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Group on Sustainable Financing

Integration of HIV Financing into Health Financing Systems in Low- and Middle-Income Countries

Conceptual Framework and Preliminary Findings

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Contents

1. Introduction.....	2
1.1 Rationale.....	2
1.2 Definition of integration and country illustrations.....	2
1.3 Note on HIV & AIDS program costs.....	4
1.4 Outline of the landscaping study.....	4
2. Conceptual framework and approach to country scoping.....	6
2.1 Health financing framework for analysis of integration issues.....	6
2.2 Coding levels of integration of HIV and non-HIV financing.....	6
3. Challenges to integrating HIV & AIDS services.....	8
3.1 AIDS as a chronic disease among other NCDs.....	8
3.2 HIV & AIDS components include private and public goods.....	9
3.3 Lack of data to cost integration of HIV & AIDS services.....	9
3.4 Potential increase in long term costs.....	10
3.5 Stigma is a greater issue for HIV & AIDS.....	11
3.6 Integrating financing confronts integrated delivery.....	11
4. Landscaping HIV financing integration across select countries.....	13
4.1 Integration in collection of funds.....	14
4.2 Integration in pooling.....	19
4.3 Integration in purchasing.....	23
5. Conclusions and Recommendations.....	30
5.1 High levels of integration.....	30
5.2 Medium levels of integration.....	30
5.3 Low levels of integration.....	31
5.4 Note on purchasing.....	32
5.5 Further research and next steps.....	32
6. Acknowledgments.....	33
7. References.....	34

1. Introduction

1.1 Rationale

The fight against HIV & AIDS has achieved significant success. New infections are on the decline and increasing access to effective anti-retroviral therapy (ART) in low- and middle-income countries (LMICs) has transformed AIDS from a fatal to a long-term manageable condition. Yet the long-term costs of treatment, the prospect of increasing numbers of patients needing more expensive second- and third-line drugs, and the need for continued prevention measures necessitate a high level of sustained funding for decades to come.

UNAIDS estimates that by 2015 approximately US\$24 billion will be needed for HIV interventions annually (WHO, UNICEF, & UNAIDS, 2013). While external donors have largely driven the financing of the HIV & AIDS response in low- and middle-income countries (LMICs) to date, and have relied heavily on parallel or “vertical” financing and service delivery mechanisms, that context is beginning to change. Donor funding has recently leveled off: after rising from US\$1.2 billion in 2002 to US\$8.7 billion in 2008, donor commitments have remained largely constant, reaching US\$8.3 in 2012 (Kates & HIV/AIDS, 2012; UNAIDS & KFF, 2013). At the same time, many LMICs are increasingly able and willing to take ownership of their HIV & AIDS response thanks to economic growth (Union, 2012). In 2011, domestic sources accounted for the first time for more than half of the funding for HIV programs in LMICs (UNAIDS & KFF, 2013). Some countries remain heavily dependent on external funding, but this still represents a significant shift away from a donor-driven funding structure to a country-led model on average, a trend that is likely to continue.

To reduce dependency on external funding while maintaining progress in fighting the HIV epidemic, there is a clear need to expand resources for HIV domestically in low- and middle-income countries and begin to ensure the long-term sustainability of their HIV financing mechanisms. This need was recognized by UN Member States Political Declaration on HIV & AIDS in 2011 and by the African Union’s “Roadmap on Shared Responsibility and Global Solidarity for AIDS, TB, and Malaria Response in Africa” from 2012.

The push for greater and more sustainable domestic financing for HIV dovetails with efforts to promote universal health coverage (UHC) globally, and with increased reliance on pre-paid, pooled funding initiatives such as national/social health insurance programs as means to achieve UHC. These two trends have raised an important and complex policy debate for UNAIDS and the global health community: **should countries integrate the often “vertical” (disease-specific) financing of their HIV responses into their more “horizontal” (not disease-specific) health financing systems; and if so, how?** This study is intended to outline concepts, provide a preliminary country scoping, and suggest next steps needed for UNAIDS and other global HIV & AIDS actors to develop policy guidance on these integration questions.

1.2 Definition of integration and country illustrations

“Integration of HIV & AIDS financing” refers here to the process of moving toward national health financing systems where funds for HIV & AIDS are collected, pooled, and used to pay for

health services together with funds for other health services rather than through separate financing and payment structures. (A follow-on but separate concept is that such integrated funding can imply integrated delivery of HIV & AIDS services alongside other health services.)

Much of the debate on integrating HIV & AIDS financing with national health financing systems has focused largely on pre-paid, pooled funding initiatives, especially (but not exclusively) national or social health insurance programs at the country level. Mexico, Brazil, and Thailand are cited as examples of countries that moved towards early integration of HIV & AIDS services with largely publicly funded health financing mechanisms. These countries leveraged the opportunity afforded by health sector reform in the late 1990s to expand coverage of ART and other HIV-related goods and services at a time when treatment costs were high (Bautista-Arredondo, Dmytraczenko, Kombe, & Bertozzi, 2008).

As low prevalence countries that experienced significant economic growth in the last decade or more, the individual contexts of the relationship between HIV & AIDS policy design, available funding envelope, and the pathway to integration are important to consider. For instance, Brazil decided in 1996 to provide ART to all, challenging conventional wisdom that LMICs should focus on prevention and that adherence would be hard to ensure. Within a decade, Brazil was paying US\$400 million for ARV drugs to support therapy for 180,000 individuals, with about 20,000 new patients joining treatment every year (Greco & Simao, 2007). But long term sustainability is threatened by increases in both the number of individuals who need to initiate ART each year and the complexity of the regimens for infected individuals who are surviving for longer periods of time. In Thailand, the government paid for about 71% of the total HIV & AIDS expenditure during 2008-11 in just treatment and care after first introducing a policy of tax-financed universal ART in only 2003 (Walaiporn Patcharanarumol et al., 2013). However, the impending departure of Global Fund funding may mean that financing and access related gaps will open up in reaching migrants and other key affected populations not currently served by the public healthcare system, affecting the pathway to full integration of HIV & AIDS financing. In Mexico, the nature of the challenges differs in that while Seguro Popular has funded a specialized integrated HIV & AIDS delivery model¹, unique problems with access, staffing, and quality in this vertical system continue to interfere with full integration and access (Saavedra, 2010).

The evidence from high-prevalence and high burden countries is mixed. As examples, Rwanda has a relatively well-functioning national health insurance system, while South Africa remains highly fragmented between public and private sectors as the country's national health insurance vision is being designed and piloted. In both cases, ART continues to be delivered separately, although treatments of opportunistic infections are included in benefits packages of Rwanda's 'mutuelles' (Doetinchem, Lamontagne, & Greener, 2010). Before endorsing integration of HIV & AIDS services with horizontal health financing systems to enhance sustainability, there is a need to better evaluate cross-country variation in existing coverage and services and capacity for integration.

¹ A network of 56 CAPASITS (outpatient centers for the prevention and care of AIDS and STDs).

1.3 Note on HIV & AIDS program costs

HIV & AIDS programs are multifaceted. The National AIDS Spending Assessment (NASA) tool developed by UNAIDS measures spending incurred for²: prevention; care and treatment; orphans and vulnerable children; programme management and administration; human resources; social protection and social services; enabling environment (that is, issues around advocacy, human rights, institutional development, and gender); and HIV-related research. All of these primary cost categories have further subcategories that can be used for detailed estimation of resource needs and to track spending. A descriptive analysis of HIV & AIDS spending in 65 LMICs based on National Health Accounts data matched spending from public and international sources against NASA-defined line items (Amico, Aran, & Avila, 2010). That analysis found that about 95% of HIV & AIDS spending took place under direct health related categories³ such as drugs and human resources. These categories are likely to retain their position as major cost drivers as the number of people needing HIV & AIDS treatment increases 2-3 fold over the next two decades (Hecht et al., 2010) and patients switch to more expensive drugs. For instance, a case study analyzing the shift to second-line drugs in South Africa as treatment programs mature suggested that 94% of the costs per patient will likely be attributable to drugs, laboratory testing, and clinic and pharmacy services (Long, Fox, Sanne, & Rosen, 2010).

As a conceptual framing and landscaping analysis, this study does not attempt to disaggregate into all categories of HIV & AIDS programs. Rather, it provides overviews of country mechanisms for financing aggregate program costs, which in light of the above generally relate to the dominant cost drivers of country and donor spending on HIV treatment and medical prevention. As next steps, it will be important for policymaking purposes to draw out financing integration-related challenges by cost category in individual country contexts. An overview of some general HIV & AIDS financing integration-related challenges that could inform such country-focused work has been provided in section 3 of this study.

1.4 Outline of the landscaping study

The following section of this study outlines Kutzin's (Kutzin, 2001) framework for disaggregating health financing systems into their core functions of revenue collection, pooling, and purchasing. Section 3 then briefly introduces six important challenges specific to integrating HIV & AIDS financing with countries' horizontal health financing regimes. Section 4 applies Kutzin's framework to analyze HIV & AIDS and general health financing for a sample of 13 countries with varying income, HIV prevalence, insurance coverage, and geographic profiles. This section groups the selected countries by high, low, or medium integration between HIV & AIDS and general health-related collection, pooling, and purchasing, and describes the existing institutional arrangements for each of the three financing functions for each country. Following

² National AIDS Spending Assessment (NASA): Classification and Definitions. UNAIDS, 2009

³ Covering "activities whose primary purpose is to restore, improve and maintain health for the nation and for individuals," as defined by the WHO, such that they took place within the health system and were performed by health sector employees. This excludes NASA spending for orphans and vulnerable children, social protection and social services, enabling environment, and research.

this country scoping, section 5 presents conclusions, recommendations, and next steps for policymakers exploring the potential integration HIV & AIDS financing with domestic health financing systems.

2. Conceptual framework and approach to country scoping

2.1 Health financing framework for analysis of integration issues

The issue of integrating HIV financing into more horizontal health financing systems or, specifically, national or social health insurance programs, is a complex, multi-faceted one. To advance the debate and move toward policy guidance, the first necessary step is to agree on a framework for examining the different functions of health financing, for both HIV and other health services, in given countries. This study proposes Kutzin's (Kutzin, 2001) well-known health financing framework to do so, and uses that framework to begin examining variation across countries in the three primary financing functions for HIV and other health needs: revenue collection, pooling, and purchasing—leaving provision of services (delivery) aside for emphasis on integration in purely financing functions.

