Transforming Health Workers' Education for Universal Health Coverage: Global Challenges and Recommendations*

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Abstract

Health workforce challenges remain a critical bottleneck in achieving universal health coverage (UHC) goals in most countries. As it stands, health professional training is primarily clinical, curricular and delinked from the needs of the health system. To achieve global health goals and maximize opportunities for employment and economic growth, all in the context of limited fiscal realities, a paradigm shift is needed with respect to the health workforce and corresponding education systems. There is a need to shift towards fair, gender friendly employment at a rate that matches the overall growth of the health economy, which acknowledges the role of the private sector in education and training. This paper emphasizes the importance and implications of such a paradigm shift. It argues the need for a 21st century framework for health professional education. This framework should represent a more satisfactory interface between supply and demand for health professional labor, in line with the need for UHC, job creation and economic growth.

Introduction

The health workforce has received increasing attention over the last decade. This is driven, in part, by the need to achieve the United Nations' (UN) Millennium Development Goals (MDGs) and more recently the Sustainable Development Goals (SDGs) (Anand and Barnighausen 2004; Wyss 2004). Despite some progress, health workforce challenges remain a critical bottleneck to the achievement of Universal Health Coverage (UHC) goals in most countries. A recently published report by the World Bank estimates that global health workforce demand is expected to increase to about 80 million health workers by 2030 (Liu et al. 2016). However, the same report estimates that the growth in the supply of health workers will only reach 65 million, which amounts to a global shortage of some 15 million workers by 2030. This represents a two-fold increase over the estimated shortage of million workers in 2013 (Liu et al. 2016). The regional picture of this supply-side shortage suggests that lower-income settings such as Sub-Saharan Africa face the greatest supply shortfall relative to need, whereas in middle-income settings the supply shortfall is largest relative to demand.

While these numbers are striking, they fail to reflect the issues that affect countries and which are likely to accentuate the severity of supply shortfalls such as: the skew in skills and the inclination for health workers to cluster in urban, more prosperous settings. Despite more than a decade of concerted global action to address the health workforce crisis, collective efforts are falling short in

scaling-up the supply of health workers. While the shortages of health workers challenge the health systems, quality concerns are increasing on whether the health professionals are educated and trained to respond the needs of the communities that they will serve. This paper aims to stimulate the global debate on how investments in the education of health workers can help to accelerate progress towards UHC.

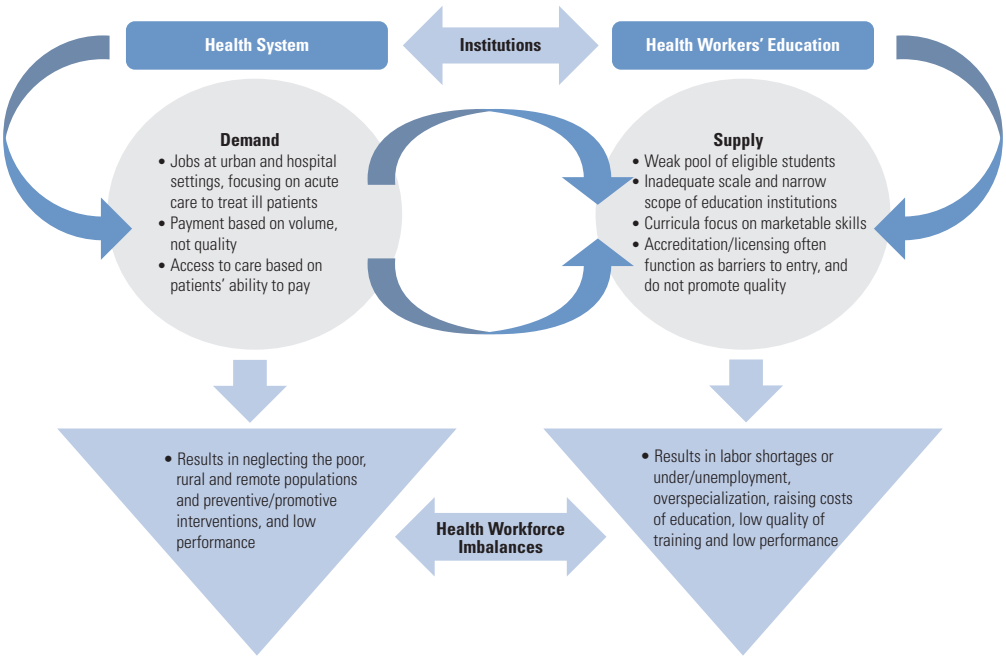
How UHC Links the Demand and Supply for Health Workers with Health Needs

