

## Supporting Country-Led Efforts to Recruit and Retain Health Workers and Improve Productivity

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**CapacityPlus built the capacity of national human resources for health (HRH) leaders and managers in Uganda, Laos, and Malawi to use the project's retention and productivity tools to generate evidence and inform decisions to influence policy-making and improve the availability of services through increased staffing and distribution.**

### Background

The 13 million global health workforce deficit (Campbell et al. 2013), coupled with the difficult living and working conditions encountered in rural areas, result in serious geographical maldistribution of health workers: 56% of the global rural population—and 83% of Africa's rural population—are without health coverage (International Labour Organization 2015). Without aggressive efforts to increase access to health workers in rural areas, countries will be unable to meet their goals of increasing use of modern contraception, ending preventable child and maternal deaths, and achieving an AIDS-free generation. While rural attraction and retention strategies are implemented over the medium and long term, health system performance can be maximized in the meantime through improved productivity of currently available health staff. Moreover, if productivity issues are not adequately resolved, newly deployed health workers will enter into weak systems and perpetuate low productivity and inefficient service delivery leading to poor-quality services.

### Strategy and Approaches

To attract and retain health workers to provide needed services in rural and other underserved areas, countries must develop recruitment and retention strategies that address the motivational factors that influence health worker behavior and guide their employment decisions. However, how do stakeholders know which are the right incentives and interventions and in what combination? How much will they cost and are they financially sustainable? Further, how will stakeholders identify and address productivity bottlenecks hindering the provision of quality health care? To aid countries in answering these essential questions, CapacityPlus developed three tools designed to build national HRH stakeholders' capacity to generate evidence for decision-making.

*Rapid Retention Survey Toolkit:* One powerful solution to the question of how to select the right incentive combination is the discrete choice experiment (DCE). The DCE is a



rigorous quantitative research method that can be used to assess health workers' motivational preferences and design appropriate financial and non-financial incentive packages to increase rural job uptake and retention. To put the power of this complex econometric approach in the hands of HRH managers and other lay stakeholders, CapacityPlus developed the Rapid Retention Survey Toolkit, a step-by-step approach that, with the aid of specific software programs, guides HRH managers to rapidly assess motivational preferences to take up posts and remain in underserved facilities. The results of the rapid DCE survey are then used to create evidence-based incentive packages and to advocate with policy-makers regarding the most favorable recruitment and retention strategies for implementation.

*iHRIS Retain:* To directly engage HRH managers and other stakeholders in the costing aspects of the recruitment and retention strategy design process, CapacityPlus and the World Health Organization (WHO) developed iHRIS Retain, an open source software tool to cost health worker retention strategies. The tool guides users through the costing process step by step to capture all relevant financial, operational, and workforce data and calculate individual and aggregate costs of each incentive or intervention strategy and compare them to available funds.

*Productivity Tools:* The 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 to address them. In the tool's quantitative, formulaic approach, productivity is calculated by taking the ratio of the aggregate service delivery outputs (e.g., number of family planning consultations, number of institutional deliveries) produced 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.

## Highlights of Results

### Increased Accessibility and Use of HIV and Family Planning Services: Uganda

To address issues of maldistribution and retention undermining the government's goals for halving unmet family planning (FP) need, reducing HIV incidence by

40%, and achieving 75% of eligible persons receiving antiretrovirals, CapacityPlus collaborated with the USAID/Uganda-funded Uganda Capacity Program to build the capacity of the Ministry of Health (MOH), Ministry of Public Service, and faith-based organizations (FBOs) in use of the Rapid Retention Survey Toolkit. National stakeholders conducted a rapid DCE with 158 health workers in the Western and Northern regions and 544 health professional students from three universities among priority cadres (doctors, nurses, pharmacists, and laboratory technicians). The resulting preferred financial and non-financial incentive packages were costed using iHRIS Retain to identify which combinations would be the most cost-effective and feasible.