Revenue collection is defined as the collection of funds for HIV/health purposes and focuses on the sources of those funds, such as different types of taxes that constitute general government revenues; payroll and other taxes earmarked for particular health funds, premiums paid by companies and households; and external donor funds such as Global Fund grants, PEPFAR programs, etc. *Pooling* refers to the accumulation of pre-paid funds to cover the health care costs (HIV-related or otherwise) of a particular population, and can range from very small pools for limited types of costs to large, national pools for a very broad range of health benefits. Finally, *purchasing* involves the various mechanisms by which pooled funds are paid out to the providers of health care goods and services—including, as examples, salaries or fee-for-service payments to physicians and nurses, fixed prices for drugs, or global budgets for health facilities.

There is a great deal of variation across countries and across types of health services in how health sector organizations perform these functions, and this variation is one reason why careful examination of the different functions for HIV and non-HIV health needs is vital for consideration of potential integration. It is important to note, however, that this landscaping of HIV & AIDS-related collection, pooling, and purchasing implicitly focuses on the financing of HIV treatment and does not explicitly disaggregate financing and integration-related concerns for the comprehensive array of HIV & AIDS services and programs in countries at this stage.⁴

2.2 Coding levels of integration of HIV and non-HIV financing

This section explains the coding that resulted in the main summary table of Section 4.

Coding of the revenue collection function was the most objective and quantitative, based on whether less than 25% of HIV funding was from sources integrated with non-HIV health funding

⁴ In future work, it may also be necessary to agree on the best framework, such as the NASA, with an appropriately detailed classification for types of HIV & AIDS goods and services (e.g., prevention, testing, care and treatment, ARVs, PMTCT, etc.). Careful, detailed policy recommendations in a given country will likely need to be disaggregated using a matrix of: 1) the three health financing functions and 2) the several components of HIV & AIDS responses.

sources (low), between 25% and 74% was from integrated sources (medium), or whether 75% or more was from integrated sources (high). In coding level of integration of collection, external donor funding earmarked for HIV was assumed to be a non-integrated source of funding.

The coding of the pooling and purchasing functions was more subjective and involved benchmarking against countries perceived by country experts to have high integration in those functions (Thailand) or low integration (Vietnam), as well as against theoretical ideal-types of complete integration or complete lack thereof. A completely integrated pooling arrangement would be one where all funds destined for HIV & AIDS services were combined in a pool (or pools) of funds for non-HIV services, with no earmarking. Complete lack of integration would involve strict separation between HIV and non-HIV funding pools. Indicators and sources of information to make the low-medium-high ranking included the sources of HIV & AIDS related funds for the public health budget or pooled coverage schemes, the role of official HIV & AIDS bodies (planning and coordination of national response and/or collection and management of all or most funds), and the arrangements adopted by major donors (PEPFAR and Global Fund in many cases) for holding funds. In cases with low pooling integration, for instance, donor funds often formed a large share of HIV & AIDS spending, were off-budget of public health systems, and were managed as vertical pools to finance donor-led purchasing of goods and services.

Similarly, integration in the purchasing function was judged by the extent to which the flow of funds from purchasing/funding entities to providers of HIV & AIDS goods and services occurred within the same channels and relied on the same payment mechanisms (e.g., tariffs, salaries, capitation, etc.) as the flow of funds for non-HIV services. Countries with high purchasing integration typically included a broad array of HIV& AIDS services and commodities in the (publicly or privately delivered) benefits packages of pre-paid pooled health funding initiatives for mass coverage.⁵

⁵ See also a special note on purchasing in Section 5.

3. Challenges to integrating HIV & AIDS services

Some challenges to the integration of vertical health financing into broader health financing systems would be common across any disease or health need (TB, family planning, etc.), but others would be unique or especially important for certain diseases. This section outlines several challenges to integrating HIV & AIDS financing that are likely to be especially important given the particular nature of the disease and its current programmatic responses.

3.1 AIDS as a chronic disease among other NCDs

Until recently, diseases were considered either communicable (infectious) or chronic. As a result of advances in treatment, HIV infection now challenges that binary distinction. The World Health Organization describes chronic disease as a disease of long duration and slow progression. HIV & AIDS programs may now be the largest chronic care programs implemented in most low- and middle-income countries. Treatment needs are now lifelong or chronic, in addition to acute, especially if programs are not effective in preventing new infections (Nigatu, 2012).

In addition to being a chronic disease competing with other chronic diseases for funding and delivery of services, HIV may also be involved in the etiology of other diseases, beyond what are known as opportunistic infections (that is, infections that take advantage of a weakened immune system). Phillips et al (Phillips, Neaton, & Lundgren, 2008) hypothesize that HIV may play a role in causing diseases such as non-AIDS cancers, liver cirrhosis, end-stage renal disease, and cardiovascular events such as myocardial infarctions, and strokes. A population with growing numbers of people with HIV on ART could give rise to an additional treatment burden for other non-AIDS health conditions.

As ART provision stabilizes incidence rates of HIV in Southern Africa, the chronic nature of AIDS, along with the global financial crisis, has raised serious concerns around the sustainability of global and national-level financing for ART program and other HIV prevention, care, and treatment efforts. ART allows PLHIV to return to work, but it also produces adherence challenges, serious illness episodes, transaction and opportunity costs related to lifelong treatment, and the need for continued investment of public resources to fund treatment programs (Colvin, 2011). While the number of new infections might decrease with increased ART use, global funding for HIV & AIDS is shrinking, both due to a constrained resource envelope for global health in general, and an increasing need for resources for other chronic diseases. Global funding for HIV has risen, for example, from around US\$300 million in 1996 to US\$18.9 billion as of 2012 (KFF, 2013), a massive increase to an amount that is still short of the UNAIDS estimate of US\$22 to US\$24 billion required to deal with the effects of HIV. WHO has highlighted the neglect of non-communicable diseases (NCDs) by comparing HIV to NCDs, which cause 80% of the deaths in developing countries but receive only 3% of global development assistance for health (Maher, Ford, Unwin, & Frontières, 2012).

The transformation of HIV into a chronic epidemic will therefore result in both: 1) increased HIV-specific funding needs, especially as total treatment burdens increase, and the cost of treatment, especially for second- and third-line treatment as patients develop resistance to the

cheaper first-line of treatment, rises (also see section 3.4); 2) competing pressure for resources from other chronic health challenges.

3.2 HIV & AIDS components include private and public goods

Most HIV & AIDS treatment services are regarded as private or personal goods that align well with the types of benefits typically covered by an insurance program or other pre-paid health financing approach (for instance, a national health service). Such coverage protects individuals at risk of needing PMTCT, hospitalization and treatment of opportunistic infections, and ARV treatment. However, other components of HIV & AIDS service delivery are public goods that may be less likely to be explicitly included in the benefits of individually-oriented insurance or other health financing systems. HIV & AIDS services of this nature include mass HIV awareness campaigns, HIV testing, and distribution of condoms.

Public HIV goods such as prevention services may run the risk of being dropped from a program when AIDS services are integrated into an insurance benefits package. This could render HIV & AIDS financing unsustainable as new infections continue to rise, even if treatment services exist. Especially where individually-oriented insurance programs constitute major pillars of health financing systems, care must be taken to include prevention services such as HIV testing and counseling in benefits packages ((Ahmed, Whiteside, & Regondi, 2011); (Doetinchem et al., 2010)). Vietnam is currently facing this potential challenge. As donor funding is projected to decrease, the government is exploring ways in which social health insurance can cover AIDS treatment services, but prevention services (currently financed by donors) will most likely be excluded from health insurance and will have to be financed separately by the government⁶.

3.3 Lack of data to cost integration of HIV & AIDS services

Several variables influence the costing of integrating HIV & AIDS services into a pre-paid package of health services. These include the strength of countries' health systems, intellectual property regulations, epidemiological profiles, AIDS treatment guidelines, and differing capacities to produce drugs locally (Nunn, Fonseca, Bastos, Gruskin, & Salomon, 2007). To describe direct healthcare costs and establish cost drivers, one needs to know about variations in HIV prevalence among the insured and uninsured (moral hazard problem), the progression of disease (if PLWHA⁷ enroll at a late stage, the cost of treating them could be higher as they would need second- and third-line drugs), and the number of people qualifying for ART based on the CD4 count threshold selected by a country ((Leisegang et al., 2009); (Doetinchem et al., 2010)). Information about the type of epidemic and cost information about health service delivery is also required. While care and treatment might account for up to 50% of the cost of HIV & AIDS programs, other costs such as those related to human resources and program management, are also required to calculate costs of HIV & AIDS program integration.

⁶ Interview, World Bank, Feb 2014

⁷ People living with HIV & AIDS

For many countries, this information is not always readily available and will require a focused effort to collect data that will help health financing agencies price HIV & AIDS services for integration. A few countries such as South Africa, Ghana, Rwanda, and Lesotho have attempted to quantify the financial implications of HIV service coverage in insurance, and the overriding message is that any country investigating whether HIV services could be financed via health insurance will have to perform its own actuarial calculations incorporating the local circumstances and costs (Doetinchem et al., 2010). Hence, in India for instance, the release of the guidelines for covering PLWHA has been delayed by the absence of data to price products, and the country's National AIDS Control Organization (NACO) recently tasked a working group to assist in collecting information to help in pricing an insurance product that will cover HIV & AIDS ((Saraswathy, 2013); (Syed, 2012)). It is true that, if HIV & AIDS services were integrated into broader health financing systems/programs, the total costs of all covered services would be the relevant amount to consider for financial sustainability, rather than the detailed costing information about any particular set of services. A first step toward integration, however, is to estimate the specific cost of HIV & AIDS services so that such systems/programs can better predict the financial implications of adding them.

3.4 Potential increase in long term costs

The cost of commodities, including medicines, is declining as intellectual property obstacles are removed or overcome, economies of scale increase, and treatment optimization reduces the doses of active pharmaceutical ingredients used in ART medicines. Even as more expensive regimens are incorporated into programs, prices have fallen due to larger transaction volumes, improved forecasting of demand, and increased competition among drug manufacturers. The annual ART cost per person in US dollars in the program supported by PEPFAR dropped from US\$ 1000 in 2004 to US\$ 400 as the number of direct ART recipients in the program increased from 0 to just under 4 million in the same time (WHO, 2013).

