



# Compendium of Approaches and Tools for Expanding High-Quality Health Workforce Education and Training

August 2015

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## INTRODUCTION

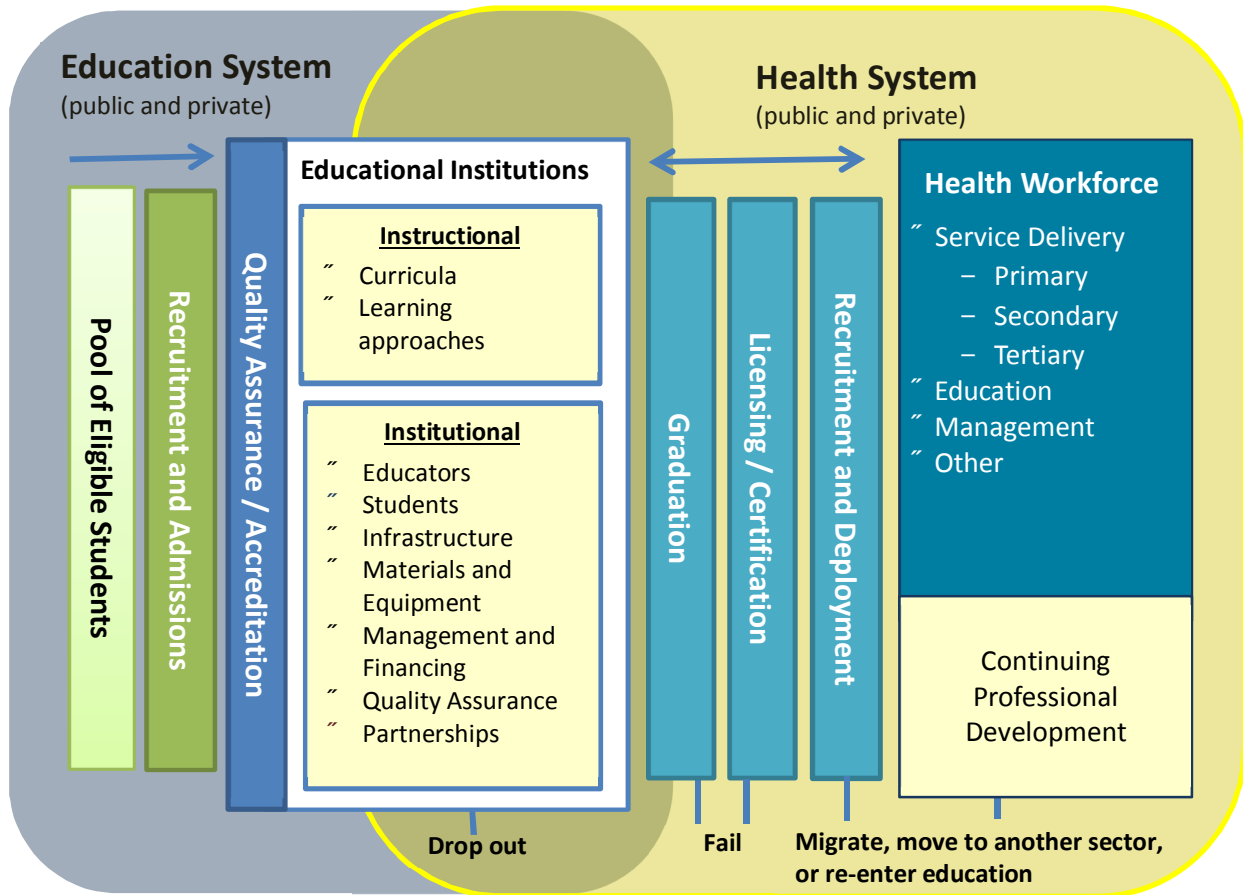
More than seven million additional health professionals are needed globally to achieve universal coverage with critical health services, such as HIV/AIDS prevention and care, and family planning counseling (Campbell et al. 2013). Yet it is estimated that only one million doctors, nurses, midwives, and public health professionals are produced each year worldwide. In order to increase the production of competent and qualified graduates, educational institutions must overcome a variety of constraints, including shortages of teaching staff, inadequate learning resources and environments, poor alignment of curricula with health service delivery needs, and insufficient financing (Frenk et al. 2010).

This compendium categorizes and describes approaches and tools that national stakeholders can use to address common challenges in expanding high-quality education and training. It lists sources of globally-recognized, evidence-based guidelines and recommendations for scaling up and transforming health professional education. It then suggests resources to support the implementation of those recommendations, categorized in relation to the health workforce production pipeline framework. *CapacityPlus* and other relevant USAID- or PEPFAR-funded projects and partners developed the majority of resources listed in this compendium. In addition, members of *CapacityPlus* served on technical expert panels for several of the guidelines and tools, such as the WHO transformative education guidelines, the USAID ASSIST Project's in-service training improvement framework, and the People that Deliver competency compendium for health supply chain management.

