

Integrating Vertical Programs into Primary Health Care

A DECISION-MAKING APPROACH FOR POLICYMAKERS

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Introduction

Since the Alma Ata Declaration of 1978¹—a sweeping manifesto endorsed by more than 100 countries that affirmed a universal right to health—governments, global health experts, and donors have grappled with the tension between expanding access to health services through primary health care (PHC) systems and building on gains made by health need-specific, or “vertical,” programs, such as those for HIV, malaria, and family planning.

The debate has further intensified over the past two decades with the growth of international funding for disease-specific programs in low- and middle-income countries, spurred by the HIV/AIDS epidemic and shaped by the 2000–2015 UN Millennium Development Goals. Faced with weak health systems in many countries and motivated by a desire for measurable results, many donor-financed initiatives have created structures and systems that, to varying degrees, have stood apart from the broader health system in the countries where they operate. These efforts have often included separate supply chains, financing sources, monitoring and evaluation (M&E) systems, and even facilities and staff.

While many of these donor-driven initiatives have produced remarkable results—for example, substantially reducing the burdens of malaria, childhood illnesses, and maternal mortality; slowing the spread of HIV; and increasing the use of modern contraception—new challenges and aspirations are forcing a broad reappraisal of how they are funded and organized.

Critics have argued that donor-funded vertical programs have in some cases weakened the capacity of health systems by diverting scarce resources, especially skilled staff. Champions of disease-specific programs have themselves recognized that the structural weaknesses of health systems can hamper the delivery of vital interventions. Another consideration is the dramatic rise in noncommunicable diseases such as cancer, cardiovascular disease, and diabetes in all but the poorest countries, which has led to an urgent need for preventive services and continuity of care that many health systems are ill-equipped to provide.

Discussions about integrating vertical programs into broader health systems have become increasingly urgent as more countries have committed to moving toward universal health coverage (UHC) and as many of them, especially those entering middle-income status, have prepared to take on more financial responsibility for health care as donor funding phases out.

The UHC movement has strengthened advocacy for integration in service delivery and its enabling systems and inputs,² particularly following the Global Conference on Primary Health Care, which marked the 40th anniversary of the Alma Ata Declaration. Another impetus for integration is to ensure equitable financing for and access to a range of services, not just those offered by a handful of privileged programs. Countries are also increasingly cognizant of fiscal constraints and are eager to increase health system efficiency, including through integration.

This paper offers practical guidance for policymakers who need to make decisions about whether and how to integrate specific vertical programs into their country’s health system, with a focus on PHC. It discusses what the evidence shows about the successes and failures of such efforts, considerations for policymakers when making decisions about integration, and ways to balance potential gains and losses. It also proposes use of a tool called the PHC Conceptual Framework for characterizing the relationship between a vertical program and the broader system and exploring the potential opportunities and constraints that come with integration. The Annex includes brief case studies from South Africa and

Ethiopia illustrating how the PHC Conceptual Framework can help policymakers understand integration efforts. Two other, more detailed case studies about ongoing integration efforts in Ghana and Malawi are available online at r4d.org/integrating-vertical-programs.

What Is Primary Health Care?

This paper defines *primary health care* as the provision of outpatient preventive, promotive, and curative care, with a focus on health interventions that address a country's main health challenges. PHC includes services such as family planning, prenatal care, immunizations, smoking deterrence, mental health services, and treatments for common diseases such as respiratory and childhood illnesses. PHC also ideally includes referrals and coordination with higher levels of care at secondary and tertiary facilities. In this paper, we use the term *PHC system* to refer to elements of the health system—whether public or private—that are primarily dedicated to supplying and facilitating the use of PHC services. Of course, many such functions are shared across the health system and are not confined to PHC.

What Do We Mean by Integration?

Given the many uses of the term *integration* in health care research and practice, it is important to define the term as it applies specifically to our discussion about integrating vertical programs into health systems. In this paper, we use the term to describe the process by which a disease- or health need-specific program shares more of its components, or shares them more fully, with the broader system. This is distinct from other types of integration, such as the “vertical integration” of health service delivery across levels of care. It is also more expansive than the concept of “integrated service delivery,” which typically focuses on providing a full range of health services in the same location or ensuring that individual health workers can deliver a broad array of services to patients.

At one extreme are minimally integrated vertical programs. For example, in some countries the United States President's Emergency Plan for AIDS Relief (PEPFAR) has funded single-purpose HIV facilities run by nongovernmental organizations (NGOs) with a dedicated workforce, financing, supply chain, and M&E policies that are separate from the rest of the system. Similarly, some tropical disease programs that focus on mass drug administration have had few, if any, links to the rest of PHC delivery.

More commonly, vertical programs share some components with the broader system. For example, immunization programs rely primarily on PHC facilities and staff for service delivery but may also conduct separate campaigns or operate dedicated supply chain and distribution systems due to special cold chain requirements. Malaria diagnosis and treatment in public-sector facilities is usually substantially integrated into PHC, but bed net distribution for malaria prevention is typically not. Family planning services generally have integrated components (such as some form of counseling and provision of some, usually short-acting, contraceptive methods) as well as nonintegrated components (including dedicated social marketing of certain methods and demand creation efforts).

The process of integrating a vertical program into the PHC system can affect just one element of the program or it can be more complex, involving reorganization of leadership, financing, supply chains, service delivery, and more. Some health needs require more sophisticated or specialized care than is available in PHC settings, so integration efforts must consider both existing and needed linkages

between PHC providers and specialists, whether in small practices or larger secondary- and tertiary-level facilities.

What Does the Evidence Show About Integration?

Researchers have used a wide variety of methods to identify and analyze the effects of integrating vertical programs into PHC systems. Most use specific indicators to allow comparison across different service delivery models. A substantial amount of qualitative literature explores the factors that enable or hinder effective integration, and several systematic reviews of these studies have been conducted.

