

# ADDRESSING THE CHALLENGES OF HEALTH PROFESSIONAL EDUCATION OPPORTUNITIES TO ACCELERATE PROGRESS TOWARDS UNIVERSAL HEALTH COVERAGE

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A Special Report of the Health  
Professional Education Advisory Board

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## FOREWORD

A critical challenge to achieving universal health coverage (UHC) is the chronic and severe shortage of health professionals and competencies. Without an accessible and competent health workforce, millions of citizens around the world will not receive services that match their health needs. A recent report by the World Bank estimates that in order to accelerate progress towards UHC, the world needs to meet a supply-side deficit of 15 million health workers by 2030. At the same time, population growth, demographic and epidemiological transitions and economic growth are creating additional healthcare demand. This in turn increases pressure on the health workforce.

Target 3.c in the United Nations Sustainable Development Goal 3 on health and well-being emphasizes the critical need to “*substantially increase health financing and the recruitment, development, training and retention of the health workforce*”. Health professional education has a particularly important role to play in addressing the global health workforce shortage. The Independent Commission on Education of Health Professionals for the 21st Century provided breakthrough conceptual guidance on transforming health professional education for health equity. More than five years after this seminal report and at the onset of the new 15-year global development framework, we now need to reflect on what we have learnt and further develop strategies to address this challenge.

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. As it stands, health professional training is primarily clinical, curricular and delinked from the needs of the health system. However, by moving towards innovative and cost-effective training opportunities that fully embrace the broad spectrum of competencies and cadres, we will be able to more effectively meet health needs, at both the national and global levels. We 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. We need to embrace promising, non-conventional health workforce solutions, such as those evidenced in low- and middle-income countries (LMICs), and integrate these into the health professional education and training systems at scale. We need to draw on opportunities for regional and global collaboration.

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. This paper is intended to evoke discussion at WISH 2016, and we hope it will ultimately lead to increased collaboration and commitment between governments, partners and the World Bank Group, to address issues related to health workforce and education and accelerate progress towards UHC.

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## EXECUTIVE SUMMARY

International efforts to achieve global development goals in health have raised concerns about the availability of a well-trained and effective health workforce. As a result, the health workforce has been the focus of many global initiatives in the last decade that have called for urgent action to overcome the so-called 'health workforce crisis'. Despite some progress, the health workforce challenges remain a critical bottleneck in achieving UHC goals in most countries.

The current demand shortage of millions of health workers is expected to double in 15 years, with the largest shortages predicted to occur in the regions of East Asia and the Pacific (8.3 million) and South Asia (3.2 million), accentuating the global imbalances in the distribution of health workers. Compared to the health workers' needs-based projections, the scenario is even more troublesome. In low-income countries (LICs), for example, both the demand for and the supply of health workers are projected to remain significantly below the needs-based threshold. As a result, these countries will likely face shortages of health workers needed to provide basic health services and unemployment of health workers due to the limited capacity to employ the available supply of workers (insufficient demand).

These numbers, while striking in aggregate, fail to reflect individual country contexts, where a range of issues are likely to accentuate the severity of supply shortfalls. These include skews in the skill mix, the tendency for health workers to cluster in urban, more prosperous settings and an absence of workforce planning to meet the growing challenges of chronic diseases or re-emerging infectious diseases. So, despite more than a decade of concerted global action to address the health workforce crisis, collective efforts are falling short, particularly in scaling-up the numbers of health workers needed.

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. These are related to financing, services and populations. In the absence of UHC, high-cost, high-end services for those who can pay skew the supply of health workers from population health needs by attracting better educated and well-off students towards high-end professional training in tertiary care hospitals with better pay and working conditions. UHC can help to redress the acknowledged skews in health systems towards institutional medical care by, for example, giving greater priority to frontline services provided by community health workers (CHWs) or to pandemic preparedness.

Universal health coverage 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. As the experience of many countries that have undertaken reforms towards UHC reveals, chronic shortfalls and imbalances in the health workforce continue to hamper progress. Furthermore, these challenges in high-income countries drive a global health worker labor market whereby a large

number of skilled health professionals emigrate from lower- to high-income countries, thereby adding to the challenge of managing the supply of health workers in lower-income countries.

Amid the challenges and opportunities represented by the global consensus around UHC, this report aims to stimulate the global debate and catalyze bold ideas on how investments in the education of health workers can help accelerate progress towards UHC. The report acknowledges the positive, demand-side influences that arise from the adoption of reforms of health systems towards UHC and argues their need to be extended to inform a renewal of investments in health worker education. Four entry points along the life course of health workers are put forward as critical education investment areas: target the next generation of health workers through active, progressive, competitive and fair recruitment; reform the scale, scope and value for money of pre-service education institutions; create continuous education opportunities as a more valued driver of career advancement; and reform the authorizing environment through national, regional and international regulatory reforms.

Implementation of these reforms will benefit from a concerted focus on three cross-cutting fronts that transcend the traditional sector divides of health–education: leadership, financing and evidence. The interdependence of investment in health and education, and in the public and private sectors, represents an important interface that will benefit from continued focus, perhaps as part of a future discussion at the World Innovation Summit on Education (WISE).