The UHC agenda, with the underlying goal that everyone should have access to the quality health services they need, without financial compromise, brings attention to three universal needs of all health systems: financing; services; and populations. UHC offers a compelling opportunity to better align the demand for health services and the demand for health workers with population health needs. However, the alignment of demand and need around UHC must find a tangible link to the supply of health workers.

In the absence of UHC, health systems tend to the health needs of wealthier, educated and urban-dwelling populations. Healthcare services become skewed towards specialized, therapeutic treatments paid for by those who can afford services. Not surprisingly, the location of the health workforce reflects the prevailing demand for services, and attracts better educated and well-off students towards high-end professional training in tertiary-care hospitals where the pay and working conditions are better. This may be a dramatic over-simplification, but it is fair to say that in the absence of UHC, the prevailing demand-side signals from the health system skew the supply of health workers further away from population health needs and stall efforts to reform health workforce education (see Figure 1).

The growth in demand for the training of health professionals has shaped health education to respond to labor market demands, often at odds with population health needs. Globally, there is an increasing trend for medical students to specialize in

Figure 1. Demand and supply of health workers in the absence of UHC



surgical and medical sub-specialties, and a declining trend in the popularity of general practice. The trend towards over-specialization appears to be mainly driven by a significantly higher rate of return. Nicholson (2008), for example, reports that non-primary care physicians in the US earn far more than general or family practitioners (Nicholson 2008). Vaughn et al. (2010) estimate that in 2008, a cardiologist's average earnings in the US were double those of a primary care physician (Vaughn et al. 2010). Technological advances in the healthcare industry further accentuate the bias towards specialist skills, shifting the career preferences of health professionals towards those specialties (Schumacher 2002).

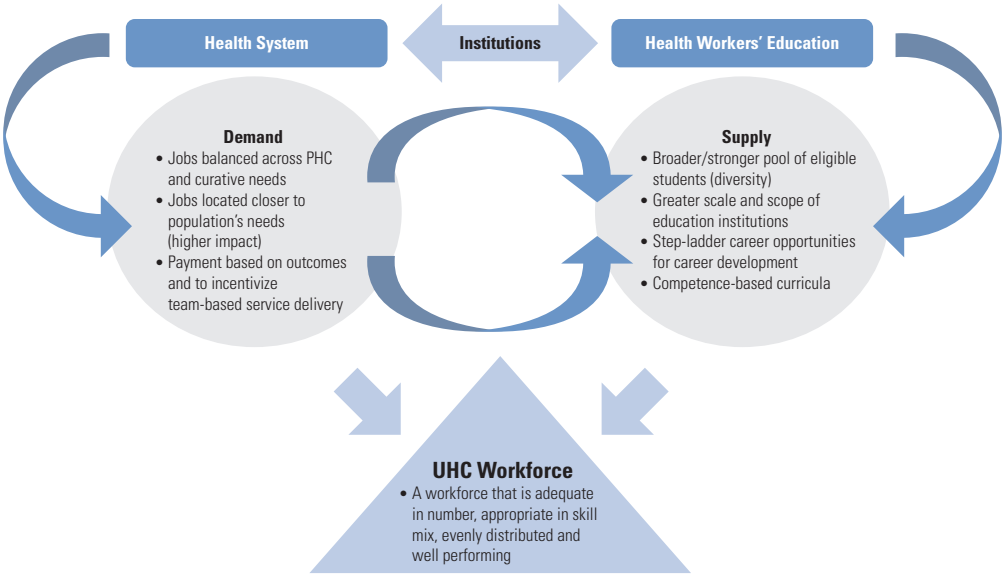
Private education has increased rapidly across the world as a response to the market opportunities generated by health and labor market dynamics, and the inability of most governments to respond. Private clinical and medical education has been a relatively new phenomenon in Africa that emerged in the 1990s, and which has accelerated from 2000 (Mullan et al. 2011). In South Africa, for example, nurses that graduated from private institutions increased from 45% in 2001 to 66% in 2004. In Kenya, 35 out of 68 nursing schools were privately run in 2009/10 (Reynolds et al. 2013). Private schools dominate in Asia, for example: India has more schools of medicine than any other country, and 137 are private; in Bangladesh, Japan, the Republic of Korea, Nepal and Taiwan, more than half the schools are private (Shehnaz 2011); in South America, 35 of Chile's 60 schools of medicine are private and in Brazil, private higher education institutions represent 56% of the total of medical schools and account for 54% of the total enrolment (Scheffer and Dal Poz 2015).

