized. This aspect may actually become one of the most important fiscal space pillar to create the financial space in the medium- to long-term. The exercise to generate the MHBP and identify an appropriate service delivery model can help allocate resources more efficiently.

Innovative financing. Tax revenue (as share of GDP) has been low in all the four case study countries. A tobacco (sin) tax, as the term suggests, may be a good way to change people’s behavior away from bad behavior. It could also help the governments create fiscal space for health, although that should be a lesser reason to go that direction. How much fiscal space can be created from this source will depend on various factors, including prevalence and incidence of smoking, and the amount of the excise tax, as well tax collection efficiency. Over time, if tobacco (sin) tax is effective in reducing smoking, tax revenue through this source will also reduce, and it has been considered a regressive tax in many literature, while also showing as a progressive tax in the medium term. Tobacco taxes (and alcohol taxes) have a potential to generate additional revenue for governments as all four countries are below their potential. Improved public financial management systems, including enforcement on tax collection, can help realize this potential. All four case study countries could initiate an exercise to assess the benefits that such an increase in excise taxes could generate in their respective countries. Cote d’Ivoire already earmarks revenue from tobacco tax for financing its AIDS Solidarity fund, although faces challenges in sustainable financing; the Philippines has been able to expand coverage of the poor and vulnerable through earnings from the tobacco taxes.

Earmarking? Almost all of the case study countries have initiated or are in the midst of initiating earmarked taxes for health and/or HIV/AIDS. But the question remains: Is earmarking for health a good option for the case study countries? While the IMF generally discourages earmarking for health, it is becoming a precedent in many countries. All four countries have been exploring the possibility of earmarked taxes (e.g. VAT, excise taxes, oil revenue taxes). However, if this means tapping into revenue streams for taxes that are already being imposed, this course of action will not ensure additional resources for the government; it may simply mean additional financing for health in a resource constraint environment. All four countries have earmarked resources for health. However, in some countries, this has not been realized or are insufficient to finance their health financing needs, and there is significant dependence on budgets. In other countries such as Nigeria, earmarking specific funds (oil revenue) for health has led to vulnerability.

New opportunities for private financing. Most of the case study countries have significant household out of pocket spending as a share of THE. They also aim to achieve UHC, which calls for reducing the household spending share. Therefore, this study did not consider this a promising financing source for MHBP. Several of the case study countries are however considering increasing user fees and copayments for use of public facilities in health, either through formally instituting user fees at facilities, or by creating national health insurance prepayment programs that require households to contribute towards insurance

premiums and/or copayments. However, the proportion of revenue earned through user fees is currently very small, and may be limited to 2.5% to 7% of MHBP in 2030. Nonetheless, user fees and copayments could be still explored, for example for non-MHBP or for the non-poor, but with the option of improving allocative efficiency and cross subsidizing for the poor. Additionally, some countries, such as Botswana, have explored private corporate financing. Kenya is exploring this option for ATF, but the contributions from alternate sources of private (e.g. corporate) financing are expected to be between 1 to 5% of the ATF budget.

Reducing household out-of-pocket spending. Household out-of-pocket spending should be reduced through prepayment mechanisms provided for either in the budget or through health insurance. In considering this, it is important to remember the challenge of scaling up population coverage under health insurance when a significant population lives in poverty and operates in the informal sector, as is the case for these four countries. A better approach than user fees would be to mobilize private funding through health insurance schemes. However, since a significant proportion of the countries' population lives below poverty levels and are in the informal sector in the four countries, a large proportion of health insurance funding will still need to come from the public budget in the form of subsidies (or through formal sector premiums cross subsidizing the poor).

Role of external financing going forward. Given the changing external financing architecture, this study suggests that Cote d'Ivoire, Kenya, and Nigeria may not expect additional external financing in the future and may even see such funding decline. Tanzania is still likely to need and to benefit from external financing in the medium term, as it currently maintains a LIC status and is eligible for several global funds. However, it remains unclear whether Tanzania will be able to mobilize sufficient external financing (in addition to its effort to mobilize domestic financing) to help it achieve HIV/AIDS targets. While efforts will be considered to mobilize domestic financing, going forward, external financing will remain a critical financing need and source for HIV/AIDS programs.

HIV/AIDS related considerations

Budget prioritization for HIV/AIDS programs

When we look at the budget allocations patterns, expecting budget to be the sole financier of the HIV/AIDS program (whether it is within the MHBP or outside the MHBP) may be an inadequate solution in the environment of limited budget allocations for health and HIV/AIDS. Looking at a historical trend of budget allocations for health in these countries, the research team notes the following observations: (i) some substitution effect has been noted between government share of health spending, and external financing for health (Kenya for example), and (ii) some substitution effect has also been noted between federal and local budget allocations for health (Tanzania, for example) where health is decentralized to local government authorities.

DIPI (domestic spending on AIDS relative to country prevalence and income) has traditionally remained low in all but Tanzania followed by Kenya. This domestic commitment is key to ownership and sustainability of financing for HIV/AIDS programs. How can the DIPIs be increased for all four countries?

Given that past country evidence suggests some substitution effect between domestic and external financing, if external financing shares were to decline, would that suggest that domestic public financing (and not necessarily household out-of-pocket share) would increase? This is yet to be seen. However, this substitution or increase in domestic commitment (even before decrease in external financing), will not

happen over-night, as many of the domestic funds are already committed, and country revenue streams are limited. Also, public funds for health remains low, and even if some of it is released to be allocated for HIV/AIDS programs, it will most definitely not be sufficient, and could be at the cost of other MHBP programs. Can health budget afford to release some of the already low budget for health towards HIV/AIDS programs? This argument therefore leads us to consider two options: (a) how can budget prioritization and efficient resource allocation be encouraged for health and HIV/AIDS programs, and (b) what are some off budget options, and how can these other off-budget support be directed towards health and HIV/AIDS programs?

HIV/AIDS program requires a multi-sector response. But, there are certain HIV/AIDS interventions that are related to the health sector. There are two arguments on “integrating HIV/AIDS as part of the health program and therefore health budget”. On the one side, having the highest-level commitment to integrate the two programs, would also suggest that parliament would have the incentive to allocate more resource to the health sector. HIV/AIDS and health programs could therefore benefit from being part of the one budget discussions. On the other side, as health budgets have generally been limited in the past, will the sector be willing to increase allocation of spending for the neglected health programs (e.g. PHC), rather than to HIV/AIDS programs? This can be achieved if HIV/AIDS is part of the MHBP and budget considerations are based on MHBP needs.

In many cases of decentralized health, budget needs to be explored at angles of federal and local levels. To emphasize the importance for financial sustainability of the HIV/AIDS programs, consideration may also be given to whether ring-fencing a certain share of the health budget for HIV/AIDS would be feasible. In light of limited budgets (as currently faced by the four countries), further ring-fencing budget may or may not be an option. Even if it is, will it be at the cost of other critical programs and will it be adequate? Again, the solution could be the commitment around MHBP and HIV/AIDS being part of that program. Federal and local cost-sharing or matching grant arrangements could help incentivize local government support.

The other situation, is to remain at status quo, keep HIV/AIDS program operations and financing outside the health sector. The current situation has survived because of the extensive support countries have received from external financing, which is not sustainable. Development partners want to see DIPI increased, and they want to see efficiency improved. For both, of the above, integration of service and pooling of financing, including risk pools, can help the HIV/AIDS programs. There is of course some risk and a transition period where countries will need to pilot interventions and tread with caution on how this full transition (from off budget to on-budget) can take place. Health systems strengthening will be critical. While these four countries may struggle with additional budget allocations for HIV/AIDS programs, they can certainly consider efforts to improve efficiency in budget allocation and use. To consider whether resources are being allocated towards activities and interventions that offers the biggest value for money.

Off-budget options considered for financing HIV/AIDS programs

The unreliability of budget revenues, and the volatility of external financing, has led ministries of health in many countries to think more creatively, and to advocate for earmarking to give them some stability in spending. All four case study countries have started also creating multiyear funds (e.g. trust funds, health insurance funds).

Is ATF a feasible option for HIV/AIDS? Some of the case study countries already have specific program trust funds. The Cote d’Ivoire AIDS solidarity fund, initiated in 2015, uses 5% of tobacco tax revenue to finance its HIV/AIDS program. The Kenya HIV/AIDS and NCD trust fund and the Tanzania HIV/AIDS trust fund are in preliminary planning stages. Nigeria developed a basic (primary) health care provision

fund and HIV/AIDS TF. An ATF could have several advantages, including: integration among different funding sources, easier planning and financial control, and some "protection" from spreading allocation away from the priority program or subsector. However, any facility or arrangement that pools all funding sources would have similar advantages. The key policy is to further increase the pooling of resources. However, given that the countries are aiming for UHC, it is important to consider whether several trust funds or earmarking could lead to inefficiencies, administrative challenges, and financial distortions. The ATF in the four case study countries seem to not necessarily look at mobilizing new resources, but more so, request for ring-fencing for HIV/AIDS within the health budget, and pooling the resources for a more efficient fund management.

Is a health insurance program a feasible option for HIV/AIDS? While this is an important question, all four countries have already initiated and developed health insurance programs and have already decided to move in that direction. None of the countries include HIV/AIDS within their health insurance package (recently, Kenya however planned to do so). Their primary motivation (as we see in many other developing countries) was to find alternate sources of financing, and secondary basis risk sharing. The latter becomes primary as they start pooling in larger groups. Many countries (as seen in the three countries) start their program coverage through formal sectors, as it is easiest to mobilize revenue through payroll taxes. They see this as a significant share of the alternate revenue they can generate.

However, when it comes to coverage of the informal sector (and where a significant population belongs), these countries have been less successful. They face lots of challenges including adverse selection and low enrollment (a common challenge in countries with significant population in the informal sector). If they were to include HIV/AIDS within their MHBP and invite HIV/AIDS beneficiaries, it is likely that in most cases the health insurance program may not remain financially sustainable, unless substantial resources and reforms are administered.

Additionally, they have faced programmatic, administrative and capacity challenges to fully realize on the benefits of a health insurance program, and to improve financial protection of the beneficiaries: these countries have tended not to always have a well-defined benefits package, provider contracting and accreditation rules, claims management, and others, and tend to face significant administrative costs and challenges in financial sustainability. These issues have to be considered carefully as these countries move forward to an effective implementation of their programs. Cote d'Ivoire has also decided to move in the direction of a comprehensive health insurance program. There are several lessons from other countries that can help it develop a more effective and feasible program.

Because health insurance programs are a choice considered by these countries, efforts need to be made to ensure that the insurance program is focused on UHC, and the MHBP is explicit and well-defined, costed and financed, emphasizes the poor and vulnerable, and has effective administration of the fund. Most of these four countries will not be able to include HIV/AIDS within the health insurance program, as HIV/AIDS programs need significant resources, and as they still face low GDPs; however, Kenya has made such a commitment. It will be important to support this effort and monitor its development closely.

Donors possible support for HIV/AIDS programs

This study has provided some evidence of what choices these four countries have taken to finance health and HIV/AIDS programs. For the latter programs, these countries have relied heavily on external financing, and expect to rely on them in the coming years. Their capacity, ability and willingness to allocate additional public financing for HIV/AIDS programs will depend on many things, some under the control of the

Ministries of Health and AIDS Commission, while others out of their control, and more in the purview of the Ministries of Finance. The Ministries of Health and the AIDS Commissions, can certainly start making efforts to improve efficiency in resource allocation and use.

There are three areas that development partners can support countries: (a) provide financial support, (b) provide technical assistance, (c) provide evidence.

It is good to know that the largest external financier for HIV/AIDS programs, PEPFAR, is exploring a more effective approach to finance such programs in Sub-Saharan Africa. Their nominal budget has remained around \$6 billion annually since several years, and they expect it may remain as such in the coming years. They partner with several others, who are their implementing partners. They also partner with the Global Fund, and nongovernment organizations.

Some key messages and support that Development partners could bring are highlighted below.

Development partners can help countries to identify how they can achieve better efficiency and what efforts need to be made. Among areas where efficiency can be achieved include choice of population to cover under the programs through public resources: should it be universal or targeted on the poor and the vulnerable. Service delivery mode choices can also be explored to help gain efficiency, through integration of program, through community outreach and through efforts to prevent and to catch the patient facing disease in its earlier stages. Budget resource allocation, financing mechanisms, such as pooling, and risk sharing, can be explored through pilots to gain evidence, and through capacity building.

Development partners should continue to support health systems strengthening, as countries will need to strengthen their drug supply chains, public financial management, and planning and monitoring systems. There are several opportunities to learn from the “vertical” programs (e.g. supply chains) that were set up and how to integrate these into an integrated system. Much efficiency can be gained if health systems are strengthened, and planning, management and monitoring are effective.

Development partners have also explored possibilities of ARV price reductions, through global and bulk procurement, generics, and price negotiations with big pharmaceuticals and forming an alliance on medium term planning of needs. This may also be explored for other commodities, such as laboratory reagents. This will certainly help use resources more effectively.

