

# LEGACY SERIES

CapacityPlus: Serving health workers, saving lives.

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## Transforming Health Professional Preservice Education to Meet National Needs

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**CapacityPlus supported more than 50 health professional schools in 12 African countries to strengthen health workforce education and school management, contributing to over 9,000 new health workers and building the capacity of these schools to continue scaling up production of graduates and improving the efficiency and quality of their programs.**

### Background

Given the global health workforce shortage, it is clear that more health workers must be educated and trained—especially in Africa where the health needs are greatest. In addition, preservice education (PSE) institutions must ensure that graduates develop the competencies needed to address local health needs, particularly in underserved areas. Preservice education determines who will become a health worker (e.g., man or woman, rural background or urban), what skills and behaviors they will learn (e.g., respectful, high-quality care), and how adaptable they will be to different practice environments (e.g., district hospitals or rural clinics without electricity or running water). The one to six years of PSE health workers receive have a profound impact on the subsequent 30 to 40 years that they practice and represent the best investment countries can make to ensure that health workers with the right skills are practicing in the right communities. Development assistance to health professional schools has often focused on curriculum improvement and faculty support; however, dramatic improvements in the efficiency of these schools are also needed to strengthen and scale up the production of health workers required to realize the goals of priority US Government and global initiatives such as AIDS-Free Generation, Ending Preventable Child and Maternal Deaths, and enabling 120 million more women and girls to use contraceptives by 2020.

### Strategy and Approaches

In collaboration with global, regional, and national stakeholders in the public and private sectors, CapacityPlus provided leadership in developing, testing, and building capacity in the use of innovative approaches and tools to address common challenges in scaling up and transforming health workforce education and training. As a first step, the project developed the Bottlenecks and Best Buys





Approach, which has been adapted and applied in more than 30 nursing, midwifery, medical, health assistant, and community health worker schools in seven African countries. This tool allows stakeholders inside or external to a school to consider a range of issues that might impede the school's ability to increase the number or skills of its graduates, and identify and prioritize actions that can efficiently address those issues.

A comprehensive Guide and Tools for Strengthening School Management, tested in Ghana and South Africa, builds the capacity of school leaders to use existing resources more efficiently and effectively. This package guides school leaders—who often have limited formal education in facility or budgetary management—through a cyclical process of assessment, planning, and improvement in key management areas. The tools allow leaders to consider their own organizations' performance in the context of evidence-informed good practices in nine management dimensions: leadership and governance; strategic planning; external relations; financial resources; personnel; students; equipment and materials; facilities and infrastructure; and evaluation and knowledge management. CapacityPlus's school management package includes the Dean's Dashboard, an open source

software application that can be customized according to schools' needs to track progress in areas such as infrastructure management, student academic progress, and faculty productivity.

CapacityPlus also developed tools and approaches in response to schools' more specialized needs. These include the Preservice Education Costing Methodology and Instruments, finalized after applications at diverse schools in Ethiopia and South Africa, which allows schools to estimate the unit cost of producing a graduate to guide investments for increasing the number and/or quality of graduates; and a technical brief, report, and advocacy tool that highlight interventions to eliminate gender discrimination and promote equal opportunity and gender equality in health professional education.