## THE HEALTH WORKFORCE PRODUCTION PIPELINE

The production and availability of health workers can be seen as a pipeline that connects the education and health sectors. Individuals progress through primary, secondary, and tertiary educational institutions and graduate with specific skills or degrees that make them eligible for recruitment into the health workforce (Figure 1). Educational institutions, both public and private, collaborate with health service facilities to produce a range of workers, from clinicians and technicians to health logisticians, managers, and educators. Along the pipeline, factors within the education and health systems determine how many and what types of individuals move forward to become health workers. These factors include criteria for entry into educational institutions, attrition while training, certification exams, and the markets for recruitment (WHO 2006). Within educational institutions, a number of instructional and institutional elements must be available and functioning to support students in developing required competencies, progressing from one level of study to the next, graduating, and entering the health system. Once absorbed into the health labor market, health workers must continue developing their knowledge and skills to stay up-to-date with evolving knowledge, technologies, policies, and guidelines. Moreover, health workers may re-enter educational institutions to upgrade their credentials and advance their careers.

**Figure 1: Pipeline to Generate and Maintain a Competent Health Workforce**



## GLOBAL GUIDANCE AND RECOMMENDATIONS

CapacityPlus, WHO, and several groups of education experts have produced guidelines and recommendations that can be adapted to local contexts and applied to the health workforce production pipeline. They range from a list of factors to consider in scaling up the health workforce, to evidence-based recommendations for addressing specific challenges, such as improving student admission procedures, strengthening faculty development, or updating and reforming the delivery of curricula. The guidelines place special emphases on supporting interprofessional and team-based education, preparing students to work in rural and remote areas, and expanding the range of different cadres of health workers who are capable of delivering essential primary health care services. The following resources outline recommendations for strengthening the health workforce pipeline.

### **Health Worker Education: How Can Countries Scale Up Education of Health Workers to Meet Health Care Needs?** Washington, DC: CapacityPlus. 2012.

Summarizes key considerations and selected resources for scaling up health workforce education.

<http://www.capacityplus.org/files/resources/Issue-Brief-6-HW-Education.pdf>

**Transforming and Scaling Up Health Professionals' Education and Training. World Health Organization Guidelines.** Geneva: World Health Organization. 2013.

Provides evidence-based guidance for student admissions and educational pathways, faculty development, curriculum development, simulation methods, interprofessional education, accreditation of institutions, and continuous professional development of graduates.

[http://www.who.int/hrh/resources/transf\\_scaling\\_hpet/en/](http://www.who.int/hrh/resources/transf_scaling_hpet/en/)

**Increasing Access to Health Workers in Remote and Rural Areas through Improved Retention: Global Policy Recommendations.** Geneva: World Health Organization. 2010.

Presents evidence-based recommendations for increasing the employment and retention of graduates in rural and underserved areas, with a focus on student selection, placement of educational institutions, selection of clinical rotation sites, curricula development, and subsidized education in return for service.

<http://www.who.int/hrh/retention/guidelines/en>

**Transforming and Scaling up Health Professional Education and Training: Policy Brief on Monitoring and Evaluating the Education of Health Professionals.** Geneva: World Health Organization. 2013.

Proposes a framework and guidance for monitoring and assessing the production and entry of graduates into the health workforce in order to generate the data needed to formulate and evaluate policies and programs to correct shortages and maldistributions of health workers.

[http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines\\_PolicyBrief\\_MnE.pdf](http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines_PolicyBrief_MnE.pdf)

**WHO Recommendations: Optimizing Health Worker Roles to Improve Access to Key Maternal and Newborn Health Interventions through Task Shifting.** Geneva: World Health Organization. 2012.

Describes evidence-based recommendations for the rational distribution of tasks among different cadres of health workers in order to address critical health workforce shortages and increase access to key maternal health, newborn health, and family planning services.

[http://www.who.int/reproductivehealth/publications/maternal\\_perinatal\\_health/978924504843/en/](http://www.who.int/reproductivehealth/publications/maternal_perinatal_health/978924504843/en/)

**Health Professionals for a New Century: Transforming Education to Strengthen Health Systems in an Interdependent World.** Amsterdam: *The Lancet*. Elsevier Publishing. 2010.

Reports the findings and recommendations for overcoming institutional and instructional challenges to transforming education for strengthened health systems. Developed by the *Lancet* global commission on health professional education.

<http://www.chinamedicalboard.org/sites/chinamedicalboard.org/files/lancetreportenglish.pdf>

**Global Consensus for Social Accountability of Medical Schools.** British Columbia: University of British Columbia. 2010.

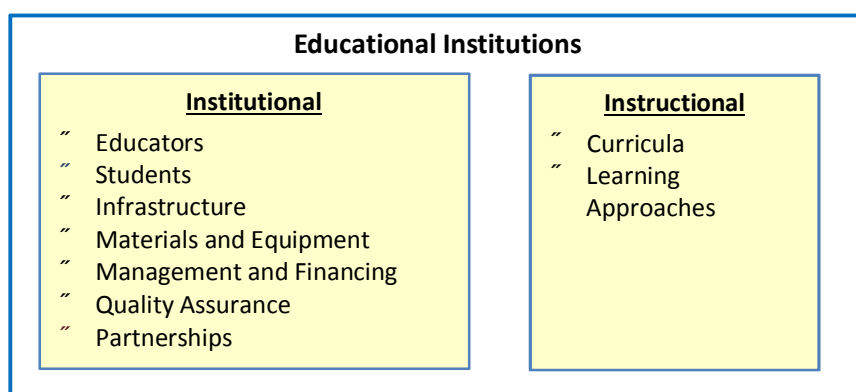
Presents a set of system-wide recommendations, developed by a global group of experts in health professional education, that aims to increase the impact of medical schools on health systems' performance and on peoples' health status.

