Overcoming Human Resources for Health Constraints for the Delivery of Quality HIV Services

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CapacityPlus's Support for Achieving an AIDS-Free Generation

Over the past six years, the USAID- and PEPFAR-funded global Capacity*Plus* project has assisted PEPFAR countries (see Figure 1) to identify and address human resources for health (HRH) challenges to accelerate progress toward national HIV goals and the vision of an AIDS-free generation. Despite significant HRH progress and achievements, much work remains, particularly because countries with the highest HIV burdens face some of the greatest HRH constraints. The HIV literature continues to refer to HRH challenges as a key factor hampering countries' efforts to meet HIV/AIDS service delivery needs[1]. In many PEPFAR countries, high vacancy rates for HIV care providers (50%-79%) limit access to HIV services (PEPFAR 2015). Moreover, estimates for the global shortage of health workers are only predicted to rise, with continued rural-urban disparities[2].

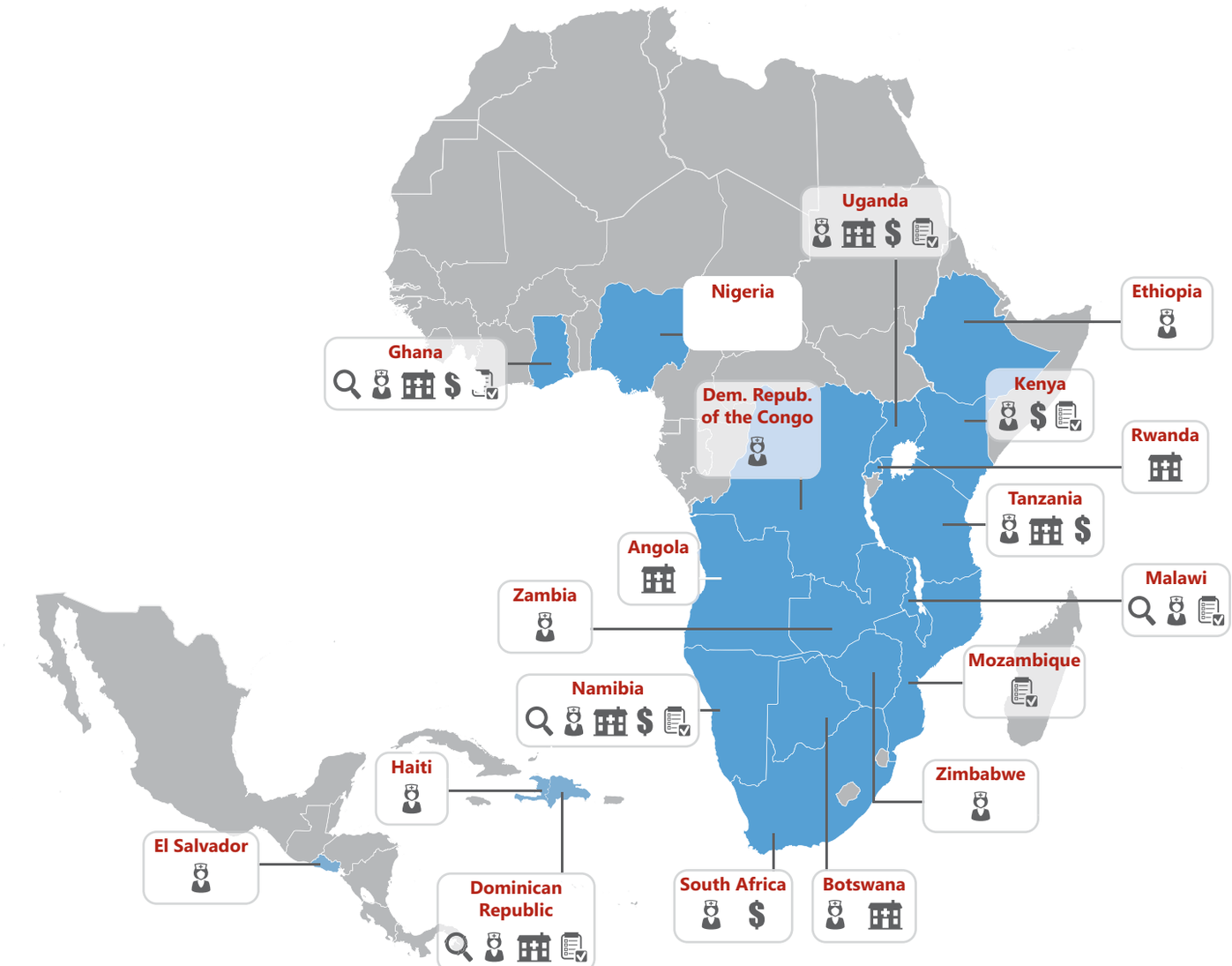
To get closer to achieving an AIDS-free generation and 90-90-90 goals (UNAIDS 2014), the PEPFAR 3.0 agenda is strategically targeting geographic areas and populations at greatest risk for HIV. PEPFAR's HRH strategy supports this strategic realignment by working to ensure an "adequate supply and quality of HRH to expand HIV/AIDS services in PEPFAR-supported moderate- and high-volume sites and/or high HIV-burden areas" (PEPFAR 2015). PEPFAR's HRH investments, as described in the new guiding strategy, focus on five interrelated objectives (see Figure 2) that together will aid PEPFAR's worldwide contribution to achieving an AIDS-free generation.