However, even as drug prices fall, it is important to note the significant cost drivers that might increase prices in the long term. A study from Brazil suggests that even with precipitous declines in the prices for four patented ARVs, total drug expenditure for Brazil doubled from 2001 to 2005: the main driver of cost increases was an increase in the purchase quantities of specific drugs to manage increasing numbers of patients on ART (Nunn et al., 2007). Reaching rural and marginalized populations who currently do not access ART may be more difficult and expensive as treatment programs scale up. Testing and retesting services will need to be greatly expanded as more PLWHA are enrolled in to treatment programs, health systems strengthening investments might be needed, and the ratio of first- to second- and third-line treatment might shift towards more costly regimens as more and more patients live longer with ARTs. Instead of commodity prices falling in the long term, prices might actually increase because of patent restrictions on second and third line drugs to keep out the generic competition that has helped to drive down the prices of first-generation ARV medicines.

The potential rise in the cost of commodities and ARTs complicates the sustainable financing plan for HIV & AIDS programs, especially when these costs have to be integrated in to an existing horizontal health financing system. For example, in Vietnam, the Health Insurance Fund is reluctant to include HIV & AIDS in its SHI benefits package because the cost of ART and commodities for HIV & AIDS programs could increase disproportionately as more PLWHA are

covered by SHI and require second- and third-line therapy, possibly crowding out coverage for other health problems.

3.5 Stigma is a greater issue for HIV & AIDS

HIV & AIDS stigma has long been documented as a barrier to the uptake of HIV testing and treatment services in numerous settings, particularly in resource limited countries ((Mahajan et al., 2008); (Nguyen, Oosterhoff, Ngoc, Wright, & Hardon, 2008)). However, a recent review of literature notes the lack of data that would allow us to assess the influence of stigma reduction interventions on outcomes such as the uptake of and retention in ART programs. To date, there are no impact evaluations of HIV prevention programs that include stigma reduction as a component of the intervention itself. Given the emerging challenges in low- and middle-income countries of adherence to treatment programs, especially as drug-based prevention increases, such data are required to inform national responses to the epidemic (Stangl, Lloyd, Brady, Holland, & Baral, 2013).

Despite the lack of impact evaluation data, some observational studies show that stigma can affect the way services are delivered for HIV & AIDS programs, especially in countries with concentrated epidemics among marginalized populations. To achieve universal access to HIV prevention, treatment, and care, at-risk populations must be identified, supported, and engaged. This increases the likelihood that they will be stigmatized by others (non-HIV & AIDS patients) and further marginalized in an integrated health service facility, reducing their access to treatment, care, and prevention. In addition, prevention services that target at-risk populations such as people who inject drugs, sex workers and their clients, and men who have sex with men (MSM), could be at risk of being inadequately funded if AIDS services are integrated into health insurance or other pre-paid health funding pools and compete for resources with other services. Vietnam again provides an illustrative example. Until now, donors have fully supported prevention services and treatment services for at risk-populations. As donor funds are projected to decline, PLHIV (especially from groups that are criminalized: sex workers, MSM, IV-drug users) are concerned that they may face greater stigma and discrimination as donors reduce their support for HIV/AIDS, and these services are integrated into the formal health care system⁸.

3.6 Integrating financing confronts integrated delivery

Most low- and middle-income countries have fragile health systems that are under-resourced and in need of structural and policy reform. While resources for global health increased dramatically in the last decade, these funds were mainly targeted towards three specific diseases—AIDS, TB, and Malaria. There has been much debate about whether disease-specific funding has strengthened health systems ((Bernstein & Rosenzweig); (Levine & Oomman, 2009); (Biesma et al., 2009); (De Cock, El-Sadr, & Ghebreyesus, 2011)). While there is no clear answer to this question, one issue is clear: the rapid transition in disease burden to chronic diseases, including HIV & AIDS is an enormous challenge for many low- and middle-income countries with weak systems. Chronic illness demands a complex health-systems response that needs to be sustained

⁸ Interview: World Bank, Feb 2014

across a continuum of care. The effective delivery of a comprehensive package of chronic disease interventions is dependent on a strong health financing system that can raise adequate funds so that people can access services and are protected from catastrophic health spending. The ability to create an effective, efficient, and equitable system will depend on a balance between the collection of revenues, the pooling of prepaid revenues in ways that allow risks to be shared, and the selection and purchase of specific interventions (WHO, 2007).

In this context, de-verticalizing HIV & AIDS service delivery into horizontal systems to minimize the fragmentation of coverage schemes and create sustainable financing sources for HIV & AIDS services can present several challenges for health service delivery. It is useful to consider specific components of a health system to understand how integrated financing might affect the delivery of HIV & AIDS services:

Supply Chains: Service providers cannot meet patients' full range of health needs without the full range of supplies. Supply chains are still very weak in many LIC and LMIC countries, despite improvements in disease-specific supply chains, such as for HIV & AIDS programs. Integrating stronger HIV & AIDS supply chains with weaker supply chains for other health commodities could compromise the quality of service delivery for HIV as well as for other health services.

Health Workforce: If AIDS services from donor funded outpatient clinics are integrated into publicly funded health systems, AIDS specialized health workers (who may or may not be on the public sector wage bill) may not follow their patients to these new public facilities. Resources to take on additional service areas and increases in clientele, or to effectively manage the changes in protocols to address the full range of health needs, are likely to be limited. Increasing workloads for a health workforce with limited capacity can lead to deteriorating motivation, services quality, and eventually staff burnout. These inherent tradeoffs between services and/or clients may constrain people's ability to access services which address the full range of their needs.

Health Information Systems: Underlying many of the weaknesses in planning and managing the delivery of health services are weak information systems, which are even further weakened by the introduction of numerous bespoke information systems that only serve particular donor needs. While information systems for HIV & AIDS programs have been established, it is unclear how these would be integrated into existing health information systems.

4. Landscaping HIV financing integration across select countries

This section evaluates the integration of HIV-specific financing into national health financing systems (including but not limited to national/social health insurance schemes) for an initial sample of 13 countries. The countries were purposively selected to capture varying geographic regions, epidemiological profiles, income levels, and modes of health financing—in addition to availability of secondary data and literature on their health financing systems. This section provides a comprehensive summary of this landscaping exercise per country, financing function, and level of integration. Table 1 summarizes conclusions about levels of integration in each country and by financing function.

Table 1: Levels of integration between HIV financing and non-HIV national health financing

Degree of Integration of HIV Financing Functions							
Country	Region	Epidemic Type ⁹	2012 Adult HIV Prevalence ¹⁰	Income Level ¹¹	Collection	Pooling	Purchasing
Zimbabwe	Africa	Generalized	14.7%	LIC	Low	Low	Low
Kenya	Africa	General	6.2%	LIC	Low	Medium	Low
Rwanda	Africa	Generalized	2.9%	LIC	Low	Medium	Medium
Nigeria	Africa	General	3.7%	LMIC	Low	Low	Low
Ghana	Africa	Generalized	1.4%	LMIC	Low	Medium	Medium
Vietnam	Asia	Concentrated/Low-level	0.4%	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	0.3%	UMIC	High	High	High
Colombia	LAC	Concentrated/Low-level	0.0%	UMIC	High	High	High
Thailand	Asia	Generalized	1.1%	UMIC	High	High	High
Mexico	LAC	Concentrated	0.2%	UMIC	High	High	High
Chile	LAC	Concentrated/Low-level	0.4%	HIC	High	High	High

As shown, countries are ranked according to their degree of integration for each financing function. There is a variety of epidemic types, income levels, and regions within the low, high, and medium integration rankings for each financing function among the countries in this sample. The following parts of this section group these countries by the integration rankings of their collection, pooling, and purchasing mechanisms for HIV financing, and present more detailed analysis and description of HIV and health system financing for these respective subgroups.

⁹ Epidemic type by total prevalence of HIV (% of population ages 15-49): concentrated when <1% of population but >5% of any high risk group are HIV-positive; generalized when >1% of population is HIV-positive; low-level when relatively little HIV is measured in any group. Source: <http://www.who.int/hiv/strategic/surveillance/en/>.

¹⁰ Source: <http://data.worldbank.org/indicator/SH.DYN.AIDS.ZS>.

¹¹ 2012 GNI/Capita, Atlas method (current US\$): low income, US\$1,035 or less; lower middle income, US\$1,036 - US\$4,085; upper middle income, US\$4,086 - US\$12,615; and high income, US\$12,616 or more. Source: World DataBank: World Development Indicators.

4.1 Integration in collection of funds

Low Integration:

Kenya, Nigeria, Rwanda, Zimbabwe, Ghana, and Vietnam display low levels of integration in the collection of funds for HIV and non-HIV health spending. These are all low or lower-middle income countries with, except for Vietnam, generalized HIV epidemics with adult prevalence higher than 1%. Health insurance coverage is lower than 40% in all but Rwanda and Vietnam.

In Rwanda, the health system is financed by a combination of state funds, individual contributions through health insurance and direct fees for services, and donor support. A network of centrally-coordinated community-based health insurance programs called MS or “health Mutuelles” covers 98% of Rwanda’s population (McNeil, 2013). This coverage is funded by a combination of premiums, out-of-pocket spending, transfers from general tax revenue, and donor funding¹². The richest affiliates pay annual premiums of US\$8 while the poorest 25% are enrolled for free, and all have to pay US\$0.33 per hospital visit (Makaka, Breen, & Binagwaho, 2012). But these revenues only account for 45% of the MS costs and the rest are contributed by government’s tax revenue and international aid (McNeil, 2013). While Rwanda has 80% population coverage for HIV & AIDS treatment services, second only to Botswana in Africa ((McNeil, 2013); (Bulletin, 2013)), there is a significant disconnect between HIV and non-HIV health funding sources. The vast majority of HIV & AIDS funding (90.2%) is from external donors, with only 9.6% from (integrated) domestic public sources, resulting in the low integration ranking. PEPFAR (42.7% of total HIV funding) and the Global Fund (40.6% of total HIV funding) are the largest international donors in Rwanda (UNAIDS, 2012).

Funds for health spending in Vietnam primarily comprise general taxes, out-of-pocket payments, and international assistance. The Vietnam Social Security scheme, responsible for social health insurance, receives contributions from formal sector employees and subsidies from the federal and provincial governments for provision at the local level, but there is considerable out-of-pocket spending as well as private health insurance services (Tien, Phuong, Mathauer, & Phuong, 2011). HIV & AIDS services in Vietnam are primarily funded separately from this system as Vietnam has relied on donor funding (USG, DfID, Global Fund, World Bank, and Asian Development Bank) for HIV prevention and treatment through projects at stand-alone out-patient clinics. The 2009-10 NASA in Vietnam found that of the US\$267 million spent on HIV & AIDS, only 14.5% came from domestic public sources, while out-of-pocket payments by households (11.8%) and international support (73.7%) made up the rest (National Committee for AIDS, 2012). Of the international support, 69% (or 50% of overall spending in 2009-10) came as direct support from PEPFAR alone. Hence, AIDS financing is largely excluded from the social health insurance plan and integration with generally-collected funds only exists when other related conditions are in the curative package, like opportunistic infections.