In our own review of approximately 100 peer-reviewed and other published studies dating back to the 1970s, we found numerous claims about the virtues of integrating vertical programs or specific functions of vertical programs into PHC systems, some validated through rigorous quantitative evaluations. Overall, however, the evidence is mixed.

In some cases, integration has yielded clear benefits to the vertical program by increasing access to or the quality of priority services. Examples include integrating management of childhood illnesses into PHC delivery in Bangladesh³ and the addition of nutrition, infection control, and family planning to routine services in India.⁴

Integration has improved PHC performance in some countries. For example, adding basic HIV care to Rwandan PHC centers may have contributed to increased utilization of key preventive services, especially in reproductive health.⁵ In Zimbabwe, deploying multidisciplinary mentor teams in PHC clinics and communities improved diagnostic accuracy, HIV and tuberculosis testing rates, and prenatal care-seeking.⁶

In other settings, vertical programs have outperformed more integrated approaches in achieving disease- or need-specific outcomes. In Nepal, women served by village health workers who focused narrowly on family planning and immunization demonstrated greater family planning knowledge and intention to use contraceptives than those served by health workers offering a broader range of PHC services.⁷ Routine PHC services may simply not effectively address some health needs. For example, Cambodia's vitamin A supplementation coverage rate decreased after transitioning from campaign-style distribution during national immunization days to reliance on community- and facility-based services.⁸

Importantly, the quantitative literature focuses predominantly on service delivery, with less attention paid to measuring the impact of integrating the governance or financing mechanisms of vertical programs with those of PHC systems.

Elements of Effective Integration

A 2017 review of 206 quantitative, qualitative, and mixed-methods studies published between January 1980 and June 2015 revealed several key elements of effective service integration.⁹ They include the existence of information systems and management tools within the PHC system that can facilitate integrated clinical practice, as well as sufficient and appropriate space to provide services (balancing the need for patient convenience with patient privacy and safety from health risks).

Effective integration also requires coordination of efforts across the health system, not only in service delivery settings but also in operations and administration,¹⁰ health sector policies and strategies,¹¹ reporting and information systems,¹² and funding streams.^{13,14}

The research suggests several key considerations for governments and donors as they weigh whether and how to integrate vertical programs into PHC systems:

- **The context matters.** As with any health reform, a range of contextual factors will affect feasibility and potential impact. For integration, important factors are likely to include PHC system performance relative to vertical program performance, and the epidemiological trajectory of the health needs currently addressed by the vertical program.
- **Integration may require tradeoffs.** In some cases, integration can improve the reach, quality, and sustainability of critical disease-specific services. In other cases, integration may dilute political attention or funding for specific health needs, thereby slowing the expansion of coverage compared with what might be attainable through a vertical program.
- **Integration should go beyond service delivery.** A range of program and system components, including governance and financing, should be included in integration efforts. The key components—either as enablers of integration or points of vulnerability—will depend on the health need and the country context.
- **Integration can be incremental.** A well-functioning health system is a prerequisite for effective integration, so countries can start with program components that the broader health system is prepared to absorb while investing in system functions that need further strengthening before they can sustain activities that are currently carried out by vertical programs.

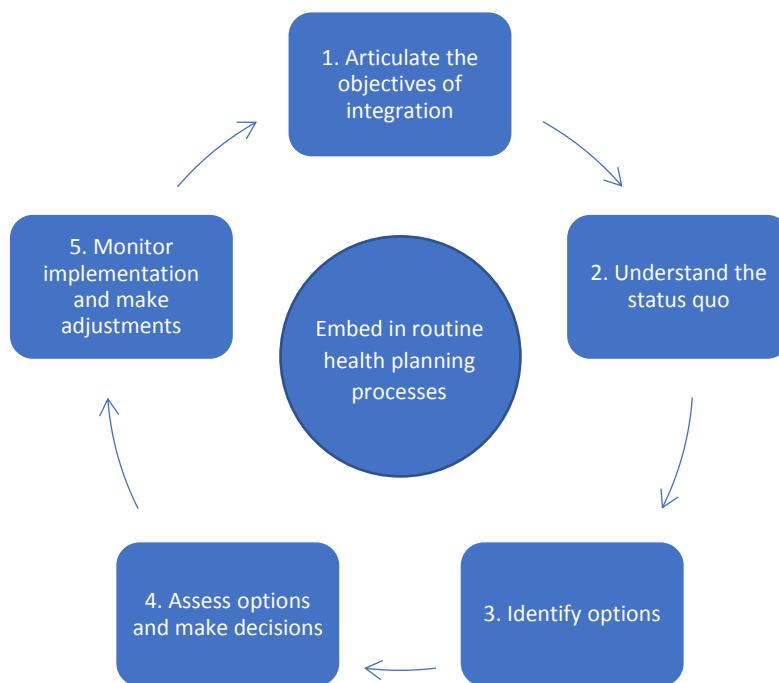
A Five-Step Decision-Making Process

Policymakers will rarely have definitive empirical evidence on whether or how to integrate vertical programs into PHC systems, but we suggest a series of guiding principles and steps for PHC integration decisions. These are informed by the literature, our own experience studying and consulting on health reform efforts in varied contexts, and the integration case studies in the Annex.

We propose five steps for policymakers to follow in their integration-related decision-making. (See Figure 1.) These steps should be embedded in routine policy and planning processes.

1. Articulate the objectives of integration.
2. Understand the status quo.
3. Identify integration options.
4. Assess the options and make decisions.
5. Monitor implementation and make adjustments.