## 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 establish the critical role of health workers in determining progress for MDG 4 (child health), MDG 5 (maternal health) and MDG 6 (HIV/TB/Malaria).<sup>1,2</sup> The focus on the health workforce is reflected in a number of important global initiatives and high-level policy reports, including: The Joint Learning Initiative (2004); *The World Health Report 2006*; Global Health Workforce Alliance's (GHWA) *Scaling Up, Saving Lives* (2008) and *A Universal Truth: No Health Without a Workforce* (2013) reports; *The Lancet Commission on Health Professional Education* [www.thelancet.com/commissions/education-of-health-professionals](http://www.thelancet.com/commissions/education-of-health-professionals) (2010); and, more recently, the World Health Organization's (WHO) *Global Strategy on Human Resources for Health: Workforce 2030*.<sup>3-8</sup>

The Sustainable Development Goals (SDGs) also place a firm focus on health. For example, goal 3 for 2030 aims to: "Ensure healthy lives and promote well-being for all at all ages."<sup>9</sup> Closely linked to this is SDG target 3.8, which is directed towards achieving UHC, defined as: "Where all people receive the quality, essential health services they need, without being exposed to financial hardship."<sup>10</sup> The importance of the health workforce in the context of the SDGs sits in goal 3, target 3.c, which aims to: "Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States."<sup>11</sup>

Despite some progress, health workforce challenges remain a critical bottleneck to the achievement of UHC goals in most countries. A recently published report by the World Bank estimates that global health workforce demand will increase to about 80 million health workers by 2030.<sup>12</sup> However, the 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 7 million workers in 2013.<sup>13</sup> 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, while in middle-income settings, the supply shortfall is largest relative to demand (see Box 1).



## Box 1: Global health workforce supply constraints compared to demand and needs

In 2030, the largest demand-based shortages are predicted to occur in East Asia and the Pacific (8.3 million), South Asia (3.2 million), Latin America (2.6 million) and Europe and Central Asia (1.2 million), according to a recent World Bank report. From a needs-based perspective, taking into account only the demographic and epidemiological profile of the population, the report finds that the largest shortage will occur in low- and lower-middle-income countries, particularly in Sub-Saharan Africa and South Asia. Among LICs, both the demand for and the supply of health workers in 2030 is projected to remain significantly below the needs-based threshold density of 4.45 health workers per 1,000 population (WHO 2016). This will result in a puzzling situation where these countries will face both shortages of health workers needed to provide basic health services and unemployment among health professionals due to the limited capacity to employ the available supply of workers (insufficient demand for health workers). On the other side, middle-income countries are expected to generate sufficient labor market demand to hire enough health workers to deliver a package of basic services, however they will face challenges to produce a sufficient supply of qualified health workers to meet this projected demand.

### Estimated global demand, supply and needs of health workers, 2030

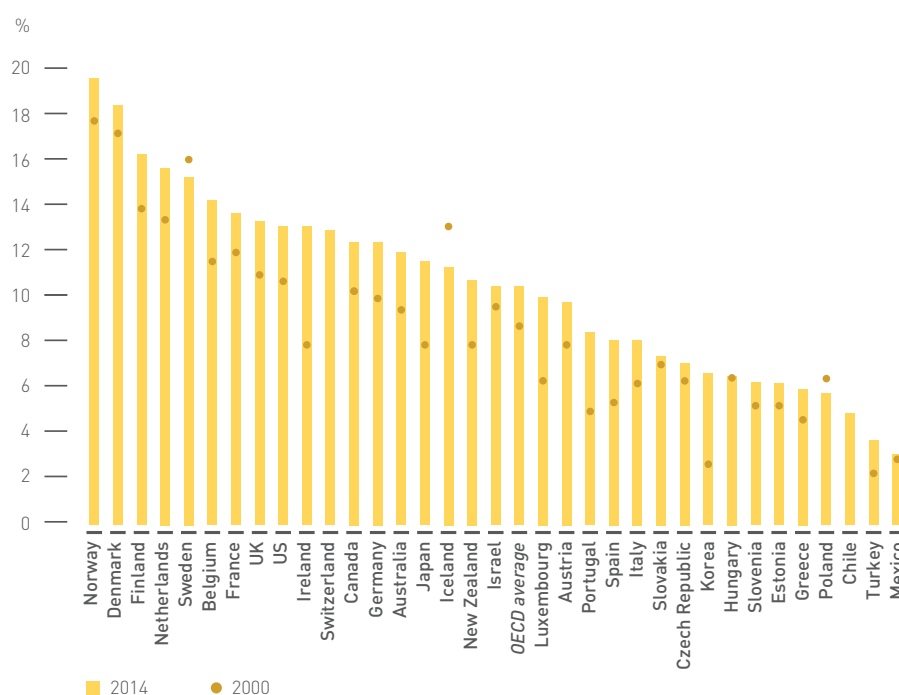
Income Groups	Demand (D)	Supply (S)	Diff (S-D)	Needs-based
Low	1,400,074	1,384,576	-15,498	7,049,048
Lower-middle	21,682,581	17,958,943	-3,723,638	21,940,256
Upper-middle	33,291,730	21,362,033	-11,929,697	15,934,777
High	23,780,953	23,948,576	167,623	8,058,211
World	80,155,338	64,654,127	-15,501,211	52,982,292

Source: Liu et al. 2016<sup>4</sup>

Whether compared to demand or needs for health workers, a large shortfall in supply is evident, and appears set to grow over the next 15 years. 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, as this report highlights, the inclination for health workers to cluster in urban, more prosperous settings. So, 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.

With SDGs and the commitment to achieve UHC by 2030, there is a renewed emphasis on considering health as an investment. This reflects recent evidence from *The Lancet* Commission on Investing in Health, which estimates that the return on investment in terms of the value of life years lived between 2001 and 2011 was close to 10:1.<sup>15</sup> Health as an investment and a productive sector is now being considered by the UN Commission on Health Employment and Economic Growth, which acknowledges the health sector is an important and growing source of employment and inclusive growth.<sup>16</sup> The share of health workers as a percentage of the general workforce among countries of the Organisation for Economic Co-operation and Development (OECD) increased from 8 percent to 10 percent between 2000 and 2014 (see Figure 1). Similar patterns have been observed in LMICs.<sup>17, 18</sup>

**Figure 1: Social and health worker employment as a share of total employment in OECD countries**



Source: OECD 2016<sup>19</sup>

This report examines the growing global consensus that health and health workers are productive investments. It highlights how this is creating opportunities to scale-up and improve the supply of health workers needed to achieve UHC by 2030, and illustrates the positive demand-side influences that come from reforms of the health system needed to realize UHC. This report focuses on a comprehensive repositioning of health worker education investment that covers active recruitment, initial pre-service training and career development. The interdependence of investment in health and education, and in the public and private sectors, represents an important interface that will benefit from continued debate, perhaps as part of a discussion at the future WISE event.