The rapid expansion of private schools raises concerns about the quality of education where regulatory mechanisms are often viewed as inadequate and/or corrupt. In Indonesia, for example, a decline in the quality of services provided by healthcare professionals was associated with the fast expansion in the number of private schools. By the late 2000s, 57% of medical schools in Indonesia were private, and over half of the 7,000 doctors graduated from private schools. One-third of the country's medical schools were not accredited, and only a quarter received the highest accreditation standard given by the Indonesia Directorate General of Higher Education (World Bank 2015). According to the Association of Indonesian Medical Schools, by 2007 only 50% of students passed the national examination that has a pass score of only 45 out of 100. In India, the privatization of medical education is associated with inadequate and corrupt regulation and poor quality of teaching (McPake et al. 2015).

UHC offers a compelling opportunity to transform the prevailing signals from the health system that inform the development and the deployment of the health workforce by using the three key elements: financing; services and populations. Most importantly, in the context of this paper, the reforms required to accelerate progress towards UHC place a wide spectrum of demands, and a diversity of expectations, on the health workforce that must be able to: (1) provide a full range of good quality population-wide health and clinical services; (2) respond to the needs of particularly disadvantaged populations; (3) provide surge emergency support services in times of crisis; (4) include the competencies required to secure complex core systems functions. These demands and expectations must be translated into paid employment and career prospects (see Figure 2).

While it is vital to focus UHC towards the health workforce, this is by no means sufficient. Many health systems have undertaken successful reforms towards UHC, but continue to struggle with the factors that influence the supply of health workers especially those related to their

Figure 2. Demand and supply of health workers with UHC



education. The challenge of managing the supply of health workers is evident in the chronic shortfall in appropriately trained staff in many OECD countries, and their dependence on recruiting health workers from other countries (McPake et al. 2013). In Canada for example, which has had UHC since the early 1960s, the system remains dependent on foreign-trained medical doctors to fill vacancies primarily in remote areas of the country (Preker et al. 2013).

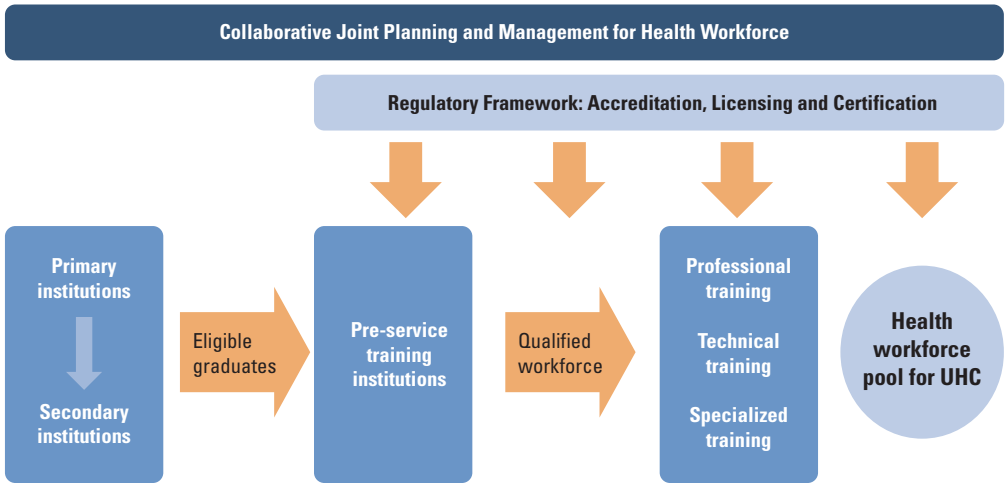
Education Investment Strategies to Strengthen Health Labor Supply towards UHC Needs

