

# Meeting Africa's Health Worker Crisis: The Role of Education Systems and Incentives

## The Human Resources for Health (HRH) Crisis in Africa

African countries face an HRH crisis in which a small number of qualified, well-performing health workers cannot meet the need for domestic health services to varying degrees. This crisis impedes health outcome improvements and economic growth. The problem is particularly pronounced in rural or marginalized areas. This is troubling, as there is a well-accepted relationship between health outputs, such as skilled attendance at birth, and availability of health workers (Figure 1). In many countries, the inequitable distribution of health workers stands in the way of better health for people, especially women and children.

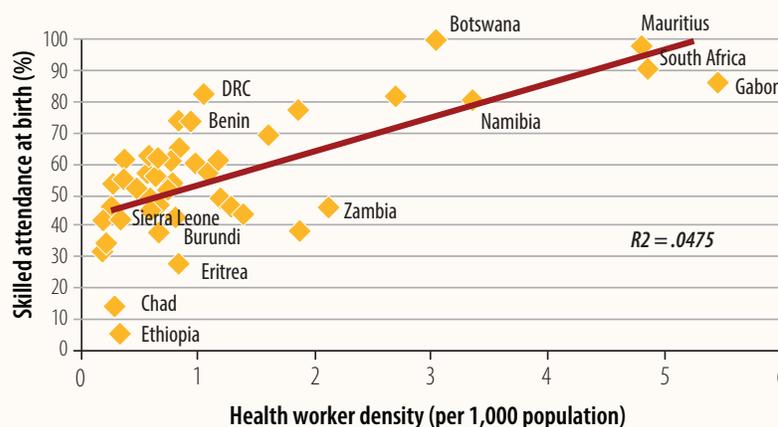
## What Explains Africa's HRH Crisis?

The HRH crisis in many African countries can be explained by constraints in labor market supply, labor market demand, and in performance. Insufficient labor market supply refers to a situation where insufficient numbers of health workers are produced to fill country specific and local needs, numbers are reduced by labor market exit such as migration of health workers abroad, and/or health workers disproportionately take up urban over rural employment. Insufficient labor market demand refers to a situation where there are insufficient public and private sector resources to hire and absorb health workers. Finally, problems with health worker performance include weak competencies and/or low motivation and productivity. In all of the above, the design and capacity of education systems, including higher education systems for health workers, play a critical role.

## Key Messages

- African countries face a crisis in terms of human resources for health (HRH). This deeply affects their ability to deliver health results on the ground, achieve Universal Health Coverage, and foster economic growth.
- Most countries in Africa are experiencing a shortage in health workers and in the skills required to achieve MDGs 4 and 5, which aim to reduce deaths among children and mothers. The shortage is particularly acute in the areas of pediatrics, obstetrics, and infectious disease.
- The HRH crisis in many countries can be explained partly by the lack of sufficient physical, technical and organizational capacity to produce health workers or specific skill profiles that respond to critical and country specific needs.
- While greater investment is needed to strengthen health worker education, including post-graduate and tertiary health science education systems, other factors also contribute to the HRH crisis, including lack of incentives and challenging working and living conditions which further affect health worker distribution and performance.
- On the education front, potential solutions to the HRH crisis include identifying and addressing underlying and country-specific labor market inefficiencies such as through innovative education models that encompass investments in research capacity, faculty development, partnership and social accountability.
- Outside of the education system, other key fixes include incentives for health workers, greater funding for HRH in rural areas, and better management and accountability systems for frontline health facilities.

**Figure 1. Health worker density is correlated with skilled attendance at birth, Africa, 2005–09**



Source: WHO/Global Atlas (2005–2009) and UNICEF (latest year available).