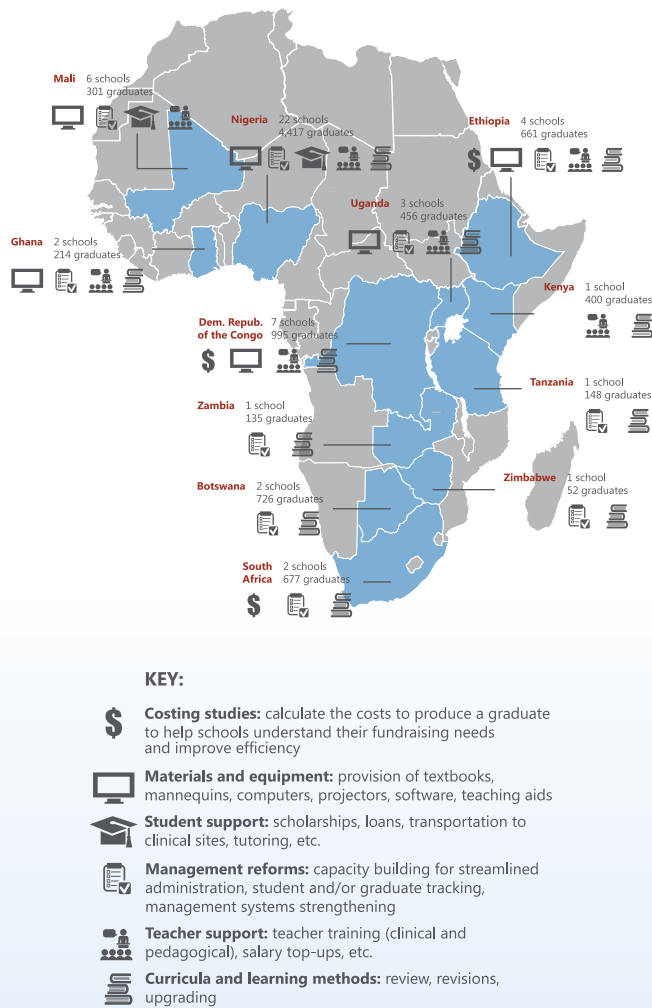
In addition, the project collaborated with PEPFAR's Medical and Nursing Education Partnership Initiatives—MEPI and NEPI—to build capacity and develop approaches and tools for eLearning, community-based education, and graduate tracking now in use among MEPI-supported medical schools in 12 African countries. CapacityPlus supported school leaders as they developed and implemented eLearning strategies; assisted them to create the evaluation plans and tools they needed to better understand the effects of community-based educational programs; and created MEPI Connect—an open source software application being used by schools to track and connect with alumni.

## Highlights of Results

CapacityPlus supported the application of its PSE approaches and tools by 12 countries in sub-Saharan Africa, contributing to the education of over 9,000 additional health worker graduates between 2012 and 2015 (see Figure 1). The capacity built—in terms of increased quality and quantity of teaching staff, improved learning materials and equipment, more effective school management, updated curricula, and enhanced collaboration among schools, health facilities, government authorities, and graduates—will contribute to producing greater numbers of competent and qualified graduates for years to come. Highlights of results at the country level include the following:

Figure 1

Impact Map: Targeted Support to Schools Contributes to the Education of More Than 9,000 Graduates across 12 African Countries



### Comprehensive Support to Enhance Learning and Increase Graduates: Nigeria

Nigeria accounts for almost 10% of the global burden of HIV, with over 1.5 million individuals in need of antiretroviral (ARV) treatment (National Agency for the Control of AIDS 2014). In collaboration with USAID/Nigeria, CapacityPlus assisted national stakeholders to implement a comprehensive package of interventions to strengthen PSE to produce more qualified health workers to provide HIV/AIDS and other critical services. The work began with Bottlenecks and Best Buys assessments at 19 training institutes to define best buys for increasing the numbers and quality of nursing, midwifery, and community health extension worker (CHEW) graduates. The assessments revealed that more than 50% of students dropped out between enrollment and

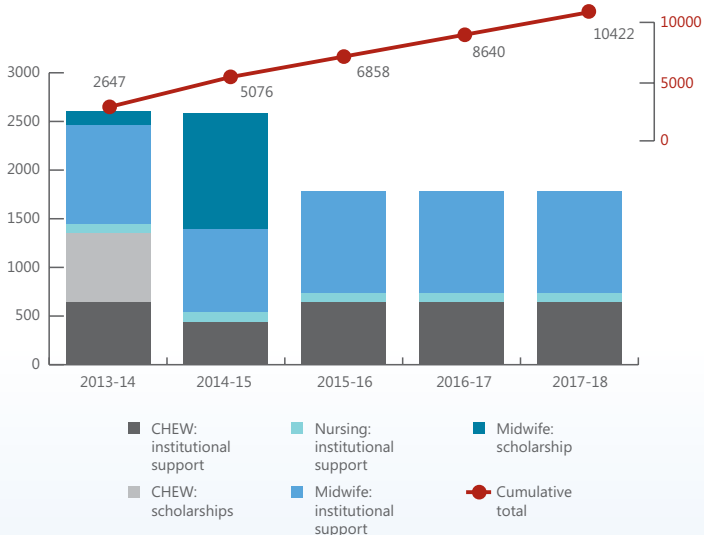
certification and that schools lacked basic learning materials, as well as opportunities for tutors to improve their clinical and teaching skills. In response, CapacityPlus established a scholarship program for students at risk of dropping out, initiated communications among supported schools and with the government and local stakeholders who will eventually employ their graduates, procured learning materials and equipment for 22 schools, and trained 79 teachers on current clinical practice guidelines, which also enabled topics previously available only through in-service training to be taught in the preservice environment (e.g., counseling of HIV/AIDS-affected persons, prevention of mother-to-child transmission of HIV, selected emergency obstetric procedures).