Leveraging Capacity*Plus*'s Achievements for PEPFAR 3.0

There are many approaches, achievements, and lessons learned from Capacity*Plus*'s work that can be leveraged to advance implementation of the PEPFAR 3.0 agenda and the new PEPFAR HRH strategy. These are presented below for each objective of the PEPFAR HRH strategy. More detailed information on the approaches and country examples can be found in the Capacity*Plus* final report.

FIGURE 1:

CapacityPlus Support to PEPFAR Countries by PEPFAR HRH Strategy Objective



KEY:

Objective 1: Assess HRH capacity needs

Objective 2: Develop site-level supply strategies

Objective 3: Improve site-level recruitment, deployment & retention

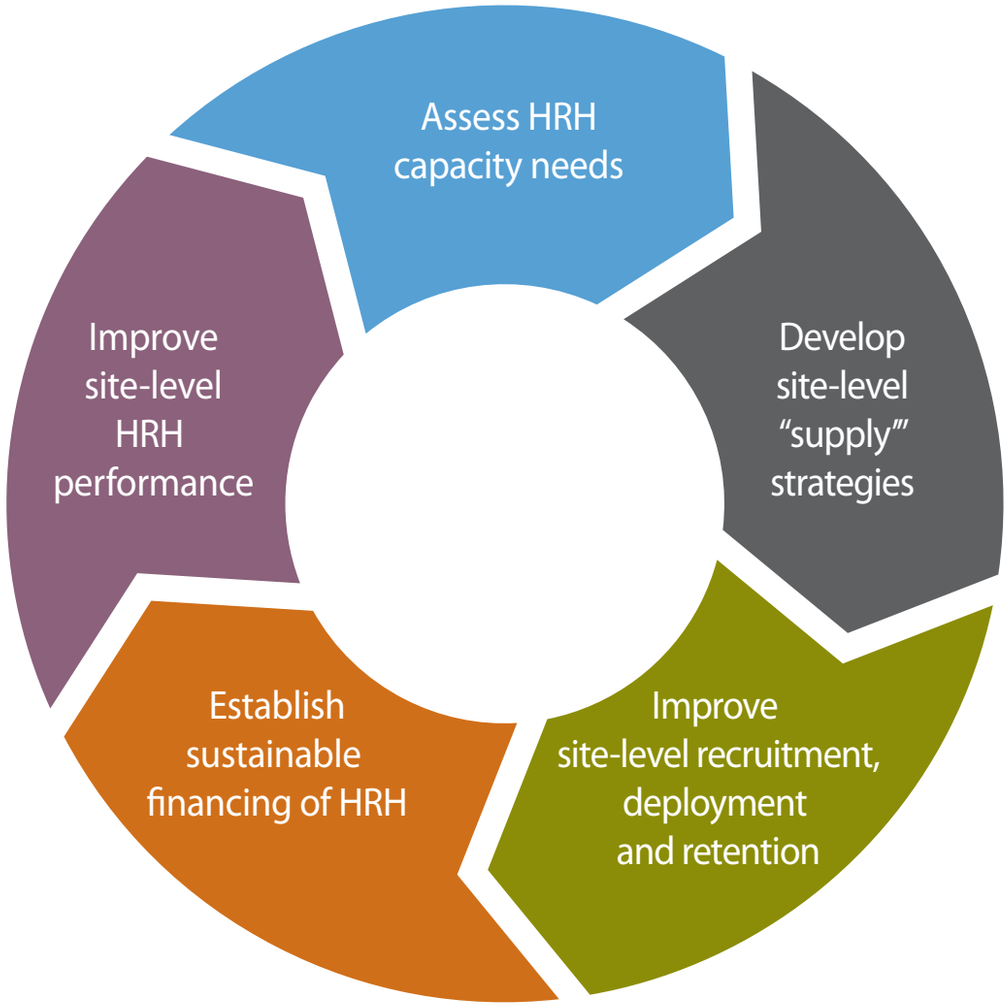
Objective 4: Establish sustainable HRH financing

Objective 5: Improve site-level HRH performance

[1] A recent informal review of 93 articles published in the HIV literature from 2009–2014 found that 78% of the articles identified HRH as a constraint to HIV service delivery.

[2] Current estimates predict that the global shortage of health workers may be as high as 13 million, with a deficit in rural coverage that is 2.5 times higher than in urban areas (ILO 2015).