<http://healthsocialaccountability.org/>

## OVERCOMING CHALLENGES WITHIN EDUCATIONAL INSTITUTIONS

Leaders of educational institutions encounter a variety of institutional and instructional challenges when attempting to increase the number of graduates able to address present and future health challenges (Figure 2). Institutional capacity refers to the physical, material, financial, human, organizational, and knowledge resources needed to deliver student-centered, competency-based educational programs. Instructional capacity involves the ability of institutions to appropriately define what students should learn and ensure that those competencies are developed through effective educational processes. The most common challenges that schools face are insufficient or inappropriate infrastructure and resources to deliver educational programs, and outdated processes for defining and developing competencies among students. The global guidance documents listed in this compendium offer general recommendations for overcoming a number of the challenges that schools face. The resources listed below describe approaches and tools that stakeholders can use to implement recommendations for overcoming institutional and instructional challenges.

**Figure 2: Challenges Within Educational Institutions**



### Strengthening Institutions

Traditional approaches to increasing the production of competent health workers have tended to focus on updating or expanding curricula. However, a number of assessments, including those conducted by *CapacityPlus*, have shown significant constraints in the learning environments needed to develop and deliver quality educational programs. Shortages or inefficient use of infrastructure, teachers, materials, and clinical practice sites limit the number of students who can be taught effectively, and restrict the expansion of training, even for basic services. In addition, the location of most institutions in urban areas decreases the diversity of staff and students.

Global guidelines recommend locating more schools in rural areas; creating links between urban and rural campuses; and developing interrelated networks of organizations, each responsible for a different set of educational functions. The aim is to shift health worker education away from isolated academic centers and towards interconnected academic systems. The benefits of academic systems include access to a wider variety of health service delivery sites, from hospitals

to primary care clinics and communities, and greater opportunities to share human, material, and knowledge resources in support of competency-based, interprofessional, and community-based learning. The following resources outline approaches for strengthening the institutional capacity of schools.

**Scaling Up Health Workforce Education and Training: Guide for Applying the Bottlenecks and Best Buys Approach.** Washington, DC: CapacityPlus. 2014.

Describes an approach for assessing a school's capacity for scale-up in nine critical areas, identifying institutional constraints to increasing the production of high-quality graduates, and building consensus on effective and affordable actions (best buys) to overcome them.

<http://www.capacityplus.org/guide-for-applying-the-bottlenecks-and-best-buys-approach>

**Strengthening School Management: A Guide for Optimizing the Use of Health Workforce Education Resources.** Washington, DC: CapacityPlus. 2015.

Presents a framework and tools to critically analyze a school's management practices, plan and implement improvements for more effective and efficient use of resources, and monitor results.

<http://www.capacityplus.org/school-management>

## Improving Instruction

The *Lancet* commission's review of health professional education reported several inherent challenges to instructional capacity. These include a mismatch of competencies to patient and population needs, limited opportunities for students to learn and practice as teams, and predominant hospital orientation at the expense of primary care (Frenk et al. 2010). Health workforce education must equip graduates with the competencies needed to anticipate and respond to population health needs while working as members of collaborative teams at all levels of the health system. Global guidelines advise educators to continuously define and adapt the competencies, both knowledge-based and technological, that students should develop to meet evolving health service delivery needs. Defining what students should learn entails seeking inputs from relevant technical resources as well as from a range of stakeholders, including practicing health professionals and the intended clients of health services. Health professionals need to be technically competent and efficient but they also need to be able to work in teams, to adapt to a changing practice environment, and to initiate change where needed. In addition to defining relevant competencies, educators must use appropriate instructional design techniques that result in an effective blend of learner-centered educational processes. Learning processes should involve a combination of individual, online, group-based, and in-the-field activities to ensure that students master the requisite knowledge, skills, and attitudes. Global guidelines place particular emphases on: interprofessional learning to break down professional silos and foster the development of collaborative practice; exploiting the power of information technology; ensuring hands-on practice through simulation labs and in a wide range of practice environments; and fostering community-based education. The following resources present approaches and tools to help define what students should learn and how they should learn it, with an emphasis on developing knowledge and skills related to HIV/AIDS, family planning, maternal and newborn survival, supply chain management, and health informatics.

**Learning for Performance: A Guide and Toolkit for Health Worker Training and Education Programs.** Chapel Hill, NC: Capacity Project. 2007.

Presents a systematic instructional design process to help educators connect learning to specific job responsibilities and competencies and to create effective educational approaches to develop those competencies.

<http://www.intrahealth.org/page/learning-for-performance>

**Preservice Education Toolkit.** Washington, DC: K4Health. 2012.

Outlines key programmatic steps, highlights lessons learned, and identifies key resources to assist country programs, donors, and governments to develop quality and relevant education and training programs, with a particular focus on midwifery education.