*Recruiting over 7,000 new health workers:* The MOH, with technical assistance from the Uganda Capacity Program, used the results from application of the Rapid Retention Survey Toolkit and iHRIS Retain, along with data from the Uganda HRH Information System (developed by the MOH with Uganda Capacity Program and CapacityPlus mentoring using iHRIS Manage) to advocate with the Ministry of Finance to address workforce shortage and distribution issues. This resulted in allocation of an additional \$20 million, or a 16% increase, for the health wage bill, allowing the MOH 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 medical doctors working at the health center IV (HC IV) level to attract more doctors to work in the lower-level facilities and increase access to health services in rural areas.

As presented in Figure 1, 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%). Figure 1 also illustrates how decision-makers can effectively use data to map where service burdens and workforce gaps intersect and better target recruitment, deployment, and retention efforts to the geographic areas and facilities with the highest HIV volume or unmet need for FP. For example, Central 1 region, where HIV prevalence is the highest in the country (10.6%), could be prioritized during health workforce recruitment. While Ugandan stakeholders did not necessarily use such data for deliberate planning, Central 1 witnessed a 41% increase in staffing (from 39.5% to 55.8% of positions filled). Other regions where HIV prevalence rose between the two survey years, such as West Nile, South Western, Mid Western, and Central 2, received a

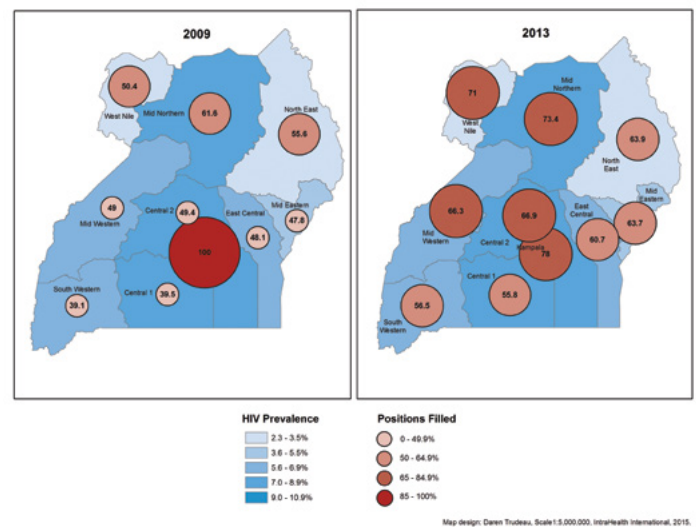
35%–45% influx of new health workers. Notably, the urban area of Kampala (where HIV prevalence is slightly below the national average) experienced a decline in public-sector positions filled (from 100% to 78%), with more health workers recruited to work in rural areas to increase access for underserved communities.

### Contributing to AIDS-Free Generation, Ending Preventable Child and Maternal Deaths, and FP2020

The increased accessibility and more equitable distribution of health workers in Uganda contributed to a significant rise in utilization of HIV, FP, and maternal, newborn, and child health (MNCH) services. The newly recruited health workers were deployed to 1,030 health center IIIs (HC III; subcounty-level inpatient facilities serving 20,000 people) and HC IVs (HC IV; county-level mini-hospitals) 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 living with HIV (PLHIV) started on cotrimoxazole prophylaxis increased significantly (t-test:  $p \leq 0.01$ ) [Figure 2]. While this rise in service use may also be attributed to other concomitant factors, the large increase in access to health workers is likely to have been a key factor.