FIGURE 2:
PEPFAR HRH Strategy Objectives



Objective 1. Assess HRH Capacity Needs

PEPFAR's new targeted approach and pivot to scale up resources and services at specific facilities and geographic areas demands a more in-depth, disaggregated understanding of the HRH capacity needs that influence the delivery of quality HIV/AIDS services. This includes collecting and using information on health workforce supply, skill mix, competencies, costs, and performance to inform decisions and policy-making at the national and sub-national levels. However, many countries lack reliable mechanisms and capacity to capture, analyze, and act on national, facility, and community-level HRH data for a strengthened HIV programmatic response.

Assessing staffing needs for HIV service delivery

A rigorous method to effectively plan the health workforce necessary to improve the accessibility and quality of HIV care and treatment is to establish the numbers and types of health workers needed to match the volume of HIV and other health services at the facility level. The Workload Indicators of Staffing Need (WISN) tool, developed by the World Health Organization, supports data-based decision-making in workforce planning and management by calculating the number and types of staff a facility needs for particular health services based on actual workload. Capacity*Plus* supported the use of WISN for evidence-based decision-making in Ghana, Namibia, Malawi, and the Dominican Republic. Further application of the WISN method can help to ensure that staff numbers

and skill mix at moderate- and high-volume sites are adequate to meet demand and provide quality HIV care.

In Namibia, staffing norms had not been revised in over 10 years. Capacity*Plus* and the IntraHealth-led bilateral Associate Award worked with the Ministry of Health to use WISN to estimate HIV and other workload requirements for doctors, nurses, pharmacists, and pharmacist assistants in all 13 regions. The government intended to revise health worker distribution based on workload and service delivery needs to better meet national health goals. The WISN application revealed staff shortages—especially among doctors and pharmacists—and staffing inequities, particularly between health centers and clinics. Some clinics offered the same amount of care as large health centers, yet had only one or two nurses according to current staffing norms. The Ministry is using the WISN-derived estimates as an effective evidence base to advocate for additional health workers in budget hearings as the estimates clearly demonstrate staffing needs for HIV and other health services at specific facilities.

Objective 2. Develop Site-Level Supply Strategies

Preservice education and training play an essential role in developing a competent and qualified workforce to meet HIV program goals and contribute to an AIDS-free generation. Yet there are simply not enough schools to produce the numbers of health workers needed. Many health professional schools lack critical human and financial resources and overall management capacity, which hinders efficiency and effective performance and reduces the potential for scaling up the quantity, skill mix, and quality of graduates required for HIV/AIDS service delivery.

Transforming education and training

To address common challenges in scaling up and transforming education and training, the project developed the Bottlenecks and Best Buys Approach, which has been adapted and applied in more than 30 schools in seven PEPFAR countries in Africa. This tool enables stakeholders to consider issues impeding a school's ability to increase the number or skills of graduates, and identifies and prioritizes actions that can efficiently address those issues. Capacity*Plus*'s comprehensive Guide and Tools for Strengthening School Management builds school leaders' capacity to use resources more efficiently and effectively through a cyclical process of assessment, planning, and improvement in key management areas. The school management package also includes the Dean's Dashboard, a customizable open source software application to track progress in areas such as infrastructure management, student academic progress, and faculty productivity. Application of these tools in additional schools in PEPFAR countries can further support effective scale-up of quality education and production of the professional cadres needed to meet the demand for HIV services in moderate- and high-volume sites.

Using the Bottlenecks and Best Buys Approach, Capacity*Plus* supported 19 Nigerian schools to strengthen preservice education and make more graduates available to provide high-quality care. The assessments revealed that more than 50% of students dropped out between enrollment and certification and that schools lacked basic learning materials as well as opportunities for tutors to improve clinical and teaching skills. In response, Capacity*Plus* established a scholarship program for students at risk of dropout, initiated communications among supported schools and the government and local stakeholders who will eventually employ graduates, procured learning materials and equipment for 22 schools, and trained 79 teachers on current clinical practice guidelines, also enabling topics previously available only through in-service training to be taught in the preservice environment (e.g., counseling of HIV-affected persons, prevention of mother-to-child transmission). In all, 2,065 students (88% female) received scholarships in 2013, with 1,440 (70%) finalizing their studies and qualifying on national examinations on their first attempt. Scholarship recipients (who were more likely to be poor and from rural communities) qualified to practice at a higher rate than other students.

Collaborating with PEPFAR's Medical and Nursing Education Partnership Initiatives

PEPFAR's Medical and Nursing Education Partnership

Initiatives—MEPI and NEPI—aim to increase the quantity, quality, and retention of medical and nursing school graduates to aid sub-Saharan African countries' HIV/AIDS response. Capacity*Plus*'s support to **MEPI** focused on building capacity and developing approaches and tools for eLearning, community-based education, and graduate tracking now in use among MEPI-supported medical schools in 12 countries. The project assisted schools in ten countries to develop and implement eLearning strategic plans to expand the reach of medical education through electronic technologies to ensure that more students have updated capacity to deliver quality HIV services. At some schools, eLearning was incorporated into the standard infrastructure and approaches for instruction.