*Addressing the Challenges of Health Professional Education: Opportunities to Accelerate Progress Towards Universal Health Coverage* has been produced as a discussion paper for the 2016 World Innovation Summit for Health (WISH). Its objective is to:

- stimulate discussion and enhance recognition among global health leaders that it is important to endorse and prioritize reform of health workers' education in the context of UHC and the SDGs; and
- encourage the WISH and WISE to work together to support and promote recognition that the world's education systems and institutions are among the essential drivers needed to secure a robust supply of health workers; accelerate achievement of UHC; and contribute to the growth of employment and economies.

# SECTION 1: HOW UHC LINKS THE DEMAND AND SUPPLY FOR HEALTH WORKERS WITH HEALTH NEEDS

By definition, UHC focuses attention on three discrete elements of the health system:

- financing;
- services; and
- populations (where there is an overarching normative lens that everyone, everywhere should have access to the quality health services they need without financial compromise).

This widely shared vision at its most fundamental level provides a strong rationale to make sure health systems respond to the health needs of the whole population. 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, curative care paid for out-of-pocket by those who can afford services. Unsurprisingly, 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.

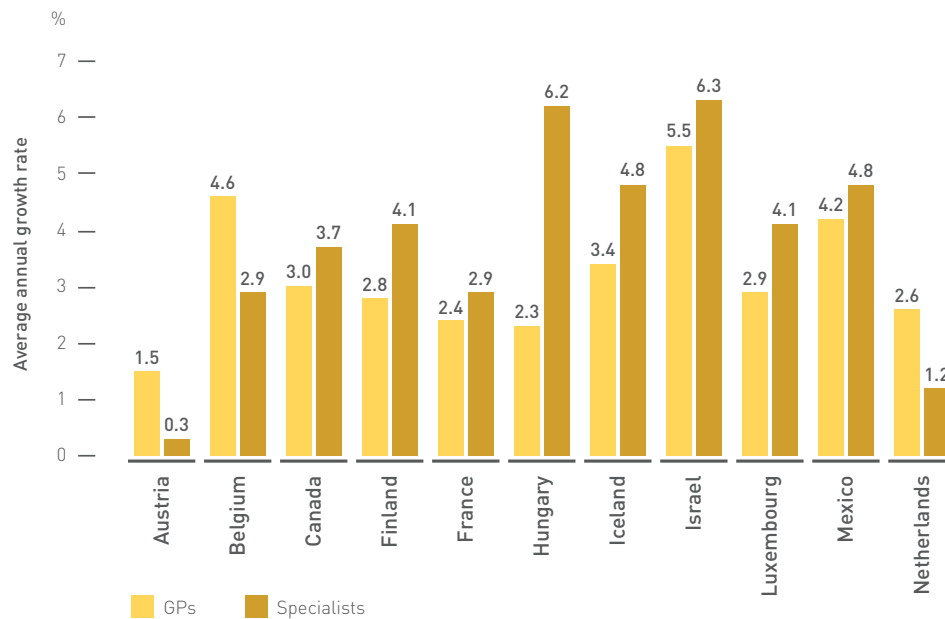
This may be a dramatic over-simplification, but it is fair to say that, in the absence of UHC, the prevailing demand-side signals from the health system skew the supply of health workers further away from population health needs and stall efforts to reform health workforce education (see Figure 2).

Figure 2: Demand and supply of health workers in the absence of UHC



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 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 to specialized education (see Figure 3). Nicholson reports that non-primary care physicians in the United States (US) earn far more than general or family practitioners.<sup>20</sup> Vaughn et al. estimate that, in 2008, a cardiologist's average earnings in the US were double those of a primary care physician.<sup>21</sup> Technological advances in the healthcare industry further accentuate the bias towards specialist training, shifting the career preference of health professionals toward those specialties.<sup>22</sup>

**Figure 3: Pay growth of general practitioners and specialists, 2005–2013 (or nearest year)**



Source: OECD 2015<sup>23</sup>

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, having emerged in the 1990s and accelerated from 2000.<sup>24</sup> In South Africa, for example, nurses that graduated from private institutions increased from 45 percent in 2001 to 66 percent in 2004. In Kenya, 35 out of 68 nursing schools were privately run in 2009/10.<sup>25</sup> Private schools dominate in Asia, for example, India has more schools of medicine than any other country, and 137 are private;<sup>26</sup> and in Bangladesh, Japan, the Republic of Korea, Nepal and Taiwan, more than half of schools are private.<sup>27</sup> Similarly, in South America, 35 of Chile’s 60 schools of medicine are private,<sup>28</sup> and in Brazil, private higher education institutions represent 56 percent of the total number of medical schools and account for 54 percent of the total enrollment.<sup>29</sup>