Figure 1. Five Steps for Decision-Making on Integrating Vertical Programs into PHC Systems



Embedding Integration Decision-Making in Routine Policy and Planning Processes

Few countries seamlessly coordinate policy and planning across all health programs. A frequent byproduct of vertical programs is the further fragmentation of policy development and planning. This is especially common with externally financed programs, whose donors often insist on special coordinating bodies for individual diseases or health needs. Because integration implicates more than the program in question, integration-related deliberation and decision-making should not be limited to these special forums.

Instead, countries should include integration on the agendas of sector-level bodies that oversee health reform efforts, and the dialogue should include senior health and finance officials and other parties who are involved in service delivery, policymaking, financing, information systems, procurement, distribution, and other relevant areas. Engaging this array of actors can help ensure that integration decisions are aligned with the country’s health sector and health financing strategies, including efforts to create or scale up national health insurance schemes in pursuit of UHC and initiatives in areas such as the health workforce.

If a platform for this breadth of dialogue does not yet exist, the need to make integration-related decisions could provide the impetus for creating one.

Step 1. Articulate the Objectives of Integration

No matter what spurs the integration debate, proponents will need to express their aims in relation to widely embraced objectives, such as increased utilization, efficiency, quality, or equity of health services. Many countries are already pursuing some or all of these objectives under the aegis of UHC, while

others have alternative or complementary reform efforts with a specific focus, such as health care for rural and poor populations.

The World Health Organization and others have argued that the most efficient health systems avoid parallel or duplicative systems for service delivery, financing, generation of health-related human and physical capital, and stewardship,¹⁵ which has led countries to seek ways to reduce overlapping functions as part of their broader health reforms.

Policymakers who are interested in integration should be able to clearly explain how it will contribute to broader health objectives, such as improved efficiency, while also understanding how various constituencies will evaluate integration proposals. Health sector stewards and PHC advocates may be most interested in systemwide effectiveness and efficiency, while vertical program implementers, advocates, and funders may be most concerned with the needs of the populations their programs serve. For example, the HIV community will seek to understand how integration will accelerate progress toward the UNAIDS 90-90-90 targets,^{*} and family planning advocates will ask how integration will help countries fulfill their FP2020 commitments.[†]

Once they clarify their objectives, policymakers should marshal government, civil society, and donor resources to analyze what integration would require in practice and identify the likely enablers and risks throughout the health system and the vertical program in question.

Vertical Programs and Urgent Health Needs

Vertical programs often arise to address urgent and underaddressed health needs. When these needs remain pressing, any integration plan should ensure comparable or enhanced access to key services. Examples include addressing unmet need for modern contraception, malaria bed net coverage in highly endemic areas, and continuous HIV treatment.

In other cases, the need may have declined, either because of the program's success or because of underlying epidemiological trends, so it may be possible to suspend blanket coverage of certain measures and rely instead on careful surveillance and case management strategies that are more easily integrated into the PHC system. This is true of malaria in many areas where elimination has been achieved, as well as of certain tropical diseases such as leprosy, lymphatic filariasis, and trachoma. As their burden declines, some diseases may also be seen as lower priorities than when programs were created to combat them.

Step 2. Understand the Status Quo

Programs that are considered vertical can differ considerably in how vertical they really are. Many already share components or functions with other programs or with the broader health system, and those components and functions can be shared to varying degrees. Consequently, in some contexts the integration discussion may be about whether and how to further integrate rather than whether to integrate in the first place.

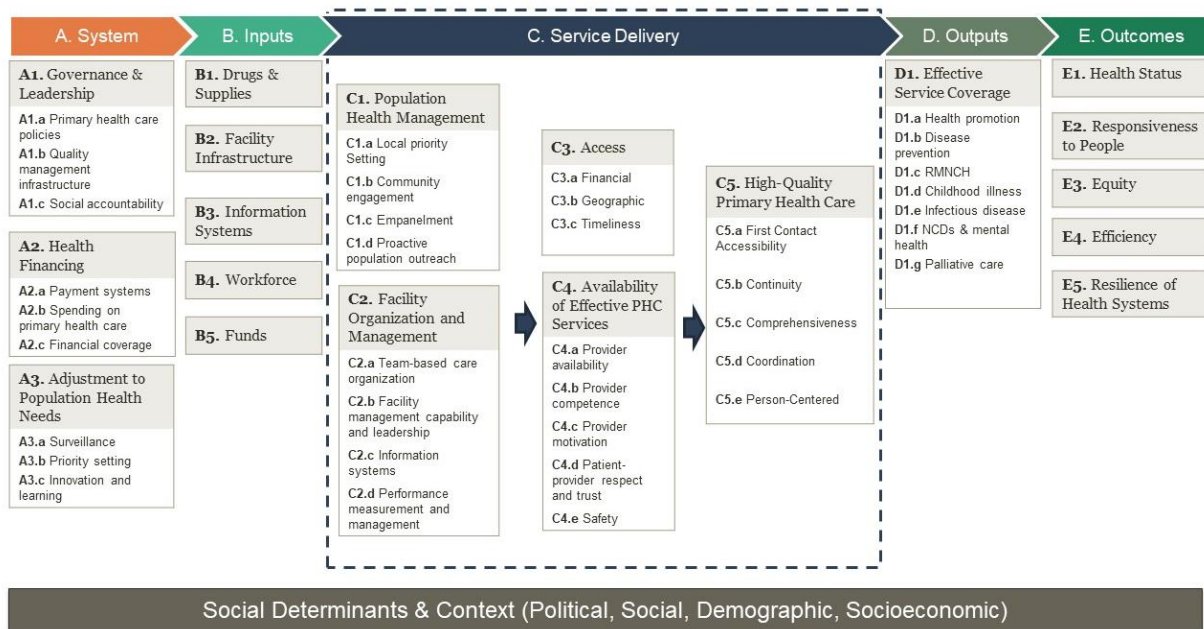
^{*} The aim is for 90% of all people living with HIV to know their status, 90% of those who know their status to be on sustained antiretroviral therapy, and 90% of those receiving therapy to achieve viral suppression. See <http://www.unaids.org/en/resources/documents/2017/90-90-90>.