Capacity*Plus* built capacity to evaluate and continuously improve community-based medical education (CBE) programs in seven countries to ensure students have the relevant competencies in rural and primary health care practice to provide appropriate HIV care and treatment in community settings. Project support included producing a compendium of CBE program evaluation approaches and tools and supporting 11 schools to systematically review and better understand program effects. Continued review and strengthening of CBE programs in PEPFAR countries is critical for PEPFAR 3.0 to strengthen provision of community-based care and increase demand for HIV services at the site level.

Capacity*Plus* collaborated with MEPI-supported schools to increase their ability to communicate and remain connected with graduates to follow progress in the workforce and gauge the effectiveness of graduate retention strategies. The open source graduate tracking software system—MEPI Connect—implemented at schools in nine countries helps provide accurate information about health workforce educational output to aid in deploying and retaining graduates where they are most needed for an effective HIV/AIDS response. Moving forward, the software can be a helpful resource to strengthen linkages between HRH production, recruitment, and deployment and ensure that PEPFAR-supported graduates are posted to moderate- and high-volume sites and/or high HIV-burden areas, a priority for the PEPFAR HRH Strategy. Monitoring can provide valuable information regarding needed adaptations in graduate retention strategies to meet the demand for HIV services.

Capacity*Plus*'s contributions to **NEPI** included comprehensive capacity assessments of seven nursing and midwifery schools in the Democratic Republic of the Congo (DRC) and Ethiopia. The nursing schools used this evidence to increase faculty numbers and develop higher degree programs. The DRC has initiated the legal process to create an independent nursing council to regulate nursing education and practice for quality assurance of the nursing workforce providing HIV and other services. In South Africa, the project assisted NEPI-supported schools to validate a competency framework for nursing and midwifery educators, assess nursing faculty development needs, and provide recommendations for building educator capacity to improve the quality of the nurses and midwives providing HIV and other health services. Through application of the Preservice Education Costing Methodology and Instruments (which estimate the unit cost of producing a graduate to guide schools' investments for increasing the number and/or quality of graduates), nursing and midwifery programs at two colleges of health sciences in Ethiopia and two institutes of medical sciences in the DRC conducted costing studies.

The costing study in Ethiopia looked at cost in terms of improving the quality—rather than the quantity—of nursing student education. The study estimated a cost to health sciences colleges of between $1,051 and $1,733 (over three or four years, depending on the program) to produce a nursing or midwifery graduate in 2012. It found colleges operating at or above their maximum capacity, with too many students in classrooms and skills labs and insufficient learning materials and teachers, greatly compromising the quality of education and eventual service delivery. After adding the estimated cost of interventions to overcome the most pressing constraints to the quality of education, the new estimated cost to produce a graduate ranged between $1,233 and $2,384—an increase of 17% to 38% over 2012 levels. The Federal Ministry of Health used the results to inform revisions of the national HRH strategy.

Supporting under-recognized cadres: The supply chain and social service workforces

While the roles of doctors and nurses are widely

recognized and understood, there are many other types of health workers who play an important role for HIV services across the continuum. Capacity*Plus* supported the development of two of these cadres—supply chain and social service personnel—who are often under-recognized and under-valued.

Supply chain personnel. Expanding access to antiretroviral therapy (ART) relies on the effective procurement, transport, storage, and provision of supplies and medicines through the supply chain. Health supply chains depend not only on financial and technical inputs but also on competent and empowered individuals to ensure that HIV medicines and commodities reach the people who need them—and save lives (Seifman et al. 2013). Their role is often underestimated until stockouts occur and the effects of shortages are felt. When stocks of HIV drugs and supplies run out, unplanned treatment interruptions can increase the risk of drug resistance, treatment failure, and death (Pasquet et al. 2010). Capacity*Plus* partnered with People that Deliver to build country capacity to plan, finance, develop, and support a professional and motivated health supply chain workforce to sustain effective management of the HIV supply chain and secure access to life-saving HIV medicines, diagnostic tests, and other commodities. *CapacityPlus* provided technical assistance in two of the initiative's seven focus countries—the Dominican Republic and Namibia—and contributed to key technical and advocacy tools, including a tool for assessing human resources capacity in supply chain management and a system-wide supply chain management competency compendium. Moving forward, a strengthened focus on the staffing, capacity, management, and performance of supply chain personnel will support effective and efficient delivery of the HIV drugs and supplies needed to meet demand at moderate- and high-volume sites.