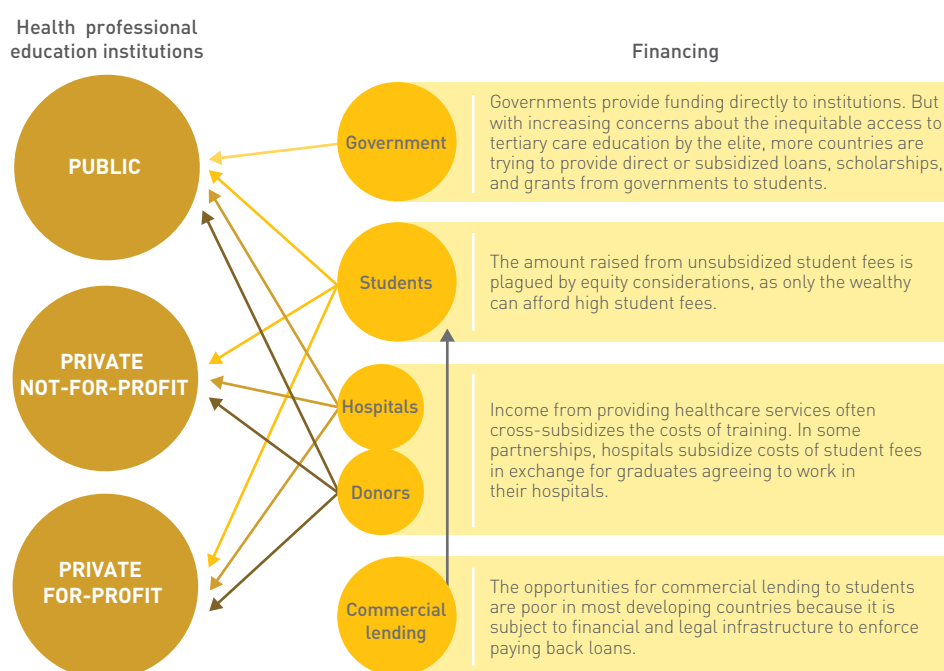
The rapid expansion of private schools raises concerns about the quality of education where regulatory mechanisms are often viewed as inadequate and/or corrupt. In Indonesia, for example, a decline in the quality of services provided by healthcare professionals was associated with a fast expansion in the number of private schools. By the late 2000s, 57 percent 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.<sup>30</sup> According to the Association of Indonesian Medical Schools, in 2007, despite a low pass score of 45 out of 100, only 50 percent of students passed the national examination.<sup>31</sup> In India, the privatization of medical education is associated with inadequate and corrupt regulation and poor quality of teaching.<sup>32</sup>

These trends characterize the variety of sources that finance health worker education: government health and education departments; student tuition fees and loans; teaching hospitals; and private investors and development partners (see Figure 4). This is a difficult mix to manage with a systems-wide tendency towards underfunding, that:

- acts as a barrier to access, which is a primary reason for drop-out among poorer students;
- erodes quality of education and graduates due to underpayment of faculty and underinvestment in maintaining educational infrastructure and teaching resources; and
- limits opportunities for structural expansion and growth in the supply of educational opportunity.

At the same time, there is rapid growth in privately financed health professional education across many countries. This is fueled in part by unmet demand for health professional education (with higher willingness to pay from applicants), which in turn is fueled by the unmet demand for health professionals.

**Figure 4: Sources of financing for health professional education**



Source: Preker et al. 2013<sup>33</sup>

While UHC is not a panacea, it offers a compelling opportunity to transform the prevailing signals from the health system that inform the development and deployment of the health workforce by using the three key elements: financing, services and populations.

**Financing.** The primary approach to financing UHC is to pool resources through pre-payment mechanisms (tax/insurance), and to move away from less efficient, less equitable pay-as-you-go systems. Larger resource pools force more unambiguous decisions on what to buy and how to pay for it. This represents an opportunity to link purchasing and payment decisions with population health needs and financing best-buy treatments. It also raises important questions about how best to distribute resources across healthcare to find a better balance between community-based/frontline and secondary/tertiary services.

**Services.** Universal health coverage aims to secure coverage of cost-effective, quality services according to need. This focuses on services that cover the entire population, not only hospital-based care, such as antenatal care for mothers, vaccinations for children, and surveillance of disease outbreaks. Budget constraints on what services can be purchased drive the development of ways to deliver services more efficiently. Examples include payment arrangements such as capitation, and mixing private and public funding.

**Populations.** The *universal* dimension of UHC ensures that the entire population has the attention of the system. To realize this requires an understanding of the health needs of disadvantaged populations that are the result of gender; socio-economic status; ethnicity; and where communities live, such as in rural remote areas or urban slums. This approach also includes the ability to provide coverage (surge capacity) to populations during public health crises and humanitarian emergencies.

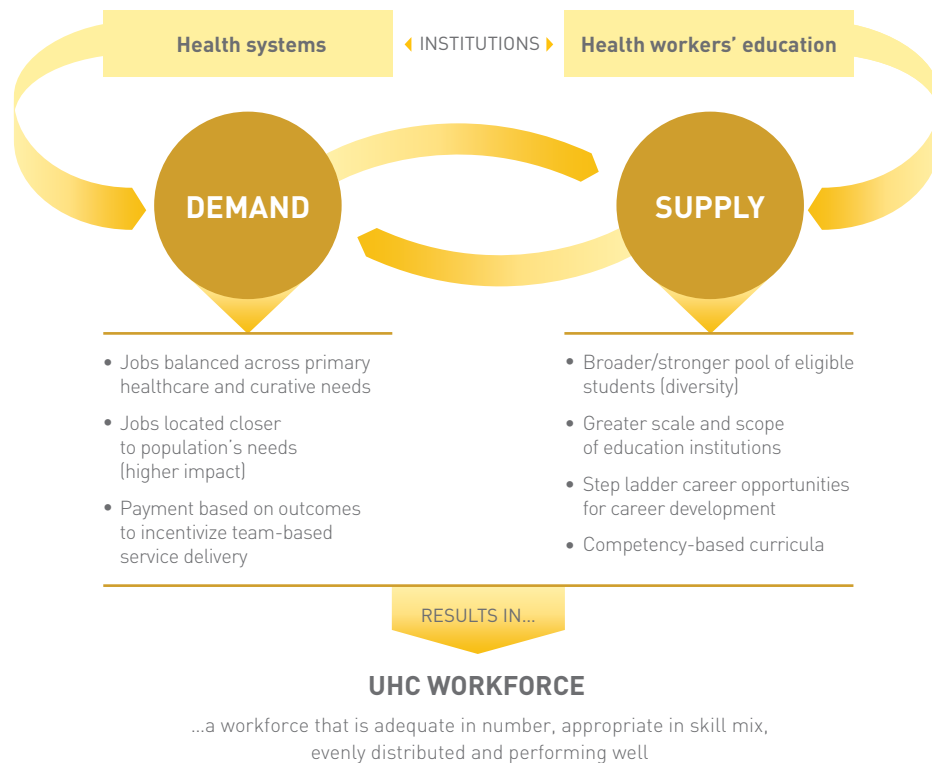
Most importantly, in the context of this paper, the reforms required to accelerate progress towards UHC place a wide spectrum of demands – and a diversity of expectations – on the health workforce that must be able to:

- cover the frontline;
- provide a full range of good quality population-wide health and clinical services;
- respond to the needs of particularly disadvantaged populations;
- provide surge emergency support services in times of crisis; and
- include a set of competencies required to secure complex modern core health systems functions (care co-ordination and management, communication skills, team-based practice, etc.).