To address the shortfalls in health workforce supply, there is a pressing need to identify national and international health worker education investment strategies. The key entry points for interventions to shift the supply of health workers closer to meeting the demands of UHC can be found along the professional education pipeline (PEP), the institutions that influence the flow of students into the health labor market and then employ them. The flow starts at: primary and secondary education level in preparing students for entry into training; progresses into pre-service health workforce training institutions (post-secondary) and then continues with skills development through in-service training, specialization and continuing education (see Figure 3).

Active, progressive, competitive and fair recruitment of the next generation of students

The rapid growth of health sector employment and wages has increased the worldwide demand for health professional training (McPake et al., 2015). This appears to have resulted in an excess of demand, that is, more applicants than available training slots. Excess demand has led to extreme competition for the limited places available and, consequently, to a rapid increase in admission fees (Asch et al. 2013; McPake et al. 2015). These trends discourage applicants from lower socioeconomic backgrounds from applying and/or gaining admission. Other factors too can compromise the pool

Figure 3. Health professional education pipeline and entry points for intervention



of eligible students for health worker training, such as: insufficient quantity and quality of secondary school education; and diversity shortfalls from gender, wealth, ethnic minority or geographic residence perspectives.

In many low-and middle-income countries (LMICs), only a minority of the students complete secondary education and very few from poor households reach higher education (Ilie and Rose 2016; UNESCO 2015). This introduces a skew in the pool of students eligible for health worker training, a problem that is not limited to LMICs. In the US, for example, the likelihood of obtaining a college degree (a prerequisite for medical training) is: 82% in the white community; 6.9% in the African-American community and only 4.5% in the Hispanic community (Campbell–Page et al. 2013). Redressing the structural inequality in access to secondary and tertiary education will increase the number, quality and diversity of students applying for health professional training in the medium-to-longer term, and therefore represents a critical focus area of intervention for the education sector recognizing that is beyond the direct influence of the health sector.

Achieving better scale, scope and value-for-money in pre-service education

There is little evidence, beyond a few anecdotes, of systems-wide change in the scale, scope and value-for-money in pre-service education. This slow progress is a concern because the SDGs assume that UHC will be achieved by 2030, and that the supply deficit of health professionals is projected to grow to 15 million (US National Center for Education Statistics 2016). The severe lag in the scale of the response to the supply of health workers appears to be growing with time, compared to previous assessments (Bhuiya et al. 2015; Liu et al. 2016). While tackling the supply shortfalls in the health workforce as an urgent priority, we should also reflect on why strategies remain so unsuccessful. One key reason, for example, could be the current investment model behind the expansion of the health professional education system.

The existing investment model for health professional education can be characterized as a "one institution at a time" approach. This is bound by the need to satisfy expectations of tertiary education institutions and national accreditation bodies. Securing

university consent and gaining approval from accreditation bodies are complex processes, which invariably take two years or more before the first group of students can be enrolled. The pre-requisites for the approval of new entrants are designed to ensure quality of pre-service education. In practice, approval and accreditation processes are excessively rigid and resistant to change such as incorporating new forms of social accountability – and are too susceptible to make a compromise in standards and unethical behaviours. This is linked to the monopoly powers of accreditation bodies (Woollard 2006).