¹² The federal health budget, some US\$230 million in 2013-14, partially supports the extension of MS, but also pays for training and salaries of health staff, capital costs on buildings and equipment, and general disease prevention activities (Source: The National Budget—A Citizen’s Guide 2013-14). MS itself accounts for only a part (estimated at 10-15%) of total health spending in Rwanda.

Sources of funding for health services in Ghana include general government revenues, which flow to the Ministry of Health through the health budget; private, pre-paid or out-of-pocket funds from companies and households; and several sources earmarked for Ghana's National Health Insurance Scheme (NHIS), including a VAT, social security tax carve-out, and premiums. The NHIS excludes HIV-related medicines and services except for treatment of opportunistic infections and, therefore, the collection of revenues for HIV & AIDS is not integrated with collection of revenues for NHIS. Earmarked donor funds flowing directly to the Ghana AIDS Commission and implementing agencies comprise 77% of AIDS spending in Ghana (with 13% from public and 10% from private sources making up the rest).

Kenya derives 51% of overall HIV & AIDS expenditures from donors, 28% from private sources, and 21% from domestic resources (Kenya National Health Accounts (NHA) 2009/10). It raises domestic resources for health through the National Hospital Insurance Fund (NHIF), which covers 16-20% of the population (mostly formal employees and civil servants), budgetary allocations from general taxes in the form of line items for health facilities and institutions, and out-of-pocket payments. Those employed in the formal sector pay a graduated premium based on income, capped at KES 320 but which has stagnated for about 16 years, while those who join voluntarily pay a much smaller flat rate capped at KES 160/month. NHIF also operates a separate comprehensive medical scheme for civil servants and the police (with premiums based on income). However, the NHIF does not provide coverage for regular ARVs or HIV prevention. It only provides coverage for associated health incidents that require hospital stays. A sustainability task force in Kenya has recommended though that the NHIF's surplus be earmarked to support ARVs for members, which could increase overall integration of collection. Hence, at the moment, despite increased spending by the Government of Kenya (it now spends 25% (Kenya NHA 2009/10) of its overall health expenditures on HIV & AIDS), the proportion of domestic funding and the integration of HIV & AIDS resource mobilization with NHIF is still low overall.

Finally, Zimbabwe and Nigeria have the lowest socialized health coverage as well as low integration of collection of HIV & AIDS financing. In Zimbabwe, 20% of the country's total health expenditure is incurred by mutual healthcare funds, MAS, which are private not-for-profit organizations and have a formally-employed affiliate base comprising only 10% of the population (Shamu, Loewenson, Machededze, Mabika, & Africa, 2010). The wider public has access to the 70% of health facilities owned by the government, which is financed through the government's health budget funded through general taxes and transferred to the Ministry of Health and Child Welfare (Shamu et al., 2010). However, Zimbabwe's severe hyperinflation and economic downturn in 2007 and 2008 caused domestic health spending to collapse in dollar terms, needing greater infusion of aid funding in those two years. While domestic health spending recovered in 2009, HIV & AIDS spending has remained primarily vertically funded. The national AIDS levy, at 3% of corporate and payee taxes and managed by the National AIDS Trust Fund is the chief source of domestic AIDS funding (US\$5.7M in 2009, US\$20.5M in 2010, and US\$26.5M in 2011) (UNAIDS-GARP, 2012). However, funding for Zimbabwe's general AIDS expenditure comes primarily from PEPFAR, DFID, and Global Fund, who have their own implementing partners and agents on the ground and contribute up to 85% of the HIV& AIDS spending (UNAIDS-GARP, 2012). Hence, collection of funds for AIDS services in Zimbabwe is largely separate from the general tax revenue used to fund the larger public health system.

Similarly, Nigeria too is extremely reliant on external funding. While social health insurance in Nigeria, called the National Health Insurance Scheme (NHIS), is available for anyone to enroll and formal sector businesses with more than 10 employees are required to join, the current mix of beneficiaries is primarily civil servants and formal sector employees. Hence, the NHIS only covers 4-5% of the population and participation is voluntary for the rest. Importantly, no HIV-related opportunistic illnesses/diseases are included in the benefit package and, according to the 2010 National AIDS Spending Assessment, international funds account for 75% of total expenditure on HIV & AIDS. Major international funders include the Global Fund (33% of total budget), PEPFAR (48% of total budget), DFID, CIDA, World Bank, and the UN System. Most domestic funding comes from the federal level (99.7%) as states have historically contributed very little. Thus, funds for AIDS financing are primarily collected through vertical mechanisms.

Medium Integration:

Philippines is the only country in the sample which displays medium health system integration in collection of financing for HIV & AIDS. PhilHealth—the social health insurance program in the Philippines—covers approximately 82% of the population and collects revenues through individual contributions from beneficiaries as well as earmarked taxes, like the sin tax, to pay for the premium of the poor¹³. Domestic revenue for health services in the Philippines, which also accounts for 25% of overall HIV & AIDS expenditures, comes from general government revenues that flow to the Department of Health to fund supply-side delivery. This includes the provision of free ARVs for people living with HIV & AIDS. In addition to this, PhilHealth also provides HIV & AIDS benefits through the “Outpatient HIV/AIDS Treatment Package” to confirmed patients, which began in 2010. This benefit covers ARV drugs and medicines, laboratory examinations (for example, CD4 and viral load counts) and professional fees of service providers¹⁴. It does not, however, cover opportunistic infections¹⁵. Despite the small population in the Philippines that is in need of HIV & AIDS services (< 0.1%), the Philippines relies predominantly on external sources of funding to support HIV & AIDS services. 48% of total HIV & AIDS expenditures between 2009-2011 came from development partners (50% of this was from the Global Fund), and 27% through the private sector (DKT and Levi Strauss Foundation) (PNAC, 2012).

High Integration:

South Africa, Brazil, Colombia, Chile, Mexico, and Thailand have highly integrated collection of HIV & AIDS-related funds. As the table on integration ranks shows, these countries are all in the upper-middle or high income categories. With the exception of South Africa, they also all have low levels of HIV & AIDS prevalence and high levels of socialized healthcare coverage. However, these countries display considerable variety in the sources, methods, and organizational structures for collecting funds for general as well as HIV & AIDS-related health expenditures.

¹³ Joint Learning Network for Universal Health Coverage: Philippines.

¹⁴ PhilHealth Circular on “Outpatient HIV/AIDS Treatment Package”, 2010.

¹⁵ As an HIV-related opportunistic infection, Tuberculosis is covered through the TB-DOTS package. PhilHealth members or dependents can access the TB-DOTS package separately.

In South Africa, an upper-middle income sub-Saharan country with a severe generalized HIV & AIDS epidemic, the largest HIV burden in the world, and low socialized health coverage, the most recent NASA found that in 2009-2010, domestic public revenues made up approximately 75% of HIV and TB spending, while external and private sources respectively comprised 16% and 8%. The 75% of funding from domestic public revenues sources is considered integrated, as it is sourced from the same array of taxes (income, VAT, excise, and fuel) that are collected by the South African Revenue Service, under the National Treasury, to fund health services in the public sector. Other than the vast majority of the public dependent on the public health infrastructure, Medical Schemes in the private sector cover about 16% of the population from premiums collected from companies and individual members and used to pay for HIV and non-HIV health benefits (depending on the benefit package of a particular scheme and regulations for the Prescribed Minimum Benefits that Medical Schemes must cover).

Health coverage in Mexico is split almost evenly between formal sector social security and a social insurance program for informal workers called Seguro Popular (SP). The former is paid for through payroll taxes and government subsidies, while the latter is funded through transfers to states in the form of social and solidarity contributions from general federal government revenue (a mix of oil revenues, and income and consumption taxes), contributions from the state health budgets, and some small contribution from premiums (Barofsky, 2011). IMSS and ISSSTE, two of the largest social security providers, cover about 97% of the formally employed half of the population, and provide full HIV & AIDS treatment as part of their benefits package. For Seguro Popular, a centrally managed fund for protection against catastrophic expenditures, the FPGC, covers 49 high-cost, specialized interventions, including treatment for HIV & AIDS (Frenk, Gómez-Dantés, & Knaul, 2009). The FPGC equals 8% of the federal social contribution, plus the federal and state solidarity contributions, and is thus highly integrated with general collection of health financing (Frenk et al., 2009).

Similarly in Latin America, Colombia, Chile, and Brazil also display high levels of integration in the collection of HIV & AIDS-related funds. Health financing in Colombia is dominated by the General System for Social Security for Health, SGSSS, which covers 96% of the population (Vargas-Zea, Castro, Rodríguez-Páez, Téllez, & Salazar-Arias, 2012). It has a contributory regime for formal sector workers and high earners who must contribute 12.5% of their income to avail a benefits package that has recently been unified across the contributory regime and a subsidized regime. The subsidized regime for poorer affiliates receives 1.5% of the contributory regime's contributions and funding from general taxes. The Basic Health Plan, a safety net financed by general taxes and composed of public health facilities catering to all citizens and providing health-related public goods, forms a third prong for healthcare delivery. Treatment for HIV & AIDS is included as catastrophic care for both contributory and subsidized regime members (Giedion & Uribe, 2009). Since public sector health spending accounts for about 72.7% of total health expenditures (general taxes, funds from the state petroleum company, automobile insurance funds, and obligatory payroll taxes) and out-of-pocket spending makes up another 19.5% of total health expenditures (with the rest spent by private health insurers)¹⁶, collection of HIV & AIDS funds is well-integrated with collection of general health expenditure in Colombia.

¹⁶ World Bank's World Databank, 2012

Chile and Brazil have increased universal health coverage and the integration of HIV & AIDS financing through a combination of public and private insurance. In Chile, about 80% of the population has access to healthcare through the social health insurance program, FONASA, and another 18% of the public uses one of Chile's seven private health insurance entities known as the ISAPRES. This system is financed from four main sources: mandatory and voluntary SHI health contributions from formal and informal workers (28%), central government general tax revenue (30%), direct out-of-pocket spending by households (38%), and voluntary contributions to SHI and commercial insurers (4%).¹⁷ For a 7% mandatory payroll contribution from formal or independent workers earning above a minimum income threshold (Becerril-Montekio, Reyes, & Manuel, 2011), FONASA and ISAPRES cover a minimum guaranteed package of 80 explicit benefits (known as AUGE benefits), including HIV & AIDS services and treatment. Retired, poor, or unemployed citizens can access FONASA free of charge. Hence, since HIV & AIDS financing in Chile is collected as part of the overall SHI financing needed to provide the guaranteed AUGE benefits package, it can be considered highly integrated.