## COMMON CONSTRAINTS TO LABOR MARKET SUPPLY

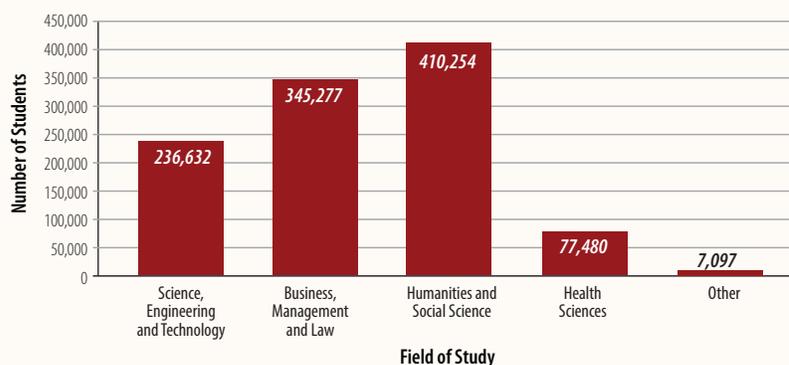
### Low Labor Production and Skills

**Creation.** Health training institutions often lack the physical, technical and organizational capacity to produce larger numbers of health workers or specific skill profiles. Production capacity varies between countries, with Sudan producing more than 3,000 doctors a year, while Zambia produces fewer than a hundred. But the majority of health training institutions in African countries lack adequately qualified faculty, teaching supplies, infrastructure, and sufficient management capacity. This partially explains why health science faculties register particularly low student intakes in Africa compared to other fields (Figure 2).

### Low Tertiary Education Uptake.

Specialist and faculty shortages in particular arise due to lack of investment into post-graduate and tertiary health science education systems. Tertiary enrollment ratios in the region are low, ranging from 1 percent in several countries to 17 percent in Mauritius, with the majority somewhere between 2 and 4 percent. Tertiary enrollments are especially low relative to country populations (Table 1). Among 20-24 year

**Figure 2. Number of students (all levels of study) per major field of study in select African countries, 2008**



Source: Soucat and Scheffler, 2013

olds, an average of 95 percent of eligible individuals do not have access to tertiary education. Of the 4 percent enrolled in tertiary programs, only 5.6 percent study health sciences. The Democratic Republic of Congo (18.9 percent), Malawi (11.1 percent), and Tanzania (11.4 percent) have the largest intake of students in health sciences among the countries analyzed.

### Preferences for Urban and Out-of-Country Employment.

Given comparatively lower salaries and fewer opportunities at home for post-graduate education, health workers often migrate abroad. If they remain in

their own countries, they tend to prefer urban over rural jobs, as the former offer better income, better education for their children, and better working/living conditions. Incentives also play a role in rural job uptake. From the education perspective, there are strong links between the location of training institutions (in rural areas), and the socioeconomic and/or geographic background of health workers (as well as exposure to rural areas during training, for example) and their willingness to remain in the country or work in rural areas. Figure 3 illustrates a cohort of medical students from Ghana, and

**Table 1. Enrollment in tertiary education and health sciences, by relevant age group**

| Country          | Population aged 20-24 (2010) (thousands) | Numbers in tertiary education | Numbers in health science (undergraduate) | Percent of relevant age group in tertiary education | Percent of tertiary education group in health science (undergraduate) |
|------------------|--|-------------------------------|---|---|---|
| Angola           | 1,723                                    | 47,373                        | 1,394                                     | 2.75  | 2.94  |
| Botswana         | 215                                      | 15,710                        | 346                                       | 7.31  | 2.20  |
| Congo, Dem. Rep. | 6,071                                    | 57,664                        | 10,880                                    | 0.95  | 18.87   |
| Lesotho          | 230                                      | 8,508                         | no data                                   | 3.70  | no data   |
| Madagascar       | 1,937                                    | 41,691                        | 2,077                                     | 2.15  | 4.98  |
| Malawi           | 1,325                                    | 7,869                         | 873                                       | 0.59  | 11.09   |
| Mauritius        | 95                                       | 9,720                         | 427                                       | 10.23   | 4.39  |
| Mozambique       | 2,100                                    | 46,865                        | 1,201                                     | 2.23  | 2.56  |
| Namibia          | 233                                      | 8,378                         | 63  | 3.60  | .075  |
| South Africa     | 4,720                                    | 746,538                       | 36,389                                    | 15.82   | 4.87  |
| Swaziland        | 153                                      | 5,785                         | 386                                       | 3.78  | 6.67  |
| Tanzania         | 4,322                                    | 33,420                        | 3,823                                     | 0.77  | 11.44   |
| Zambia           | 1,339                                    | 14,395                        | 755                                       | 1.08  | 5.24  |
| Zimbabwe         | 1,674                                    | 52,453                        | 2,587                                     | 3.13  | 4.93  |
| <b>TOTAL</b>     | <b>26,137</b>                            | <b>1,096,369</b>              | <b>61,201</b>                             | <b>4.19</b>   | <b>5.58</b>   |