Investment strategies in an environment of scarce resources should be informed by growing evidence on what are the best-buys in education that lead to improved distribution and retention of workforce. Despite the lack of return on investment analysis in pre-service education, there are emerging studies that give some direction on investment priorities. Recent analyses of low-income settings suggest very positive returns on investment from training front-line workers, including nurses, midwives and community health workers (CHWs) (Bhuiya et al. 2015; Chen 2006). Added to this, there is growing evidence on how best to ensure graduates work in remote and rural regions by: locating training in those areas; focusing on lower and mid-level workers; and making sure students come from lower socioeconomic and rural backgrounds (Anderson and Anderson 1999; Fagerlund and Germano 2009). There is evidence that highlights the impact of transformative innovations in curricular content and teaching methods that improve education quality and efficiency.

Continuing professional development

Following successful completion of pre-service training, there is widespread recognition that continuing professional development is needed to maintain and acquire new competencies over a career that may span 20–30 years. However, the two to three decades of health work also present important opportunities for progressive career development and advancement that can harness experience, nurture scarce leadership and limit premature exit from the health workforce. The School of Health Sciences in Leyte in the Philippines has implemented a stepladder curriculum since 1976. The community and competency-based program integrates training into a single, sequential and continuous curriculum of CHWs, midwives, hygienists, nurses, nurse practitioners and medical doctors. Before completing each step of their education, students must provide services in the community, and nurses, midwives and doctors must complete national license-to-practice exams. Not only is their performance on national exams above average, but their retention rates are also impressive (PAHO 2006).

Career paths are also being defined by changes in roles and responsibilities that occur with the growing practice of *task shifting*. Task shifting is a cost-effective solution to address specific health worker needs and competencies rapidly (Allen et al. 2014; Martínez-González et al. 2015). It involves shifting general clinical tasks normally undertaken by doctors to other professions, such as: nursing; clinical officers; CHWs and care assistants. This is an increasingly common solution to strengthen and expand the health workforce rapidly, particularly in rural areas. Such strategies can be appropriate when implemented alongside other strategies that are designed to increase the total number of health workers of all levels. In Sub-Saharan Africa, many health workers with non-traditional competencies work across primary care settings. In high-income countries, the number of unlicensed and/or unregistered care assistants, nurses and rehabilitative staff in hospitals and long-term care settings has expanded (McPake et al. 2015).

Interventions to strengthen national, regional and international regulatory capacity

To ensure that quality assurance mechanisms are in place to set standards to evaluate the competencies and standards required to address national priority health needs, accreditation of training institutions should set standards that reflect the national context and required outcomes. To achieve compliance with quality or social standards, governments should set strict conditions to foster improvements in quality. At a minimum, some form of enforcement or incentive process is needed to make the process of accreditation of training institutions effective. If it is considered too costly to establish, implement and enforce independent and well-managed accreditation processes, authorities should consider establishing links with regional or international accreditation agencies. This could contribute to the UHC agenda by opening self-regulatory control to review, and to assessment by regional or international professional peers, jointly with non-specialists and other experts (e.g., leading academics or reformers in medical education methodology). International accreditation would also have the advantage of raising national standards, and allow information exchange between different professions in different places.

The certification process provides assurance to the public that a certified medical specialist has successfully completed an approved educational program and evaluation that includes: an examination process designed to assess the knowledge; and experience and skills necessary to provide high-quality care in a specialty. National licensing examinations exist in the US and throughout Western Europe, and are usually taken on completion of the medical school curriculum. Until 2005 in France, the university diploma awarded at the end of training functioned as the certification that authorizes clinical practice. Subsequent reforms have introduced a law making continuing-to-advanced training a requirement for practice, as well as a set of competency programs and practice evaluation procedures. More needs to be done on this front: fewer than 60% of developing countries require graduating medical students to pass national certification exams, and in Africa and South-East Asia the figure drops to below 40% (Tayag and Clavel 2011).

Moving Forward: Key Messages

Achieving UHC of quality services according to need, and without financial compromise, focuses attention on the numbers, locations and skill sets of health workers that are needed. Success in rebalancing will hinge a great deal on reforms in health worker education that: target the next generation of health workers; reform the scale, scope and value-for-money of pre-service education institutions and make continuing education a continuous opportunity for career advancement. Implementation of such reforms will benefit from a concerted focus on three cross-cutting fronts: Leadership; Financing; Evidence.

