

Scaling Up Health Worker Production: The Bottlenecks and Best Buys Approach

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Background

Over one billion people worldwide lack access to essential health services (World Bank 2000). The only route to reaching better health outcomes is through health workers; there are no shortcuts or quick fixes. However, the World Health Organization (2006) estimates that there is a global shortage of approximately 4.3 million doctors, nurses, midwives, and support workers, and not enough health workers are being educated and trained to fill this gap—especially in Africa where the health needs are greatest.

Health professional schools include medical, dental, pharmacy, nursing, midwifery, and public health schools, as well as vocational training institutes for allied health professions. Worldwide, there are approximately 2,420 medical schools, 467 schools or departments of public health, and an indeterminate number of nursing institutions training about one million new health workers every year (Frenk et al. 2010). With additional gaps in training for dentists, pharmacists, and public health and allied health professionals, there are simply not enough schools to produce the numbers of health workers needed. Sub-Saharan African countries must nearly *triple* their current numbers by adding approximately one million workers, yet 26 of those countries have only one medical school or none at all (Mullan and Frehywot 2010).

Whether public or private, many health professional schools lack critical human and financial resources and do not perform as efficiently as they could, reducing the potential for increasing the quantity and quality of their graduates.

Some indicators of improved school performance and efficiency, which require varying levels of new investment and resources, include:

- Increased student enrollment
- Reduced student dropout rates
- Increased number and proportion of students from rural or underserved areas
- Increased proportion of students who take up positions in rural or underserved areas after graduation
- Increased number and proportion of students who pass the leaving/final exams and the local licensing or certification exams
- Decreased unit cost of producing a graduate.



Nine Areas of Health Professional School Capacity

For virtually all health professional schools, there is a set of nine core elements that need to be considered and addressed. These are:

1. **Educators** (full/part-time, classroom/clinical recruitment, selection, retention, development)
2. **Students** (graduate/postgraduate recruitment, selection, retention)
3. **Management** (financial management, oversight/governance, including government relations with a school)
4. **Infrastructure** (classrooms, demonstration rooms, laboratories, libraries, computer labs, dormitories, cafeterias, electricity, water, Internet)
5. **Materials and equipment** (textbooks, teaching/learning materials, computers, anatomical models, simulators, diagnostic equipment, clinical supplies)
6. **Curriculum** (theoretical and practical, responsive to needs, regularly updated)
7. **Clinical practice** (variety and appropriateness of sites, mentoring and supervision, infrastructure and equipment)
8. **Quality assurance** (accreditation of institutions, certification/licensing of graduates)
9. **Partnerships and exchange** (exchange of faculty/students, partnerships between other schools and with service delivery facilities both public and private).

The bottlenecks and best buys concept

For virtually all health professional schools, there is a set of nine areas in which bottlenecks may be encountered when considering scaling up production (see sidebar). Findings about constraints in these core areas can guide a school in prioritizing its “best buys” in scaling up its education and training programs. Best buys are interventions that are likely to have the largest impact on scaling up the production of quality graduates with relatively small additional investment.

The Bottlenecks and Best Buys approach enables a school to look at the nine capacity areas in whole or part. The process involves conducting interviews with key informants, conducting surveys of educators and students, and observing school facilities. CapacityPlus has developed tools—such as checklists and data collection/analysis tools—to facilitate this process. This evaluation process can determine if there are multiple gaps or just a few critical areas needing priority attention and which of those can be addressed most cost-effectively. Schools will typically either require concentrated attention in limited areas or have across-the-board needs in most of the nine areas.

Overview of the approach

The Bottlenecks and Best Buys approach entails reviewing a health professional school’s current capacity and strengths in the nine core areas with a view toward suggesting ways to increase the number of qualified graduates responsive to national health priorities, particularly in underserved areas such as rural and periurban settings, and across all levels of the health care pyramid.

CapacityPlus has been piloting the Bottlenecks and Best Buys approach at health professional schools in the Democratic Republic of the Congo, Ethiopia, Ghana, Mali, and Uganda. The on-campus process, including in-country preliminary meetings, interviews, draft assessment presentation, and finalization, ranged from three to five weeks, depending on the size of the institution, school leadership commitment, availability of individuals, and school calendar. In all countries, the process was led by a coordinator, either international or local, who had experience or training in the application of the approach. In all cases the government and schools provided critical support. In some cases additional resource persons were engaged to assist with the collection of data and information.