Capacity*Plus* assisted the Dominican Republic to conduct an in-depth assessment of its supply chain human resources management system. Based on the findings, the Ministry of Health revised the organizational structure of the unit responsible for managing medicines and supplies, created standard job descriptions for supply chain workers, launched a new supervision process, and developed and institutionalized a diploma course for supply chain workers. The Ministry of Health, National Institute for Public Administration, Capacity*Plus*, and the USAID Systems for Improved Access to Pharmaceutical Services (SIAPS) Program collaborated to train 3,500 health workers in the new operational procedures, and 96 supply chain managers completed the diploma course during 2013 and 2014. As a result, hospitals are using a more systematic approach to procurement and distribution, integrated across health programs.

Social service workforce. Seventeen million children have lost at least one parent due to HIV/AIDS (UNICEF 2013). Social service workers are an essential cadre in the HIV/AIDS response, assisting orphans and vulnerable children (OVC) and their families to receive a continuum of HIV care, including health and psychosocial support, social protection, education, and nutrition services. To strengthen the social service workforce and contribute to stronger, more effective systems that improve the lives of OVC, Capacity*Plus* supported the launch and growth of the Global Social Service Workforce Alliance. The Alliance promotes the knowledge and evidence, resources and tools, and political will and action needed to address key social service workforce challenges, especially in low- and middle-income countries. In collaboration with PEPFAR, UNICEF, and partners, the project helped to 1) refine a framework for planning, developing, and supporting the social service workforce, now being used by global and national partners; 2) introduce the first-ever multicountry knowledge-sharing platform; and 3) document promising practices from Ethiopia, Nigeria, and Tanzania that can be used to guide scale-up and adaptation of parasocial worker programs in other countries. Further strengthening of the capacity and management of social service workers—and their improved integration into the broader health workforce teams that provide HIV services—can help to increase demand for HIV services and meet PEPFAR 3.0 goals.

To strengthen Malawi's HIV/AIDS response, the Ministry of Gender, Children, and Social Welfare (MOGCSW) focuses on building the capacity of social service workers, whose unique placement in the health, justice, education, and social welfare systems can ensure that a continuum of care—rather than fragmented services—is provided to people living with HIV, OVC, and caregivers. Capacity*Plus* worked with the MOGCSW to create

the country's first degree program in social work to prepare well-trained and empowered social workers to lead the country's efforts to strengthen its safety net for children and families affected by HIV/AIDS. The four-year program commenced in April 2014 with 39 enrolled students. To track these students and ensure effective planning, recruitment, and deployment of the entire social service workforce to the most vulnerable communities, Capacity*Plus* also supported the MOGCSW to develop a human resources information system for social workers.

Objective 3. Improve Site-Level Recruitment, Deployment, and Retention

The global health workforce deficit, coupled with the difficult living and working conditions encountered in rural and underserved areas, result in serious geographical maldistribution of health workers: over half (56%) of the global rural population—and 83% of Africa's rural population—are without health coverage (ILO 2015). Without aggressive efforts to address the root causes of staffing and retention gaps and increase access to health workers in moderate- and high-volume sites, countries will be unlikely to achieve control of the HIV epidemic. Yet health systems in most low- and middle-income countries have poor data on health worker numbers, skills, and locations, and, therefore, limited ability to use data to inform decision-making and address health workforce challenges affecting HIV programs.

Developing human resources information systems

A strong human resources information system (HRIS) can inform key workforce planning, education, recruitment, deployment, management, and retention needs for achieving sustained epidemic control. Ministries of health, faith-based organizations (FBOs), and other service delivery organizations have used Capacity*Plus's* open source iHRIS software to develop tailored HRIS, using the data to 1) track, manage, deploy, and map their health workforce to better meet HIV and other health service needs; 2) forecast changes in the health workforce supply over time and project the number and types of health workers needed to meet the future demand for HIV services; 3) track and manage preservice education and in-service training to gauge the pipeline for scaling up HIV services and identify new HIV competencies; and 4) register, license, and regulate cadres for quality assurance of HIV service provision. To date, 20 countries (17 PEPFAR countries) have adapted Capacity*Plus*'s iHRIS software to support almost one million health worker records (saving $227 million in software licenses alone[3]), and over 250 open source community members provide sustainable south-to-south support. Increasing the number of PEPFAR countries that develop and implement HRIS and use HRH data for policy- and decision-making will align with PEPFAR 3.0's data-driven approach and help improve planning, development, recruitment, deployment, management, and retention of the health workers needed at moderate- and high-volume sites.

In collaboration with PEPFAR, Capacity*Plus* also supported the development of a Capability Maturity Model being used as a new PEPFAR monitoring, evaluation, and reporting (MER) indicator. In addition, Capacity*Plus* worked with PEPFAR's Open Health Information Exchange (OpenHIE) to develop an open source health workforce registry based on international standards for information exchange. The registry provides a master list of health workers in a country, pulling information from all HRIS in the public, private, and other sectors. In this way, countries can create a national picture of their health workforce and improve the development, deployment, and management of the workforce that is providing HIV services. Botswana, Namibia, Nigeria, Rwanda, and Zimbabwe are implementing such registries. Using international standards ensures that data can be shared broadly across clinical and training information systems and mHealth applications to more directly support HIV service delivery. The registries also enable health workers to refer patients to other providers electronically, a critically important feature for HIV patients who may need highly specialized services. Furthering the development and use of interoperable national health workforce registries will advance PEPFAR 3.0's data-driven approach, laying a foundation for unprecedented cross-system analysis of HRH data to guide evidence-based decision-making for the improvement of HIV/AIDS services.