Brazil relies on a decentralized public health system for free universal coverage established by law as a right. While the Unified Health System (SUS) offers comprehensive health coverage and the entire population is eligible to receive services, about 25% opt for private insurers¹⁸. Under the SUS, policy and provision have been devolved to the level of the municipalities (with states and the federal government running the larger or teaching hospitals); funds collection takes place at the federal, state, and municipal levels; and the resources all flow down to the municipal level. The National Health Fund, funded from general taxes at the federal level, transfers resources to the state and municipal funds, to public and private providers, and to special SUS programs like the primary care-focused PSF. HIV & AIDS has been a priority area under the PSF: the public health system supports a network of hospitals, laboratories, and care centers for diagnosis, prevention, treatment and follow-up, which are all established and maintained with public funds to provide HIV & AIDS-related treatment and prevention services free of charge. Since similar resource allocation occurs at the state and municipal levels as well, collection of funds for HIV & AIDS is well-integrated on the whole into the wider health financing mechanisms in Brazil.

Finally, the Universal Coverage Scheme in Thailand serves as the main vehicle of integrating collection of financing for HIV & AIDS with the sources, methods, and structures of funding for the overall health system. Since its launch in 2002, the UCS, along with the civil service and formal sector social security medical benefits programs, has increased health insurance coverage to over 98% of the population in Thailand (75% of the population on UCS, 16% on SS, 8% on CSMB, and negligible on private insurance)¹⁹. Healthcare under the UCS is free at the point of service and no premiums are charged. Instead, funding for the UCS is provided centrally from (progressive) general tax revenue, which is a mix of income, excise, corporate, VAT, and non-tax revenues, and depends on an annually-determined capitation rate and the number of UCS affiliates in each budget year (Sāthāranasuk, 2012). Importantly, since 2006, financing authority for the Universal ART program launched in 2003 has been transferred to the UCS, resulting in

¹⁷ Fonasa, 2011. *Bono AUGE*, Presentation: January 2011.

¹⁸ Joint Learning Network for Universal Health Coverage—Brazil .

¹⁹ Thailand National Health Security office

increased domestic spending on treatment ((Walaiporn Patcharanarumol et al., 2013); (NSP 2007-11)). The universal coverage, social security, and civil service schemes now account for 94% of all patients on ART. As a result, primarily treatment-focused domestic resources now make up 85% of HIV & AIDS spending in Thailand, while 70% of the rest comes from the Global Fund which funds prevention as well as more targeted treatment for some marginalized key affected populations ((Walaiporn Patcharanarumol et al., 2013); (NSP 2007-11)). Since this domestic spending derives from the UCS and other regular sources of health funds, HIV & AIDS collection is highly integrated in Thailand.

4.2 Integration in pooling

Low Integration:

Nigeria, Zimbabwe, and Vietnam are the only three countries in the sample for this study where the pooling of HIV & AIDS funds is not integrated with the wider health financing pool. All three of these countries are in the low or lower-middle income categories and have low or inadequate insurance coverage for healthcare for their populations. Zimbabwe and Nigeria also suffer from generalized HIV & AIDS epidemics. Importantly, collection of HIV & AIDS funds in Nigeria, Zimbabwe, and Vietnam is not integrated with general health system financing. Vertically-financed, donor-supported financing systems in Zimbabwe and Nigeria provide 85% and 75% of HIV & AIDS financing in Zimbabwe and Nigeria respectively, while most funding in Vietnam is also sourced externally. This low integration in collection is thus also reflected in the pooling of HIV & AIDS funds.

In Nigeria, domestic revenues for health are pooled with the federal ministry of health, the National Health Insurance Scheme (NHIS), and in additional insurance pools under CBHI-like models. Federal Ministry of Health coordinates the health sector component of the HIV & AIDS response while other line ministries take charge of inter-related activities. The National Agency for the Control of AIDS (NACA)—the government body responsible for coordinating the HIV & AIDS response—appears to mainly coordinate, and not pool, funding flows. Since most funding for HIV & AIDS from external donors is not incorporated in the general health budget and NHIS does not cover health services for the general population, there is low integration of HIV & AIDS pooling in Nigeria. Similarly, in Zimbabwe where 90% of the population accesses public-funded healthcare, HIV & AIDS funds are also primarily pooled separately from general health funding. The main domestic financing program, a 3% AIDS levy, comprises only 15% of overall financing and is pooled with the National AIDS Trust Fund under the National AIDS Council. Donor funding, however, is pooled in multiple separate arrangements. PEPFAR funds are channeled to service delivery sites or providers directly supported by U.S. government (PEPFAR COP, 2012), while UNDP has had the charge of managing and distributing Global Fund support in Zimbabwe (UNDP). Additionally, various development partners have pooled HIV & AIDS-related funding in recent years under arrangements like the Extended Support Program (CIDA, DFID, Norwegian Aid, Irish Aid and SIDA) and the Programme of Support (Australia, the European Union, Germany, Netherlands, New Zealand, Sweden and the United Kingdom) (UNAIDS-GARP, 2012). Thus, the pooling of HIV funds, like their collection, is very fragmented in Zimbabwe.

Finally, in Vietnam, general health funds are primarily pooled in one national fund with Vietnam Social Security (VSS). It receives premium contributions under all 25 membership categories (including subsidized ones) from all provinces for the country's mandatory SHI system as well as for a voluntary non-commercial health insurance scheme (enrolling only 21% those ineligible for SHI) (Tien et al., 2011). Since VSS does not cover HIV & AIDS services, HIV & AIDS-related funding is pooled separately with different sources. As explained before, only 14.5% of HIV & AIDS spending in Vietnam is public and almost 74% of the resources come from international sources, with household spending making up the rest. PEPFAR funds constitute 50% of overall spending (69% of international financing) and are channeled directly to USG-supported service delivery sites or providers, while bilateral (mainly DFID) and multilateral (mainly WB, ADB, & GF) sources make up another 24%. All these resources are pooled separately from overall domestic health funding, with funders relying on local financing agents and providers to deliver services. Hence, HIV & AIDS pooling integration is categorized as low in Vietnam.

Medium Integration:

Countries in the sample with medium level of integration for pooling of HIV & AIDS funds include Ghana, Kenya, Rwanda, South Africa, and Philippines. All of these, except for South Africa, are low and lower-middle income countries, and, except for Philippines, they all have generalized HIV & AIDS epidemics. Also, while Rwanda, Ghana, and Kenya are ranked low for collection of HIV & AIDS funds, South Africa and Philippines are ranked high-to-medium and medium, respectively.

In Ghana, pooling for HIV financing is somewhat more integrated than collection, but it is still far from highly integrated. Of the 77% of HIV & AIDS spending sourced from external donors in 2010, 21% was sent to a pooled fund overseen by the Ghana AIDS Commission, which constitutes a non-integrated pool since it is used uniquely for HIV & AIDS. However, there is some integrated pooling of public funds for HIV and non-HIV uses in the health budget, the wage bill for public sector health workers, and public health facility capital costs, which is the rationale for coding Ghana's pooling integration as medium. To attain higher degrees of pooling integration, donors could direct higher proportions of their resources to the Ministry of Health's general health budget and to the nationally-pooled National Health Insurance Fund from where NHIS expenditures are sourced.

Similarly, in Kenya, there is some integration of domestic and external HIV & AIDS funding into the government budget. Government funds are pooled by the Treasury, but certain donor funds are considered "on-budget" and are also part of this budget (Kenya NASA 2007/08). This amount is channeled from the Treasury to the Ministry of Health (formerly Ministry of Public Health and Sanitation) through the National AIDS and STI control program and National AIDS Control Council (NACC). The NACC then coordinates transfers to Constituency AIDS Committees (CACs) and transfers to line ministries (Kenya NASA 2007/08). Overall, the ministry of health only manages 17% of HIV & AIDS funds, with other ministries and NACC managing an additional 5% and the NHIF only managing 4.1% (Kenya NHA 2009/10). On the other hand, "off-budget" donor funding, much larger than the "on-budget" amount and a majority of HIV & AIDS funding in Kenya, is considered "extra-budgetary" and channeled directly through NGOs. The rest of the funds comprise households (20%) and private employer

insurance. However, the Kenya National AIDS Strategic Plan 2009/10-2012/13 envisions an eventual pooled funding mechanism which would eliminate the NACC's role as the administrator of funds for public services. Instead, management of public funds would remain with line ministries, leaving NACC responsible only for the management of non-public entities. The line ministries would then directly fund their decentralized structures. Hence, for now, HIV & AIDS funding is only somewhat pooled with financing for the broader health system.

In Rwanda, however, though mass health coverage has been achieved through a network of centrally-coordinated “health mutuelles” (MS) under a CBHI model, there is only medium integration in pooling of HIV & AIDS funds. While only 9.6% of the HIV & AIDS funds come from public sources and a little over 83% come from just PEPFAR and the Global Fund, resulting in low integration in collection (UNAIDS, 2012), there is greater harmonization in pooling: the Global Fund has recently launched a new partnership for implementing Rwanda’s 2013-18 national HIV strategic plan with “sharply reduced oversight” (Rege, 2014). Under the agreement, Rwanda will have more flexibility on spending US\$204 million in Global Fund support, allowing for re-investing savings in the HIV response as part of the national health program. Rwanda will also be responsible for monitoring and evaluation with joint verification of results by the Global Fund. This pioneering GF mechanism aims to align external support with existing systems and strategy in Rwanda and ties future funding to changes in impact and outcome indicators. These funds will be presumably pooled with MS funds at the local community level, but they do, however, seem to be earmarked for AIDS spending. Similarly, a joint pool for performance-based transfer of funding from central to local governments also pays for many HIV & AIDS services, and receives contributions from the government of Rwanda and various international partners²⁰. PEPFAR, on the other hand, mainly channels funds directly to USG supported delivery sites and providers for prevention, treatment, and capacity building activities. Though there is some ongoing or planned transfer of resources to the Government of Rwanda for commodities and warehousing and for clinical services, most PEPFAR support remains vertical and off-budget (PEPFAR, 2013). Hence, overall, Rwanda, displays greater, but still only partial, integration in the pooling function for HIV & AIDS financing than it does in the collection one.