Development partners can also provide the needed technical assistance to help with some analytics and help gather evidence to inform policies. The countries should develop a strategy, that includes health and HIV/AIDS financing. Technical assistance in this area will help governments re-think their challenges, explore options, and dialogue with other policy makers, financiers and implementers to form partnership in UHC.

Development partner support in health financing policy considerations would be helpful. Encourage countries and support them in the preparation of a health financing strategy that is endorsed at the highest level to support its recommendations.

- Encourage countries to pool resources and develop prepayment and risk sharing mechanisms. The larger and the more diversified the risk pool, the better.
- Can development partners also consider pooling their own resources along with the budgets? And provide their support to finance one (government) strategy for financing and for delivery of services? This pooling of resources, or support around one strategy can be extremely helpful to countries. Prepare countries to get ready for this pooling.

- Given the significant level of poverty and these countries, and some of them continue to face low financial protection of its population, can development partners support the “no user fees” policy for MHBP (that includes HIV/AIDS programs). [As income rises, cross subsidization can be explored with the upper income tiers and the more expensive tertiary care programs (non-MHBP) can start to introduce copayments that could cross-subsidize the poor].
- Budget prioritization dialogue along with allocative efficiency needs to continue at the country level, and especially with inclusion with the Ministries of Finance and Treasuries. The latter may be keen to explore options that improve efficiency in spending and can deliver upon outputs. Global Funds exploration of co-financing should be supported, where possible. The Bank’s own instrument, Payment for Results (PforR) seems to have received support by many Ministries of Finance, as they promise to monitor and pay upon results.
- Another area of interest is exploring public-private partnership in financing and service delivery.

Debt2Health is an innovative financing initiative of the Global Fund. It helps channel money of developing countries away from debt repayment and towards life-saving investments in health. Cote d’Ivoire is an example for other countries to learn from. This is another area that countries and partners could explore.

While this section has mostly discussed HIV/AIDS financing, it is understood that HIV/AIDS is among the critical program of the MHBP in these four countries. Whether the HIV/AIDS program is currently vertically financed or financed through a pool remains to be seen in the country context. Countries are going through a “health financing transition”, and as they increase their incomes, and as population moves to formal sectors, and risk sharing mechanisms are explored, many vertically run financing pools should be merged into a larger risk sharing financing pools. Consequently, external financing needs will also decline. But, country public policy has to be prepared from the onset to help the country get to that stage with smoother transition. There are several lessons to be learnt globally on their success in doing so.

Concluding remarks

In this context, the financial sustainability of the UHC agenda and the HIV/AIDS programs is in question. Ambitious UHC expansion plans may not be financially sustainable in the medium term (or even in the long term) under the current health financing scenario in the four case study countries. This is the result of a combination of factors: the heavy dependence of many developing countries on external funding for priority programs, such as HIV/AIDS; fragmentation of financing and delivery channels; and continuous expectations placed in the mobilization of additional funding. For countries to meet their SDGs they will have to increase their commitment to health spending through domestic resource mobilization (public sector, prepayment schemes), and through efficiency gains to finance the UHC, including the HIV/AIDS programs.

There is general international commitment to support the reduction of HIV/AIDS in Sub-Saharan Africa. While external financing may have to be a critical component of financing country UHC agenda, future projections (based on recent past spending) suggests that external financing for health may decline in the coming years. For HIV/AIDS programs, it may suggest that external financing may remain flat in nominal terms (for example from PEPFAR), and as coverage targets increase, so will the need for financing the HIV/AIDS program. PEPFAR is taking steps to ensure efficiency in spending (including from bulk procurement of ARVs) and Global Fund is exploring some domestic co-financing options on a gradual basis.

This study showed that no single initiative can leverage enough additional funding to support the ambitious plans governments in the four study countries have put forward. Rather, ensuring medium-to-long term sustainability for UHC requires a comprehensive set of initiatives focusing on increasing health budget allocation and defining a well-delimited and less ambitious health benefit package. Our analysis suggests that the most promising funding sources are (i) increase budget allocation to health, (ii) mobilize private resources through innovative financing (such as a well-designed health insurance program), and (iii) promote efficiency gains through careful analysis, identification of opportunities and strong implementation. Further, given a significant agenda for UHC, which has a comprehensive coverage need (including HIV/AIDS), it is critical that policy makers be not overly ambitious but be inclusive in their planning, budgeting and medium-term dialogue with the ministries of finance and treasuries. External financing will still be critical to these countries especially during their transition to a greater reliability on domestic public financing.

Future studies could consider some of the following areas:

- prioritizing the MHBP interventions, and the cost share for those interventions and the trajectory of its financing and outcomes;
- understanding the financial needs for MHBP have been a challenge, and finding an easy solution for resource allocation would be a great benefit (PEPFAR is exploring a resource allocation tool and it may be an opportunity to learn from them and its benefit);
- helping countries develop a health and HIV/AIDS (combined) financing strategy and help them find options and lessons from other countries;
- making an investment case for prioritizing budget to support the MHBP (inclusive of HIV/AIDS);
- helping countries identify efficiency opportunities (the Bank's Optima model for resource allocation could be explored) in service delivery and financing mechanisms, and in areas outside the health sector to address some systemic concerns;
- conducting feasibility studies for trust funds, health insurance programs;
- data remains a major challenge in all countries, and effort is required to improve data quality and collection, including administrative data and through studies/surveys (e.g. NHA and NHA sub-accounts for HIV/AIDS, PETS for HIV/AIDS programs, PERs, etc.); and finally,
- stimulate a public policy debate to help countries smoothly go through the "health financing transition".

Annex 1.1: SDG Targets and the Health of the Population of Sub-Saharan Africa

Setting the agenda for universal health coverage

While the United Nations Program on Millennium Development goals (MDG) was able to move the momentum to meeting targets by 2015 in many countries, many countries fell short in meeting these targets. The Sustainable Development Goals (SDG) of 2030 have picked up many of the same goals as in the MDGs. Some of the achievement and challenges of MDG 2015 and the new SDG relevant health indicators are listed below. The information below also highlights that the African Region remains among the most vulnerable for most of these indicators.

The indicators for SDG targets 3.1 and 3.2 include the MDG indicators of maternal and under-five child mortality. In 2015, maternal mortality ratio (MMR) – the number of maternal deaths per 100 000 live births – was estimated at 216 globally. Almost all of these deaths occurred in low-resource settings and could have been prevented. SDG Target 3.1 also includes skilled attendance at birth. Globally, coverage of skilled attendance at birth was estimated to have reached 73% in 2013. However, **more than 40% of births in the WHO African Region and WHO South-East Asia Region were not attended by skilled health** personnel, and within countries large access disparities associated with differences in socioeconomic status persist.

An estimated 5.9 million children under 5 years died in 2015, with a global under-five mortality rate of 42.5 per 1,000 live births. **Child mortality was highest in Sub-Saharan Africa**, where 1 child in 12 dies before their fifth birthday, followed by South-East Asia where 1 in 19 dies before reaching 5 years.

With regard to modern family planning services, globally in 2015, 76% of women of reproductive age who were married or in a union had their need for family planning with a modern method satisfied. As with other indicators, there was considerable regional variation, with, for example, 9 out of 10 married or in-union women of reproductive age in the WHO Western Pacific Region having their family planning needs met, **compared with less than half of those in the WHO African Region.**

In 2014, the global HIV incidence rate among adults aged 15–49 years was 0.5 per 1000 uninfected population, with 2 million people becoming infected. **HIV incidence was highest in the WHO African Region** at 2.6 per 1000 uninfected population in 2014, as compared with other WHO regions where incidence among adults aged 15–49 years ranged from 0.1 to 0.4 per 1000 uninfected.

In 2014, there were 9.6 million new tuberculosis (TB) cases (133 per 100 000 population) and 1.5 million TB deaths, including 0.4 million deaths among HIV-positive people. In 2014, the largest number of new TB cases occurred in the WHO South-East Asia Region and WHO Western Pacific Region, accounting for 58% of new cases globally. However, **Africa carried the most severe burden**, with 281 cases per 100,000 population.

In 2015, the malaria incidence rate was 91 per 1,000 persons at risk, with an estimated 214 million cases and 438 000 deaths (more than two thirds of which occurred in children under 5 years of age). **Sub-Saharan Africa had the highest burden**, with an incidence rate of 246 per 1,000 persons at risk, accounting for roughly 90% of all cases and deaths globally.

In 2012, NCDs were responsible for around 38 million deaths per year, accounting for 68% of all deaths worldwide. Of deaths under the age of 70 years, commonly referred to as premature deaths, an estimated 52% were due to NCDs. Over three quarters of those premature deaths were caused by cardiovascular

diseases, cancer, diabetes and chronic respiratory disease. Globally, premature mortality from these four main NCDs declined by 15% between 2000 and 2012. This rate of decline is insufficient to meet the 2030 target of a one third reduction.

Statistics on health financing show that total health expenditure per capita is still low in many developing countries. Most developing countries spent less than 8% of their gross domestic product (GDP) on health, and many less than 5%. In 2013, per capita total health expenditure at average exchange rate was less than US\$ 50 in 27 countries and less than US\$ 100 in 46 countries. Positive trends are discernible, however. Per capita government health expenditure globally increased by about 40% in real terms between 2000 and 2013, with major increases in all regions. This may simply reflect economic growth, but in several countries, it is also the result of an increased prioritization for health in government budget allocations. On average, across countries, global OOP health spending is down slightly (from 35% of THE in 2000–2004 to 31% in 2010–2013), which suggests an improvement in financial protection. However, average levels in low-income countries remain high (42%).

The SDG targets in health are calling for universal health coverage (UHC) and financial protection of the population against illness costs. The areas of focus for UHC are: (a) reproductive, maternal, newborn and child health (RMNCH); (b) infectious diseases; (c) noncommunicable disease (NCD) controls and mental health; (d) injuries and violence; and (e) health systems. Among the areas recommended for immediate attention for UHC: RMNCH and infectious disease controls, including HIV/AIDS – are among the MDG indicators;– NCDs are new indicators given the growing burden of disease from NCDs in many regions, including in Sub-Saharan Africa, as not all NCDs are lifestyle and related to behavioral risks, some are related to infections and to the harmful environments that many poor may be living in; and financial protection is among the key indicators to monitor . The UHC index tracers are listed in Box 1 and Table 1.

Box 1: Sustainable Development Goals health indicators under UHC index tracers

- *UHC: RMNCH tracers (family planning satisfied, antenatal and delivery care 4+, full child immunization coverage, health-seeking behavior for suspected child pneumonia);*
- *UHC: infectious diseases tracer (HV treatment coverage, tuberculosis effective treatment, use of insecticide-treated bed nets for malaria prevention, access to at least basic sanitation);*
- *UHC: NCD tracers (normal blood pressure, mean fasting plasma glucose, tobacco non-smoking);*
- *UHC: financial protection tracers (incidence of catastrophic health spending (10%, and 25% threshold), incidence of impoverishing health spending (2011 PPP \$1.90 a day poverty line, 2011 PPP \$3.10 a day poverty line);*
- *UHC: infrastructure (hospital per 1,000 population, physician per 1,000 population, psychiatrists per 1,000 population, surgeons per 1,000 population);*
- *International health regulation core capacity index.*

Source of information for this Annex:

-WHO, World Bank. 2017. Tracking Universal Health Coverage: 2017 Global Monitoring Report;
-WHO SDG monitoring report, April 2016 and 4th Meeting of the Inter-agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs), November 2016

Table 1: Sustainable Development Goals UHC tracer indicators and index for four country studies, 2015.

Countries	UHC Service coverage index (SDG 3.8.1)	HIV treatment %	Threshold 10% %
Cote d'Ivoire	44	34	15.19
Kenya	57	57	5.83
Nigeria	39	26	24.77
Tanzania	39	55	9.87
Sub-Saharan Africa	42	--	10.3

Source: WHO, World Bank. 2017. Tracking Universal Health Coverage: 2017 Global Monitoring Report.

Annex 1.2: Selected Indicators

Table 1: Selected indicators for the four case study countries

Indicators	Cote d'Ivoire	Kenya	Nigeria	Tanzania
HIV/AIDS prevalence (%)	2.8	6.1 (above SSA average)	3.3 7.9 in Nasarawa (above SSA average)	5.2 (above SSA average)
Burden of disease from HIV as share of total BOD (%)	10.3 (above SSA average)	15.6 (above SSA average)	7.3 (above SSA average for Nasarawa)	13.2 (above SSA average)
HIV/AIDS DALYs (ranking: 1 is top country with DALYs)	14	5 (top 5)	2 (top 5)	6 (top 5)
HIV/AIDS development assistance (ranking: 1 is top country receiving DAH)	18	2 (top 5)	3 (top 5)	5 (top 5)
DIPI (ratio) (higher ratio is better performer)	0.05 (below median, low performer)	0.33 (below median, low performer)	0.13 (below median, low performer)	0.35 (at median)
Public spending on health as share of THE (%)	30 (below SSA average)	41 (below SSA average)	31 (below SSA average)	39 (below SSA average)
Public spending for Health (without on-budget external financing) as share of total government spending (%)	5	5.6	4	5.6
UHC commitment	Cote d'Ivoire Universal Health Insurance Law (2001, 2014)	Kenyan constitution, Sessional Paper no. 7 of 2012 on universal health care; Jubilee Manifesto (2012) outlined social protection and health goals	Nigeria National Health Bill 2015, Health Strategic Plan (2008), State Health Development Plan (2010)	Tanzania Development Vision 2025, National Health Policy; Draft Health Financing Strategy 2015

Source: World Development Indicators, UNAIDS, IHME, and others.