<http://www.k4health.org/toolkits/pse>

**Preservice Education Family Planning Reference Guide.** Chapel Hill, NC: Malawi Ministry of Health and IntraHealth International. 2010.

Includes guidance and materials, developed in collaboration with the Ministry of Health in Malawi, to assist educators in creating, updating, or adapting the family planning content of their curricula and individual courses.

<http://www.intrahealth.org/page/preservice-education-family-planning-reference-guide>

**Training Tools for HIV/AIDS Prevention and Care.** New York: ICAP, Columbia University. 2011-2014.

Contains generic education and training resources on HIV/AIDS prevention and care, developed in partnership with multidisciplinary teams of health providers, which can be adapted and used to suit specific programmatic and policy contexts.

<http://icap.columbia.edu/resources/training-tools>

**PtD Competency Compendium for Health Supply Chain Management: A Reference for Health Supply Chains.** Copenhagen: People that Deliver (PtD) Technical Working Group. 2014.

Provides guidance for defining supply chain management competencies for different types of health workers, including supply chain managers, drawing on 20 competency frameworks and related documents from a number of organizations.

<http://www.peoplethatdeliver.org/sites/peoplethatdeliver.org/files/Feb%2014th%20FINAL%20PtD%20Public%20Health%20SCM%20Competency%20Compendium%20with%20ISBN%20and%20CC%20and%20publisher.pdf>

**Health Informatics Education and Training Programs: Important Factors to Consider.** Washington, DC: CapacityPlus. 2013.

Introduces the concept of health informatics and describes the considerations to be kept in mind when designing education and training programs for health informatics.

<http://www.capacityplus.org/health-informatics-education-and-training-programs>

**Medical Education Partnership Initiative (MEPI) Compendium of Tools for Evaluating Community-Based Medical Education Programs.** Washington, DC: CapacityPlus. 2014.

Categorizes and describes approaches and tools, collected through a search of peer-reviewed and grey literature, for use in evaluating community-based education.

<http://www.capacityplus.org/taxonomy/term/542>



**eLearning for Undergraduate Health Professional Education: A Systematic Review Informing a Radical Transformation of Health Workforce Development.** Geneva: World Health Organization. 2015.

Provides evidence on how and where eLearning can best be used for undergraduate health professional education in country settings.

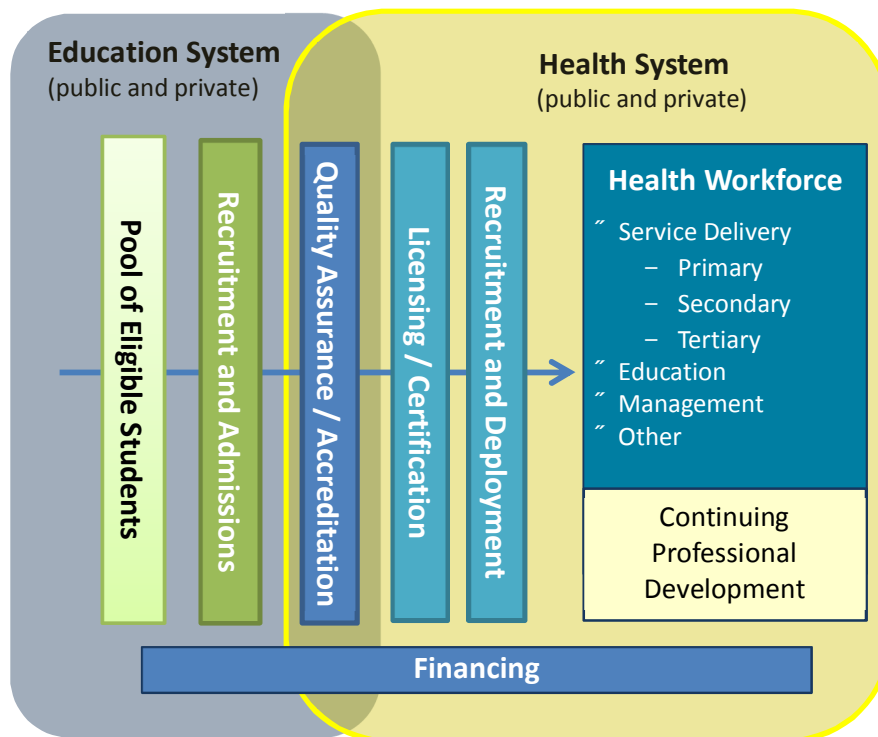
<http://whoeducationguidelines.org/content/elearning-report>

## **ADDRESSING SYSTEMS-LEVEL CHALLENGES**

The education and health sectors are often described as systems with connected sets of components that interact to achieve certain results. The education system includes the full range of formal and informal learning programs, both public and private, available in a country, plus the combination of beneficiaries and stakeholders in those programs—teachers, trainers, administrators, employees, students and their families, and employers. It also includes the rules, policies, and accountability mechanisms that bind an education system together, as well as the resources and financing mechanisms that sustain it (World Bank 2011). Similarly, the health system consists of the full range of public and private primary, secondary, and tertiary health services available in a country. The workings of health services are guided and supported by other key components of the system: leadership and governance; information systems; financing; human resources; and medical products and technologies (WHO 2010). Both systems are concerned with ensuring equitable access to high-quality services.