[†] See <http://www.familyplanning2020.org/> for more details.

Characterizing the current relationship between the vertical program and the PHC system is critical to integration decisions because it helps clarify options. In some cases, the discussion will be about the shared use of health facilities and human resources. In others, it will be about financing and benefits policies, such as bringing vertically funded services into the national health insurance scheme’s essential services package.

Understanding the status quo requires examining how the program relates to the health system’s various functions. For this purpose, we propose using a tool such as the PHC Conceptual Framework¹⁶ developed by the Primary Health Care Performance Initiative (PHCPI).[‡] (See Figure 2.) The PHC Conceptual Framework lays out the typical elements of a PHC system and is used by many governments, technical partners, and donors to track and compare PHC system performance. The framework is also broadly applicable to most vertical programs. The framework’s System, Inputs, and Service Delivery elements (columns A, B, and C) are most relevant to integration decision-making; the Outputs and Outcomes elements (columns D and E) can be useful for evaluating whether integration has achieved the objectives defined in step 1.

Figure 2. PHC Conceptual Framework



Note: This figure is reproduced from the PHCPI website. The dotted line surrounding Service Delivery is part of the original figure and has no specific meaning in this paper.

Not every element of the framework will be relevant in every context, and sometimes it will be useful to break down certain elements into more detailed subcategories. For example, when examining the program and broader health workforce (B4), policymakers may want to specifically analyze pre- and in-service training, distribution of workers across geographies and levels of care, distribution of skills and responsibilities across cadres, and so forth. Some elements may be more applicable to certain health

[‡] Other, similar approaches are also available and can be valuable. We prefer the PHCPI’s framework because it is more systematic and detailed than others.

areas than others; for example, demand creation (C1.d) is an essential component of family planning programs. It may also be useful to frame analysis and dialogue more neutrally than the framework does. For example, the framework's idea of "Team-based care organization" (C2.a) includes a normative preference for team-based care over other possible ways to organize service delivery, whereas a more neutral approach would be to compare how a health program's services are organized compared with other programs.

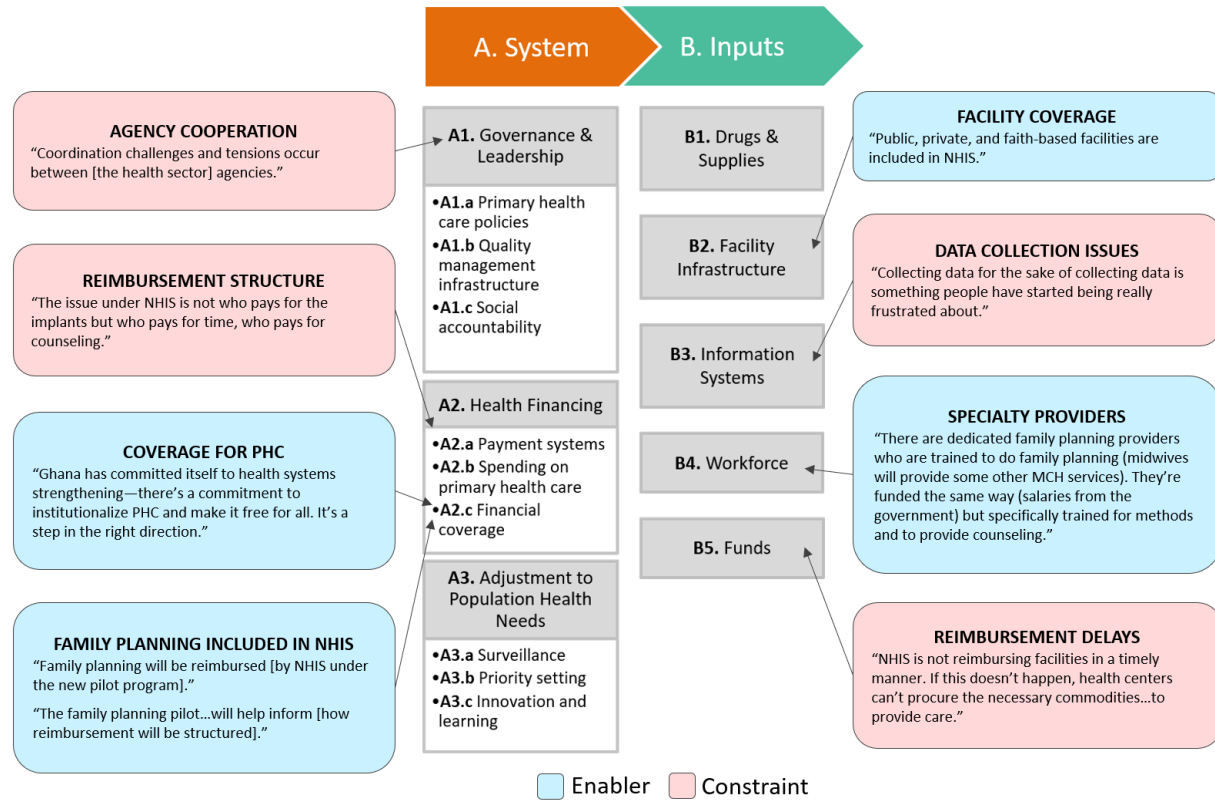
For any given element, policymakers will need to ask a handful of key questions, as illustrated here using the payment systems element of health financing (A2.a) as an example:⁵

- To what extent are payments for the program's services embedded in payment systems for PHC services more generally, and in what ways do they stand apart?
- How might payment for the program's services be more integrated so the health system's overall payment function for PHC can operate more effectively or efficiently, such as through the consolidation of multiple contracts between the government purchaser and the service providers?
- How might payment for the program's services be more integrated so the health system's overall payment function promotes more effective and efficient delivery of PHC services?
- What factors might enable or constrain more integrated payment systems?
- What risks might arise from integrating payment systems, both to the health system and to populations the vertical program serves?