These demands and expectations must be translated into paid employment and career prospects (see Figure 5).



**Figure 5: Demand and supply of health workers with UHC**



While strengthening UHC signals towards the health workforce demand is necessary, it 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 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.<sup>34</sup> 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.<sup>35</sup> The large out-migration of skilled health professionals from lower- to higher-income countries creates a global health worker labor market. In lower-income countries, this represents an additional challenge to managing the supply of health workers. Also, despite the widespread – and very positive – trend, of women entering medical schools and joining the health workforce, there has been a somewhat limited impact on overall staffing levels because little has been done to adjust work schedules to accommodate family responsibilities.<sup>36, 37</sup>

Low-quality training also has direct implications for the performance of health workers and the effectiveness of health systems. The competencies of health workers are based on the knowledge and skills acquired through training, continuing education and experience.<sup>38</sup> In Indonesia, for example, the latest Indonesia Family Life Survey (IFLS) measured the diagnostic and treatment ability of nurses and midwives. The survey found a low percentage of correct responses to questions: 45 percent for antenatal care; 62 percent for child care; and 57 percent for adult care. These results are

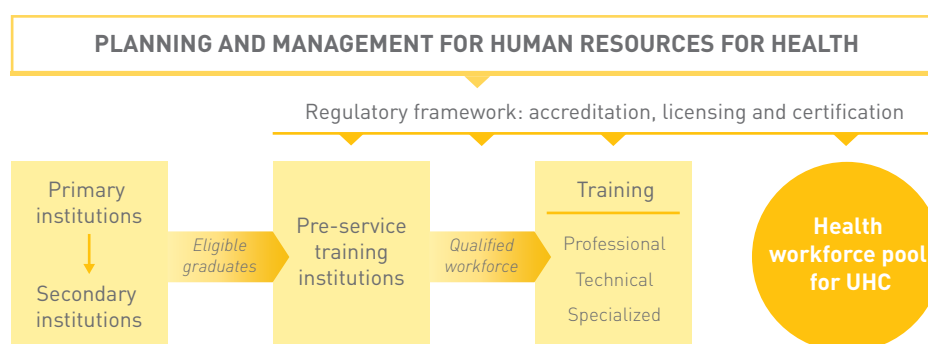
associated with trends in the education of health professionals in the country, such as rapid privatization and the decline in training quality.<sup>39</sup>

Added to growing concerns around the ability of education to meet existing needs, is the imperative for the health workforce to adapt to the new challenges of rapidly aging populations and the growth of non-communicable diseases. In the context of the SDGs, these health and labor market trends reinforce the need to look more closely at ways in which the supply of health workers can be organized more effectively to lead, rather than hold back, progress towards UHC. A health workforce that is fit for purpose and fit to practice is necessary to realize the ambition of UHC.<sup>40</sup>

## SECTION 2: 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 that shift the supply of health workers closer to meeting the demands implied by UHC can be found along the professional education pipeline (PEP). The PEP includes institutions that influence the flow of students into the health labor market and then employs them. The flow starts at primary and secondary education level, 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 6). In addition, forces outside PEP at national and international levels can further steer an appropriate supply of health workers towards UHC. The purpose of the below discussion on each entry point is to identify opportunities for investment to strengthen the labor supply pipeline.

**Figure 6: Health professional education pipeline and entry points for intervention**



### PEP1: 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. This appears to have resulted in an excess of demand for health workers' training – i.e. more applicants than available training slots. Excess demand has led to extreme competition for the limited places, facilitating, in theory, selection of highest-quality candidates. It has also led to a rapid increase in admission fees, particularly in private institutions, together with the unethical practice of paying bribes. These trends discourage applicants from lower socio-economic backgrounds from applying and/or gaining admission. Other factors too can compromise the pool of eligible students for health worker training, such as insufficient quantity and quality of secondary school education, and diversity shortfalls from gender, wealth, ethnicity or geographic residence.

In many LICs, a small minority – often less than 20 percent – of enrolled students complete secondary education, and those who graduate typically represent the highest-income groups living in urban areas.<sup>41</sup> This introduces a skew in the pool of students eligible for health worker training; a problem that is not limited to LICs. In the US, for example, the likelihood of obtaining a college degree (a prerequisite for medical training) is: 82 percent in the white community; 6.9 percent in the African American community; and only 4.5 percent in the Hispanic community.<sup>42</sup> 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 long-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.

However, there are other strategies that can be used in the more immediate term to address shortfalls in the pool of eligible health workers. These include more specific efforts to strengthen prerequisite competencies that target language, sciences and math, and which use intensive bootcamp or refresher courses as an essential requirement to entry and/or as a supplement during the first year of study. In Bangladesh, for example, a year-long supplementary English literacy study program, offered by the languages department at BRAC University, was introduced into the first-year curriculum for community midwifery.<sup>43</sup>

Individual perceptions of, and willingness to become, a health worker can be driven by factors inside and outside the labor market. Some qualifications, such as a medical degree, are associated with better pay and prestige, while others may be seen as more appropriate for a particular gender based on traditional values. Career counseling at secondary school level can foster awareness of the spectrum of careers in the health sector. It can stress their importance to social goals, minimize concerns related to affordability, safety and cultural appropriateness, and promote understanding of admission requirements.