In South Africa, pooling of HIV financing begins with the same pattern as the collection function—dominated by the integrated pooling of domestic public revenues at the national level; integrated pooling of funds by individual Medical Schemes in the private sector; and non-integrated, HIV-earmarked donor funding. However, domestic public funds that are initially collected and pooled by National Treasury are then allocated by Treasury to the national, provincial, and local levels of government. Funds for provinces and local governments are allotted as “equitable shares” and “conditional grants,” with conditional grants for health flowing through the National Department of Health and distributed as earmarked grants for particular purposes to provinces. Therefore, while there is a high degree of integration in initial collection of funds at the national level, funds received by provinces for the purpose of implementing HIV & AIDS programs are no longer considered an integrated pool of funding for general health

²⁰ Such as the World Bank, Government of Rwanda (PHRD grant), Bank-Netherlands Partnership Program (BNPP) ESRC/DFID, and GDN.

needs. Overall, HIV & AIDS financing integration drops to medium when moving from collection to pooling.

Finally, pooling is ranked medium in the Philippines because there is integrated pooling of domestic resources for health within the Department of Health, which provides supply-side delivery of ARVs, and PhilHealth, the social health insurance program which covers 82% of the population and provides outpatient HIV & AIDS treatment. Public hospitals that are designated as “treatment hubs” also receive integrated funding. Also, funding from the Global Fund, which represents 50% of the funding from development partners, too flows through the DOH before it is distributed to NGOs²¹. However, external funding is earmarked for HIV & AIDS services; thus increasing pooling integration from its current rank of medium would require that international donors provide direct support to the general health budget for the Department of Health as well as PhilHealth.

High Integration:

Five countries—Thailand, Mexico, Colombia, Brazil, and Chile—display high levels of integration in pooling HIV & AIDS funds with those for financing wider public health spending. Here, the four countries other than Thailand are all in Latin America and have low HIV-prevalence (<1%). They are all upper-middle or high income countries and have achieved mass health coverage through various systems. However, as the following description shows, there is considerable variety in the mechanisms involved for pooling HIV & AIDS funds.

Mexico, Colombia, Brazil, and Chile, the four Latin American countries in this subgroup, have a diversity of mechanisms to pool health funds. In Mexico, as discussed before, healthcare for about 50% of the population working in the formal sector, including services for HIV & AIDS, is paid for through payroll taxes and government subsidies. Social security providers IMSS and ISSSTE pool these health funds nationally for 97% of these enrollees. Similarly, although general pooling, purchasing, and provision take place at the state level in Seguro Popular, the social insurance program for the rest of the population, the catastrophic fund covering HIV & AIDS services (the FPGC; described above) is managed at the federal level to assure adequate risk pooling²². On the other hand, In Colombia, the General System for Social Security for Health (SGSSS) covers 96% of the population under its contributory and subsidized regimes, with both regimes covering HIV & AIDS services as catastrophic spending. Under SGSSS, revenue from the 12.5% monthly income contribution from the contributory regime reverts to the central Solidarity and Guarantee Fund (FOSYGA) with the Ministry of Social Protection, from where it is transferred for pooling and purchasing to a network of insurance companies (EPS-C) based on a nominal capitation rate for their enrollees (Malgarejo, 2013). 1.5% of this revenue stays in FOSYGA to finance, along with government taxes, the subsidized regime under SGSSS. Funds under this regime are also paid out to another set of insurance companies (EPS-C) for pooling and purchasing based on another nominal capitation rate for the concerned population base.

²¹ Global Fund TFM-NFM-IRR Project- AIDS Society of the Philippines.

²² Respondent interviews indicate the government eventually plans to integrate the FPGC with the common pool for greater sustainability.

Under socialized healthcare in Brazil's comprehensive and decentralized Unified Health System, funds are collected at the federal, state, and local levels but flow down to the local level. Hence, the National Health Fund transfers resources to the State Health Funds and to the Municipal Health Funds which consolidate funds from different sources. The NHF also transfers resources to PSF, the Family Health Program which covers HIV & AIDS. The federal government has also financed production and procurement of ARVs since the early-1990s. Similarly, in Chile, 80% of the public is enrolled with the government's health insurance program FONASA while another 18% benefits from coverage by private insurers called ISAPRES. Both these mechanisms ensure the provision of the benefits package under AUGE, Chile's health system reform, which includes HIV & AIDS services. Funds are pooled in a large national fund under FONASA, while the seven ISAPRES can have risk adjustment mechanisms between their funds. Hence, while there are several pools of healthcare funds, they are all used to pay for the benefits covered under AUGE. Overall, while the four Latin American countries in this subgroup have different health system financing mechanisms, they all have high insurance enrollment, cover HIV & AIDS services, and provide financing through the regular, and thus highly integrated, collection and pooling arrangements for HIV & AIDS.

Finally, Thailand too has highly integrated pooling of HIV & AIDS funding. In Thailand, about 98% of the population is covered by the Universal Coverage Scheme and the civil service and formal sector social security medical benefits programs. These three funding pools account for 94% of the 240,000 Thai citizens on ART (72%, 3%, & 19%, respectively)²³. As the main coverage mechanism covering 75% of the population, funding for the UCS is pooled by the National Health Security Office and channeled to 13 regional offices all over the country. Hence, although parallel, mainly Global Fund-funded CSO outreach caters to Thai and non-Thai key affected populations where government has poor access, HIV & AIDS funds are primarily sourced from regular pools for health funding.

4.3 Integration in purchasing

Low Integration:

Purchasing for HIV & AIDS services in Kenya, Nigeria, Zimbabwe, and Vietnam is not integrated with the general purchasing mechanisms in these countries for health services and commodities. While all four of the countries in this subgroup of the sample in this study are low or lower-middle income, Vietnam is the only one not in sub-Saharan Africa or suffering from a generalized HIV epidemic. Also, except for Kenya which has medium integration for pooling of HIV & AIDS funds, all of these countries have low integration in the other financing functions as well.

According to the last National AIDS Spending Assessment that was done in 2007/8, 45% of spending and provision in Kenya was in public facilities, 24% in NGOs or CBOs, 24% in faith-based organizations, and 7% in bilateral or multi-laterals arrangements. Most domestic funding is coordinated by AIDS Coordinating Units (ACUs) and Central Planning and Project Monitoring

²³ Thailand National Health Security office

Units (CPPMUs) in line ministries. Line ministries are responsible for sharing HIV resources and plans with districts which can incur expenses to undertake agreed upon HIV activities. Although some of the donor money is integrated into the Ministry budget and therefore streamlined with the Ministry's contracting and purchasing systems (resulting in the medium rank for pooling integration), the majority of donor funding supports separate procurement of commodities and support to NGOs or FBOs. For instance, PEPFAR, the largest HIV & AIDS initiative in Kenya, procures and distributes ARVs and medicines for opportunistic infections through Mission for Essential Drugs and Supplies (MEDS) and Kenya Medical Supplies Agency (KEMSA; a state corporation working under the Ministry of Health), and laboratory commodities through Supply Chain Management Systems (SCMS). Similarly, the Clinton Health Access Initiative and the Global Fund procure commodities internationally. The Japan International Cooperation Agency, another prominent HIV & AIDS funder in Kenya, also purchases test kits from international vendors and delivers commodities for local distribution from KEMSA. Hence, HIV & AIDS purchasing in Kenya is quite fragmented, with numerous vertical mechanisms for channeling donor funds resulting in low integration with general public health purchasing.

In Nigeria, the National Agency for the Control of AIDS (NACA) is responsible for the coordination of the AIDS response at the national level. It coordinates state and local agencies for the control of AIDS (SACAs and LACAs), CSOs, private and public sectors, and development partners. The HIV/AIDS Division, (formerly, National AIDS and STI Control Programme-NASCP) in the Ministry of Health coordinates the health sector response. Actual service delivery takes place through a number of channels, including Nigeria's public health system, private health facilities, and civil society organizations (CSOs) as well as faith-based organizations (FBOs). Though the response is decentralized to the State (SACAs) and Local (LACAs) levels, the ownership by states and localities remains low and is a challenge for successful implementation. Purchasing within the public health system happens at the SACA and LACA levels which is financed by federal funding transferred to state and local authorities as a statutory allocation. While the exact share of primary health care financed from public sources varies across states, as some states have greater share of NGOs and the private sector, local governments consistently tend to be the largest purchasers of health staff, facilities, and commodities. However, this is not the case for Nigeria's HIV response. PEPFAR and the Global Fund, together accounting for some 81% of HIV & AIDS spending in Nigeria, have parallel mechanisms for purchasing targeted services and interventions. PEPFAR directly channels funds to service delivery sites or partners, while Global Fund grants are managed and used for purchasing HIV & AIDS services and commodities through Principal and Sub Recipients such as government and NGO partners, mainly NACA, Society for Family Health, Association for Reproductive & Family Health, and the Yakubu Gowon Centre for International Co-operation. Thus, like collection and pooling, HIV & AIDS-related purchasing in Nigeria is significantly fragmented and carried out through vertically-funded mechanisms.

In Zimbabwe, the national AIDS levy under the National AIDS Council is the main public funding mechanism. It raised US\$26.5M in 2011 and used about 50% of these funds for procuring ARVs and the rest for other HIV-related services and administration. However, purchasing of services and commodities in 85% of the HIV & AIDS response funded mainly by international partners, like PEPFAR, Global Fund, and bilateral consortiums like the Extended Support Program and the Programme of Support, is undertaken through distinct and disjointed mechanisms. PEPFAR purchases commodities and services through direct support to delivery

sites and providers, although it contributes the ARVs it purchases for Zimbabwe, targeted at 17% and 15% of the national ARV supplies in 2012 and 2013, to the national commodity pool maintained by the Ministry of Health & Child Welfare. PEPFAR's support to the public program also funds key positions in the headquarter of the national ART program, pays for leadership and management training to more than 60% of the "District Health Executive" teams managing the ART program, and finances 167 laboratories monitoring people on ARVs. However, these funds are channeled through direct PEPFAR administration. UN agencies and the Global Fund, with grants by the latter also managed by UNDP as a principal recipient, account for about 47% of the international response in Zimbabwe. This funding also independently finances ARV procurement and supports prevention and capacity development for institutions and communities. Hence, purchasing for HIV & AIDS in Zimbabwe is primarily located outside the public health-related procurement mechanisms.