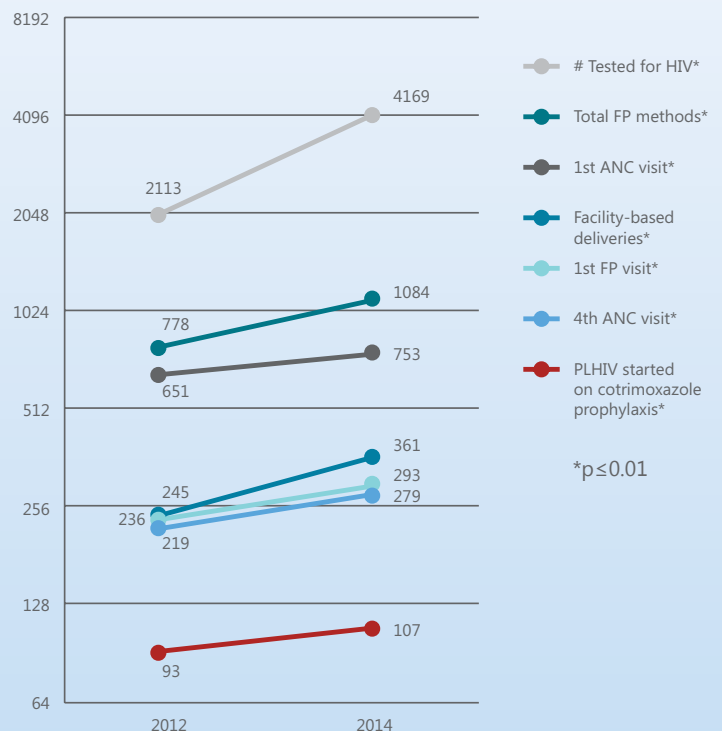
Similarly, the mean number of first visits for FP across 915 facilities witnessed a rise from 2012 to 2014 at a significance level of  $p \leq 0.01$  (Figure 2). The average total number of FP methods provided across all facilities as well as at the HC III level rose approximately 40% during the same period ( $p \leq 0.01$ ). Individual FP methods, such as injectables, IUCDs, and male condoms also went up overall across the facility sample. The average number of first and fourth antenatal care (ANC) visits rose significantly across all selected facilities combined from 2012 to 2014 ( $p \leq 0.01$ ), as well as at the HC III ( $n=808$  facilities;  $p \leq 0.01$ ) and HC IV levels ( $n=147$  facilities; 1st visit:  $p \leq 0.05$ ; 4th visit:  $p \leq 0.01$ ). Institutional deliveries across all facilities combined, by facility type (HC III and HC IV), and by region also increased significantly during the same time period ( $p \leq 0.01$ ).

**Figure 1: Change in Regional Staffing<sup>1</sup> in Uganda from 2009–2013, in Relation to HIV Prevalence in Men and Women Age 15–49<sup>2</sup>**



<sup>1</sup> Source: Uganda Human Resources for Health Information System, September 2014; <sup>2</sup> Source: Uganda 2007 Service Provision Assessment (SPA) Survey and Uganda 2011 AIDS Indicator Survey (AIS). Note that there was a change in naming of some regions between the 2007 and 2011 surveys: in 2007 Mid Western was named Western; Mid Northern was North Central; and Mid Eastern was Eastern. Also, in the 2007 Service Provision Assessment, Central 1 and Central 2 were combined into one region (Central) for a total of nine regions (there were ten regions in the 2011 AIDS Indicator Survey).

**Figure 2: Mean Annual Numbers Receiving HIV, FP, and MNCH Services between 2012 and 2014 at Health Facilities in Uganda with Newly Recruited Health Workers (logarithmic scale)**