Establishing recruitment and retention strategies

Having accurate HRH data to make decisions on where best to deploy or transfer health workers for the greatest impact on HIV service delivery is often not enough,

[3] *Globally, the use of free, open source iHRIS software has saved a calculated $226.9 million in aggregate licensing costs when compared to initial licensing fees from a comparable commercial software product. This cost is for the base software license alone and does not include customization of the software, capacity building, infrastructure strengthening, or even all of the functionality offered in iHRIS.*

particularly if the high-burden HIV areas are located in rural or other underserved regions of the country. To attract and retain health workers to provide needed HIV/AIDS services to vulnerable populations in rural and underserved areas, countries must develop recruitment and retention strategies that address the interconnected economic, professional, individual, and social factors that influence health worker behavior and guide their employment decisions.

Capacity*Plus* developed the Rapid Retention Survey Toolkit to identify which combined financial and non-financial incentives would best motivate health workers to accept and remain in posts in rural or underserved areas. The Toolkit's step-by-step approach enables HRH managers to apply a discrete choice experiment to assess health workers' motivational preferences and design appropriate financial and non-financial incentive packages to increase rural job uptake and retention. The companion software iHRIS Retain, developed in collaboration with the World Health Organization, determines the costs of retention strategies and compares them to available funds. The results are used to create evidence-based incentive packages and to advocate with policy-makers regarding implementation of the most cost-effective recruitment and retention strategies to reduce staff vacancies. Furthering the use of evidence-based approaches that consider providers' motivational preferences and available fiscal space will help countries to design cost-effective schemes to attract and retain the needed health workforce at moderate- and high-volume sites.

Capacity*Plus*, through collaboration with the USAID/Uganda-funded Uganda Capacity Program (UCP), strengthened Ministry of Health capacity to develop and use an electronic HRIS with over 69,000 health worker records. The Ministry used the HRIS to track, manage, deploy, and map the health workforce and ensure that the right number and type of competent health workers were appropriately distributed country-wide to provide access to quality HIV services. National stakeholders used the Rapid Retention Survey Toolkit with 158 health workers and 544 students from priority cadres to determine cost-effective incentive packages for service in rural areas based on health worker preferences. The Ministry of Health, with technical assistance from UCP, used the HRIS data and the Rapid Retention Survey Toolkit and iHRIS Retain results to advocate with the Ministry of Finance to address workforce shortage and distribution issues. This resulted in allocation of an additional $20 million—a 16% increase—for the health wage bill, allowing the Ministry to recruit 7,211 new health workers in 2012–2013. The Ministry's recruitment previously averaged about 500 health workers annually. The bill also doubled the pay of doctors working at the health center IV (HC IV) level to attract more doctors to the lower-level facilities. The percentage of filled health worker positions by region increased from a mean of 55% in 2009 (range 39%-100%) to 66% in 2013 (range 57%-78%). The increased accessibility and more equitable distribution of health workers contributed to a significant rise in utilization of HIV services. The newly recruited health workers were deployed to 1,030 health center IIIs (subcounty-level inpatient facilities serving 20,000 people) and HC IVs across all 111 districts. An ecological analysis of service statistics from the District Health Information System (DHIS 2) between 2012 and 2014 at 962 matched facilities found that the mean number of persons tested for HIV and the number of persons with HIV started on cotrimoxazole prophylaxis increased significantly (t-test: $p \leq 0.01$). While this rise in service use may also be attributable to other concomitant variables, the large increase in access to health workers is likely to have been a key factor.

Objective 4. Establish Sustainable HRH Financing

PEPFAR recognizes the importance of well-supported health workers and their availability to deliver HIV services. Planning the transition of PEPFAR's health worker support to countries is key for the sustainability of the HIV response once scale-up and epidemic control are achieved. Establishing adequate and sustainable local financing to employ needed health workers at moderate- and high-volume sites and maintain capacity at transition sites is necessary to ensure continued progress toward the 90-90-90 goals. To help inform countries' health workforce transition activities in collaboration with USAID, Capacity*Plus* supported the development of the online Interactive Health Care Worker Transition Resource. The Resource provides a transition framework (Figure 3), country case studies, lessons learned, and tools and resources to guide

PEPFAR country teams to consider the political, financial, management, and other needs required to transition health workers to more sustainable host-country support and management and ensure access to quality HIV/AIDS services. To date, the Resource has been used by teams from at least 11 PEPFAR-supported countries. Broader application of the Resource will aid more PEPFAR country teams to initiate and make progress in the complex process of transitioning PEPFAR-supported health workers to alternative sources of local support for achievement of sustained epidemic control.