Note: UNAIDS has developed an indicator called the Domestic Investment Priority Index (DIPI), which measures government AIDS expenditures relative to country income level and HIV prevalence. The index is useful to rank countries and identify low performers. (DIPI indicator estimates domestic financial commitment for HIV compared to other countries of similar DALYs and income). SSA is Sub-Saharan Africa.

Annex 1.3: Data Sources

The data sources used for this study included:

- Population, current and projections: World Bank, HNP populations estimates and projections.
- Macroeconomic data: IMF, World Economic Outlook Oct 2015 for GDP and GTE, projected for 2015; World Bank, WDI 2015 for other variables.
- Health Expenditure variables: these were obtained from the most recent NHA (National Health Accounts) exercise in each country (available for 2009 for Nigeria, and 2012-2013 for the other countries), complemented as necessary with estimates from the WHO online Global Health Expenditure Database for year 2013.
- HIV/AIDS data (prevalence, ART coverage): obtained from UNAIDS AIDSinfo online database for 2014, complemented by data from national reports (for example, the NMSF III study for Tanzania); epidemiological projections were based on OHT projections (see below).
- Cost of the MHBP was obtained from the OneHealthTool (OHT) estimates performed in Kenya and Tanzania by the Futures Group (now the Palladium Group). For Cote d'Ivoire and Nasarawa State, as no costing study had been performed, we used a simplified version of the OHT model.

Annex 4.1: One Health Tool Approach and Limitations

One Health Tool Approach

The One Health Tool (OHT) was developed by the Futures Group, now Avenir Health, to facilitate and standardize the estimation of the cost of health services in different countries. It has been used in several countries to estimate the cost of standard service packages for Universal Health Coverage (UHC) and HIV/Aids services in several African countries, including Kenya, Uganda, Tanzania,

The OHT model uses population size and growth, disease incidence, prevalence and mortality, service utilization for each major disease or condition, and service unit costs, to estimate the current and future service needs and costs for the benefit package. The costs for HIV/AIDS were estimated as part of the UHC package, as it is included in the packages defined or considered by the four countries. OHT estimates were used for Kenya and Tanzania, where costing exercises took place. For Cote d'Ivoire and Nasarawa State, as no costing exercise had taken place, we used a simplified modeling based on the OHT model.

The OHT model estimates the costs of services provided from a normative perspective, i.e. estimates what the costs should be under normal conditions, rather than how much resources have actually been used in the process.

Total costs are broken down in three categories: commodities costs (drugs and medical supplies), program costs (the direct cost of managing the program), and system costs (which include all general costs relating to unallocated human resources, infrastructure, governance and financing, logistics, information systems).

The OHT tool projects population and health service delivery growth over a user-defined period of several years. It contains explicit health intervention production functions and assumes that production costs are linear with output. The user must specify the types, amounts, and local prices of inputs required to deliver each intervention as well as the desired delivery volume, or output, in each of the years of the projection horizon.

The structure of OHT consists of two main modules, one to estimate the direct costs of service delivery and management (left branch of and another to estimate indirect health system costs). Direct health service delivery costs include labor, medicines, and other supplies. Indirect health system costs include human resources not directly engaged in the production of personal health services, logistics, infrastructure, health financing, health information systems, and governance (Avenir Health, nd).

For each intervention, OHT computes costs as follows:

$$VCost_{jk} = \sum_{i=1}^N [(Target_{ijk} \cdot Need_{ijk} \cdot Coverage_{ijk}) \cdot Price_{ijk}]$$

where *Target* refers to total number of people that are the target of intervention *i* under program *k*, *Need* refers to percentage of people among the target population that are in need of the service, and *Coverage* is the percentage of people in need of the service that have access to it. Thus, the product of the three would be the quantity of services to be delivered in year *j*; *Price* is the unit cost of providing it.

The total cost of running health programs in year *j* is therefore given by the expression:

$$VCost_j = \sum_{k=1}^K (VCost_{jk}) + \sum_{k=1}^K (VPCost_{jk})$$

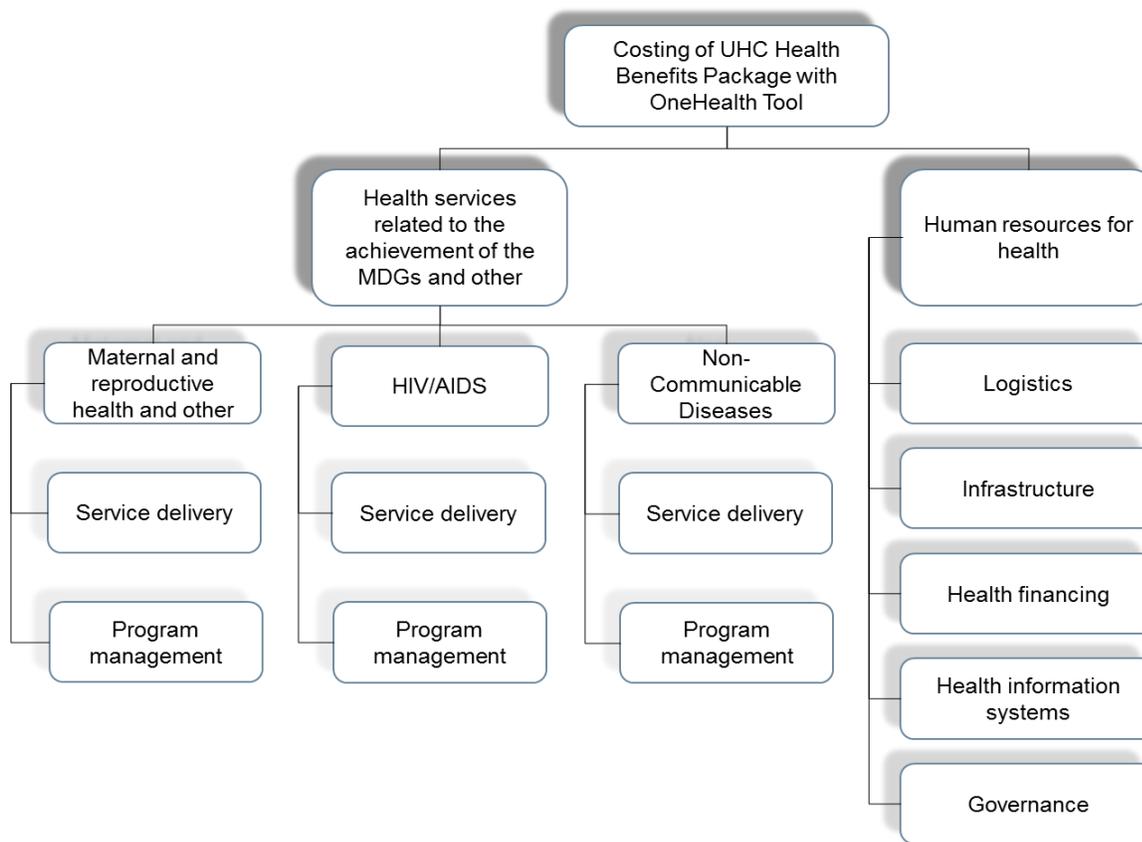
where $VPCost$ denotes the program management costs.

For example, under program (k) of “Child Health”, one intervention (i) is “treatment of severe diarrhea.” Thus, the target population ($Target$) was defined as “children aged 0-59 months”; population in need was those suffering from severe diarrhea, i.e. 2.6 percent, the same as estimated national prevalence of the disease; in baseline year, the coverage rate is 82.8 percent; and the unit price of treating it would be 54.91 (Ksh).

OneHealth Tool by default uses most recent data for baseline disease prevalence, and projects future prevalence by making assumptions about transitional parameters. The results were calculated by the embedded Impact Modules (e.g. AIM for HIV/AIDS interventions) and reflected in the “population in need” section. We followed the OneHealth Tool without making any further changes on epidemiological modeling.

Two assumptions are implicitly in these calculations. First, it was assumed that this benefit package stays the same over the entire period. If projected financing seemed sufficient to finance a broader benefits package, then more interventions could be added to the package defined here, to assess the feasibility of financing that larger package.

Figure 1: OneHealthTool costing modules



Source: Authors’ elaboration based on OHT software and user guide.

Because UHC can be deployed at different speeds, we used three alternative scenarios for estimating the cost of interventions in the UHC package, based on three coverage growth assumptions: (1) A base or *natural growth* scenario, with a coverage increase over the baseline of 35 percent by 2030, an annual growth rate of 2 percent; (2) An intermediate or *conservative scaling up* scenario, with annual rate increase in coverage of 2.74 percent, equivalent to 50 percent increase over the 15-year period; and (3) An *ambitious scaling up* scenario, with a total increase in coverage of 100 percent over the next 15 years, equivalent to an annual increase in coverage of 4.73 percent. Coverage rates were capped at 100 percent for all interventions.

The authors of this study adjusted the OHT version of the model they received from *Futures* in several ways. In the Kenya case, they reduced health interventions' output, or coverage rates, as they deemed that those contained in the original version were overly ambitious. Second, they assumed that the so-called *health system costs*, some of which were assumed constant over time in the original version, would also increase with population and coverage growth. Third, they introduced health sector-specific inflation, assumed at 2% per year. In the case of Tanzania, OHT projections were deemed unrealistic⁶⁰ for some diseases or conditions and were replaced by the coverage assumptions described above.

Limitations of the OneHealth Tool

The OHT was designed primarily for MDG gap assessment and the costing of this gap. There is a systematic and detailed structure for costing out the MDG related programs. This has been a substantial contribution to the literature. However, in its limited MDG approach, it therefore already created some limitations as it was not designed to consider a more comprehensive costing of government programs – beyond MDG. In further analysis of the OHT, other limitations were identified.

The other limitations of the OHT do not relate to the tool itself, but to the OHT's application. It relates especially to the underlying assumptions drawn when using the OHT, and the lack of clarity (or explicitness) with respect to these assumptions. OHT requires the user to be well versed and to have consulted well on the assumptions to be used. If not done, then it could lead to some misleading results. The limitation of the OHT also relates to the assumptions and the program or service package consideration for services not included in the package. The latter is presented in the OHT as a “black-box”. Specific examples are given below:

- OHT has a limited scope on costing of a comprehensive health sector program. OHT focuses on a set of MDG-related programs (see Figure 1), but services outside these programs are not treated in a transparent way; it is the case for example of secondary hospital care and tertiary care outside the predefined programs.
- Program costs are not comprehensively presented, as some critical elements like personnel are bundled under “health system costs”. Personnel costs for the included programs are bundled with non-programmatic costs under the “system costs” category; this underestimates the full cost of the programs. In addition, what is included specifically under “system costs” and how its cost is to be estimated is unclear in the documentation.

⁶⁰ Linear projection of the trends resulting from the OHT simulations would reduce by 2030 Malaria spending per capita by 82%, Immunizations by 74%, eye care and health promotion by over 90% and HIV by 14%, while NCDs would grow to consume 71% of all program costs.

- If assumptions, and targets are not realistically drawn, OHT is likely to also give unrealistic results. OHT estimates and projections are very sensitive to underlying assumptions about projected demographic and epidemiological trends, as well as future targets. These are often obtained from MOH documents or consultations/interviews, and are by nature subject to errors. But these assumptions are usually not transparent in the presentation of OHT results, and thus do not help to explain resulting estimates or projections with unexpected results.
- OHT structure is not comparable to NHA or budget. The OHT cost structure is based on three broad categories, program commodity costs, program management costs (including program-specific HR and training costs), and system costs (which includes all costs relating to other human resources, infrastructure, information systems, logistics and health financing). While this structure may be appropriate for a programmatic approach, it is inadequate for comparison with other data sources that uses a chart of accounts structure (such as the budget or NHA) and to provide a complete view of the cost of comprehensive service packages or health systems.
- OHT estimations are usually very different from actual expenditure, given by government budget or NHA data. While this is expected because these sets of data are based on different concepts (costs and expenditures), some reconciliation would be useful to check that no cost element has been left out, and to allow for a comparison of expected costs and existing resources. For example, in some countries OHT estimates for HIV/AIDS, are below current expenditures on the program given by HIV/AIDS national account, and no explanation is provided for this.