Active management of diversity must be seen beyond the need to satisfy admissions quotas and considered more centrally in the mainstream of the educational enterprise. Greater diversity in schools enriches the learning environment for students and enables the health system to respond more effectively to the diverse health needs and expectations of increasingly diverse populations.

## PEP 2: Achieving better scale, scope and value for money in pre-service education

Despite compelling recommendations from a variety of reports and commissions in recent years, there is little evidence beyond a few anecdotes of systems-wide change in the scale, scope and value for money of pre-service education. This is concerning in the context of the SDG expectation of achieving UHC by 2030, especially given that the supply-side deficit of health professionals is projected to grow to 15 million.<sup>44</sup>

The scale of the delay in responding to the lack of health workers appears to be growing with time, compared to previous assessments.<sup>45, 46</sup> The investment strategy to address these supply-side shortfalls through the most efficient health workforce expansion strategies not only represents an urgent priority, but also demands sober reflection as to why the supply side remains so sluggish. A primary reason relates to a major blind spot of the health professional education system: the prevailing investment model for its expansion.

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 prerequisites for the approval of new entrants are designed, in principle, to ensure quality of pre-service education. In practice, however, approval and accreditation processes are excessively rigid and resistant to change – such as incorporating new forms of *social accountability* – and are too susceptible to making a compromise in standards and unethical behaviors. This is linked to the monopoly powers of accreditation bodies.<sup>47</sup>

There are alternatives to this model. In one example, the small island states of the South Pacific and West Indies have taken a regional approach to training health professionals because no location was big enough to support fully functioning health training institutions or service multiple education sites.<sup>48, 49</sup> Similarly, in an effort to reach areas across the province of British Columbia in Canada, the University of British Columbia medical school set up satellite campuses.<sup>50</sup> In another example, the Public Health Foundation of India (PHFI) drew on an innovative public-private ownership model to develop public health training in five different areas across India.<sup>51</sup> While, in 2012, the James P Grant School of Public Health in Bangladesh set up a 'hub-and-spoke' model to expand community midwifery training on multiple sites.<sup>52</sup>

The collective experience of these examples to scale-up health training deserves further analysis. They offer opportunities to learn how to set up financing initiatives from public and private sources and improve the speed, quality and efficiency of expanding health workforce education.

As well as re-thinking the model for scaling-up the funding of health worker education, there are also important questions to answer about what types of education represent investment priorities. Despite recognizing that a broad spectrum of pre-service training is needed for UHC, existing investments are skewed towards higher level clinical professionals, to the detriment of other professionals needed by the health sector, such as frontline workers, public health workers and systems professionals. This skew in scope leaves coverage of core cadres of health workers dangerously thin. The paucity of community and public health workers is one of the main reasons the Ebola outbreak festered for three months in West Africa before being detected in March 2014. Likewise, a widespread shortfall of cadres within health ministries who are experts in health financing, health information systems or human resources for health, greatly constrains the development and implementation of critical policies and programs that underpin progress towards UHC.

Investment strategies in an environment of scarce resources should be informed by growing evidence on best buys. Despite the paucity of 'return on investment' analysis in pre-service education, some analyses are emerging that give some direction on investment priorities. Recent analyses of low-income settings suggest very positive returns on investments from the training of frontline workers, including nurses, midwives and CHWs.<sup>53, 54</sup> 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 admitted come from lower socio-economic and rural backgrounds.<sup>55, 56</sup> Evidence on transformative innovations in curricular content and pedagogic methods that improve education quality and efficiency is also widely cited (see Box 2).

The take-up by institutions of these promising innovations is slower than expected because of underlying inertial forces, reinforcing the need for changes in the investment model, as discussed above, in order to achieve a more rapid scale and spread.

## Box 2: Examples of community- and service-based learning

Currently, the bulk of health professionals receive their training in academic and hospital-centered settings. However, many institutions are successfully moving more of their training to community settings. In the United Kingdom (UK) and elsewhere, community-based education has increased. The benefits of community-based education and clinical training include: understanding the impact of the social environment on health; dealing with patients as individuals; improving communication skills; and learning about the need for teamwork for effective patient care.<sup>57</sup>

In Venezuela, community-based training is taken even further. The National Training Program for Comprehensive Community Physicians has created a web of mini medical schools, carrying out education activities in poor urban and rural areas. The faculty is comprised of specially trained community-based practitioners. Students receive some training in hospital settings, but most of their learning is practice-oriented and takes place at community clinics run by their faculty/mentor, as well as in community-based multi-purpose learning centers.<sup>58</sup> Effective community-based education and service programs have been implemented in places such as the Walter Sisulu University in Eastern Cape, the poorest region of South Africa. Through solid partnership with the health authorities and local communities, the program requires students to conduct community health diagnosis as a part of the curriculum. As a result, students gain a broader understanding of health problems, learn from real-life situations, and acquire skills, knowledge and attitudes needed to work in rural and underserved communities.<sup>59</sup>

## PEP 3: Continuing education over the career course

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 to 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 employed a step ladder curriculum since 1976. The community- and competency-based program integrates the training of CHWs, midwives, hygienists, nurses, nurse practitioners and medical doctors into a single, sequential and continuous curriculum. 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.<sup>60</sup>

In most LICs, there is a massive shortage of clinical specialists, which may partly stem from a scarcity of academic teaching faculties, and the absence of formalized and accredited medical residency programs. Planning for dynamic career paths can also help to address the shortages of specialists through the development of opportunities to obtain postgraduate qualifications in specialties such as obstetrics, pediatrics, anesthesiology and psychiatry. Participants in such programs not only provide critical services while in training, they also form the faculty base for many pre-service training institutions. In Liberia, the World Bank supported the Government to decentralize its postgraduate training program through mandatory rural rotations, and their mandated provision of in-service training to lower level cadres in various training sites (see Box 3). Furthermore, the opportunity to specialize locally removes a primary reason for medical doctors to pursue opportunities abroad.