*Increased pass rates on qualifying exams:* In total, 2,065 students (88% female) received scholarships in 2013, with 1,440 (70%) finalizing their studies and qualifying on their 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. More than 1,700 graduates of 22 schools that received institutional support (e.g., textbooks, anatomical models, training of tutors in priority clinical skills) also became health workers. Some of these schools saw remarkable gains in students' success. For example, the Health Coordinator at the School of Midwifery Our Lady of Apostles Jos credited this institutional support for the school's increase in national examination pass rates from 72% to 100% over 18 months.

*Increased number of graduates:* An evaluation indicated that over 3,000 newly qualified health workers benefited from the project's support. Production of more than 100 additional new CHEWs and 550 new midwives can be directly attributed to CapacityPlus support. CHEW scholarship recipients are more likely to work in underserved rural areas compared to non-recipients; encouraging such distribution is vital as CHEWs provide the bulk of primary health care services in rural and northern Nigeria. Over the next five years, it is expected that interventions supported by CapacityPlus will have contributed to the education of more than 10,000 students in Nigeria at an average direct cost of about \$150 per student. This includes scholarship recipients as well

as an estimated additional 8,890 students who have benefited or will benefit from enhanced pedagogical resources and teaching capacity at their schools (Figure 2).

**Figure 2: Number of Students Supported by CapacityPlus Preservice Education Activities in Nigeria, by Year and Cumulatively**



*Note: Scholarships were offered only in 2013; it is assumed that the effect of institutional support will remain in schools for at least five years.*

### Producing Qualified Health Workers for Underserved Fragile Regions: Mali

In collaboration with USAID/Mali, CapacityPlus provided comprehensive support to the privately owned Gao Nursing School, the only health professional institution in Mali's remote and crisis-prone northern region. Building on successes from the previous Capacity Project, in 2011 CapacityPlus assisted the school in the development and implementation of improved family planning and child health curricula using Learning for Performance, a competency-based approach to adult learning developed by IntraHealth International with USAID support. The project also assisted in: 1) training of faculty to teach active management of the third stage of labor, a proven practice to prevent postpartum hemorrhage; 2) implementation of the school's strategic plan; and 3) management and oversight of the school's new computer lab and

technologies. This support contributed to students achieving an 88% success rate on the national nursing exam in 2011, while nursing schools in the capital, Bamako, had only a 30%-40% success rate; over 90% of Gao graduates in 2011 were recruited by the Ministry of Health (MOH) and deployed to provide essential health services in the north.

The armed insurgency in the north in 2012 severely undermined these investments and gains in Gao. A CapacityPlus-led analysis of the school post-crisis, using the Bottlenecks and Best Buys approach, highlighted an 80% shortage of teachers and preceptors and deterioration of buildings and materials due to looting. In 2013, the project provided support to reinforce the school, including recruitment and clinical and pedagogical training of teachers, procurement of learning materials and computers, provision of scholarships and living expenses to 204 students at risk of dropout, revision of the school's strategic plan, and strengthening of security, administrative, and management structures. By 2014, graduates had a 42% success rate on the national nursing exam compared to 32% among students from all other schools in Mali. Approximately 58% of scholarship recipients who took the national exam passed.

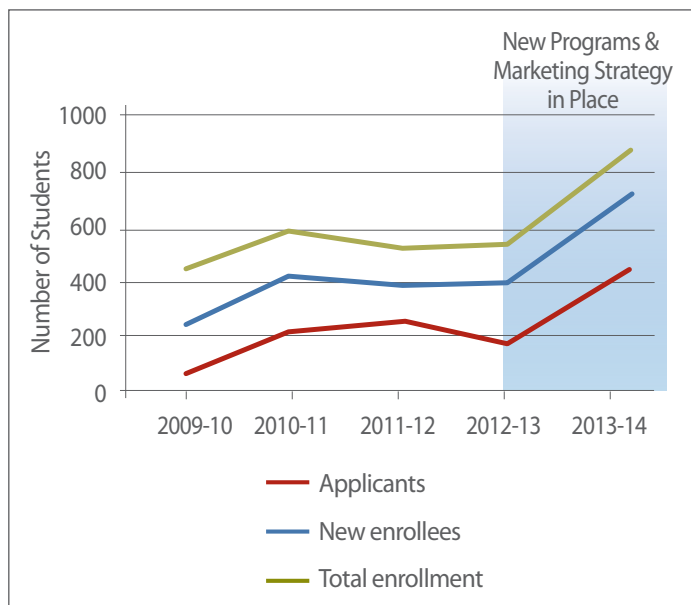
### Increasing Private-Sector School Capacity: Ghana