FIGURE 3:
Health Care Worker Transition Framework

Through technical assistance to the Namibia Ministry of Health in health workforce planning by the IntraHealth-led bilateral Associate Award and Capacity*Plus*, all the clinical staff (nurses, doctors, pharmacists, and pharmacist assistants) previously supported by PEPFAR have been transitioned to the government payroll. As a country at an advanced stage of transition, Namibia provided key lessons, tools, and two detailed case studies in the Interactive Health Care Worker Transition Resource to help guide other countries in their transition implementation processes.

Efforts to scale up the HIV/AIDS response must consider the workforce produced and employed by **faith-based organizations (FBOs).** In Africa, FBOs operate 30%-70% of health facilities and contribute greatly to training the workforce that provides HIV services in the public and private sectors. FBO facilities often serve rural areas where governments have difficulty attracting and retaining health workers and may be the only HIV service providers. Yet FBOs are generally under-recognized for their contribution to the national HIV/AIDS response and the overall health sector. FBO health workers are often not counted in national statistics nor integrated into planning and resource allocations for national health systems, leading to service and system redundancies and gaps. Many FBO facilities are plagued by high attrition and absenteeism due to unattractive conditions of service, a competitive local and international labor market, HIV-related staff deaths, and growing numbers of HIV patients requiring services. Capacity*Plus* through partner IMA World Health provided technical support to the Africa Christian Health Associations Platform (ACHAP) to more effectively integrate FBOs in national HRH planning processes, HRIS, and policy-making. Kenyan FBOs implemented organizational management policies leading to improved working conditions, work alignment and distribution of health workers, and health worker performance and satisfaction. The HRH improvements also increased access to HIV services and health worker motivation; by contributing to better quality services, positive client perceptions were reported—making adherence to HIV treatment and care protocols even more likely. Continuing to assist FBOs to strengthen their HRH systems will enable their important role in achieving epidemic control.

Objective 5. Improve Site-Level HRH Performance

The expanded coverage and use of HIV services required among at-risk populations in the targeted geographical areas to meet the 90-90-90 targets requires substantially increasing the demand for HIV services. Service demand hinges on health worker performance and quality of care. Lack of recognition, supervision, and accountability as well as poor working conditions often cause health workers to exert minimal effort and not perform tasks they were trained to do (the "know-do gap"), which then has an impact on the quality of services. A strong and effective human resources management (HRM) system is a key element to ensure adequate support to enable high levels of performance in the delivery of HIV and other health services. HRM is the integrated use of systems, policies, and practices to plan, produce, recruit, deploy, manage, support, and retain the workforce. Capacity*Plus*'s HRM Assessment Approach guides policy-makers, managers, and supervisors to diagnose and analyze key HRM functions, policies, and practices; identify inefficiencies and weaknesses; and determine appropriate and systematic solutions and interventions to address HRM challenges affecting service delivery. The assessment approach focuses on the four main functional areas of effective HRM systems: 1) health workforce planning and implementation; 2) work environment and conditions; 3) HR information systems; and 4) performance management. Continued efforts to strengthen HRM systems and practices at the above-site and site-levels will improve the way health workers are developed, recruited, deployed, supported, and motivated. This, in turn, will contribute to improved health worker performance and increased patient access to quality HIV/AIDS services.

Capacity*Plus* collaborated with USAID/ Dominican Republic to support the Ministry of Health to strengthen HRM to improve delivery of prevention of mother-to-child transmission (PMTCT) of HIV and other key services. The Ministry drew on the HRM Assessment Approach to conduct a situation analysis of the health workforce in the country's nine regions. The results guided development of a national HRH strategic plan and interventions to strengthen HRM systems at the national, regional, and facility levels. Job descriptions were developed for health workers, and HR managers noted that these improved recruitment processes. Supportive site supervision and other processes were enhanced to improve health worker performance for PMTCT and other services in ten priority hospitals. Reorganization of services, extension of clinic hours, and redeployment of staff following planning and supportive supervision interventions resulted in facility-level improvements. For example, the percentage of infants tested for HIV within 12 months of birth at project-supported hospitals increased from 69% (October-December 2013) to 89% (April-June 2014). The situation analysis identified the need for a payroll analysis, which revealed individuals receiving a salary but not working ("ghost workers"), along with workers who had been in the process of retirement for over three years. The Ministry cleaned its payroll and eliminated 3,913 ghost workers for an annual savings of $9.1 million, and also fully retired 2,241 staff, allowing their posts to be opened for new hires. The Ministry invested the savings to purchase medicines and supplies, repair health facilities, and increase access to primary health services through hiring 2,511 doctors, nurses, and area coordinators to work in HIV and other preventive health service delivery.