OneHealth Tool for costing: pros and cons

Advantages	Disadvantages
<p>1. Systematic perspective: the only one available so far</p> <p>Instead of focusing on one particular disease area, OneHealth Tool has integrated both MDG-related and NCD programs, as well as overarching health system costs. It also presents the components of costs in a transparent, detailed and uniform way</p>	<p>1. Scope of application</p> <p>Compared with other costing tools designed for a specific disease area, OneHealth Tool does not have that many details. For instance, it does not separate various high-risk subpopulations or allow sexual behavioral factors to affect HIV/AIDS transition rate. Therefore, it may not be the best tool if users want to know health/costing impact of specific disease area; rather, it works best when applying to the whole health sector strategic planning</p>
<p>2. Integrated perspective: the only one available so far</p> <p>OneHealth is not a standalone software. Instead, it combines many established tools together as individual modules in order to provide one-stop solutions to various questions in mind of policy makers. For instance, for a pre-defined health package, it can assess its health impacts (using modules like Family Planning Model (FamPlan), the Lives Saved Tool (LiST), AIDS Impact Model (AIM), and TB Estimates), cost implications, constraints in current capacity (using Bottleneck Analysis model which is built upon MBB), and financial gap.</p>	<p>2. Requires intensive in-country consultation with stakeholders and data collection, could be time consuming</p> <p>Essentially this is a planning and costing tool with a prospective approach, thus it asks detailed questions regarding to activities to be conducted in the next few years, how ambitious MoH wants to be in expanding coverage, what interventions would receive the highest priority in resource allocation, what are the treatment plans and how much does each cost, etc. To obtain most credible results, ideally the users should have ready access to relevant stakeholders and interest groups and the time to consult them intensively</p>

<p>3. Built-in data</p> <p>OHT has rich information, although not always country specific, on unit cost, demography and economic information.</p>	<p>3. Sensitive to assumptions, may not be accurate, and cannot be verified/falsified</p> <p>OHT in general only calculates health-sector interventions although it allows some flexibility to add others (WASH, environmental health, etc.). Therefore, it requires caution when compared to other costing methods (e.g. Futures cost out HIV/AIDS interventions which are much lower than Kenya AIDS Strategic Framework costing FY 2014-2018 because the latter includes the non-health sector).</p> <p>The methodologies used by OHT and NHA are different especially for each individual disease program, thus the results may not be readily comparable and it's hard to try to match the starting point, i.e. the financial gap may exist from the beginning – first year.</p>
<p>4. Flexibility to make self-adjustment of almost all components of costing</p>	<p>4. Does not count enough for efficiency gap</p> <p>OHT has limited room of accounting for inefficiency. For instance, whether the current HRH task shifting is efficient. When it allows for it, the real operation is difficult: for instance, it's hard to collect data like labor inputs per intervention, so it can be lacking even in some real applications.</p>

Annex 4.2: Main Assumptions for the Cost Projections

Table 1: Main assumptions used in projections and fiscal space analysis

Variable	Assumption under base scenario	Justification	Alternative scenarios
Population growth	2.3 to 3% depending on country	Continuation of growth in recent years	None
GDP growth	5% a year	An “average” conservative rate for the region, and IMF projection in medium term	3% and 7%
GGE growth	Same as GDP (5%)	No change under the base scenario	Increasing tax revenue in fiscal space
GHE % of GGE (and GDP)	Constant over time	No change under the base scenario	Increasing to 10% and 15% of GGE
External funding	Constant in real terms	Expected gradual (relative) disengagement from donors	None
NHIF revenue	Slow increase (4% on average)	Given level of poverty, most funding for NHI is likely to come from the budget	Higher where NHI is already in place (Kenya and Tanzania)
Health OOP	3.35%	Elasticity in Sub-Saharan Africa ~ 0.67	None
Private insurance	6%	Elasticity in Sub-Saharan Africa ~ 1.2	None
IGR/user fees	Constant as % of GHE	UHC is supposed to increase financial protection, and households already pay the larger part of THE	None
Inflation	Constant prices but 2% healthcare inflation	Healthcare prices tend to increase faster than general prices	None
Population coverage	+ 35% (2% /year) over baseline for both UHC and HIV	A conservative and more realistic assumption than countries’ ambitious plans	Three scenarios: 25%, 50%, 100%
PLWH (number)	Gradual increase reported in OHT and literature (0.6%)	Population growth, longer life expectancy	None
ART cost	Similar to OHT projection	Healthcare inflation of 2%, slight increase in ARV share	None
MHBP costs	6.6% on average	Population growth + coverage growth + healthcare inflation	None
Non-MHBP costs	4.5% on average	Slower than MHBP because MHBP is prioritized	None
System costs	80% of UHC cost increase	Economies of scale, no inflation	None

Annex 4.3: Elasticities in References

An estimation by the authors of health expenditure elasticities relative to GDP in the four case countries and Sub-Saharan Africa was based on the WHO data (Global Health Expenditure database) and compared the average spending over 5 years between 1995-1999 and 2009-2013, using values in constant USD. The resulting estimates, summarized in Table A2.1 are broadly consistent with those encountered in previous studies.

The elasticity estimate findings indicate that income elasticities vary substantially across countries within the same period and across time for the same country, and depend on the estimation method and specification.

Total Health Expenditure (THE) tends to have elasticities smaller than 1 on average, although Kenya and Nigeria show values greater than 1 (i.e., THE increases faster than GDP). But the behavior of its components varies widely.

Government health expenditures (GHE) (public funds only) has generally higher elasticity than THE, indicating that as income increases government spending on health tends to increase more than proportionally.

National or Social Health Insurance, usually has elasticities greater than 1 and greater than THE or GHE.

A comparison across periods show that when SSF or External Funding increase a lot, governments (GHE) tend to reduce their investment on health, which suggests some crowding out of public funding when other sources are available.

- Except for Cote d'Ivoire and Kenya, External funding was shown to be inelastic (elasticity smaller than 1) over the period 2005-2014, but it had been quite high in the previous decade, when the Global Fund, GAVI and international foundations were established as important donors.
- Similarly, Private Health Insurance (PHI) spending tends to increase faster than GDP, and much faster than Out-of-Pocket payments (OOP).

OOP, in turn, has usually an elasticity below 1 and the smallest of other sources, indicating that as income increases, OOP payments tend to migrate toward health insurance schemes (public or private) or be substituted by government spending.

The average elasticities for Sub-Saharan Africa were used for projecting private health expenditure in the four countries over the next 15 years, under the base scenario. The assumption underlying this choice was that the four countries will converge to the regional averages.

Table 1: Income Elasticities of spending estimated for Sub-Saharan African

Spending category when Income (GDP) changes	Income elasticities of spending (Study Authors) for Sub-Saharan African Using 2010-2014 data (a)	Income elasticities of spending (Fleisher, 2014) for Sub-Saharan Africa using 1995-2010 data (b)
THE	0.91	1.11
GHE	1.34	1.17
OOP	0.67	1.00
External Financing		1.75
Social health insurance (and other social security)	0.74	
Private health insurance	1.19	
GGE		1.06
Government revenue		1.19
	Expenditure elasticities on spending	Expenditure elasticities on spending
GHE changes due to GGE changing		1.092
GHE changes due to Government revenue changing		0.963
GHE shares of GGE changing due to GGE as share of GDP changing		0.011
GHE shares of GGE changing due to Govt revenue as share of GDP changing		0.009

Source: (a) Author estimates; (b) Fleisher (2014)

Table 2: Elasticities of Health Spending by Income and Region, 1995-2010, Using 1995 Cohort Approach

Income class	Income elasticity of total health spending	Income elasticity of government health spending	Income elasticity of government health share (percentage points)	Income elasticity of OOP spending	Income elasticity of external spending	Income elasticity of government expenditure	Income elasticity of government revenues	Government expenditure elasticity of government health expenditure	Expenditure elasticity of government health share (percentage points)	Revenue elasticity of government health expenditure	Revenue elasticity of government health share (percentage points)	Number of countries
Low	1.086	1.137	0.007	0.996	1.568	0.851	0.991	1.067	0.008	0.981	0.007	54
Lower-middle	1.124	1.167	0.015	1.067	1.320	1.085	1.170	1.058	0.006	0.984	0.004	63
Upper-middle	1.120	1.136	0.004	1.105	0.786	1.054	1.110	1.028	0.002	1.046	0.004	28
High	1.135	1.134	0.039	1.093	0.000	1.072	1.062	1.317	0.050	1.206	0.048	29
<i>Region</i>												
East Asia & Pacific	1.123	1.122	0.029	0.947	1.840	1.005	1.153	1.041	0.015	0.943	0.015	27
Europe & Central Asia	1.179	1.191	0.027	1.194	1.093	0.991	1.015	1.285	0.042	1.228	0.039	45
Latin America & Caribbean	1.115	1.135	-0.003	1.050	0.699	1.049	1.057	1.038	-0.006	1.033	-0.005	33
Middle East & North Africa	1.011	1.063	0.011	0.954	1.040	0.996	1.120	1.011	0.007	0.902	0.007	19
North America	1.355	1.407	0.069	1.117	0.000	0.830	0.834	1.515	0.083	1.522	0.088	2
South Asia	0.996	1.103	0.006	0.889	1.088	1.000	0.963	1.042	0.003	1.067	0.003	7
Sub-Saharan Africa	1.111	1.173	0.013	1.001	1.751	1.058	1.187	1.092	0.011	0.963	0.009	42
Total	1.118	1.152	0.016	1.043	1.398	1.113	1.020	1.113	0.016	1.044	0.015	177

Source: Fleisher et al., 2014.

Notes: (i) Income categories based on 1995 classifications. (ii) The government health share is defined as the share of total government spending allocated towards health. This uses the “unconditional mean” approach as outlined by the authors.

Table 3: Comparative elasticities for different health expenditure aggregates to GDP, 2005-2014

	Cote d'Ivoire	Kenya	Nigeria	Tanzania	Sub-Saharan Africa	LMIC
GHE total*	1.40	1.92	1.13	0.53	1.01	0.93
GHE public*	1.97	NA	NA	1.00	1.34	1.59
SHI/NHI	2.09	1.36	NA	NA	0.74	2.17
External	2.42	1.24	0.94	0.87	0.06	-0.03
OOP	2.42	1.24	0.94	-0.15	0.67	0.82
Private insurance	2.09	2.92	1.49	NA	1.19	1.32
NPIs, etc.	1.14	-1.17	NA	1.69	0.29	0.13
THE	0.95	1.37	1.09	0.56	0.91	0.80

Source: Authors elaboration based on WHO Global Health Expenditure database. *GHE with public funds excludes external funding and National Health Insurance schemes that are often included in GHE estimates. GHE= Government Health Expenditure; SHI/NHI= Social/National Health Insurance; OOP= Out-of-Pocket expenditure; NPI= Non-Profit/Non-Government Institutions; THE= Total Health Expenditure.

Annex 5.1: Proposed List of Interventions Contained for Universal Health Care by Selected Countries

Table 1: Kenya Proposed MHBP

Domain	Group	Intervention
MDGs	Immunization	Rotavirus vaccine
		Measles vaccine
		Measles vaccine national campaign
		Pneumococcal vaccine
		Polio vaccine
		Polio vaccine national campaign
		BCG vaccine
		HPV vaccine
		Pentavalent vaccine
		Typhoid vaccine
		Yellow fever vaccine
	Anti- rabies vaccine	
	Anti-snake venom (ASV) vaccine	
Hep-B vaccine to prevent liver cancer		
Maternal and reproductive health	Maternal and reproductive health	Family planning (pill, condom, injectable, IUD, Implant, female sterilization, male sterilization)
		Abortion care
		Post-abortion case management
		Pregnancy care
		Ectopic case management
		Tetanus toxoid (pregnant women)
		Syphilis detection and treatment (pregnant women)
		Basic ANC
		Hypertensive disease case management
		Management of pre-eclampsia (Magnesium sulphate)
		Management of other pregnancy complications (ANAEMIA)
		Deworming (pregnant women)
Childbirth care	Childbirth care	Childbirth care
		Labor and delivery management
		Active management of the 3rd stage of labor
		Pre-referral management of labor complications
		Management of eclampsia (Magnesium sulphate)
		Neonatal resuscitation (institutional)
		Management of obstructed labor
		Treatment of local infections (Newborn)
		Kangaroo mother care
		Feeding counselling and support for low-birth-weight infants
		Clean practices and immediate essential newborn care (home)
		Antenatal corticosteroids for preterm labor
Antibiotics for pPRoM		
Induction of labor (beyond 41 weeks)		
Postpartum care	Postpartum care	Postpartum care
		Maternal Sepsis case management
		Newborn sepsis - Full supportive care
		Newborn sepsis - Injectable antibiotics
		Preventive postnatal care
		Mastitis
Treatment of postpartum hemorrhage		
Other reproductive health	Other reproductive health	Other reproductive health
		Treatment of urinary tract infection (UTI)
		Cervical cancer screening
		Clinical breast examination
Child health	Child health	Identification and management of infertility
		Community Based Growth Monitoring and Promotion
		Children with no or some hydration treated with ORS
		Children with no or some hydration treated with Zinc
		Dysentery (with dehydration) treated with antibiotics
		Severe dehydration treated with ORS and fluids
		Pneumonia treatment (children)
Treatment of severe pneumonia		
Malaria treatment (children)		