Planning career progression with educational advancement opportunities has very different financial implications compared to pre-service education. Health workers, who are more advanced in their working life, are often better equipped to learn new types of competencies more quickly, thereby moving to higher performing roles more efficiently. Also, health workers with significant working experience are often in a better position to contribute to the cost of their education and/or be sponsored by their employer, thereby changing the affordability and profitability prospects significantly in comparison with pre-service training.

## Box 3: Liberia – getting the most from publicly funded postgraduate specialist education

- 1. Residents rotate to remote rural areas:** Liberia's Postgraduate Medical Residency Program (PGMRP) requires mandatory six-month resident rotations between Liberia's JFK tertiary hospital, specialist training sites in semi-urban hospitals, and affiliated training sites in remote rural areas of the country.
- 2. Lower level health workers benefit too:** PGMRP faculty hired under the program are contractually obliged to provide in-service training to lower level health workers, as well as outreach training to health centers across Liberia.
- 3. Training and outreach is incentivized:** Hospital managers are incentivized under a result-based financing contract to ensure that a relevant number of training and outreach sessions are carried out by the PGMRP faculty and senior residents.
- 4. New and tested training methods are employed:** Team training sessions, grand rounds, practical clinical training sessions, team-based teaching and learning, IT-moderated skill labs, and workshops are used.

Source: World Bank<sup>61</sup>

Career paths in many countries are also being defined by changes in roles and responsibilities that occur with the growing practice of *task shifting*. Task shifting (also referred to as task sharing) is a cost-effective solution to rapidly address the need for specific health workers and competencies. It often involves shifting general clinical tasks normally undertaken by doctors to other professions, such as nurses, clinical officers and care assistants, or from other health professionals to CHWs. This is an increasingly common solution to strengthen and expand health workforce needs 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, while 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.

The literature has identified key elements that must be in place if task shifting is to prove safe, efficient, effective, equitable and sustainable.<sup>62</sup> They include the need for consultation, situation analysis, national endorsement, and an enabling regulatory framework. These factors specify the quality assurance mechanisms, including standardized training, supportive supervision, and certification and assessment, all important to ensure quality of care.



## PEP 4: Interventions to strengthen national, regional and international regulatory capacity

To ensure that accreditation evaluates the competencies and standards required to address national priority health needs, standards should 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 for accreditation processes to be effective. If it is considered too costly to establish, implement and enforce independent and well-managed accreditation processes, authorities might consider establishing links with regional or international accreditation agencies. This could contribute to the UHC agenda by opening up the self-regulatory control of the specialization market to review and change, 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 raise national standards and allow interoperability and knowledge exchange between different professions in different places (see Box 4).

### Box 4: International accreditation and quality assurance

Accreditation standards should be at an appropriate level to balance patient safety with the availability, accessibility, acceptability and quality of health workers. No standardized global accreditation standards exist, although some global professional associations, such as the World Federation of Medical Education (WFME) and the International Confederation of Midwives, have created general standards for their professions. Recently, the WFME issued guidelines for accreditation of medical postgraduate and specialization programs, but only a few international accreditation efforts have taken place.

Other examples include accreditation as part of the World Bank's Africa Centers of Excellence (ACE) program (which is supporting quality improvements at higher education institutions across Africa), and some bilateral activities by the Accreditation Council for Graduate Medical Education, the Royal College of Physicians and Surgeons of Canada, the Conférence Internationale des Doyens et des Facultés de Médecine d'Expression Française in Francophone countries, and some UK-based professional umbrella organizations. No tools for analyzing regulations and accreditation standards are known to be available. Most accreditation standards do not consider the impact that changing the standards (and making education more expensive) would have on access to school for students from underserved communities, or on the future practice choice of graduates and the effect this would have on access to care.

## Strengthening certification and licensing of health professionals

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, experience and skills necessary to provide high-quality care in a particular specialty. National licensing examinations exist widely 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 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 percent of developing countries require graduating medical students to pass national certification exams, and in Africa and Southeast Asia, the figure drops to below 40 percent.<sup>63</sup>

## SECTION 3: MOVING FORWARD

Bolstered by evidence on the value of health workers towards the achievement of health goals and their importance as a growing source of decent employment and inclusive growth, the SDG era with its health goal 3 focus on UHC is ushering in a new medium-term opportunity to reposition and revitalize investments in the health workforce.

Building on breakthroughs from the MDG era and visionary prescriptions for transformative change, there is a growing pool of experience and guidance globally that can be drawn on to inform value-added reforms to strengthen the health workforce in countries. However, this optimism is tempered by the magnitude of shortfalls in aggregate supply of health workers and their inequitable distribution according to diverse and changing needs, coupled with an awareness of the precarious state of education production capacity within and across countries.

This paper posits that UHC, as a widely shared normative vision for the development of health systems, represents a useful focus around which the diverse drivers of health workforce demand and supply can be better aligned with health needs. Achieving universal coverage of quality services according to need, and without financial compromise, brings attention to health workforce requirements in terms of numbers, locations, and skill sets of workers. This could help redress the familiar skews in health systems away from institutional and therapeutic treatments towards more priority services, such as frontline services provided by mid-level cadres and CHWs, or pandemic preparedness. Success in re-balancing 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 an opportunity for career advancement.

Implementation of such reforms will benefit from a concerted focus on three cross-cutting fronts:

1. Leadership
2. Financing
3. Evidence

## Bolstering leadership for UHC through health professional education institutions (HPEIs)

The primary leadership imperative in accelerating the production of critical cadres and decent jobs required for UHC is to seize more systematically on the potential of health professional *education institutions* to contribute to UHC.<sup>64</sup> The mission of HPEIs is to contribute towards critical knowledge and learning for the achievement of society's health goals through its primary functions of education and research. Were HPEIs to focus their attentions in a more concerted way on what's required to achieve UHC, it would undoubtedly lead to important and outcome-oriented reforms.