Maximizing health workforce productivity

While production, recruitment, deployment, and retention strategies are implemented over the medium and long term, health system performance can be maximized in the interim through improved productivity of current staff. When productivity issues are not adequately resolved, newly deployed health workers enter into weak systems and perpetuate low productivity and inefficient service delivery leading to poor-quality services. Capacity*Plus*'s online Health Workforce Productivity Analysis and Improvement Toolkit provides a stepwise process that empowers managers and supervisors to measure the productivity of facility-based health workers, understand the underlying causes of problems, and identify potential interventions. In the tool's quantitative, formulaic approach, productivity is calculated by taking the ratio

of the aggregate service delivery outputs produced (e.g., number of HIV test results received, number of institutional deliveries) over the human resources inputs (salaries) used. Qualitative research methods are then used to identify the issues affecting productivity levels, such as health facility inefficiencies, health worker absenteeism, or low patient demand. Through participatory engagement approaches, stakeholders develop action plans to implement and monitor improvement interventions. With PEPFAR 3.0's focus on high-volume sites, continuous monitoring of health workforce productivity (and attention to quality) and implementation of corrective actions where needed are important to ensure that health workers are efficiently meeting patient demand and volume at the site level.

Through its network of 175 health facilities and over 9,000 health workers, the Christian Health Association of Malawi (CHAM) provides 37% of the country's health services and trains about 80% of the workforce that provides HIV and other services. Capacity*Plus* worked with CHAM to build FBO manager and supervisor capacity to apply the Health Workforce Productivity Analysis and Improvement Toolkit in nine health centers. The results revealed moderate-to-low levels of productivity in most facilities, ranging from 29%-67% of the benchmark (highest performing facility in the sample). The qualitative assessment pointed to inefficiencies in service delivery, absenteeism, and low demand as factors contributing to low productivity, and identified underlying causes and priority interventions, on which CHAM has already progressed. CHAM secured funding from DanChurchAid to pilot a community health insurance scheme at two facilities to reduce financial barriers. Health service price lists have been posted at most facilities to address lack of transparency. A customer care orientation workshop for CHAM health facility in-charges addressed poor staff attitudes and institutionalized quality assurance methods to ensure that community expectations for quality care are met. CHAM also secured funding under a KfW Development Bank project to expand health center infrastructure, including construction of staff houses and maternity wards and installation of piped water, sewer, and solar systems. In most facilities, in-charges acted immediately to correct issues affecting productivity and service quality, such as adherence to clinical protocols and infection prevention standards, and adjusted staff rosters to reduce workload while also providing 24-hour coverage.

Promoting gender equality and nondiscrimination

Giving all health workers, male and female, an equal chance of being employed, fairly paid, and supported through life events contributes to improved morale, performance, productivity, and retention—in turn contributing to high-quality HIV services and the achievement of national and PEPFAR 3.0 goals. Fostering gender equality within the health workforce also has the potential to transform gender norms more broadly within the populations that health workers serve, through provision of services that model and promote equality, respect, nonviolence, and services free of stigma and discrimination. However, many stakeholders are not yet fully aware of the ways in which gender discrimination and unequal opportunities impede efforts to develop, efficiently deploy, and fairly compensate their health workforces nor of the impact of discrimination on health worker quality and performance and the provision of HIV/AIDS services. In response, Capacity*Plus* developed a gender and health systems strengthening eLearning course that supports learners to understand how gender norms drive health behavior and decision-making and affect the provision and utilization of care; the course also presents evidence-based ways to improve health and social outcomes by addressing gender barriers. The project also developed two tools to build stakeholder capacity in advocacy, policy-making, and implementation of gender-transformative interventions to promote equal opportunity and nondiscrimination in the workplace, health professional education systems, and clinical care. The gender and HRH advocacy tool provides approaches to understand and examine gender discrimination and advocate for strategies to reduce it in the workplace and within health systems. The gender and workforce development advocacy tool outlines recommended combinations of interventions to counter gender discrimination in learning environments, and provides advocacy strategies that allow stakeholders to develop plans to create, implement, and enforce environments and policies conducive to equal opportunity and nondiscrimination. Further application of gender-focused approaches and tools can help to overcome the

discrimination and stigma that influence the quality and performance of health workers providing HIV services at the site level.

Conclusion

PEPFAR's new pivot toward scaling up resources and targeting the facility sites and geographic areas where the highest-impact gains for sustained epidemic control can be made requires even stronger evidence-based policy- and decision-making processes for addressing the HRH bottlenecks that hinder quality HIV service delivery. The work supported by Capacity*Plus* provides a number of effective approaches, tools, and lessons learned that can be used as PEPFAR 3.0 and implementation of the PEPFAR HRH strategy move forward. Taken together, the country examples describe a comprehensive package of strategies and interventions that can be implemented to strengthen the health workforce's role in delivering the "right things in the right places right now" to achieve sustained global epidemic control.

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