Domain	Group	Intervention
		Treatment of severe malaria (children) Vitamin A for measles treatment (children) Treatment of severe measles
	Malaria	LLIN IRS IPT (pregnant women) Malaria treatment (adults) Rapid Diagnosis Toolkit Microscopy
	TB	Leprosy case detection and treatment Active Case Finding for TB First-line treatment for retreatment patients First-line treatment for new TB patients MDR notification among new patients MDR notification among previously treated patients Case management of MDR cases Screen HIV+ cases for TB Isoniazid Preventive Therapy for HIV+ no TB
	Nutrition	Breastfeeding counselling and support Care for women with low BMI (under 18.5) Promotion of Optimal Infant and Young Child Feeding Practices (Complimentary feeding) Supplementation (Folic acid + ferrous sulphate, multivitamins) Management Severe Acute Malnutrition in children 0-59 months) Management of Moderate Acute Malnutrition in children 0-59 months Management of Moderate Acute Malnutrition in pregnant and lactating women Vitamin A Supplementation Screening for malnutrition, skin diseases, anemia Micronutrient Supplementation (MNPs)
HIV	HIV	Prevention PMTCT for mothers PMTCT for infants Post-exposure prophylaxis Post Rape Care (PRC) VMMC Condoms for general population MSM (lubricants) FSW (female condoms) FSW (lubricants) NSP for IDUs MAT for IDUs HTC Care and treatment Adult ART (15+) Pediatric ART (0-14) Laboratory and diagnostics: CD4 Laboratory and diagnostics: Viral load Laboratory and diagnostics: Hematology Laboratory and diagnostics: Chemistry Drug resistant testing for HIV Universal prophylaxis for adults Universal prophylaxis for children Opportunistic infections (adults in care) Opportunistic infections (children in care) Home and community based care (HCBC) STI/RTI Syndromic management of STI and/or RTI HIV nutrition Exclusive Replacement Feeding (infant formula) Nutritional Supplements for HIV+ children Therapeutic Foods for Severely Malnourished HIV+ Children Nutritional Supplements for HIV+ Adults Therapeutic Foods for Severely Malnourished HIV+ Adults Nutrition Supplements for HIV+ Pregnant/Lactating Women Therapeutic Foods for Severely Malnourished HIV+ pregnant and lactating women
NCD and others	Oral health	Extractions Surgical Disimpactions Scaling Minor Oral Surgery

Domain	Group	Intervention
		Pulpotomy/Pulpectomy MMF/Splinting Dry Sockets Fillings Dentures Partial Dentures Orthodontic Appliance
	Mental health	Psychiatric out-patient In-patient (General Wards)
	NCD	Management of Cardiovascular Disease (CVD) Follow-up care for those at low risk of CVD/diabetes (absolute risk: 10-20%) Treatment for those with very high cholesterol but low absolute risk of CVD/diabetes (< 20%) Treatment for those with high blood pressure but low absolute risk of CVD/diabetes (< 20%) Treatment for those with absolute risk of CVD/diabetes 20-30% Treatment for those with high absolute risk of CVD/diabetes (>30%) Treatment of new cases of acute myocardial infarction (AMI) with aspirin Treatment of cases with established ischemic heart disease (IHD) and post MI Treatment for those with established cerebrovascular disease and post stroke Treatment of cases with rheumatic heart disease (with benzathine penicillin) NCD Management (except CVD) Management of Cancer Management of Diabetes and other Endocrinology Conditions Management of Neurological Conditions like Epilepsy Management of Chronic Respiratory Conditions Annual Prostate Examination for All Men Over 50 Years Screening for risk of CVD/diabetes
	NTD	Mass drug administration (MDA) Lymphatic filariasis control and treatment (MDA) Schistosomiasis control and treatment (MDA) Soil-Transmitted Helminthiasis (STH) control and treatment (MDA) Blinding trachoma control and treatment (MDA)
		Case management LF Hydrocele Surgery LF lymphedema management Trachoma trichiasis (TT) surgery
	Environmental health	Water Source Protection in the Community Use of Water Treatment at Point of Use Vector/Vermin Control Water Quality Testing, safety and surveillance
	Internal medicine	Management of other communicable conditions ENT conditions Management of skin conditions Management of Muscular Skeletal Conditions
	Emergency and trauma care	Emergency and trauma care Burns Emergency trauma care Blood transfusion Screening of donor blood

Complete list of interventions contained in Kenya's MHBP for UHC *

Table 2: Cote d'Ivoire Proposed MHBP

The country is considering column (2) non-HIV/AIDS interventions to be included in their MHBP. However, by including column (3) HIV/AIDS interventions, and if adequate resources are mobilized, they could benefit from efficiency gain.

Type of Health Care	Non-HIV/AIDS Interventions	HIV/AIDS Interventions
Maternal/newborn and reproductive health	Pregnancy care – ANC Tetanus toxoid Basic ANC Labor and delivery Labor and delivery management Management of obstructed labor Feeding counseling/support for LBW infants Childbirth care for home births Postnatal care Other reproductive health care Treatment of STIs Family planning methods Post abortion case mngt	PMTCT
Child Health	Vaccinations Curative Care Diarrhea management Pneumonia treatment Malaria treatment Vitamin A for measles treatment Severe measles treatment	Prevention Youth focused interventions – in school Care and treatment Pediatric ART Cotrimoxazole for children
Adult Health		Prevention Mass media Community mobilization Workplace programs Blood safety IDU-outreach Female and male sex workers Condom distribution Treatment Adult ART Management of opportunistic infections Screen HIV+ cases for TB ART for TB HIV+ patients
Malaria	Prevention/Treatment Insecticide treated nets Treatment for adults and pregnant women	
Tuberculosis	Diagnosis and Treatment Microscopy First-line TB drugs MDR and XDR TB Treatment Patient support HIV testing and counseling	HIV prevention for TB patients
Nutrition	Nutritional care and support HIV+ pregnant and lactating women Care for adults with low BMI Counseling, fortification and supplementation for children	

Type of Health Care	Non-HIV/AIDS Interventions	HIV/AIDS Interventions
Non-communicable diseases	Prevention and Control Screening for risk of CVD/diabetes Oral care and cancer Respiratory disease- control of asthma Average annual emergency care needs	

Table 3: Tanzania proposed MHBP

Preferred level of care	National Health Policy	NPEHI 2000, NEHCIP 2013	OPM MBP, 2013
Primary Health Care (District-level facilities)	MCH & reproductive health, Occupational health, "Curative Care", Medicines, Traditional medicine, Diagnostics	1) Maternal care, ANC, ObGyn care, Postnatal care, Family planning, IMCI (ARI, Diarrhea, Immunization, Nutritional care 2) Communicable Disease Treatment & Control - Malaria, TB/Leprosy, HIV/AIDS/STD, Epidemics & Neglected Tropical Diseases (Cholera, Measles Meningitis, Shistosomiasis)	1) General outpatient services, diagnostic services, essential medicines 2) Maternal, newborn and child health, adolescent sexual and reproductive health, PMTCT, IMCI, EPI and Nutrition 3) CDs: Malaria, Tb, STI, HIV/AIDS, Lymphatic filariasis, Leprosy, Schistosomiasis, Helminthiases
Secondary/Hospital care (Regional Hospitals)	NCD treatment, "Curative Care", Blood Transfusion, Mental Health, Diagnostics	3) NCD control for Cardiovascular diseases, Diabetes, Neoplasms (screening, Injuries /Trauma, Mental Disorders, Anaemia & Nutritional deficiencies, Substance abuse, Congenital diseases 4) Treatment of other common diseases (Eye, Ear & Skin diseases, Oral conditions) 5) Emergency preparedness & Response	4) Specialist outpatient and inpatient care, diagnostic services, essential prescribed medicines 5) NCDs: Diabetes, Injuries and disabilities, Eye care, Oral Health 6) Emergencies (traffic accidents, medical, surgical, pediatric, obstetric and gynecological)
Public health	Communicable Disease Control, Promotion of healthy lifestyles, Health education and advocacy, Health Surveillance, Environmental health	4) Information, Education & Communication, School health, 5) Water hygiene & sanitation (WASH), Environmental Health 6) Pharmaceuticals, food	??
HIV/AIDs	Not explicitly included	Included	Included
Community		5) Community Health Promotion and Disease Prevention	??
Tertiary care (Referral Hospitals)	"Curative Care"? Cells and genome, Diagnostics?	?	None

Annex 5.2: National Health Accounts Comparisons

Table 1: Discrepancies for NHA aggregates across sources, 2012–14

Aggregate	Source	Cote d'Ivoire	Kenya	Tanzania	Nasarawa State /Nigeria
GGE % GDP	IMF	22.39	24.88	19.32	8.35 / 14.77
GHE % GDP	Authors	2.48	3.42	3.77	1.99 / ??
THE % GDP	NHA latest	5.59	6.80/4.95	5.08	? / 6.76
	WHO avg	6.50	4.44	6.96	? / 3.69
GHE % GDP	NHA latest	1.62	1.94	1.97	? / 1.86
	WHO avg	1.85	1.82	2.90	? / 1.06
GHE own % GDP (excludes external financing)	NHA latest	1.13	1.59	1.07	1.26 / 0.87
	WHO avg	1.19	1.40	1.44	? / 0.85
EXT % GDP	NHA latest	0.47	1.26	2.18	? / 0.49
	WHO avg	0.59	1.87	2.71	? / 0.21
PHE % GDP	NHA latest	3.94	1.89	1.61	? / 5.01
	WHO avg	4.24	2.52	3.86	? / 2.63
OOP % GDP	NHA latest	3.24	1.29	1.37	? / 4.75
	WHO avg	3.60	2.00	2.08	? / 2.51

Sources: Countries latest full NHA (Cote d'Ivoire 2013, Kenya 2012-13, Tanzania 2012-13, Nigeria 2006-09); WHO Health Expenditure database (2013-14), World Bank WDI database (2013-14).

Annex 5.3: HIV/AIDS Spending

Significant amounts have been spent on HIV/AIDS. Public spending for HIV/AIDS (as share of total public health spending) is anywhere between less than 3% of health spending in Nigeria to over 30% of health spending in Kenya. Understanding how much is spent for HIV in each country has been a challenge, given limited and fragmented database that comprehensively collects HIV spending from public sector, external financing and households. Three of the four countries had NHA sub-accounts on HIV/AIDS. However, given the high reliance on external financing for HIV, since the introduction of global health funds and other bilateral grant supports (e.g. PEPFAR), few countries have made their own commitment to mobilize more stable and sustainable financing for HIV/AIDS. Several resources currently in the country for HIV/AIDS are off-budget.

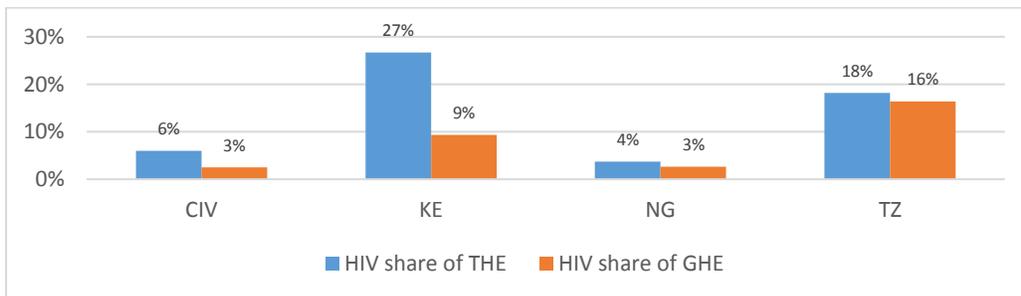
A significant share of the GDP goes towards HIV/AIDS spending in Tanzania and Kenya. The NHA Subaccounts reported HIV total spending as share of GDP to be: Kenya was 1.5% of GDP, Tanzania was 1% of GDP, Cote d'Ivoire was 0.4% of GDP, and Nigeria was 0.1% of GDP (2012/13). A significant share of THE is allocated for HIV. While Kenya allocates over one-fourth of THE, and Tanzania one-fifth of THE, both Cote d'Ivoire and Nigeria – LMICs – allocate much lower shares (lower than 5%).

Yet the DIPIs of Cote d'Ivoire and Nigeria are low, suggesting that their HIV prevalence and income, they should be more committed to allocate domestic financing for health. Domestic resource commitment for HIV public spending however varies significantly between the countries: Cote d'Ivoire and Nigeria consistently spent below 5% of public health spending (GHE), while Tanzania and Kenya spent higher shares (an average above 10%). While Tanzania shows national commitment for domestic spending for HIV, followed by Kenya, the other two countries (Nigeria and Cote d'Ivoire) show less national commitment.

However, there is a significant dependence on external financing for HIV/AIDS. For all four case study countries, HIV/AIDS programs have been primarily financed by DAH, and over time, domestic financing share has been declining. A significant share is however allocated by external financing sources: Over 80% for Tanzania, Cote d'Ivoire and Nigeria, with the exception of Kenya (72%). Out-of-pocket share is highest in Kenya relative to the other countries. With the falling commitments from DAH, this pattern will have to reverse in favor of domestic spending in the near- to medium-term.

However, the question under discussion is how much global commitment will continue to be sought for HIV, until when, and in what areas?