We tested this approach by applying it to the integration of family planning programs into PHC in Ghana and Malawi. (The resulting detailed case studies are available at r4d.org/integrating-vertical-programs.) As a sample of our findings in Ghana, Figure 3 depicts how we used the framework to catalog key integration enablers and constraints in the System and Inputs components. (Earlier in the case study, we describe to what extent each part of the family planning program is already integrated into the corresponding component or function of the broader health system.) System-related enablers for integration include the government's commitment to integrating family planning into PHC and plans to account for family planning in reimbursements under the National Health Insurance Scheme (NHIS). System-related constraints include donor influence over the direction of family planning programming (because of the funds they contribute for service delivery and commodities) and delays in NHIS reimbursements to providers and patients. The Inputs-related enablers are the inclusion of public, private, and faith-based facilities under NHIS and special training in family planning for providers down to the level of Community-based Health Planning and Services (CHIPS) areas. Constraints include separate data collection and quality assurance systems across health areas and delays in NHIS reimbursements, which result in facilities being unable to procure family planning commodities and therefore unable to offer patients informed choice.

⁵ Our approach is similar to that presented in Sparkes et al. (2017), but their focus on the four health system functions (service delivery, financing, generation of human and physical resources/inputs, and stewardship/governance) may not encourage as much granularity in analysis or dialogue as the PHC Conceptual Framework.

Figure 3. Key Integration Enablers and Constraints in Ghana (System and Inputs Components)



Note: All comments are from interviews with health sector stakeholders in Ghana.

In addition to examining the program in relation to the broader system, it may also be useful to look at the relative strengths of individual functions and components of vertical programs and health systems. For example, vertical programs—especially those funded by donors—typically have strong planning, monitoring, and oversight to satisfy requirements linked to their dedicated funding. They also often engage more effectively with nonstate service providers than does the rest of the system. These strengths may provide models that the PHC system could adopt.

This detailed analysis of the status quo can be helpful in identifying integration options and fostering dialogue, but it should not be used as an algorithm for decision-making. It should be compiled alongside other contextual information, including the trajectory of health needs the vertical program currently addresses and whether the program will be subject to any donor-defined transition or graduation processes.

Step 3. Identify Options

The next step is to develop a set of options, which might range from maintaining the status quo to completely integrating any standalone components of a vertical program with the PHC system. Many options will be partial or incremental, such as bringing some separate program functions more fully into the PHC system while retaining some dedicated components. For example, one option might be to move responsibility for disease-specific services from single-function facilities to general-purpose PHC clinics

but keep medicine supply chains separate if the vertical program's supply chain is high-performing and the impact of stockouts would be particularly damaging.

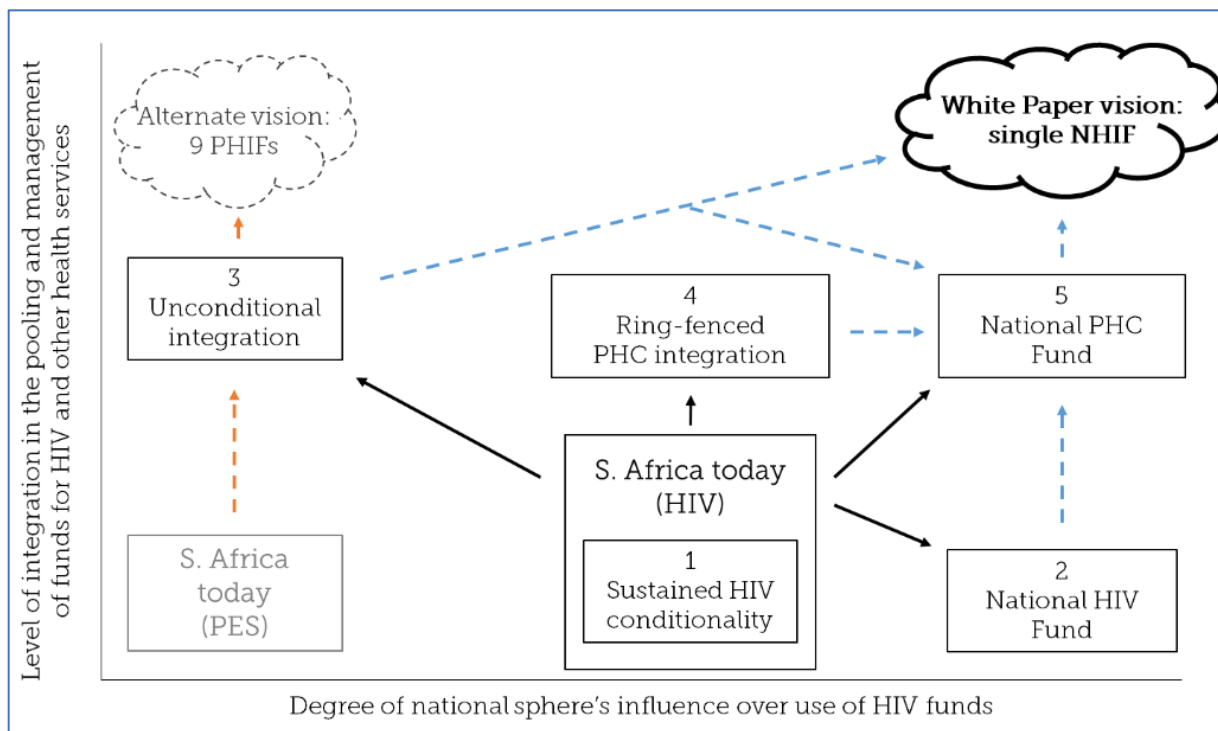
When developing options, policymakers should consider the private sector, particularly if the vertical program in question already makes use of nonstate providers. In most countries, health financing strategies already include efforts to tap the private sector's considerable service delivery capacity. But many countries lack experience in purchasing health services from private providers on a broad scale.