When attempting to expand, or even just maintain, high-quality education and training, stakeholders will encounter a number of challenges within education and health systems. These include, for example, poor collaboration between the education and health sectors, insufficient financing, outdated student recruitment and selection practices, shortages of educators, gender imbalances among students and educators, absent or ineffective mechanisms for quality assurance and accreditation, inefficient processes to transition graduates into the labor market, and limited opportunities for continuing professional development (Figure 3). Actions to overcome obstacles within one part of the system can fail if they are made in isolation and without consideration for other parts of the system. For example, if an educational institution enrolls greater numbers of students in a program, but makes no effort to improve financing, increase teaching staff, or revise learning methodologies, then that program will fail to meet standards of quality assurance and accreditation. Furthermore, certain actions within educational institutions may be difficult to implement without assistance from associated education or health systems components. For example, reducing shortages of tutors at clinical practice sites requires that education and health leaders drive forward the changes in human resource policies, practices, and financing that aim to develop and retain more tutors. The resources listed below describe approaches for addressing a number of systems-level challenges.

**Figure 3: Typical Systems-Level Challenges**



### Bridging the Gap between the Education and Health Sectors

To better align health workforce education with health sector needs, mechanisms are needed for joint education and health planning at every level—from national to district, to municipal, and institutional levels. Collaboration between health professional schools and members of the health sector—including health policy-makers, health service organizations, professional associations, and civil society—is critical for producing fit for purpose graduates who are competent and capable of addressing population health needs. At the same time, the academic community can provide valuable contributions and insight to health system reform and health policy-making. The following resources can offer guidance in bridging the educational/health sector divide.

#### **Health Professional School Leadership and Health Sector Reform, Performance, and Practice.** Washington, DC: CapacityPlus. 2014.

Makes the case for more formal engagement of health professional school leaders in health sector development and reform.

<http://www.capacityplus.org/health-professional-school-leadership-health-sector-reform>

#### **MEPI Connect—An Open Source Graduate Tracking Software System.** Washington, DC: CapacityPlus. 2015.

Provides an open-source, computerized system for staying connected with graduates. The system helps educational institutions track where students practice after graduation, gather feedback from graduates to improve the quality and relevance of educational programs, and engage alumni in the education and training of future generations of health workers.

<http://www.capacityplus.org/taxonomy/term/578>

## Improving Financing for Education and Training

The level of financing and the way funds are distributed among educational institutions and students have important implications for the size, skills, and diversity of the health workforce. The *Lancet* global commission estimated that less than 2% of annual worldwide health expenditures is invested in educating the next generation of health workers. They labeled this as pitifully modest for such a labor-intensive and talent-driven industry, and suggested major increases in funding for both education and employment, particularly in countries with severe workforce deficits. Higher levels of financing are needed from all sources (e.g., public, private, development aid, foundations) to increase training capacity, improve the quality and relevance of graduates, and create jobs in the health labor market with appropriate salaries and performance incentives (Frenk et al. 2010). The following resources offer solutions for overcoming financial constraints.

### **Innovative Financing Options for the Preservice Education of Health Professionals.**

Washington, DC: CapacityPlus. 2013.

Proposes 19 sources of public and private financing for health workforce education that have been applied successfully in a variety of contexts and institutions.

<http://www.capacityplus.org/innovative-financing-options-preservice-education>

<http://intrahealth.qstream.com/>

### **Transforming and Scaling up Health Professional Education: Policy Brief on Financing Education of Health Professionals.**

Geneva: World Health Organization. 2013.

Provides empirical evidence on how health professional education is funded, and how the level, composition, and mechanisms of financing affect the quantity, quality, and relevance of health workers, which can be used to guide the development of financing policies.

[http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines\\_PolicyBrief\\_Financing.pdf](http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines_PolicyBrief_Financing.pdf)

### **Preservice Education Costing Tool.**

Washington, DC: CapacityPlus. 2015.

Presents a methodology and instruments for estimating the cost to an educational institution and its affiliated clinical practice sites of producing a health professional graduate. Includes methods for estimating resource constraints to increasing the quantity or quality of graduates; developing cost estimates for interventions to overcome those constraints; and then estimating the new unit costs per graduate if the interventions are implemented.

<http://www.capacityplus.org/files/resources/preservice-education-costing-tool-overview.pdf>

### **Financing Medical Education through the Private Sector.**

Bethesda, MD: Strengthening Health Outcomes through the Private Sector (SHOPS) Project, Abt Associates. 2014.

Describes lessons learned from pilot activities to introduce private sector financing mechanisms into health workforce education, and provides an evidence-based framework that policy-makers and donors can use to improve education financing.

[http://www.shopsproject.org/sites/default/files/resources/Report-PSE\\_120514\\_v11f-print.pdf](http://www.shopsproject.org/sites/default/files/resources/Report-PSE_120514_v11f-print.pdf)

### **Scaling up. Saving Lives. Report of the Task Force for Scaling Up Education and Training for Health Workers.**

Geneva: World Health Organization and Global Health Workforce Alliance. 2008.