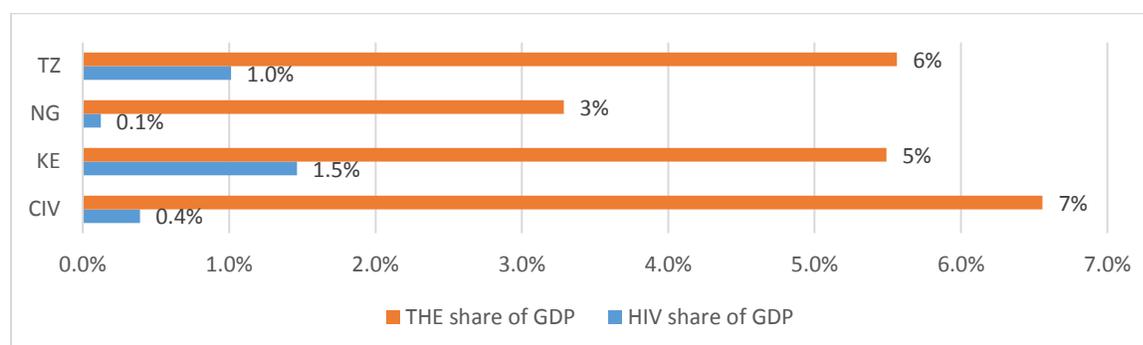
Figure 1: HIV/AIDS spending as share of public and total health spending, 2012-2013



Source: UNAIDS: NASA, 2016

Note: This data excludes household out of spending for HIV. When that is considered, per capita PLWH spending may be higher in each country.

Figure 2: HIV/AIDS and total health expenditure (THE) spending as share of GDP, 2012-13



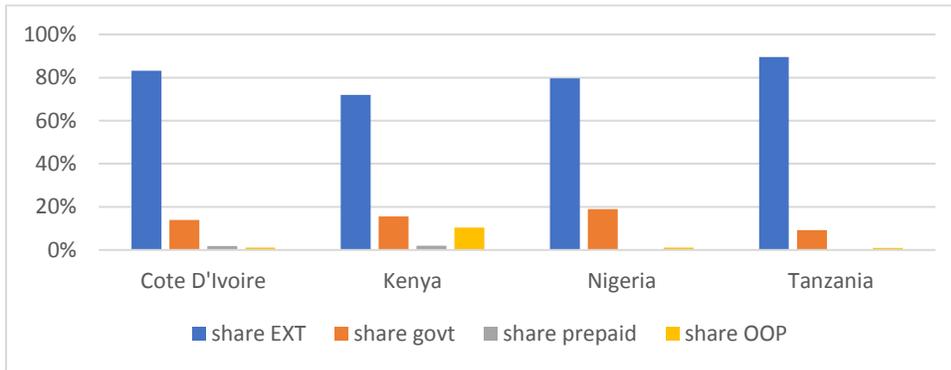
Source: For HIV spending - NHA subaccounts (for Kenya, Tanzania and Cote d'Ivoire); UNAIDS (Nigeria); Here
Note: THE includes HIV spending.

The comparison of the cost (and expenditure) composition of HIV/AIDS expenditure across the four countries is made difficult by the fact that there are no standard expenditure items within the OHT program. The details of HIV/AIDS spending by OHT were not available by program or intervention, so the researchers looked at the NASA country surveys. The pattern observed varies substantially across countries. The major differences across the case countries (from the NASA database) are in the “Program Management and Others & Unallocated” categories⁶¹, which suggest an issue of (mis)classification may be contributing to these variations. However, the proportion between preventive and curative services also varies, with Cote d'Ivoire and Kenya showing the largest proportion of curative services relative to preventive services. A significant share of Cote d'Ivoire HIV spending goes towards ART and Management. The largest share of Kenya HIV spending also goes towards ART, but their share going towards management is not as high as that by Cote d'Ivoire. Management costs can be streamlined through various efficiency measurements, including through integrated care. While, Nigeria, spends much on human resources and ART. Tanzania clearly targets their program and a significant share (almost 40%) of the HIV spending towards special groups (NASA). The Tanzania NMSF suggests that a significant share of their HIV spending goes towards ART, followed by health education and health systems costs. Different sources of information provide different information, and could be a result of limited (or selected) information used by each of these databases.

The IHME (2017) database has used several sources of information and have come up with their own conclusions. They show that HIV/AIDS programs in all the four countries are financed primarily through external financing. Nigeria also allocates a higher share of HIV/AIDS program financing through budget (almost of HIV/AIDS spending comes from budget), relative to the other countries. Additionally, all countries spend more of their HIV/AIDS spending treatment costs, Kenya spends the largest share compared to the other countries. While, Tanzania spends a significant share (30%) on preventive care as compared to the other countries.

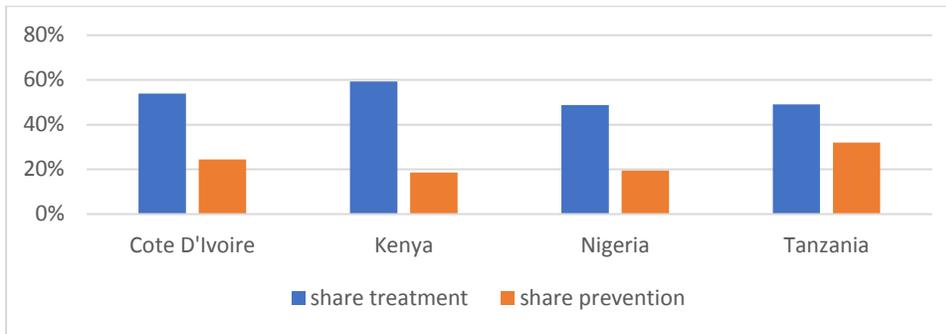
⁶¹ The Others & Unallocated category includes human resources, social protection and social services, enabling environment and research activities.

Figure 3: Sources of Financing for HIV spending, 2015



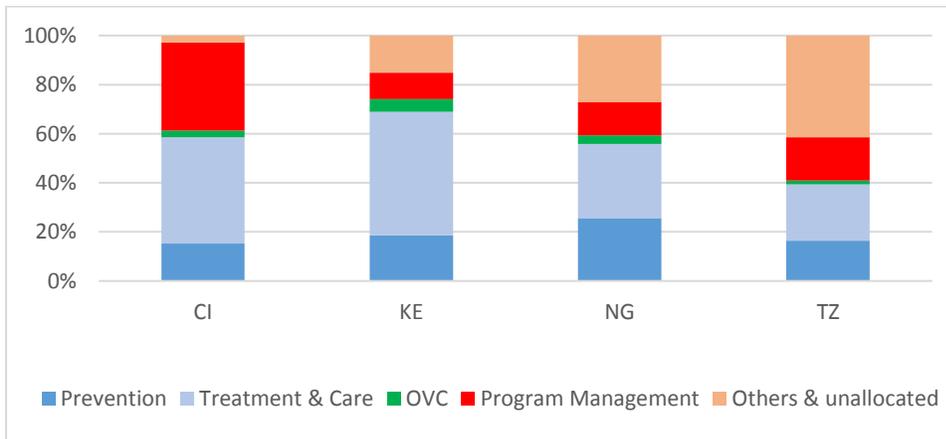
Source IHME, 2017.

Figure 4: HIV expenditure share: treatment versus prevention, 2015



Source: IHME, 2017

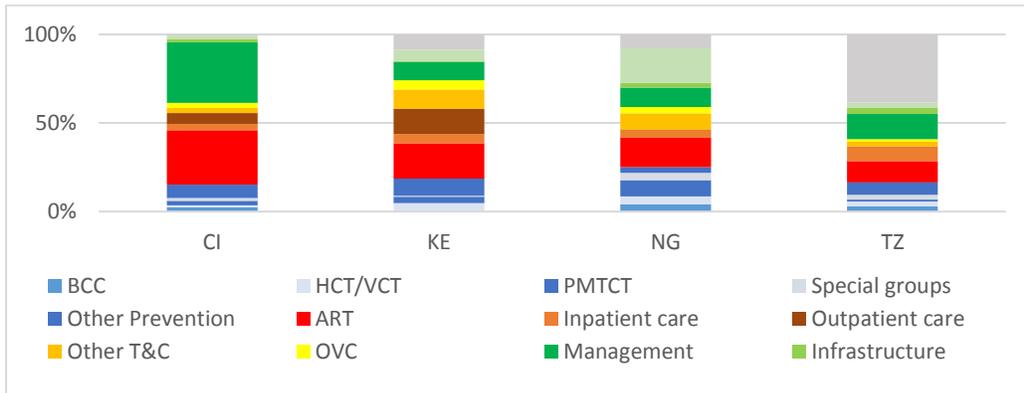
Figure 5: Composition by major categories of HIV/AIDS expenditure in the four case countries, most recent (2011 to 2014)



Source: NASA surveys.

Note: Nigeria figures are shown in place of Nasarawa State, for which figures by categories were not available.

Figure 6: HIV/AIDS allocation to main activities



Source: NASA surveys, 2012/13

Figure 7: Tanzania, NMSF

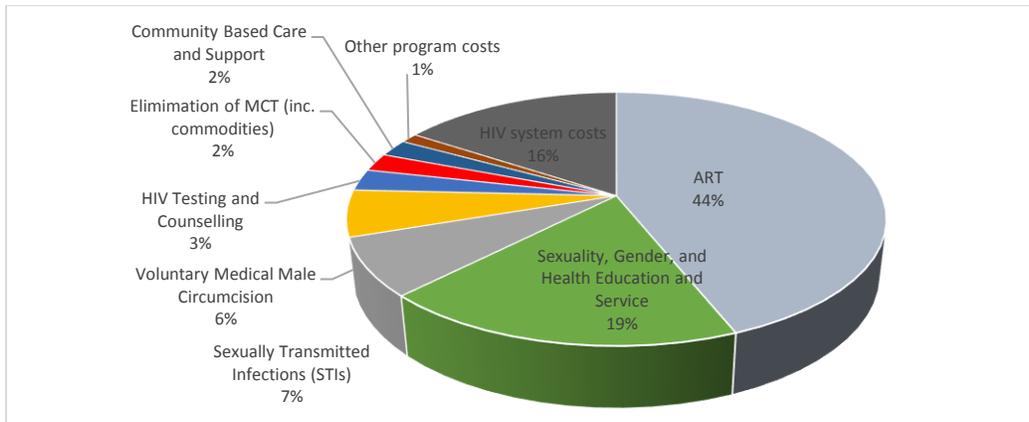
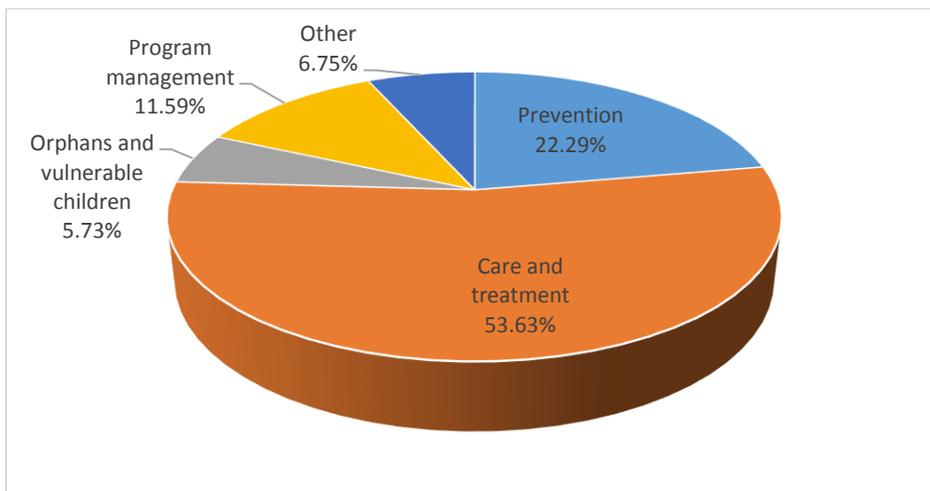


Figure 8: Kenya, Haacker



Annex 6.1: Fiscal Capacity

Fiscal capacity is ‘the amount of funds going into government revenues as a share of GDP’ and relative prioritization is ‘government allocations for health care relative to other sectors.’ Kenya demonstrates having the fiscal capacity (their GGE share of GDP is above average of the other countries of similar income), while none of the other three countries have the fiscal capacity. Nigeria is a special case of very weak fiscal capacity. Although all the four case study countries have committed on paper to UHC, that commitment has not been realized in practice, especially when it comes to budgetary commitments.

Among the four case study countries, Kenya and Tanzania show commitment for health (public spending in health is above the average for countries of similar income). This is manifested in that even though public spending in health as share of GDP is low in both countries, when combined with on-budget external financing, they show health spending to be above the other countries of similar income.

Revenue collection

One major concern in developing countries has been low government revenue stability. This low revenue collection is a result of (1) a lack of comprehensive and long-term view on revenue collection policies (e.g. Nigeria); (2) weak enforcement systems for revenue collection; (3) high levels of tax exemptions offered to various subgroups for different incentives (e.g. Tanzania); and (4) significant leakage of revenues collected. Oil and mineral rich countries are also affected by exogenous factors, such as recently experienced by Nigeria, which is an oil exporting country.⁶² Cote d’Ivoire exports its cocoa, and it has faced less vulnerability in recent years (2013-2015) as cocoa demand and prices have remained favorable. All these factors collectively can set a very low base and unstable general revenue in the country.