Donors that support vertical programs often channel funds and technical support to NGOs and civil society organizations that deliver essential services to target populations. An integration and donor graduation strategy that sustains these contracting relationships while shifting the purchaser role to the government—even with external funding at the outset—could contribute to broader health system strengthening.

No matter their focus, integration options should be laid out in detail so all stakeholders have a clear understanding of what will change and what will stay the same, including in terms of institutional and individual roles and responsibilities, flow of funds, and accountability mechanisms. This will enable analysis of how these changes might affect patient experience and access, staff training and workload, program performance, costs, and overall system efficiency.

An example of this approach is a feasibility study on HIV financing integration in South Africa that mapped differences between HIV and the rest of PHC in the governance and oversight of funds.¹⁷ The study yielded five scenarios for how HIV financing and its relationship to other PHC funding could evolve in a proposed national health insurance system. Figure 4 depicts the five scenarios along two dimensions of interest to South Africa's National Department of Health and National Treasury: the extent of the national government's influence over HIV funds in an otherwise devolved health financing system, and the degree of integration of financing into a common funding pool for HIV and other PHC services. The government's proposed National Health Insurance Fund (NHIF), in the top right of the figure, would fully integrate all health financing into a single, nationally managed pool. The scenarios were useful to stimulate debate among government officials, and South Africa has since taken steps toward two of the scenarios by broadening the HIV expenditure earmark—also called a ring-fence—to include tuberculosis and community outreach services under a common financing and oversight framework (scenario 4) and by budgeting for a small-scale pilot of contracting PHC services, including for HIV, from private-sector general practitioners (scenario 5).

Figure 4. Scenarios from a Feasibility Study on HIV Financing Integration in South Africa



Source: Chaitkin et al. (2016)

Note: NHIF = national health insurance fund; PES = provincial equitable share; PHIF = provincial health insurance fund

Step 4. Assess Options and Make Decisions

It may be tempting to try to assess options based on estimated costs and benefits, but in most cases the evidence will be insufficient to make reliable estimates without at least testing and rigorously evaluating a number of reforms, keeping in mind that the effects of integration can be difficult to isolate and measure. Moreover, even if benefits and costs could be estimated, a narrow focus on maximizing the benefit-cost ratio would likely be politically fraught.

These realities signal the need for a consultative approach to decision-making that recognizes an array of considerations—technical, practical, fiscal, and political—and helps policymakers build support for whatever actions they decide to take. One increasingly popular approach in setting health priorities is multi-criteria decision analysis (MCDA),^{18,19,20,21} which embraces many considerations, including cost-benefit, feasibility, social values and preferences, and budget impact. Such an approach also allows for an incremental and adaptive integration process that includes M&E measures and taking corrective action as needed. Decision-makers can also borrow principles of “robust decision making” from the fields of financial and environmental risk management. In the face of competing predictions about the future or divergent values, robust decision-making can emphasize minimizing regret across a range of stakeholders alongside or even ahead of maximizing gains.²²

This may be especially useful given the serious and often unforeseen risks associated with integration, such as the possibility of major disruptions to the interventions previously implemented by a vertical program. These deserve special consideration, although no constituency should have absolute veto

power over integration decisions. On this basis, vertical program components that are critical to the provision of vital services might be left untouched in the earlier stages of integration, affording time for the system to build its capacity to absorb these program functions without a reduction in access or quality.

Vertical programs have both domestic and global constituencies, including within the health system, that have sufficient power to influence reforms. Vertical program constituencies, particularly those with external financial backing, may reasonably wonder what they will gain from integration. Integration proponents must therefore ensure that reforms will address underlying health system deficiencies that could constrain performance. Increased investment by donors in shoring up critical health system functions will enhance the likelihood of successful integration.

Meanwhile, donors are likely to face ethically challenging choices as they phase out support in favor of domestic ownership of disease-specific efforts. Some gold-standard programs may simply not be financially sustainable from a domestic perspective. Additionally, many countries may not place a priority on the health needs of populations served by vertical programs, who are often marginalized—or even criminalized—based on their identity, behavior, or occupation. Donors and global advocates must prepare for the likelihood that countries will only partially integrate or minimally sustain externally funded programs, opting for the components that are most politically acceptable or affordable. This reality has led some to call for donors to engage earlier and more assertively in “tough talk” with governments.²³ When advocacy fails, donors will have to decide whether their desire to phase out support outweighs their desire to see coverage levels maintained or expanded.

Step 5. Monitor Implementation and Make Adjustments

In rare instances, an argument can be made for rapid, wholesale integration, such as with the unexpected withdrawal of donor funding or an unusually fast rollout of a new national health insurance system. But the impetus for integration is typically foreseeable, and changes to the health system and funding landscape typically unfold more gradually. Consequently, it is important to monitor each stage of integration to determine whether the desired results are being achieved, identify obstacles to smooth implementation, provide early warning of any adverse effects, and make adjustments—or even reverse course—as needed.

Additionally, given shortcomings in the existing evidence base, future integration efforts present an opportunity to better measure the effects of different integration approaches and document the most promising ways to plan, sequence, and implement reforms. Countries would be prudent to build a more robust evidence base for themselves, which donors should support in order to draw lessons that are applicable across countries and programs.