Presents guidance for developing long-term human resources development plans, and providing coordinated and predictable long-term financial support to national scale-up plans.

<http://www.who.int/workforcealliance/knowledge/resources/scalingup/en/>

## Enrolling the Right Students

To understand and respond to population health needs, and especially the needs of rural and underserved communities, health professionals must represent the people they serve in terms of gender, language, ethnicity, and other social and demographic factors. Within each country, the size of the pool of eligible candidates depends on young people's interest in pursuing health sciences careers as well as their ability to meet admissions criteria. New students can include primary and secondary school graduates as well as qualified health workers who would like to specialize or upgrade their credentials. For example, a community health extension worker may re-enter the education pipeline to become a nurse or clinical officer. In most countries, active recruitment and targeted admissions are needed to correct gender, economic, ethnic, urban/rural, and regional imbalances. Candidates from disadvantaged socioeconomic groups or underserved communities may require special assistance in choosing an institution, filling out application forms, and meeting the academic and personal demands of educational programs, especially if they are the first member of their family to pursue higher education.

Currently, there are no global resources that describe approaches for reforming recruitment and admissions practices in health workforce education. Recommendations 6, 7, and 8 of the WHO education guidelines advocate for targeted admissions policies to increase the socioeconomic, ethnic, and geographical diversity of students, and encourage streamlined admissions for graduates from other relevant educational programs and for health workers wishing to advance their careers (WHO 2013: <http://www.whoeducationguidelines.org>). In addition, the WHO recommendations for increasing access to health workers in rural areas suggest targeted admission policies to enroll students with a rural background in order to increase the likelihood of graduates choosing to practice in rural areas (WHO 2010: <http://www.who.int/hrh/retention/guidelines>). The following document reports the results of a review of admissions practices in the United States, and suggests strategies and best practices for increasing diversity.

### **Increasing Diversity in the Health Professions: A Look at Best Practices in Admissions.**

Washington, DC: National Institutes of Health. 2004.

Describes the medical school admissions process in the United States, with a focus on strategies and best practices essential to recruiting and enrolling diverse classes of students, including institutional commitment, strong leadership, and support for comprehensive strategies.

<http://www.ncbi.nlm.nih.gov/books/NBK216007/>

## Addressing Shortages of Educators

Sufficient numbers of competent and qualified teachers and clinical tutors are essential for the delivery of high-quality educational programs. Yet numerous assessments have shown that educational programs frequently face shortages of effective educators. Strategies are needed to attract, develop, and retain personnel in education positions and to support teaching excellence. According to the *Lancet* commission, these strategies should include more credible career tracks

for teaching; advancement of women faculty members; good material and technical support; reasonable remuneration; constructive feedback and evaluation; access to mentoring; training opportunities to improve teaching; and recognition or awards for teaching as well as innovation in curriculum content. The following resources suggest approaches for preparing and retaining educators, and for supporting their continuous professional development.

**Transforming and Scaling up Health Professional Education and Training: Policy Brief on Faculty Development.** Geneva: World Health Organization. 2013.

Suggests a number of policy options to attract and retain health professional educators and improve the quality of their teaching.

[http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines\\_PolicyBrief\\_FacultyDevelopment.pdf](http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines_PolicyBrief_FacultyDevelopment.pdf)

**Rapid Retention Survey Toolkit: Designing Evidence-Based Incentives for Health Workers.**

Washington, DC: CapacityPlus. 2014.

Describes an approach, based on the discrete choice experiment (DCE) methodology used in industry, which can be used to attract and retain different types of employees, including educators.

<http://www.capacityplus.org/rapid-retention-survey-toolkit>

## Reducing Gender Discrimination

Negative stereotypes, sexual harassment, and discrimination based on pregnancy or family responsibilities affect the admission, performance, retention, and graduation of health professional students, particularly female students. These forms of gender discrimination limit students' career opportunities even before they enter the workforce and often continue once they are employed. Similarly, faculty, who are essential to the education of future health workers, experience occupational segregation; delays or restrictions in promotion or tenure; wage inequity; and decreased career satisfaction due to gender discrimination. Leaders at national and institutional levels must take action against gender discrimination if they are to produce a robust workforce able to respond to the health needs of the populations they serve. The following resources present strategies for overcoming these challenges.

**Transforming the Health Worker Pipeline: Interventions to Eliminate Gender Discrimination in Preservice Education.** Washington, DC: CapacityPlus. 2012.

Describes the results of a systematic and expert review undertaken to identify practices that have the greatest potential to counter the complex individual, family, organizational, structural, and societal contributors to gender discrimination against female students and faculty.

<http://www.capacityplus.org/transforming-health-worker-pipeline-interventions-eliminate-gender-discrimination-preservice-education>

**Strengthening the Health Worker Pipeline through Gender-Transformative Strategies.**

Washington, DC: CapacityPlus. 2012.

Provides an overview of how gender discrimination affects health professional students and faculty, and recommendations for preservice education institutions and other stakeholders to address these challenges.