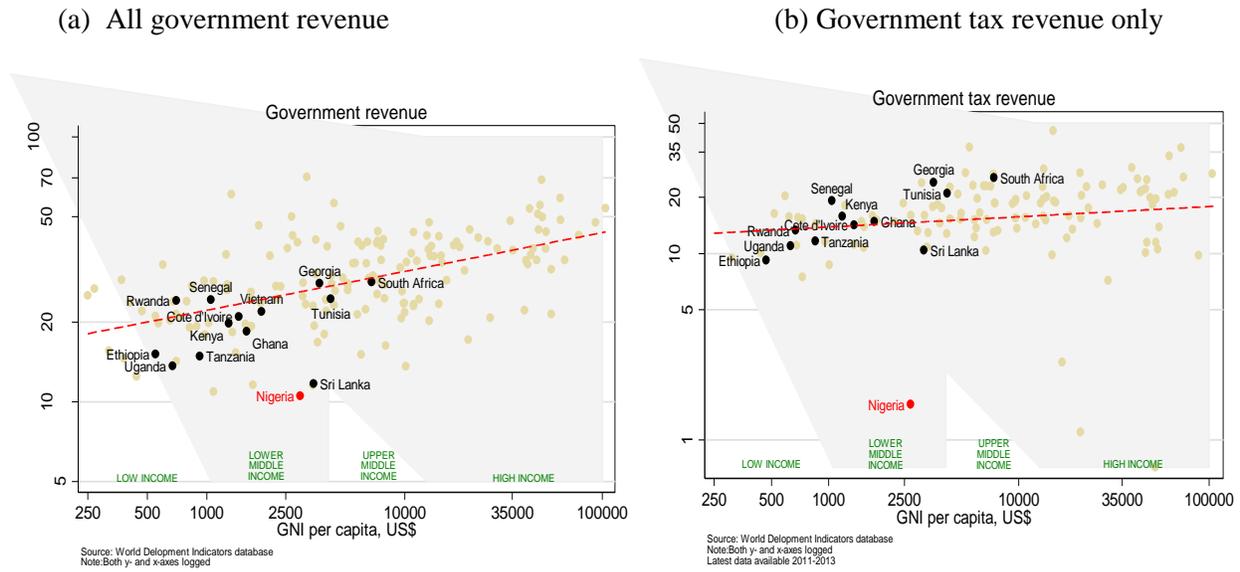
All of the case study countries have low revenue collection as share of GDP. Their levels are below average for countries with similar income levels, and below the Sub-Saharan Africa average (24%, 2014). For 2013, Nigeria reported its revenue at about 11% of GDP, while Cote d’Ivoire⁶³, Kenya and Tanzania reported it around 18-20% of GDP (WDI, 2015⁶⁴). Figure 1.

⁶² The World Bank. 2014. Nigeria: Economic Report.

⁶³ The government of Cote d’Ivoire obtains 85% of its revenue through taxes and 3% from grants. It currently has a complicated tax structure with 62 taxes but is undergoing tax reform to improve its administration of taxes (IMF 2014).

⁶⁴ <http://wdi.worldbank.org/table/4.12>

Figure 1: General government revenue as share of GDP by per capita GDP, 2013



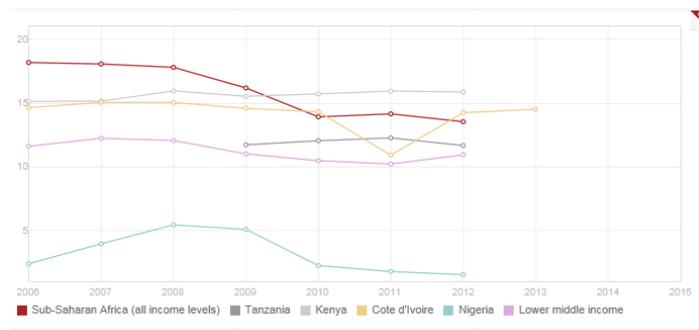
Source: International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates. World Development Indicators, World Bank, 2015.

Note: Revenue is cash receipts from taxes, social contributions, and other revenues such as fines, fees, rent, and income from property or sales. Grants are also considered as revenue but are excluded here.

Note: Figure horizontal axis is logged.

The tax revenue collection situation is worth particular consideration. All of the case study countries have low tax revenue collection rates (the Sub-Saharan Africa regional average was 14% in 2012), with Nigeria being among the worst. Tax revenue collection, excluding grants, shows mixed results. The rate in Cote d'Ivoire is the highest in the group at 17.5% of GDP in 2012, while Kenya and Tanzania trailed close behind (15.8%). Tax revenue as a share of GDP has been significantly lower in Nigeria (3.4% in 2013/14 having declined from 5% of GDP in 2008). The foremost tax revenue for Cote d'Ivoire came from trade revenue and goods and services taxes. For Kenya and Tanzania, income taxes (generally a progressive tax) and value added taxes (VAT – can be considered a regressive tax) have been key, and for Nigeria, excise is the foremost tax revenue earner. Excise taxes can also be considered regressive or proportional since everyone is taxed at the same rate. Figures 2 to 5.

Figure 2: Tax revenue as share of GDP, 2006-12

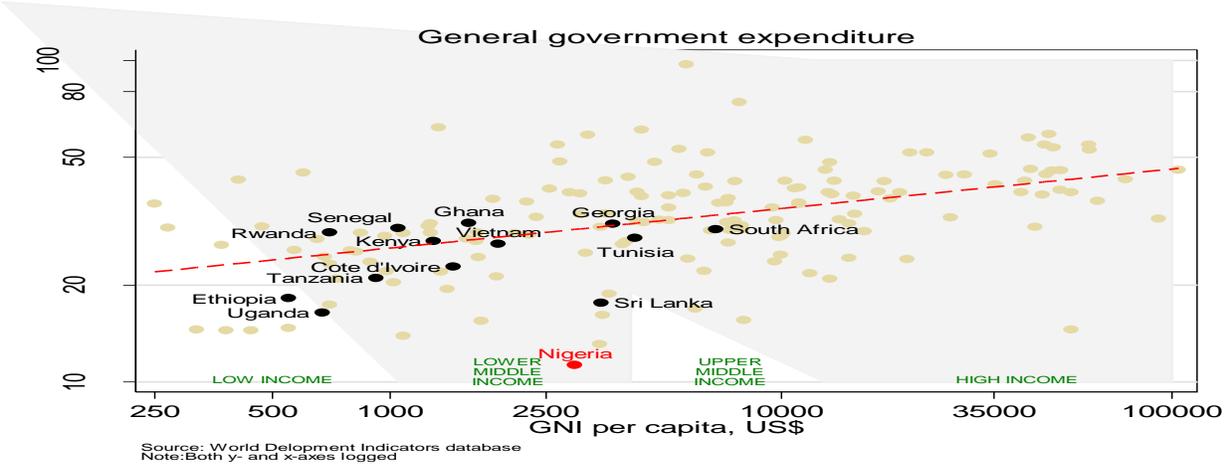


Efficiency gains are seen as among the priority policy for improving tax collection. All three case study countries, Tanzania, Kenya, and Cote d'Ivoire, are aiming to improve tax revenue collection through reducing exemptions, increasing rates, and improving tax collection management. They expect to reach overall revenue of around 20% of GDP in the near term. Nigeria remains a challenge in the near term.

Government expenses

Total government expenditure has been low in several Sub-Saharan Africa countries. The average government expenditure as share of GDP in Sub-Saharan Africa is 23% (WDI, 2015). Of the three countries within the study, except for Kenya, all have relatively low government expenditure as share of GDP, ranging between 10% in Nigeria to 25% in Kenya (WDI, 2015). Cote d'Ivoire and Tanzania are not too far behind: they are still above 20% of GDP, but below the global average. In Nasarawa State in Nigeria, the proportion of GGE over GDP was estimated at 8.6% in recent years (of which 7.1% came from the state's budget and 1.5% from the LGAs budget), however, lower than the national level for Nigeria. Budget deficit was the highest in Tanzania (-5.3% of GDP in 2012), and the lowest in Nigeria (-1.3% of GDP in 2012). The analysis for this study suggests that besides Kenya, fiscal capacity remains low, and especially in Nigeria. While over time Kenya is projected to be closing the gap between revenue and expenditures, in Tanzania the gap will remain large in the medium term. Figures 3.

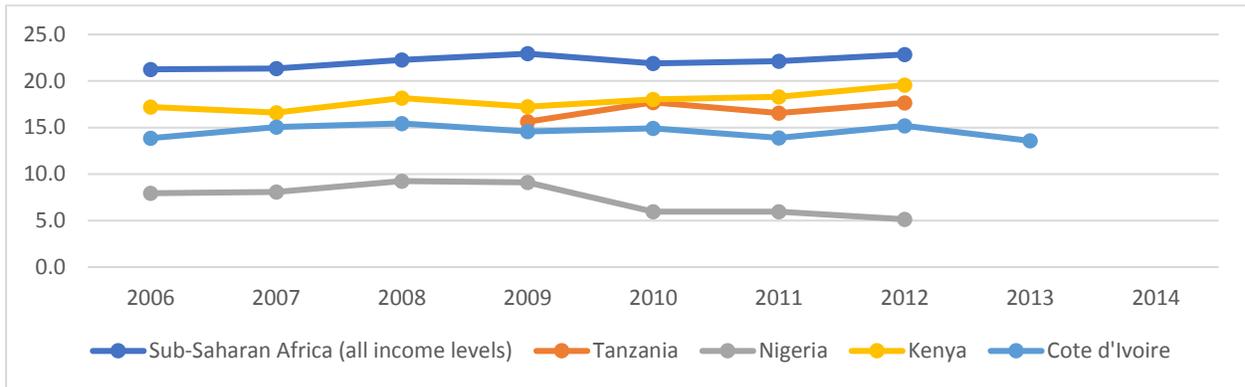
Figure 3: General government expenditure as share of GDP, by income per capita, 2013



Source: Source: International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates. World Development Indicators, World Bank, 2015.

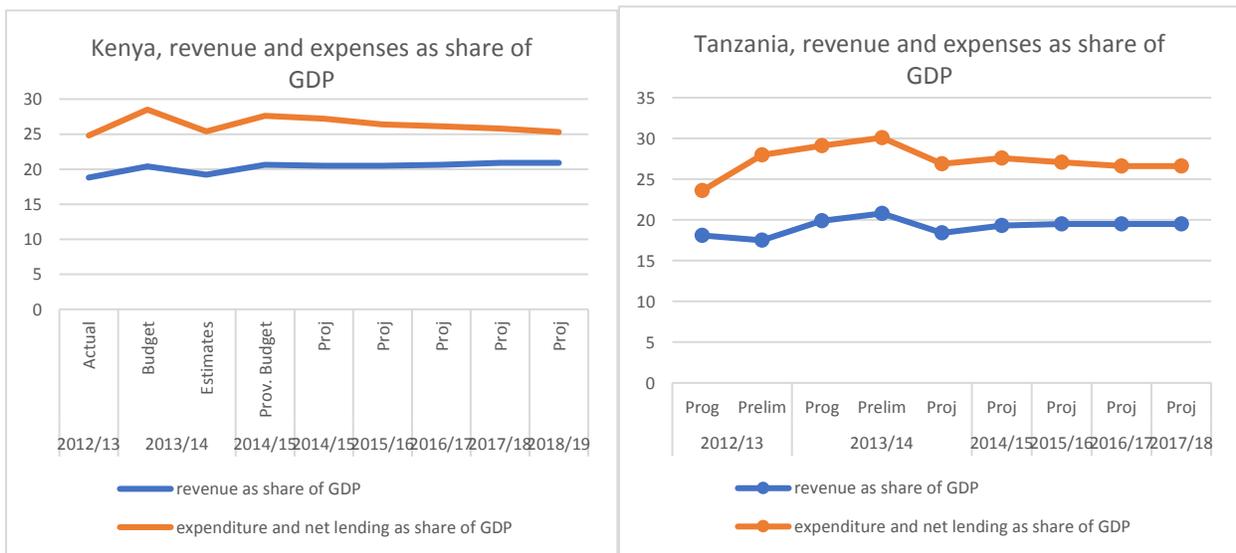
Note: Expense is cash payments for operating activities of the government in providing goods and services. It includes compensation of employees (such as wages and salaries), interest and subsidies, grants, social benefits, and other expenses such as rent and dividends. Note: Figure horizontal axis is logged.