The Ghana and Malawi case studies illustrate naturally incremental integration processes. In both countries, some of the integration steps have been completed, while others are in process or are still awaiting implementation.

Conclusion

As low- and middle-income countries undertake health system reforms to more equitably deliver health services and protect citizens from catastrophic health expenditures, they face important choices about the future of existing vertical programs, including whether, when, and how to integrate them into the broader health system. Arguments abound for more fully integrating vertical programs into the PHC

system, citing opportunities to increase the reach of priority interventions, consolidate parallel or duplicative functions, and bolster the system's ability to serve individuals' health needs more holistically.

Such integration is not without risk to the outcomes that vertical programs aim to deliver. Vertical program constituencies can be wary of relying on broader health systems, which often fall short of their promise to provide high-quality, coordinated care that meets individual, community, and population health needs. Some disease-specific advocates also resist integrated approaches for fear that they will dilute political attention and funding for their own priorities.

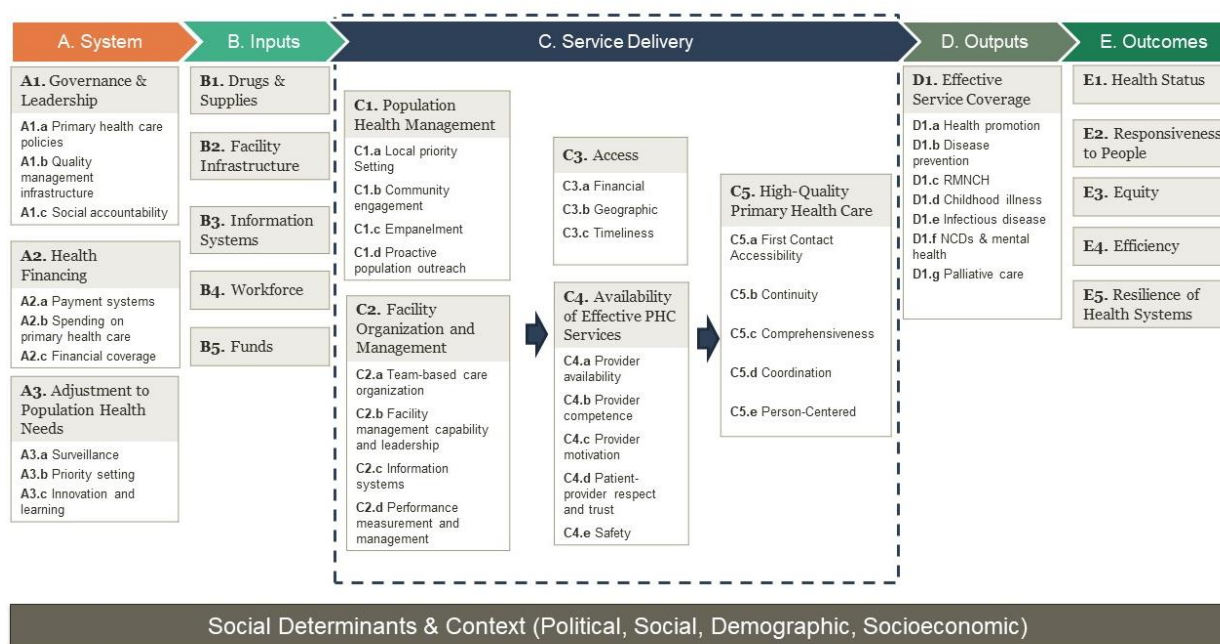
This paper offers a middle path—a way to think about integration that goes beyond all-or-nothing or all-at-once approaches. We propose that the integration of vertical programs into PHC systems can be an incremental and deliberative part of routine health reform. Health systems and vertical programs are rarely monolithic; we therefore promote careful analysis of their constituent parts and open acknowledgment of health system weaknesses that may jeopardize outcomes when vertical program functions are absorbed into the larger system.

The Ghana and Malawi case studies at r4d.org/integrating-vertical-programs and the Ethiopia and South Africa case studies in the Annex illustrate the analytical and deliberative value of our approach. We will continue our engagement in selected countries to further validate and improve on this approach.

Annex: Case Studies of Integration Efforts in South Africa and Ethiopia

This annex presents brief examples from South Africa (HIV) and Ethiopia (podoconiosis) to illustrate how the PHC Conceptual Framework provides a useful structure for understanding past integration efforts. Detailed case studies about ongoing integration efforts for family planning in Ghana and Malawi, which include insights from health sector experts and other key stakeholders, are available online at r4d.org/integrating-vertical-programs.

All four of the case studies refer to the conceptual framework developed by the Primary Health Care Performance Initiative (PHCPI), which was introduced earlier in this paper and is reproduced again below. The framework helps pinpoint the parts of the health system that have been most important to the integration process.



South Africa: Integrating a Vertical HIV Program into the PHC System

The HIV epidemic has ravaged South Africa due to denial and inaction by the government in the first two decades of the epidemic and despite an otherwise fairly developed PHC system. By 2009, South Africa accounted for 17% of the world's HIV infections despite having only 0.7% of the world's population.²⁴

Mounting pressure from activists, clinicians, researchers, and the international community led to a dramatic policy change in 2003, in which the South African government committed to public provision of antiretroviral therapy (ART).²⁵ A highly vertical system was introduced that provided all HIV care at nationally accredited ART sites within general clinics and hospitals.²⁶ The program was described as "a vertical programme *par excellence*, separately and centrally financed, run by separate antiretroviral personnel mainly or exclusively assigned to the task, conducted in physically separate areas or sections of facilities, and with segregated filing, registering, and recording systems."²⁷ By 2008, the country had 362 such sites.²⁸ Between 2004 and 2009, the number of patients receiving ART in South Africa increased from an estimated 47,500 to 912,000,²⁹ a nearly 20-fold increase. However, that accounted for only half of HIV-infected South Africans.³⁰

In 2009, the National Department of Health announced that ART services would be integrated into all PHC service sites³¹ and that ART initiation would shift from doctors to ART-certified nurses, a change that was shown to be safe in a large-cluster randomized trial in Free State province.³² This reform led to an increase in the number of ART-certified nurses from 250 in February 2010 to 10,000 in April 2012.³³ By 2013, the government reported that 3,000 facilities were initiating ART—nearly all of the health facilities in the country.³⁴

In this case, change began with a clear PHC policy initiative from a national health authority (A1.a in the PHC Conceptual Framework) to address the need to expand ART access (A3). Some changes were made to existing facility infrastructure (B2), depending on whether a facility had a centralized waiting room or an existing separate structure for HIV services.