Finally, in Vietnam as well, HIV & AIDS purchasing is considerably fragmented from that in the general health system. Vietnam Social Security, the public health coverage program with over 60% enrollment does not cover HIV & AIDS services for adults. Instead, public expenses on HIV & AIDS are incurred under a National Targeted Programme for 2011-15, run by the Ministry of Health, and form only 14.5% of total AIDS spending in Vietnam. According to the last available spending assessment, 43% of these public funds came from the federal government while 57% came from state governments. At 44%, programme management and administration form the largest component of public spending with prevention a close second at 35%, and treatment and care a distant third at 13% of the spending (National Committee for AIDS, 2012). It seems that these public funds are spent on supplying commodities and services through the general health infrastructure for minors and students living with HIV and for treatment of opportunistic infections which are typically not covered by donor systems. Household spending on HIV & AIDS in Vietnam, focused on treatment and care, makes up 11.8% of total spending and is primarily spent on purchasing commodities and services directly from providers and pharmacies. The rest, 74% of total spending, is channeled through bilateral and multilateral donor arrangements to purchase HIV prevention and treatment (National Committee for AIDS, 2012) mainly as projects at stand-alone out-patient clinics (OPCs). As usual, PEPFAR, at 50% of total HIV & AIDS spending, purchases services locally through implementing partners from service delivery sites and providers. Global Fund, however, transfers funds directly to programs in the Ministry of Health, which is a principal recipient. But, at only 4.7% of total spending, GF aid is small and, in any case, public HIV & AIDS purchasing itself is not integrated well with general health purchasing. Hence, overall, Vietnam has low HIV & AIDS purchasing integration.

Medium Integration:

Purchasing of HIV & AIDS-related services and commodities in Philippines, Ghana, South Africa, and Rwanda displays medium integration with existing health service delivery and commodities procurement systems. Except for the integration of the collection function in Ghana (low), South Africa (high), and Rwanda (low), all other HIV & AIDS financing functions in these countries also demonstrate medium integration.

Purchasing for HIV & AIDS in the Philippines at the domestic level is mostly integrated as both the Department of Health (DOH), which funds supply side delivery of ARVs, and PhilHealth, which provides SHI coverage for 82% of the population and covers HIV & AIDS through the

“Outpatient HIV/AIDS Treatment Package” (OHAT) initiative, purchase services from the same “treatment hubs”. These hubs are hospitals with established HIV & AIDS core teams (HACTs) providing prevention, treatment, and support services. Publicly-funded ARVs are only available in these facilities (PNAC, 2012). PhilHealth directs its members to these treatment hubs to avail of the OHAT and then pays through a case-based payment scheme with maximum annual reimbursement capped at 30,000 pesos. The treatment facility is paid in quarterly installments as long as there was some treatment during this time. However, international donors, accounting for 48% of the total spending, purchase outside the DOH system (PNAC, 2012). External money, such as Global Fund support which is channeled through the DOH, funds NGOs (primarily the AIDS Society of the Philippines and the Positive Action Foundation) which then provide their own prevention and treatment programs. Hence, public spending on commodities and high SHI coverage in the Philippines, coupled with salient parallel donor-funded mechanisms for procurement and provision, have led to medium integration in HIV & AIDS purchasing.

Similarly in Ghana, HIV & AIDS purchasing is at least as integrated as the pooling function, and possibly more. The Global Fund, the largest HIV donor in Ghana and source of 85% of the National AIDS Control Program budget, was recently evaluated for its level of integration with Ghana’s general health system. With the Ministry of Health the primary recipient of Global Fund grants and the Ghana Health Service the primary implementer, Global Fund activities were found to pay for services, commodities, and training mostly through the existing health service delivery and commodities procurement systems. There is also a high degree of integration in the purchasing of health worker labor through the government’s wage bill. While a good deal of integration exists now between HIV and non-HIV purchasing in Ghana, the glaring exception is the purchasing done within the National Health Insurance Scheme, which excludes HIV & AIDS-related medicines and services. As NHIS expenditures (which are mostly comprised of reimbursement of claims and new capitation-based payments to providers) account for increasing shares of health spending in Ghana, moving to a high level of integration of HIV purchasing would imply adding HIV benefits to the NHIS benefit package and array of payment mechanisms.

Integration for the purchasing function is ranked as medium in South Africa as well. Collection in South Africa is highly integrated as it raises 75% of its HIV & AIDS funding from domestic public revenues. These funds are transferred to the provincial and local levels as earmarked financing for HIV & AIDS in the form of “equitable shares” and “conditional grants”, respectively, which results in a lower pooling integration rank of medium. Most purchasing takes place at the provincial level, which funds specialist hospital services and ambulance needs, and oversees all province-wide and district-level health infrastructure and services. The local governments only provide specified primary care services for which funding for purchasing is made available by the provinces. Earmarked funding for HIV & AIDS, thus, can be utilized through these channels in an integrated manner. Similarly, HIV & AIDS services can also be purchased on behalf of the 16% of the population covered by medical schemes in an integrated manner as the prescribed minimum benefits for these schemes cover HIV & AIDS hospitalization and treatment, including ARVs, according to the national guidelines prevalent in the public healthcare sector. However, 16% of the HIV & AIDS funding is sourced from external donors with PEPFAR and Global Fund being the largest bilateral and multilateral donors, respectively—providing almost 60% of total foreign funding. The governments of Netherlands and the United Kingdom together provide an additional 20%. As earmarked funding for HIV &

AIDS, these funds are only partially integrated in the public purchasing mechanisms for commodities and services. For instance, while the National Department of Health and the National Treasury receive direct support as two of the Global Fund's principal recipients, civil society agents and implementing partners like National Religious Association for Social Development, Right to Care, and Networking AIDS Community of South Africa also receive funding. Similarly, PEPFAR, which started out in South Africa by directly purchasing treatment services and clinical care from providers, has increasingly shifted to technical assistance and health system strengthening as domestic resources have increased. Increasingly, PEPFAR assistance is being brought on-budget as earmarked support for delivery of services through the public infrastructure. However, PEPFAR's parallel procurement and service delivery channels remain salient. Hence, HIV & AIDS-related purchasing in South Africa is increasingly but still only partially integrated with the same function in the public health sector.

Finally, in Rwanda, universal health coverage has been achieved through a network of community-based health insurance schemes called Mutuelles (MS), although domestic public resources only make up 9.6% of HIV & AIDS-related financing and 90.2% of the resource pool is derived from foreign donors like PEPFAR (42.7% of total) and the Global Fund (40.6% of total) according to the latest available estimate from 2009-10 (UNAIDS, 2012). The MS is offered through a decentralized, multi-tier public health system of over 500 local health centers and dispensaries, 48 district hospitals, and 4 national referral hospitals. It provides a Minimum Package of Activities (PMA) at local health centers and a Complementary Package of Activities (PCA), covering prevention, family planning, and curative services for those referred, at district hospitals (Lu et al., 2012). While the PMA does cover HIV & AIDS prevention and treatment services, ART is generally considered to not be available. In any case, only 30% of health centers are able to provide the comprehensive list of activities according to an estimate of the Ministry of Health (MOH, 2009). Consequently, while government funding is channeled through PMA and PCA at public facilities, donor funding for HIV & AIDS is only partially integrated with this mechanism for pooling and purchasing (Doetinchem et al., 2010). The Global Fund has begun to route earmarked funding through government channels under the recently-launched 2013-18 partnership, with greater flexibility on spending and joint monitoring and evaluation. However, although PEPFAR is beginning to put some funds 'on-budget' in Rwanda for commodities, warehousing, and clinical services, it still primarily channels its support directly to service delivery sites and providers through implementing partners. Hence, there is considerable but still only partial integration in HIV & AIDS-related purchasing in Rwanda.

High Integration:

Finally, HIV & AIDS-related purchasing in Thailand, Mexico, Colombia, Brazil, and Chile is highly integrated into the general health purchasing and procurement mechanisms. All five of these countries have high levels of per capita income and health insurance coverage, and apart from Thailand (Asia; 1.1%), the rest are all Latin American countries with low-level HIV & AIDS epidemics.

In Thailand, as explained before, extensive insurance coverage and comprehensive benefits through the country's Universal Coverage Scheme as well as smaller social security and civil service benefits programs have resulted in high integration of the collection and pooling functions for HIV & AIDS-related financing. These programs comprise 85% of HIV & AIDS

financing and cover 94% of the individuals on ART. They primarily fund HIV & AIDS care and treatment services for Thai citizens though, and purchase commodities and services from hospitals and health centers run by the Ministry of Public Health (Hanvoravongchai, Warakamin, & Coker, 2010). The Global Fund provides 70% of the international financing in Thailand, which is not integrated into the general health system as the Global Fund has distinct payment and accounting protocols (Hanvoravongchai et al., 2010). This financing is channeled through implementing partners from the civil society and used largely for HIV-prevention activities and for treatment and care for mainly non-Thai key affected populations since government facilities do not cover non-Thai citizens. Hence, overall, HIV & AIDS-related purchasing is highly integrated with the general health system in Thailand.

Mexico, Colombia, Brazil, and Chile also have highly integrated HIV & AIDS purchasing. In Mexico, coverage for the 266 benefits offered under Seguro Popular, the social insurance program covering the half of the population employed informally, is only available at public facilities (Bonilla-Chacín & Aguilera, 2013). Generally, purchasing and provision take place at the state level as state governments are responsible for the administration of program resources. However, comprehensive care for HIV & AIDS under SP is funded through the FPGC, the catastrophic care fund, which covers 49 catastrophic events and is pooled at the national level as a trust, comprising 8% of all annual resources, managed by the National Commission for Social Protection of Health. The annual budgetary allocation to FPGC has grown twelve-fold over 2004-2011 as the number of enrollees grew, with provision taking place through direct federal reimbursements to federally-certified healthcare facilities, which are primarily located in the private sector (Knaul et al., 2012). However, interviews for this study with respondents indicate that such separate reimbursements mechanisms to pay private providers treating patients for HIV & AIDS do not currently exist, and the National Commission is purchasing HIV & AIDS services from both public sector facilities and a network of 56 integrated, publicly-funded HIV & AIDS outpatient clinics called CAPASITS²⁴ (Saavedra, 2010). For 97% of the other half of the population employed in the formal sector, however, health coverage and HIV & AIDS services are provided (only) by providers affiliated with their respective social security institutions (IMSS and ISSSTE). Mexico, therefore, has achieved high ART coverage under highly integrated HIV & AIDS collection, pooling, and purchasing mechanisms.