Sources: Data from SARUA and Edstats; Soucat and Scheffler, 2013

shows that students who are not in a relationship, have lived in a rural area before, have never lived abroad and come from low socio-economic backgrounds—where neither parent has university or polytechnic training—are more likely to end up practicing in a rural area after graduation (where need and vacancies is often greatest) than health workers without these profiles (Appia-Denkyira and Herbst et al, 2013).

### COMMON CONSTRAINTS TO LABOR DEMAND

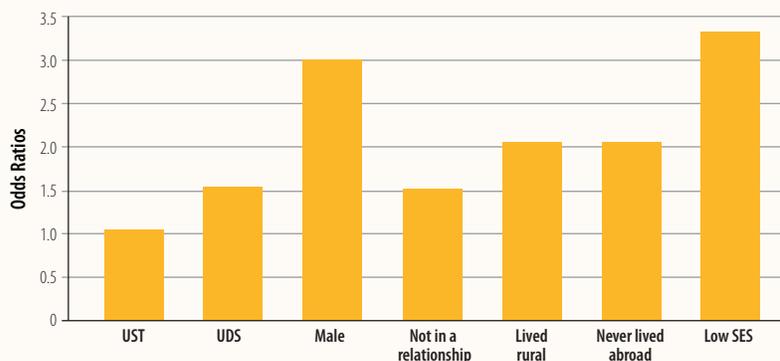
Wage bill funding for both health science faculty and specific health worker profiles is often insufficient, with health worker graduates in some countries finding it difficult to be absorbed into national and regional health and education labor markets. Universities and other health training institutions, as well as largely employment organizations are often insufficiently funded to absorb some critical health science profiles. In many countries, non-functioning or reversed decentralization policies as well as lack of lack of reliance on private financing have curtailed local education and health providers' income and ability to hire and retain employees. Health institutions, teaching hospitals and health facilities in rural areas in particular tend to be a lot more underfunded than in urban areas. Part of the problem lies in the fact that limited revenues, particularly from rural populations, constrain private-sector demand for health workers, and/or public sector income augmentation opportunities.

### COMMON CONSTRAINTS TO HEALTH WORKER PERFORMANCE

#### **Limited Health Worker Competencies.**

A critical challenge that many countries face is weak knowledge and skills among health workers, often because of the limited physical, technical and organizational capacity of health training organizations. In their analysis of public health pre-service education in Africa, Beaglehole and others (2003) determined that the

**Figure 3. Link between medical student profiles and likelihood of wanting to practice in a rural setting in Ghana**



Source: Kotha 2010.

Note: Odds ratios for Kwame Nkrumah University of Science and Technology and the University of Development Studies are relative to the University of Ghana; male (versus female); not in a relationship (versus currently in a relationship); lived rural (versus never lived in a rural area); never lived abroad (versus ever lived outside Ghana); UST = University of Science and Technology; UDS = University of Development Studies; low SES = low socioeconomic status; the proportion for whom neither parent is a polytechnic-trained professional (versus those with one or both parents with university training).

Source: Appia-Denkyira and Herbst et al, 2013

majority of graduates do not have the skills or experience to perform their jobs adequately. They cite outdated teaching methodologies, a lack of field experience, and the shortage of appropriate mentors for public health students (Soucat and Scheffler, 2013).