A 2013 study showed that the integration effort was associated with improved survival of HIV-positive individuals needing ART.³⁵ Other benefits included an increase in confidentiality and reduction of stigma for HIV patients³⁶ when they shared the same waiting area as other patients³⁷ and were not subject to identifiers of their status such as differently colored patient files.³⁸ Quantitative evidence from the Free State showed that PHC service delivery remained mostly unchanged by the integration and massive scale-up of ART provision within PHC.³⁹ Some health care workers reported that integration increased their job satisfaction and morale.⁴⁰

But new challenges emerged, as reported in a number of qualitative studies, including increased workloads for health care staff.⁴¹ A study in Free State found that staff-to-patient ratios remained the same while consultation times increased and vertical HIV reporting requirements remained unchanged.⁴² Parallel reporting structures for HIV were seen as duplicative and burdensome.⁴³ A 2015 study reported that increased consultation times and higher staff workload resulted in longer patient wait times,⁴⁴ which could lead to interrupted treatment in places where wait times could last most of a day.⁴⁵ Another challenge was that some nurses preferred to specialize in a certain area of care, and patients sometimes expressed a preference for seeing a nurse with expertise in HIV care.⁴⁶

From the standpoint of the PHC Conceptual Framework, surveillance systems (A3.a) were already in place from the vertical program, but a failure to integrate them with PHC information systems at the facility level (C2.c) led to inefficiencies and heavier workloads for health workers. Task shifting from physicians to nurses greatly increased provider availability in general (C4.a) and the existing cadre of nurses received specialized training (C4.b) in ART provision, but long wait times (C3.c) sometimes hindered access (C3).

Ethiopia: Integrating a Vertical Podoconiosis Program into the PHC System

Podoconiosis is a form of elephantiasis (lymphodema) that afflicts barefoot subsistence farmers who are in long-term contact with irritant red clay of volcanic origin.⁴⁷ The disease has been particularly neglected because it is noncommunicable and rarely fatal.⁴⁸ Fundamentally a disease of poverty, it can be easily prevented by wearing shoes and ensuring regular foot hygiene,⁴⁹ but about 4 million people are believed to be affected worldwide,⁵⁰ up to a quarter of them in Ethiopia.⁵¹

In 2011, four NGOs launched small-scale interventions in endemic areas to address podoconiosis in Ethiopia, reaching an estimated 12% of districts but a mere 3% of total cases.⁵² That same year, the National Podoconiosis Action Network (NaPAN) was established with NGO funding to coordinate the four implementing NGOs, raising the number of managed cases to 6% by 2013.⁵³ NaPAN secured further

external funding and worked with the Ministry of Health to begin podoconiosis management services in dozens of health centers.⁵⁴

PHC systems have long been weak in Ethiopia. In 2009, the country had only 0.25 nurses or midwives per 100,000 population and only one-tenth that number of doctors⁵⁵—low numbers even by developing country standards. The maternal mortality rate was a staggering 676 per 100,000 in 2011, representing 30% of all deaths of women ages 15 to 49.⁵⁶ In 2005, Ethiopia was among 10 countries that contributed to two-thirds of newborn deaths worldwide.⁵⁷

In 2013, the Ministry of Health released a National Master Plan for Neglected Tropical Diseases (NTDs), including podoconiosis among eight priority NTDs to address during the 2013–2015 period. The plan called for joint mapping of podoconiosis and lymphatic filariasis (LF), a mosquito-borne parasitic infection that also causes lymphodema,⁵⁸ because they require similar treatment.⁵⁹ Since 2013, the national health management information system has used one indicator for the number of patients treated for lymphodema, reported by cause if known.⁶⁰ In 2016, the country released an integrated care and disability prevention guideline for both conditions, which formed the basis of a three-day lymphodema management course for government health workers.⁶¹ The Ministry of Health has been expanding services for both lymphodema causes across endemic areas; as of 2017, 29% of endemic districts had government health facilities that provided podoconiosis services.⁶²

The process and effects of these integration efforts are still unfolding, but several insights are already available. First, mapping LF and podoconiosis together resulted in roughly halving the estimated cost of mapping each condition separately.⁶³ Second, the presence of health experts experienced in lymphodema management was beneficial to the expansion of podoconiosis services through health worker training.⁶⁴ It is worth noting that this service provision expansion did not happen by merging two isolated vertical disease programs. A comprehensive national NTD plan was formulated for eight tropical diseases, and LF and podoconiosis were integrated together into primary care in co-endemic areas due to the overlap in their treatments. This integration has proceeded using guidelines and health worker training developed by health workers experienced with these conditions.

From the standpoint of the PHC Conceptual Framework, the Ministry of Health created a clear national plan (A1.a) whose first step was to map (A3.a) endemic areas for each disease. An indicator for lymphodema-treated patients was included in the national health information management system (B3). Treatment guidelines were developed (A1.b), health workers were trained (B4), and services were expanded in endemic districts (C3.b).

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