<http://www.capacityplus.org/strengthening-health-worker-pipeline-through-gender-transformative-strategies>

## Assuring the Quality of Education

Without careful planning, transformations in education can strain crucial components of an educational system. For example, increasing student enrollment can lead to overcrowded classrooms; admitting more students from disadvantaged backgrounds can overwhelm student counseling services; and establishing training sites in rural communities can overburden teachers—all of which will negatively impact learning outcomes. Moreover, the exponential growth of private sector institutions offering health workforce education has increased the need to guarantee institutional accountability and safeguard public interest. Quality assurance is the systematic review of educational programs to ensure that acceptable standards of education, scholarship, and infrastructure are being maintained. The process typically involves analyzing current levels of performance against quality standards and expected outcomes, implementing plans to improve performance, monitoring achievements, and feeding back this information into a continuing cycle of reflection and improvement. It can be driven by internal stakeholders, through a collaboration between internal stakeholders and an external authority, or by an external agency only. In many countries, national authorities for quality assurance in higher education are responsible for these processes. Accreditation, an externally-driven form of quality assurance, is the most predominant approach for assessing health workforce education, applied by almost half of the countries in the world. It normally involves three steps: self-evaluation based on published standards; a peer review that should include a site visit; and a report stating the outcome of the accreditation (full accreditation, conditional accreditation, or no accreditation). Regardless of the approach used by an institution or country, quality assurance must be seen as important to all those involved, and should support rather than stifle innovation and improvement of educational programs. Good practices in quality assurance can be drawn from the resources listed below as well as from global and regional initiatives, such as the UNESCO/World Bank Global Initiative for Quality Assurance Capacity (GIQAC) in higher education, and the European Association for Quality Assurance (ENQA) in higher education, which has produced standards and guidelines that provide an example for other regional initiatives (ENQA 2015).

**Optimizing Performance and Quality.** Chapel Hill, NC: IntraHealth International. 2013.

Outlines a cyclical process, which can be used within educational institutions, for analyzing performance and designing interventions to improve quality or build on strengths and successes.

<http://www.intrahealth.org/page/optimizing-performance-and-quality>

**Transforming and Scaling up Health Professional Education: Policy Brief on Accreditation of Institutions for Health Professional Education.** Geneva: World Health Organization. 2013.

Summarizes the challenges facing accreditation and makes policy and other recommendations for overcoming them.

[http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines\\_PolicyBrief\\_Accreditation.pdf](http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines_PolicyBrief_Accreditation.pdf)

**THEnet's Evaluation Framework for Socially Accountable Health Professional Education.** Brussels: THEnet. 2011.

Presents an approach for assessing an educational institution's performance from a social accountability perspective, focusing on the institution's ability to positively influence health outcomes and health systems performance.

<http://thenetcommunity.org/wp-content/uploads/2013/05/The-Monograph.pdf>

**Higher Education Quality Assurance in Sub-Saharan Africa: Status, Challenges, Opportunities, and Promising Practices.** Washington, DC: The World Bank. 2007.

Assesses the status and practice of higher education quality assurance in sub-Saharan Africa, describes cost implications and financing, and presents promising practices and stepwise options for capacity enhancement.

[http://www.eua.be/Libraries/QA\\_Connect/wp124\\_qa\\_higher\\_edu\\_africa.sflb.ashx](http://www.eua.be/Libraries/QA_Connect/wp124_qa_higher_edu_africa.sflb.ashx)

**Global Standards for the Initial Education of Professional Nurses and Midwives.** Geneva: World Health Organization. 2009.

Presents global standards and respective goals that aim to facilitate progress toward the highest level of education attainable in a country or region, assure equitable and appropriate placement of nurses and midwives in health care roles and, potentially, simplify recruitment practices throughout the world.

<http://www.who.int/hrh/resources/standards/en/>

**ICM Standard Equipment List for Competency-Based Skills Training in Midwifery Schools.**

The Hague: International Confederation of Midwives. 2012.

Lists equipment, teaching, and learning materials needed to upgrade or equip skills laboratories in midwifery schools. Developed by a team of regulators, educators, midwife practitioners, and development partners within the Africa region.

<http://www.internationalmidwives.org/what-we-do/education-core-documents/icm-standard-equipment-list-for-competency-based-skills-training-in-midwifery-schools/>

**Quality Assurance of Pharmacy Education: The FIP Global Framework. Second Edition.**

The Hague: International Pharmaceutical Federation (FIP). 2014.

Provides a tool, to be used in whole or in part, to facilitate the establishment of systems of quality assurance in countries or regions where no such formal systems exist, or to improve existing systems.

[http://www.fip.org/files/fip/PharmacyEducation/Quality\\_Assurance/QA\\_Framework\\_2nd\\_Edition\\_online\\_version.pdf](http://www.fip.org/files/fip/PharmacyEducation/Quality_Assurance/QA_Framework_2nd_Edition_online_version.pdf)

**WFME Global Standards for Quality Improvement in Basic Medical Education. The 2012 Revision.** Copenhagen: World Federation for Medical Education. 2012.