Supporting leadership for UHC through Health Professional Education Institutions (HPEIs)

Developing groups of leaders able to accelerate the journey to UHC is essential, together with the creation of employment and seizing the potential for HPEIs to contribute to UHC more systematically. The role of HPEIs is to contribute critical knowledge and learning that support the achievement of health goals through education and research. If they focus on what's required to achieve UHC in a more concerted way, reforms in health worker education would follow. For example, the challenge of providing universal access to maternal healthcare in disadvantaged populations

might compel HPEIs to examine how to use their education resources to ensure sufficient numbers of community midwives, who already have appropriate technical and cultural competencies and are ready to work and remain working in those communities. UHC should provide the focus that HPEIs need to revitalize the supply of health workers. To achieve this clarity of mission requires strong national-level stewardship that promotes: participation of key stakeholders; high-level ownership and buy-in to a common strategy; and shared accountability for results.

Towards the big picture and integrated financing with UHC

The current state of financing health workforce education is generally inadequate, inefficient and inequitable. To scale-up the education and supply of health workers requires transformation of the system. Just as UHC provides a unifying vision for financing the health sector, a similar "big picture" approach is required to finance health worker education. This involves articulating how to mobilize the resource targets needed to achieve improvements in the health workforce PEP, and the development of criteria to set priorities and guide budget allocation decisions. Finance sources vary according to the entry point for investment, for example: public sector (education or health); private sector (health institution) and individual/student. Public subsidies for student tuition usually vary: full for secondary school students in underrepresented minorities; concessional loans for students in pre-service education and interest-bearing loans for continuing education.

A further step towards big picture financing is to integrate financing for workforce education into overall UHC funding, which will bring it into the mainstream rather than being marginalized from the broader health sector (Kim and Evans 2014). UHC is about promoting the pooling of healthcare resources, and dedicated efforts to create larger pools, or *new compacts*, between the public and private sector. New integrated models that bring health worker education into the mainstream of private healthcare delivery deserve more attention. They could sustain equitable growth with quality in health worker training capacity (Celletti et al. 2011). Linking health worker education more directly to the growth of the health sector may also help to create new opportunities. For example, public and private partnerships can support the development of niche service industries to deliver critical education resources such as e-learning or distance learning with higher quality, and at lower cost (MacPake et al. 2015). Integration also increases the likelihood of engaging development partners involved in UHC funding. This brings with it more explicit support to build financing capacity in line with the 2015 Addis Ababa Financing for Development agenda (Celletti et al. 2011).

Marshaling evidence and monitoring performance for accelerated improvement against targets

The common challenges faced across countries in managing health worker education to achieve UHC provide rich opportunities for joint learning about what does or doesn't work, and why. To move beyond anecdotes of success or failure, more rigorous evaluation and comparative assessments are required. For example, comparative assessment of alternative accreditation regimes might provide valuable insights on how best to balance the need to preserve quality/standards with the need to promote innovation. Likewise, guidelines produced for curriculum renewal and teaching reform through systematic review help education institutions keep their teaching resources up-to-date. Research can be used to demonstrate the return on health workforce education investment, and the

value-for-money in the delivery of education. While this type of evidence is invaluable, it is rarely available because of the lack of funding for education research.

Fundamentally, there is a need to invest in information systems to develop common and comparable measurement standards (metrics) within and across countries. The standards can assess the performance of the health worker education systems compared to their expected contribution to achieving UHC. This would include a comprehensive needs assessment of: the number of health workers required by category and the labor market demand for these health workers; their training or work locations; their diversity profile; and the costs of training. Comparing the comprehensive needs assessment to a baseline will identify health education worker shortages, help to develop improvement targets and measure the social returns of social returns (contribution to public health) of investing in health worker education (McPake et al. 2015). Progress towards the targets will support leaders to focus on how to stimulate a culture of learning and improvement.

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