Specifically, the challenge of providing universal access to maternal healthcare in disadvantaged minority populations might cause HPEIs to examine how their education resources can be used to ensure there are sufficient numbers of community midwives with appropriate technical and cultural competencies, ready to work and remain working in those communities. Similarly, the need to transform a health financing system so that no one suffers financial harm requires training opportunities for non-clinical cadres, such as health economists and claims adjudicators. As such, UHC contextually situated, should provide the focus HPEIs need to revitalize the supply of health workers. A better and broader recognition of the value of bolstered leadership could be accelerated through a global symposium that examines the role of health professional education institutions in accelerating achievement of UHC.

Achieving 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. While there are no structural templates for this type of stewardship, it comprises at least three critical dimensions. First, it must bridge the health and education sector divide at both the secondary and post-secondary levels.<sup>65</sup> These bridges are often stronger if built and maintained by mutually respected third parties, such as a Ministry of Finance. Second, it needs to engage the diverse set of actors spanning the public and private sectors, and navigate processes for dealing with vested interests that cluster around admissions, accreditation and licensing/certification decisions.<sup>66</sup> Third, it demands a culture of critical and regular review of performance with a readiness to recommend course corrections.

Leadership, moreover, needs to extend beyond national borders, recognizing not only the interdependence of health systems (e.g. epidemic threats), but the growing demands and opportunities related to the health education sector itself. Diverse constituencies – be they students, faculty, migrant health workers, recruitment or accreditation agencies – are creating an increasingly dense set of transnational linkages – from twinning arrangements, to networks of accreditation, to shared online education platforms – many of which will impact the health professional education sector. The leadership challenge here relates not simply to recognizing these linkages, but understanding which are most important and how they can be managed to improve performance.

## Towards big picture, integrated financing with UHC

The current state of financing health workforce education is generally insufficient, inefficient and inequitable. Scaling-up the production of a fit for purpose health workforce, therefore, requires a transformation in financing.

Just as UHC provides a unifying vision for the financing of the health sector, a similar big picture approach aiming for sufficiency, efficiency and equity is required for financing health worker education. This entails articulating resource mobilization targets to achieve the necessary improvements in the production pipeline of the health workforce and the development of criteria to set priorities and guide allocation decisions in the setting of budget constraints (see evidence below on Value 4 Money). The sources of financing, public sector (education or health) or private sector (health institution or individual/student), will vary according to the entry point for investment. Public subsidies for student tuition, for example, may vary from being full for students in secondary schools or underrepresented minorities, to concessional loans for students in pre-service education, to interest-bearing loans for continuing education.

A further step towards big picture financing is to integrate the financing of workforce education into the overall financing for UHC. Integration helps to move beyond 'segregation' whereby health education investments – often made by education ministries – remain marginalized from the broader health sector.<sup>67</sup> Just as UHC is about promoting the pooling of resources for healthcare, dedicated efforts to create larger pools or 'new compacts' between the public and private sector for financing growth in health worker education are emerging. These new, integrated models that bring health worker education to the mainstream of private healthcare delivery deserve more attention in terms of their ability to sustain equitable growth with quality in health worker training capacity.<sup>68</sup> Linking health worker education more directly to the growth of the health sector may also help to create opportunities for the development of niche service industries that can deliver critical education resources, such as e-learning or distance learning, with higher quality and at lower cost.<sup>69</sup> Integration also increases the likelihood of engaging development partners involved in financing UHC, bringing with it more explicit support to building capacity for financing in line with the Financing for Development agenda established in Addis Ababa in 2015.<sup>70</sup>

## Marshaling evidence and monitoring performance for accelerated improvement against time-bound 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 and standards with the need to promote innovation. Likewise, guidelines produced for curriculum renewal and pedagogic reform, through systematic review, help education institutions keep their teaching resources up-to-date. To counter the widespread misperceptions about the low yield on health workforce training, 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.

More fundamentally, there is a need to invest in information systems to develop common and comparable metrics that assess the performance of the health worker education system in relation to its expected contributions to the achievement of UHC. This would entail a comprehensive needs assessment of the numbers of health workers required by category, their training or work locations and their diversity profile, among other things. Comparing these needs to a baseline permits the identification of health education worker shortages, from which time-bound targets for improvement can be articulated. Progress towards such targets (or lack thereof) helps to focus leaders in their deliberations about what to do and stimulates a culture of learning and improvement.

## ACKNOWLEDGMENTS

This policy brief was written by Tim Evans, together with (in alphabetical order) Edson C Araujo, Christopher H Herbst, and Ok Pannenburg as co-authors.

The chair and authors are particularly grateful to Barbara McPake and Gill Dalgetty from the Nossal Institute of Public Health, who worked closely with the team on early drafts of the report. Special thanks also goes to Andreas Blom, who provided early comments on the conceptualization of the paper. Particular thanks go to the WISH team at Imperial College London for their stellar leadership, co-ordination and support on this paper throughout, in particular Hannah Patel and Jessica Prestt.

Sincere thanks are extended to the members of the advisory board who contributed their unique insights to this paper and provided critical conceptual guidance and comments on various drafts (in alphabetical order):

**Rima Afifi** | American University of Beirut, Lebanon

**Sudhir Anand** | Oxford University, UK

**Lincoln Chen** | China Medical Board, China

**Julio Frenk** | University of Miami, US

**Christian Happi** | Redeemers University, Nigeria

**Naomar Monteire De Almeida** | Federal University of Southern Bahi, Brazil

**Sania Nishtar** | Heartfile, Pakistan

**Judith Shamian** | International Council of Nurses

**Devi Shetty** | Narayana Health, India

**David Some** | Kenya Commission for University Education, Kenya

**Prasit Watanapa** | Siriraj Hospital, Thailand

**Michelle Williams** | Harvard School of Public Health, US

The chair and authors thank all who contributed. Any errors or omissions remain the responsibility of the authors.

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WISH gratefully acknowledges the support of the Ministry of Public Health



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