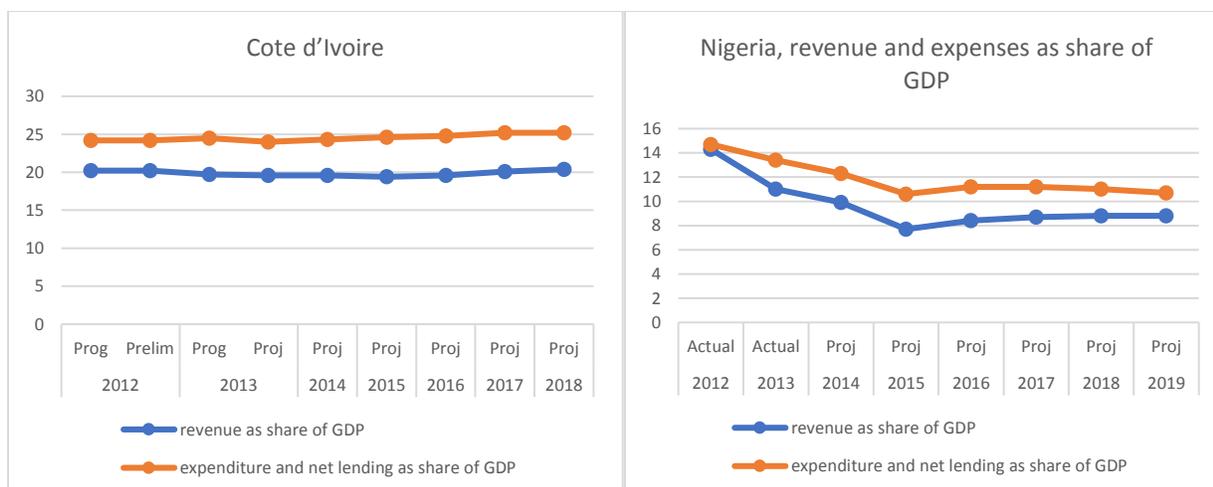
Figure 4: Expenses as share of GDP, 2006-2013



Source: <http://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS/countries/ZG-TZ-KE-CI-NG-XN?display=graph>

Figure 5: Government Expenditure as share of GDP, projections





Source: IMF, Article IV, 2014

In Cote d'Ivoire, investment is viewed as the driving force for expansion. The draft 2015 budget on the spending side includes an increase in the wage bill, subsidies for the electricity sector, further increases in public investment in infrastructure, and a modest subsidy to the Health Insurance system, which is expected to start operations from January 2015—contributing to an overall deficit of 3.4-3.5 percent of GDP (IMF, 2013, Article IV, 2013).

In Kenya, even with the recent GDP rebasing, the size and trend of fiscal indicators remain big concerns. The government's commitment to fiscal discipline is proving to be a challenge. Tax revenues have been rising, but increased spending has made narrowing of both the overall fiscal deficit and the primary balance, difficult. Large increases in government spending relative to revenue were fueled mainly by expenditures associated with devolution, constitutional offices, and the infrastructure necessary for high sustainable growth. Past fiscal spending led to growth spurts—but it also increased the fiscal deficit and public debt. These episodes raise the question of whether the growth Kenya has experienced is organic (and therefore sustainable) or fiscally propelled (and therefore unsustainable). (IMF, 2014 Article IV, 2014).

In Tanzania, growth has been driven by services, construction and low-technology manufacturing; labor intensive agriculture has lagged resulting in a persistently high unemployment and underemployment. Priority areas identified by the authorities include infrastructure, education, health, and essential social services. Meanwhile, a declining trend in grants has made deficit reduction more challenging. Enhancing the efficiency is among the key priorities for Tanzania: Weaknesses in public financial management undermine the quality and timeliness of fiscal data available to policymakers. The three main problems are: (i) recurrence of large domestic unpaid claims (with duration above 90 days); (ii) growing expenditure “floats” and (iii) considerable delay in coming close to reconciling the discrepancies between “above the line” deficit figures and the financing data. These issues point to weaknesses in budget formulation, execution and monitoring, including difficulties in aligning expenditures with available financing resources during the year. (IMF, 2014 Article IV, 2014).

In Nigeria, ensuring efficiency of public spending is critical. Infrastructure gaps and social needs suggest scope for scaling and composition tilting, subject to resource availability. With projected revenue tightening further in 2015, it will be important to ensure that available resources are used efficiently to meet government's priorities. Key actions include the implementation of ongoing efforts to prioritize the limited capital expenditure budget and control of recurrent expenditure via Public Financial Management (PFM)

reforms. *Enhancing the efficiency of expenditure is crucial to muster support for envisaged tax reforms.* Although the level of spending is relatively low, the authorities still see scope to curtail further current spending in the short term while protecting key programs in priority areas, including health, education, infrastructure, and security. They aim also to reprioritize capital projects to improve efficiency. In the medium term, any expansion of the spending envelope should be supported by additional non-oil revenue. (IMF, 2014 Article IV, 2015).

Annex 6.2: South Africa Case study on allocative efficiency of HIV/AIDS program

Box 1

WHY IS ALLOCATIVE EFFICIENCY IMPORTANT?

Given the size of the South African HIV epidemic and the associated health care costs, allocating HIV resources optimally at local level remains a national priority. The health district is the unit for HIV planning and resource allocation and all 52 districts have a District Implementation Plan (DIP) for programme scale-up from FY2016/17. The South African DIP process in 2015 showed that relatively little analytical/modelling evidence is available to support target-setting and district-level decision-making on resource allocation. While there is effective antiretroviral treatment (ART) available, there are other proven interventions such as medical male circumcision, condoms, and pre-exposure prophylaxis (PrEP) for sex workers, which showed up as key response elements in the National HIV Investment Case.⁶ There are also novel service combinations such as the DREAMS package for young women and adolescent girls. With these various interventions available, the country intends to reach the internationally promoted 90 targets. The necessary scale-up of HIV services needs to take into account the epidemic and demographic dynamics of the city, and allocate HIV resources in an optimal way for impact.

WHAT ARE THE CONCLUSIONS FROM THIS ANALYSIS?

- a) A very large effort is needed: Analysis shows that the HCT/ART scale-up was rapid in the last 5 years, but that a **doubling of scale-up** is needed to reach 2020 targets
- b) Strategic investments in proven interventions such as medical male circumcision, an expanded condom programme, and comprehensive packages for FSWs and young females will help “get” Johannesburg the 90 targets (and with these, the 95 targets too)
- c) Evidence-informed programmes for young women and adolescent girls (like DREAMS) are likely to make a significant contribution to incidence reduction in these age groups, if implemented at scale
- d) An innovative mix of HIV testing approaches is needed to reach more PLHIV not sufficiently covered with current services (an additional 100–160 thousand diagnoses needed by 2020, and finding new HIV cases is becoming harder to achieve)
- e) Rapid scale-up of funds is needed to achieve aspirational targets, especially in the context of rising prices. Stagnant HIV budgets likely lead to increases in infections and deaths and undermine the scale-up momentum the City of Johannesburg has gained
- f) Analytical approaches supported by modelling can be useful to help set targets, monitor progress and project the health and financial impacts
- g) Johannesburg with its strong economic position and elevated human development offers large opportunities for successful scale-up and as a city benefits from the proximity of population to services, good communication networks, and a mix of providers.

Reference: South Africa, Health Department and Others. 2015. Ending AIDS in Johannesburg, October 2015.

Annex 6.3: Country Status Towards Health Financing Transition

In Cote d'Ivoire, in the past decade (2005-15), total health expenditure as share of GDP has declined (from 6% in 2006 to 5.4% in 2015). In this past decade, the country faced economic volatility and only post 2010 started experiencing positive economic growth rates. They experienced rising income, rising government health spending (although proportionally modest changes were seen from 4% to 5% of total government expenditure), and rising external financing (from 10% of total health expenditures in 2005 to 25% in 2015). Subsequently, there was a decline in household out-of-pocket expenditures (from 60% in 2005 to 35% of THE in 2015). While this picture depicts a typical scenario of a country starting to see "health financing in transition", the decline in household out-of-pocket share seems to have been largely driven by increasing external financing shares, and which too eventually was channeled through off budget sources. However, government health expenditure as share of total government expenditure seemed to have changed little, from 4% to 5% of GGE (2005-2015). Public policy and response of government health expenditure allocation and shares have shown modest increases.

In Kenya, in the past decade (2005-15), total health expenditure as share of GDP remained constant (at 5%). In the past decade, the country experienced rising income, but government health spending declined (from 7% in 2005 to 6.5% of GGE in 2015). External financing remained constant around 15-18% of total health expenditure, but share of on-budget external financing increased (from 20 to 30%). This may suggest donor confidence in government budget management and reporting. Household out-of-pocket spending share of total health expenditure declined (from 40% in 2005 to 33% in 2015) also expected as a result of rising (on-budget) external financing. There remains a question whether one sees a substitution effect between government and (on-budget) external financing for health. Public policy and response of government health expenditure allocation and shares have shown insignificant changes.

In Tanzania, in the past decade (2005-15), total health expenditure as share of GDP has declined (from 10% in 2005 to 6% in 2015). In the past decade, the country experienced rising income (although still remains a LIC), but government expenditure share (of THE and GGE) declined: from 37% to 25% of THE and from 13% to 7% of GGE. Overall, external financing increased slightly (from 29% in 2005 to 37% of THE in 2015), however, on-budget shares declined (54% to 32%). Household out-of-pocket spending shares also declined (from 34% in 2005 to 28% of THE in 2015). Like Kenya and Cote d'Ivoire, external financing program support for pro-poor government programs helped to improve financial protection of the population.

In Nigeria, in the past decade (2005-15), total health expenditure as a share of GDP has declined (from 3.9% in 2005 to 3.6% in 2015). In the past decade, the country faced economic volatility, given global oil price reduction. Nigeria depends heavily on oil revenue for its earnings. Government health expenditure as share of total health expenditure is very low (17%), while government health spending as share of total government spending has increased (from 3.5% in 2005 to 5% in 2015), it is also a result of external financing: on-budget external financing increased over this period. Household out-of-pocket share (of THE) remains high (72%). There is a huge gap in public policy engagement to prioritize for health.

Annex 7.1: Case of Kenya – proposed financing for the HIV/AIDS Trust Fund and HIV/AIDS integration into the National Health Insurance Program

Table 1: Kenya: Revenue raising potential of alternative sources of financing for HIV/AIDS, 2013/14 to 2020/21 (US\$)

	2013/ 2014	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021
Trust Fund (1% of tax revenue)	0	9,613	10,852	12,172	14,745	16,590	18,669	21,012
% to HIV/AIDS	90%	90%	90%	90%	90%	90%	90%	90%
Trust Fund to HIV/AIDS	0	8,652	9,767	10,955	13,271	14,931	16,802	18,911
AIDS Bond (Borrowing at 0.1% GDP)		4,484	5,007	5,595	6,212	6,925	7,720	8,606
Airline Levy	2,691	2,800	2,912	3,028	3,149	3,274	3,405	3,541
Airtime Levy (2%)	1,954	2,076	2,207	2,353	2,490	2,642	2,802	2,973
Social Health Insurance (NHIF)	923	1,034	1,158	1,297	1,453	1,628	1,823	2,042
AIDS Lottery	136	159	178	198	220	245	274	305
Remittances Levy (0.1% Tax)	145	163	92	98	102	110	118	127
Private Sector Contributions	53	62	69	77	85	95	106	118
Dormant Funds (10% of interest)	61	64	68	73	77	82	87	92
Total Potential of Other Sources	5,963	10,842	11,691	12,719	13,788	15,001	16,335	17,804
% to HIV	0%	4%	7%	11%	14%	18%	21%	25%
Other Sources to HIV	0	434	818	1,399	1,930	2,700	3,430	4,451
Overall Total to HIV	0	9,085	10,585	12,354	15,201	17,631	20,232	23,362
% of government budget	0.00%	0.72%	0.78%	0.76%	0.84%	0.88%	0.91%	0.94%

Source: Oxford Policy Management (2013).

Table 2: Kenya: Estimates of the HIV/AIDS costs at NHIF, around 2014

	0-14 years	15-over years	Total
Total population in the country (million)	19,032,200	26,067,800	45,100,000
Population structure (%)	42.2	57.8	100
Prevalence of HIV/AIDS in population ages (%)	0.9	5.6	3.6
People living with HIV/AIDS (PLWH) (millions)	171,290	1,459,797	1,631,087
NHIF coverage (%)			22.0
NHIF coverage (millions of beneficiaries)			9,922,000
Contributing beneficiaries (million)			2,000,000
Dependent beneficiaries (million)			7,922,000
		Ksh	US\$
NHIF revenue		10,367,93,000	138,826,623
NHIF revenue per beneficiary		1.045	13.99
NHIF claims as a share of revenue (%)			58%
NHIF claims		6,023,820,066	80,65,951
NHIF claims per beneficiary		607	8.13
ARV treatment costs for Kenya total, including overhead		30,619,865,571	410,000,000
ARV treatment costs per PLWH		18,773	251,37
ARV treatment costs at NHIF (estimated)		6,736,370,426	90,200,000
ARV treatment costs at NHIF as a multiple of current claims per beneficiary		30.9	30.9
Incidence of HIV in adult population 15-over (%)			0.42
Expected annual cost of HIV treatment		79	1.06
Expected lifetime cost of HIV treatment		2,365	31.67

Source: Constructed by the authors from NHIF Unaudited Financial Statements 2014 and (Haacker 2014).

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