## Rural Retention Policy Increases Service Access: Lao People's Democratic Republic

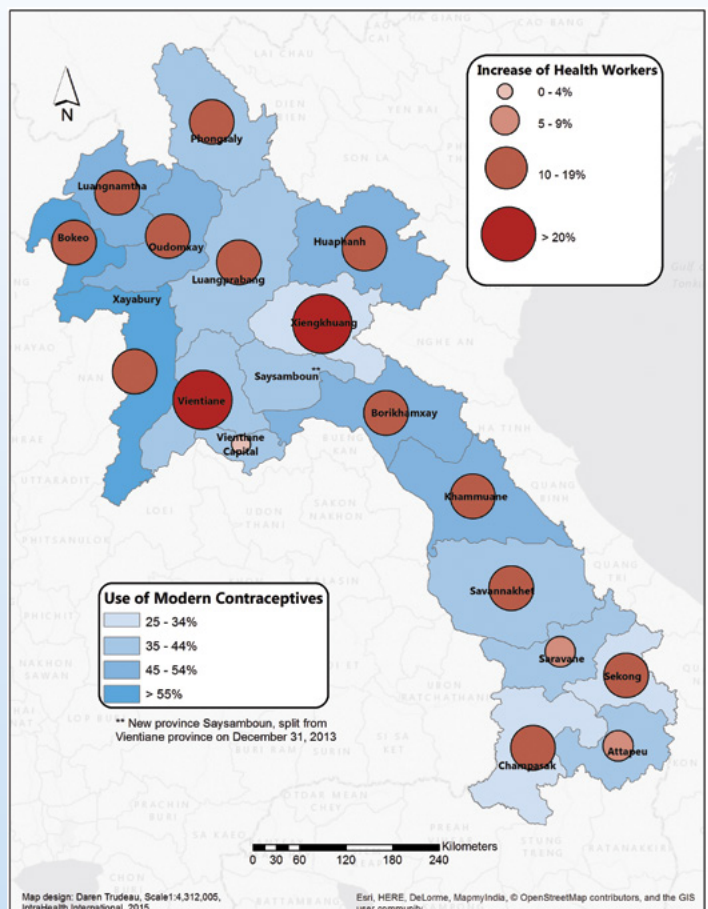
Although more than 70% of Lao People's Democratic Republic (PDR)'s population lives in rural areas, the majority of health workers are located in urban areas. The inequitable distribution of health workers hinders the country's goals to achieve a 55% contraceptive prevalence rate, 50% of births by skilled attendants, and 69% antenatal care coverage (Lao PDR MOH 2011). Following a governmental decree allowing for provision of financial incentives to civil servants working in rural areas, the MOH sought to develop a national rural recruitment and retention policy. To determine which incentives and interventions would be most effective to include in the policy, CapacityPlus, in partnership with the WHO, built the capacity of the MOH to apply the project's retention tools. The MOH conducted a rapid DCE survey among 970 students from three provincial colleges and the University of Medical Sciences and 483 health workers in three provinces from the physician, nursing, and medical assistant cadres, and then used iHRIS Retain to cost the resulting preferred incentive packages to determine their financial feasibility.

*Implementing an evidence-based national retention policy:* The MOH used the evidence generated from application of the tools to develop and implement a national recruitment and retention policy. The policy stipulates that all graduates in medicine, nursing, midwifery, pharmacy, and dentistry, as well as postgraduates in family medicine, must complete three years of rural service to receive their licenses to practice. The policy provides incentives, based on the rapid DCE and costing results, to motivate health workers to provide high-quality services as well as encourage them to stay after their compulsory service has ended. Incentives include permanent civil service positions, transportation, and eligibility for continued education. The first phase of the policy, initiated in 2013, placed 360 newly qualified doctors, pharmacists, and dentists in 51 rural districts (of 142 total districts). The second phase, implemented in 2014, placed an additional 1,191 health workers across the country to provide essential health services.

*Increased access to services:* While the MOH did not necessarily stress FP coverage when determining where to deploy the new graduates, Figure 3

demonstrates that in many provinces, the increase in health workers occurred in areas with generally lower use of modern contraceptives by married women. Sekong, Xiengkhuang, and Champasak provinces, with modern contraceptive prevalence rates (25%, 32%, and 32%, respectively) well below the national average (42%), received 13%, 22%, and 12% more health workers, respectively. The new health workers provide a spectrum of primary care services, including FP, and thus contribute to improving women's access to FP and other essential services. As a result of the increased recruitment and deployment of health workers in rural areas, (and based on the assumption that the panel size for each health worker, regardless of cadre, is 1,400 patients annually), CapacityPlus estimates that over two million people will gain access to a health worker.

**Figure 3: Percent Increase of Health Workers<sup>1</sup> in Lao People's Democratic Republic Related to Use of Modern Contraception<sup>2</sup>**



<sup>1</sup> Source: Ministry of Health and Lao Statistics Bureau 2012; <sup>2</sup> Source: Department of Organization and Personnel 2010; WHO Western Pacific Region 2013.