The pilot application of the CapacityPlus Guide and Tools for School Management by the private, non-profit Garden City University College resulted in the school developing a marketing strategy to attract applicants with higher qualifications to its programs. The strategy included adjusting how and where the school advertised, and having graduates speak with secondary school students about both the school and the nursing profession. Based on interviews conducted with current students as part of an assessment, these efforts contributed to nearly doubling the intake of paying students in one year (Figure 3), resulting in a student body of 850, and allowing the school to better meet its operating costs. Garden City also obtained accreditation for new degree programs in midwifery, laboratory science, and physician's assistants, thanks in part to the application of the school management and Bottlenecks and Best Buys approaches.

We are doing the things we need to [do] day-to-day, but this [school management self-assessment] tool really makes you think about things you may not be considering.... Every institution has to have this.

Albert Acquah, founder, Garden City University College, Ghana

**Figure 3 : Garden City University College Enrollment, 2009-2014**



### Costing Health Worker Education: South Africa and Ethiopia

Application of CapacityPlus’s education costing tools with Walter Sisulu University School of Medicine in South Africa estimated that it cost the institution \$162,000 in 2012 to produce a single graduate of the five-year Bachelor of Medicine and Surgery program. These findings resulted in the school receiving government funding to address the need for additional infrastructure before the school could respond to government requests to enroll larger classes of students. The results also allowed the school to bill the government for student scholarships based on real costs. A similar 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 also found colleges operating at or above their

maximum capacity, with too many students in classroom and skills lab sessions and insufficient learning materials and teachers, which greatly compromised the quality of education. After adding the estimated cost of a scenario 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 depending on the program—an increase of 17% to 38% over 2012 spending levels. The Federal Ministry of Health used the results to inform the ongoing revision of the national human resources for health (HRH) strategy.

### Innovation in mHealth for In-Service Training

A pilot study in Senegal found family planning refresher training delivered via an interactive voice response (IVR) mLearning platform developed by CapacityPlus feasible to implement and well liked by participants (Diedhiou et al. 2015). All participants reported that the overall experience of using a mobile phone for learning was good or very good, and 90% reported that following instructions for the course on a mobile phone was easy or very easy. The course created minimal interruptions to service delivery, as most learning calls were taken outside of working hours, and was associated with sustained increases in content knowledge. The IVR platform has the potential to be an effective and efficient approach to providing refresher training and/or updates to national guidelines, policies, and protocols in family planning and other health service areas, and is especially well suited for reaching rural health workers with low levels of literacy.

### Lessons Learned and Recommendations

- High dropout rates dramatically reduce the capacity of health professional schools throughout sub-Saharan Africa, with many having rates over 60%. In some countries (e.g., Nigeria), a significant factor is the cost of students’ national qualification examinations. Advocacy to decision-makers to spread this cost out over time or provision of loans and bursaries to students to cover the cost of taking the qualification examination after course completion are likely to have a large impact on graduation rates.

- It is important to bring schools out of isolation by linking the education, health, and employment sectors. Networking all stakeholders involved in training and hiring health workers is valuable for recommending new and validating existing strategies to increase the quantity and quality of health workers.
- Computers, mannequins, lab equipment, and textbooks are major expenses for health professional schools in low- and middle-income countries, and provision of high-quality materials became an important part of institutional support efforts in Mali, Nigeria, and Uganda. Giving schools the ability to bulk purchase such supplies, similar to the bulk purchasing of vaccines that Gavi oversees, and share supplies among several institutions, might lower these costs while increasing the quality of education.
- Supporting students from and schools located in underserved locations are effective strategies for encouraging equitable distribution of the health workforce after those students graduate. Surveys of 357 scholarship recipients in Nigeria indicated that those who originated in rural areas or who attended rurally located schools were more likely than their peers to be employed in those locations after graduation. Surveys of students in Mali showed those who attended Gao Nursing

School were significantly more likely to be employed in the underserved north than students educated elsewhere in the country.

- Limited, cost-effective actions can be used to increase production of health workers and improve the quality of their education. However, it is vital that actions be taken on the basis of evidence. Use of specific, objective assessment techniques and consideration of the costs of proposed actions per graduate can help private and public institutions decide how to utilize their limited resources to best effect. Moreover, these considerations can assist educators as they advocate with policy-makers regarding HRH scale-up.

## References

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