Lists international standards, which have general applicability for basic medical education, that can be adapted to regional, national, and institutional contexts and used within internal quality improvement processes as well as the external evaluation and accreditation of medical schools.

<http://wfme.org/standards/bme>

## Absorbing Graduates into the Labor Market

Students must navigate a number of hurdles as they transition from graduation to employment. For example, they need to pass required licensing or certification exams, register with professional councils, and secure employment. Lack of coordination among schools, regulating

*Compendium of Approaches and Tools*

*for Expanding High-Quality Health Workforce Education and Training*

agencies, and employers can lead to hiring delays of a year or more. Even countries experiencing an overall deficit of health workers may find it difficult to employ new graduates. This is most often caused by a mismatch between the number and types of graduates being produced and the number and types of jobs available, otherwise known as a market imbalance. For example, graduates from highly-specialized medical professions might have difficulty finding employment in a labor market that has prioritized the hiring of general practitioners in rural areas. In addition, for financial and other reasons, graduates may choose not to pursue jobs in particular disciplines or areas of need. Efforts to ensure that graduates are deployed into the health labor market where needed must begin with the selection of appropriate students and continue throughout their education. Educational institutions should expose students to relevant practice environments and provide adequate incentives to work in them after graduation. The following resources offer suggestions and tools for overcoming some of these challenges.

**Bridges to Health Worker Employment.** Washington, DC: CapacityPlus. 2013.

Includes 12 suggestions that health professional schools, ministries of health, employer councils, and others can implement to shorten the time between graduation and employment.

<http://www.capacityplus.org/bridges-health-worker-employment>

**Transforming and Scaling up Health Professional Education and Training: Policy Brief on Regulation of Health Professions Education.** Geneva: World Health Organization. 2013.

Presents a number of innovations and policy options for overcoming key issues in health professions regulation.

[http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines\\_PolicyBrief\\_Regulation.pdf](http://whoeducationguidelines.org/sites/default/files/uploads/whoeduguidelines_PolicyBrief_Regulation.pdf)

**A comprehensive health labour market framework for universal health coverage.**

Geneva: Bulletin of the World Health Organization. 2013.

Presents a comprehensive picture of health labor market dynamics, with four groups of health workforce policies that contribute to the attainment of equitable access to quality health services.

<http://www.who.int/bulletin/volumes/91/11/13-118927/en/>

**iHRIS Open Source Human Resources Information Solutions.** Washington, DC: CapacityPlus. 2012.

Offers free and open software for managing health workforce information to help countries address health workforce shortages and ensure that the right health workers are in the right place at the right time.

<http://www.ihris.org>

## Supporting Lifelong Learning

Students must develop skills in lifelong learning in order to provide quality services and meet their communities' changing health needs throughout their professional careers. Continuing professional development (CPD) encompasses all of the activities that health workers undertake—both formal and informal—to maintain, update, develop, and enhance their professional skills, knowledge, and attitudes. CPD is a systematic and ongoing process of education, in-service training, learning, and support activities that builds on initial education and training to ensure continuing competence, extend knowledge and skills to new responsibilities



or changing roles, and increase personal and professional effectiveness. The following resources convey approaches for planning and implementing effective and sustainable CPD programs.

**Keeping Up to Date: Continuing Professional Development for Health Workers in Developing Countries.** Washington, DC: CapacityPlus. 2012.

Summarizes the literature concerning current best practices and innovative ideas in CPD for people who run or advise CPD programs.

<http://www.capacityplus.org/keeping-up-to-date-continuing-professional-development-for-health-workers>

**A Global Improvement Framework for Health Worker In-Service Training. Guidance for Improved Effectiveness, Efficiency and Sustainability.** Washington, DC: USAID Health Care Improvement Project. 2013.

Presents a set of practice recommendations to improve in-service training effectiveness, efficiency, and sustainability.

[https://www.usaidassist.org/sites/assist/files/inservicetraining\\_july2013.11x17spreads.pdf](https://www.usaidassist.org/sites/assist/files/inservicetraining_july2013.11x17spreads.pdf)

**Training and Learning Standards: A checklist and tool for developing and implementing high-quality training and learning interventions.** Chapel Hill, NC: IntraHealth International. 2012.

Provides a checklist and tools for planning, implementing, and evaluating successful training interventions.

<http://www.intrahealth.org/page/training-and-learning-standards>

**Continuing Professional Development for Nurses and Midwives: A Toolkit for Developing a National CPD Framework.** Atlanta: African Health Profession Regulatory Collaborative (ARC) for Nurses and Midwives. 2013.

Provides step-by-step guidance and examples, based on the available literature, for developing, implementing, and evaluating a national CPD framework for nurses and midwives.

[http://africanregulatorycollaborative.com/Documents/ARCCPDToolkitApril2014\\_000.pdf](http://africanregulatorycollaborative.com/Documents/ARCCPDToolkitApril2014_000.pdf)

**Spaced Education: An Innovative Learning Methodology to Support Health Workforces.** Washington, DC: CapacityPlus. 2012.

Describes an effective learning methodology that can be applied to practicing health workers via the internet or mobile telephones.

<http://www.capacityplus.org/files/resources/spaced-education-overview.pdf>

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