## Productivity Toolkit Informs Priority Interventions: Malawi

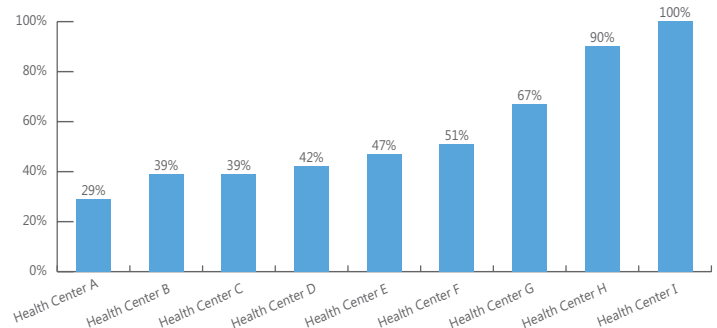
The Christian Health Association of Malawi (CHAM), which provides 37% of health services in the country, is contributing to the government's implementation of an essential health package—addressing HIV/AIDS, maternal and neonatal outcomes, and other conditions contributing to high levels of morbidity and mortality—by increasing coverage and quality of service delivery through its network of 175 health facilities and over 9,000 health workers (CHAM 2015; Malawi MOH 2011). In response to CHAM's request for technical support to strengthen the productivity of its workforce, *CapacityPlus* built its capacity to apply the Health Workforce Productivity Analysis and Improvement Toolkit through a pilot at nine health centers.

Comparing the aggregated health service outputs, which included MNCH and HIV service variables, to the total HRH costs (salaries and allowances paid to health center staff) revealed moderate to low levels of productivity in the majority of the assessed facilities, ranging from 29%-67% of the benchmark (see Figure 4). Two-thirds of the health centers (six out of nine) were less than half as productive as the benchmark, or highest performing facility, in the sample. The qualitative portion of the assessment, which included community and health worker focus group discussions and health worker flow mapping, pointed to inefficiencies in service delivery, health worker absenteeism, and low patient demand as contributing to low productivity, and identified underlying causes and priority interventions.

*Acting to improve productivity:* In response, CHAM has progressed on many of the priority interventions. 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. CHAM conducted a customer care orientation workshop for health facility in-charges to address issues of poor staff attitude and to institutionalize 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; and to train health workers and procure equipment and supplies for basic

emergency obstetric care. In the majority of facilities, in-charges acted immediately to correct individual issues affecting productivity and service quality such as adherence to clinical protocols and infection prevention standards, and adjusted staff rosters to reduce work overload while also providing day and night coverage.

**Figure 4: Health Workforce Productivity (%)\* by Health Center<sup>1</sup> (Malawi)**



\* The health workforce productivity rate is a relative measure whereby similar facilities are compared against each other. Though the facility with the highest productivity is the benchmark (100%) or reference facility, this does not mean its productivity cannot be improved. <sup>1</sup>Health center names were removed due to the sensitivity of the information.

## Lessons Learned and Recommendations

- Putting HRH stakeholders in the driver's seat by building their capacity to apply evidence-based tools, instead of relying heavily on external assistance, promotes country ownership and increases self-sufficiency of host-country counterparts in making and acting on HRH decisions to address the workforce access and productivity bottlenecks hindering the provision of quality health care. This approach should also enable countries to update their evidence-based recruitment and retention strategies more frequently as economic and other conditions and health worker preferences change over time.
- Geospatially mapping HRH data and health indicator data from demographic and health surveys can aid countries to visualize where the need for addressing workforce access and distribution needs are greatest as well as to monitor the effects of HRH strengthening interventions on health services and outcomes.
- More evaluations of the implementation of health worker recruitment and retention policies are needed to determine their effectiveness and

long-term impact on FP, HIV/AIDS, and MNCH service delivery as well as HRH performance, motivation, and productivity. Stakeholders can use any evidence of positive effects on services to encourage national scale-up within all health service areas, as well as advocate for application of the approaches in other sectors such as education and agriculture.

- Where discrete choice experiments have been carried out and resulting incentive packages implemented, longitudinal surveys should also be conducted to follow up on respondents and observe their actual decisions to validate the effectiveness of stated preference methods in predicting labor force decisions. To further validate the ultimate effectiveness of incentive strategies, follow-up studies should be conducted to measure the impact that using incentives to improve health worker recruitment and retention has on accessibility and utilization of services.
- To enable the cross-country and cross-regional comparison of results from different studies, common indices and frameworks should be developed and applied for performance, quality, and productivity.

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