In Colombia, 96% of the public is enrolled with the General System for Social Security for Health (SGSSS). SGSSS creates “quality-centered competition among service providers and insurers”²⁵ by enabling individuals enrolled in its contributory and subsidized regimes to pick their insurer as well as an affiliated provider. Hence, there is one market for insurance plans and another market for health services under the SGSSS. Since HIV & AIDS is covered as a catastrophic condition under both the SGSSS regimes and provision is primarily private, purchasing is highly integrated with the general healthcare system. In Chile, however, as mentioned earlier, 80% of the public is covered by FONASA, the public insurer, while another 18% is covered by seven private insurers called ISAPRES. Both these insurance systems cover HIV & AIDS under an explicit package of 80 benefits. While non-indigent FONASA

²⁴ The first of these outpatient clinics was launched in 2000. By 2010 more than 35,000 people with HIV were receiving care in the CAPASITS.

²⁵ Joint Learning Network for Universal Health Coverage—Colombia

beneficiaries have the option of availing private provision of healthcare for a higher copayment, most FONASA beneficiaries receive care through the public system administered by 27 decentralized Regional Health Services under the National Health Services System. Importantly, primary health care is also offered through 1870 municipal health centers also funded mainly by the federal government. FONASA's payment mechanism for care through this system comprises capitation for primary health care and historic budgets for public hospitals combined with fee-for-service and prospective payment per case²⁶. Beneficiaries of ISAPRES, on the other hand, mostly avail healthcare services from private sector providers who are paid under fee-for-service arrangements. Hence, HIV & AIDS, as a regular benefit under the public system, is well-integrated into the general purchasing and provision systems.

Finally, HIV & AIDS care in Brazil has been prioritized under the PHC-centered Family Health Program of the Unified Health System. Under this decentralized system, state and municipal governments take charge of practically implementing national health policies, including the National STD/AIDS Programme, through Brazil's public health infrastructure ("Case Study 3: National STD/AIDS Programme, Federal Ministry of Health," 2011). Funding trickles down to the local level under this system such that these activities at the level of state and municipal governments are financed through the regular mechanisms of the Unified Health System. These mechanisms include direct earmarked transfers between national, state, and municipal health funds which represent nearly all of the financing for primary, medium, and tertiary health services, incentives policies funds to finance actions or commodities targeting key affected groups (like people living with HIV & AIDS), and administrative and transfer agreements between federal public organizations and local public entities or NGOs to fund specific activities like provision of services. These mechanisms cover full HIV & AIDS service coverage, including free-of-charge ARVs, under a comprehensive package of benefits for 75% of the population enrolled in the public system. The 25% of the population on private insurance can access highly standardized insurance plans regulated by the National Health Agency and offered by private companies, cooperatives, and medical organizations. These entities buy services for beneficiaries from private providers under fee-for-service arrangements. Hence, purchasing of HIV & AIDS services and commodities under Brazil's national public insurance system is also highly integrated with the general health payment apparatus.

²⁶ Chile Ministry of Health

5. Conclusions and Recommendations

Integration of HIV & AIDS financing with that of general health financing systems has been identified as a potential means of improving efficiency and financial sustainability of HIV & AIDS programs, while also enhancing access, equity, and quality of general health coverage for the population. This landscaping exercise uses a well-known health financing framework to disaggregate the complex issue of integration and explore variation in country experiences. It forms a first step toward more in-depth country-level analysis and policymaking.

The country landscaping identified some general patterns in existing levels of integration in HIV and health financing. First, there is indeed substantial variation in the extent of such integration across countries and within countries over the three financing functions. It is therefore useful to disaggregate the idea of integration across these functions (and also across different components of the HIV & AIDS response) before making policy decisions about whether, where, and how integration should happen. Doing so may help identify feasible integration opportunities in certain functions even where others are more difficult—or in between the rarer occurrence of large, path-changing health financing reforms that affect all functions at once. For example, Rwanda shows that integration in the collection function may be unlikely in the medium term because of a country's low-income and inability to raise adequate domestic resources, but it is still possible to integrate pooling and purchasing to some extent, all while advancing UHC goals.

5.1 High levels of integration

In the countries reviewed here, integration appears to be more likely or easier to accomplish as country income rises and as HIV burden decreases. The five countries with higher levels of per capita income and low or concentrated HIV epidemics all had high levels of integration across the collection, pooling, and purchasing functions. All five are also relatively advanced in terms of UHC-oriented population coverage goals. The high integration exists even though these countries differ in the institutional arrangements employed to offer HIV and other health benefits. For instance, while Brazil has integrated the cost of HIV & AIDS treatment into its (non-insurance-based) universal public health system, Colombia has focused on including HIV & AIDS within a nationally-regulated benefits package offered primarily by private sector health insurers. Mexico has found a middle ground by covering informal and independent workers through public funding under Seguro Popular, parallel to formal sector workers' coverage under the social security institutions. In sum, high levels of HIV financing integration can be achieved under a wide range of institutional approaches to UHC, but may be more difficult in low-income countries and countries with large HIV burdens.

5.2 Medium levels of integration

Five countries here represent a middle-ground of some integration for certain functions, but much less so than the countries described above. This group, and similar countries outside of the sample here, may be the most likely candidates for increased integration in the near term. This is already starting in South Africa, where the government and PEPFAR have been engaged in a thorough financial mapping and planning process to prepare for a transition away from PEPFAR funding, and next steps may include analysis of HIV-related funding requirements for a future

national health insurance system and the operational requirements for a future National Health Insurance Fund to pool funds and organize purchasing of HIV & AIDS services.

There is interesting variation in the pooling function among the six countries in the sample for this study with low levels of collection integration—with three of the countries also having low pooling integration, and the other three exhibiting medium levels. This creates a possibility for policy-relevant comparisons—for example, does a country such as Kenya with more HIV/non-HIV pooling appear to benefit somehow (or have its HIV programs harmed in any way) from the pooling compared to one with less, such as Zimbabwe?

The observed combination of low integration in collection with medium integration in pooling also points to a potential point of entry for promoting integration: even if low-income countries cannot integrate collection of HIV funding in the near term, they may be able to gain efficiencies, better spread health and financial risks, or lay groundwork for more sustainable (and domestically-driven) financing of their health systems by pooling some of their HIV funding with other health funds. Donors and countries with reasonably well-functioning national health financing pools/purchasers, such as Ghana’s National Health Insurance Fund/Authority, should be the first to explore whether at least some HIV funds could begin to be integrated into such pools. Rwanda, Kenya, and the Philippines could also be promising cases for increased integration in pooling of HIV and non-HIV financing in the short term.

Enhancing pooling integration requires a country to develop the capacity for robust monitoring and evaluation with credible verification of results by funders. Such integration should therefore serve to harmonize external funding with local systems and priorities and condition continued support on improvements in outcomes. Such “on-budget” support has already begun to be pioneered in Rwanda and Kenya where some earmarked external funds (Global Fund in Rwanda) are being channeled through government bodies which had previously served to only coordinate donor funding.

5.3 Low levels of integration

Countries in this sample where HIV financing is not integrated with overall health financing tend to be poorer, lack widespread health insurance coverage, and suffer from generalized HIV epidemics (except Vietnam). Donor-driven, vertically-funded programs in these countries source, pool, and pay out financing mostly independently of the wider health financing infrastructure, with governments largely performing coordination and planning functions.

The link between countries’ income and their level of integration in the collection of funding is one of the clearest and most intuitive relationships in this landscaping, mostly due to LICs’ higher reliance on external (and often earmarked) funding for HIV. LICs’ collection function may therefore be the least fertile ground to promote integration, but countries and donors should at least consider whether increased bundling of HIV and non-HIV assistance—through SWAs, budget support, or similar donor funding modalities—could save some resources in the short term and help lay the groundwork for a smoother transition away from external funding in the longer-term future. This is probably most feasible in LICs with at least some integration in the pooling and purchasing functions, such as Kenya and Rwanda.

5.4 Note on purchasing

There are special considerations for HIV integration in the purchasing function. Purchasing systems, which include specific payment mechanisms for particular goods and services (e.g., tariffs, salaries, fee-for-service, capitation, etc.), should be formulated to achieve certain health system goals, such as containing costs, reducing inequity, or improving access and quality. Integrating HIV and non-HIV purchasing systems has the potential to save administration costs of running parallel financial system and to create economies of scale that reduce costs of paying for all health services, including HIV/AIDS. However, given the unique characteristics and needs of HIV & AIDS—some of which are highlighted in Section 3—integration of *payment mechanisms* (i.e., using the same payment mechanisms, such as salary or capitation, to pay providers to deliver HIV and other health goods and services) must be considered cautiously. In some cases, it may well be that a separate, HIV-tailored payment arrangement (perhaps within a central purchasing entity’s operations) is best to ensure adequate utilization, overcome stigma, or achieve cost efficiencies for life-saving medicines. Monitoring and evaluation frameworks made need to be modified to accommodate HIV adequate quality for services covered by existing health purchasing arrangements and newly integrated HIV-targeted ones.

5.5 Further research and next steps

This review of experiences across 13 countries provides a foundation for further analysis and policy guidance. More evidence is especially needed on the impacts of particular forms of integration. In particular, there is a lack of evidence on the impact integration has on efficiency, quality, and access for HIV and non-HIV health services. It is also important to investigate how financing integration affects delivery arrangements, which was beyond the scope of this study. Further analysis is also needed to substantiate and mitigate the HIV-specific concerns flagged in section 3. Are countries with socialized or otherwise highly integrated HIV & AIDS financing in this study able to better sustain chronic treatment horizons, support public good components of HIV programs, generate and utilize data to adequately estimate HIV coverage costs, and ensure non-discriminatory delivery to marginalized or general populations? Connecting these concerns to the level and means of financing integration will help inform whether closely aligning HIV financing efforts with UHC efforts will serve HIV & AIDS responses, the needs of other health conditions, and the access and financial risk protection goals of UHC well.

Country case studies will be vital for systematically investigating these and other questions and producing context-relevant policy recommendations. As an immediate next step, this landscaping study can help identify priority countries for such case studies on the basis of factors such as HIV burden, domestic financing capacity, ongoing or future policy reforms for full population health coverage, and donor transition plans. These case studies can generate evidence for policy guidance on the integration issue by:

- Mapping HIV and non-HIV financing in detail across the three financing functions;
- Cross-referencing this financial mapping with types of HIV & AIDS goods and services;
- Costing and modelling the financial effects of integration to craft nuanced financial scenarios, identifying the best opportunities for—and also risks of—integration along the lines of questions flagged above; and
- Conducting stakeholder analyses and suggesting ways of facilitating dialogue among stakeholders to inform any integration plans.

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