In each country, preliminary meetings were held to adapt the approach to the local context. School leadership and other stakeholders made decisions about the scope and depth of the assessment. They reviewed all nine assessment areas to decide which ones were relevant in their particular setting. The process followed a series of steps to ensure that school leadership and other stakeholders supported the assessment and that the results of the analysis were incorporated into school planning (see sidebar for a list of these steps).

The approach aims to provide key information to decision-makers—without taking up excessive staff, student, and partner time—so they gain further insight into education and training at the institution, and identify critical constraints that hold back the institution from successfully accelerating expansion, without loss of quality. The primary audiences are those engaged in policy and planning, those determining programmatic options, and those responsible for financing and sources of financing, as well as those charged with executive management tasks.

Steps in the Bottlenecks and Best Buys Process



1. Expressions of interest from appropriate authorities and a preliminary indication of what will be expected during and from the process
2. Selection of a lead person/team responsible for organizing the assessment, confirming arrangements, drafting reports, and finalizing the recommendations
3. Initial in-country meeting, during which an understanding is reached on the school counterpart lead, kinds of documentation, categories of individuals to be interviewed, types of questionnaires to be answered, and an estimated time frame for conducting the assessment
4. Assessment based on confidentiality and informed consent documents, interviews, questionnaires, and facility observation
5. Preliminary data analysis by the assessment lead with technical support
6. Stakeholder meetings on draft findings, and identification of priority interventions including best buys cost estimates and consideration of proposed modifications
7. Final assessment findings and recommendations provided to the institutional leadership and relevant stakeholders, including government officials, with discussion about translating findings of priority interventions and initial cost estimates into actions.

Information is collected through interviews with key informants, including school managers and clinical practice site managers, using a structured interview format. Complementary surveys of educators and students are carried out using self-administered written questionnaires. Observation of school facilities, including classrooms, skills labs, computer labs, and libraries, as well as clinical practice sites, is conducted using a predefined checklist.

The information collected is used to identify and prioritize interventions for overcoming constraints. The market cost of these priority interventions is estimated, and a final selection of interventions is then made, with the goal of selecting the least costly interventions with the largest potential for scaling up the production of quality graduates. CapacityPlus is piloting a more detailed costing approach in sub-Saharan African country settings that estimates the unit cost of producing a health worker and the most common cost constraints, which can be complementary to this process.

Description of the tools

CapacityPlus has developed and pilot tested a set of tools to facilitate the process. The main instruments are:

Readiness checklist

The readiness checklist is a preassessment tool to identify health professional schools potentially ready to conduct a bottlenecks assessment. It consists of questions on key topics to determine whether the institution is an appropriate candidate for the Bottlenecks and Best Buys approach. Having a limited number of potential improvement areas, rather than the full range of issues, is a positive eligibility factor. Each question is given a numerical value; the higher total scores, the more “ready” a school is considered.

Assessment guide

This guide describes how to conduct a bottlenecks assessment, providing both the user and beneficiary with details of the process. It also offers tips and examples of how to successfully conduct an assessment, how to conduct stakeholder meetings, how to prioritize and cost interventions, and how to produce a final report.

Data collection tools

A set of data collection and analysis tools is available to facilitate the bottlenecks assessment process. Tools include interview guides and written questionnaires predesigned for each of the key informants and stakeholders. The tools can be customized to specific national and institutional settings. They are:

- Key informant interview
- School manager interview

- Clinical practice site manager interview
- Student questionnaire
- Educator questionnaire
- Observation checklists for school and clinical practice sites.

A data collection matrix with suggested indicators and sources of data for each of the nine areas of health professional school capacity is also available. These tools present a systematic way of collecting data.

Copies of these tools can be requested from CapacityPlus.

Next steps

Since the Bottlenecks and Best Buys approach is new, there are not yet data on how the findings and recommendations have been applied in the pilot schools. However, feedback from the early application institutions has been positive, and indications are that actions will likely be taken as a result. Refinement of the approach is ongoing based on these experiences, and CapacityPlus plans to finalize and disseminate the complete package in 2013. A modified form of this approach has been used in nursing and midwifery schools as part of the Nursing Education Partnership Initiative (NEPI) program in order to determine their current capacity and the bottlenecks and best buys for scaling up. Over the next few years, NEPI will assist these schools with scale-up. The lessons learned from their scale-up will provide an opportunity to evaluate and improve the Bottlenecks and Best Buys approach.

CapacityPlus will continue to work with other international organizations and donors active in scaling up the health workforce in order to coordinate investments at the school, national, and regional level.

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