Even when the quality of education is high, there may be a mismatch between curricula and local conditions and needs. Many schools do not align their curricula and teaching strategies with local disease realities, particularly the disease burden of the poor. Further, specialist and sub-specialist faculty required for teaching purposes especially in the areas of obstetrics, pediatrics, internal medicine and infectious diseases are insufficiently available due to lack of postgraduate medical training opportunities and funding, compromising the extent to which relevant health worker competencies can be developed. When they are available, such opportunities for training or competencies are primarily concentrated in urban areas.

Other factors affecting health worker performance include challenging working conditions, especially in rural areas, and sub-par application of effort by health workers, largely because of weak accountability and management systems,

and low levels of motivation. Many health workers are demotivated by challenging living and working conditions in part because many health training institutions and systems inadequately prepare them for such conditions during health worker training.

### What are the Policy Implications for Health Science Education?

Investments into health science education should not rely on public sector funding only. Funds from governments, student fees, nongovernmental organizations, the private sector, endowments, and domestic and foreign donors can all support health worker education (Figure 4).

### INCREASE PRODUCTION AND QUALITY FOR LOCAL AND REGIONAL LABOR MARKETS

Approaches to health worker education often focus on strengthening production and skills for the global labor market. This has resulted in loss of investments as many health science graduates seek private or urban employment, or leave the country or region in pursuit of better working and living conditions. New and innovative

models to health worker education, which seek to ensure retention of graduates and strengthen locally relevant skills are increasingly applied internationally as alternative and more effective models of training. A good example is a system set up by the Northern Ontario School of Medicine, Canada, a solution that is attracting attention from around the world for its innovative model of community-

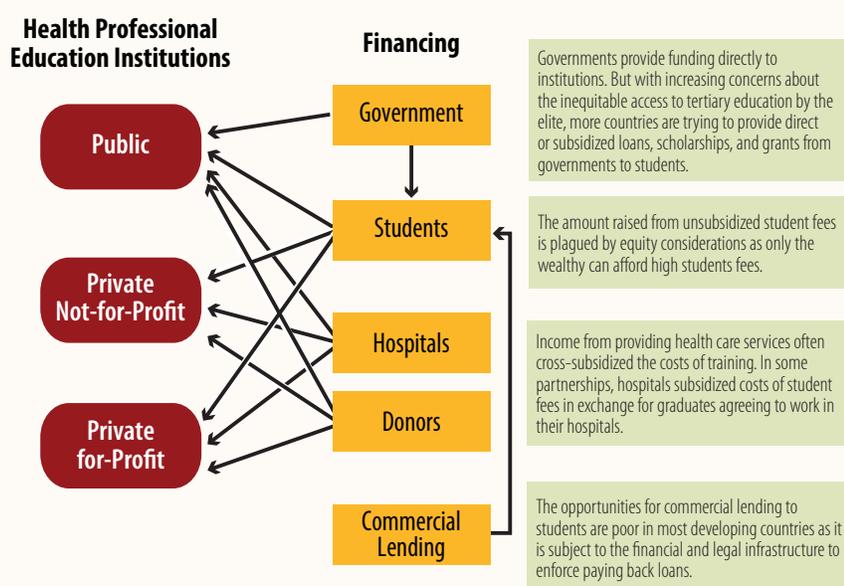
engaged medical education and research, while staying true to its social accountability mandate of improving health in the rural communities of northern Ontario.

### HRH INEFFICIENCIES AFTER PRODUCTION SHOULD NOT BE IGNORED

Traditional approaches to addressing the HRH crisis have focused mainly

on increasing production of health workers, without paying adequate attention to addressing subsequent labor market inefficiencies. Once produced, many publicly trained health science graduates tend to migrate abroad, enter the private sector or predominantly seek urban employment. Of those that remain, many more are absent, lack adequate competencies, or are unresponsive, unproductive and unmotivated. A combination of innovative and socially accountable education models (along the lines of the Northern Ontario School of Medicine), combined with incentive policies, and strengthening of management and accountability systems can all help address some of these inefficiencies and ultimate losses in investment.

**Figure 4. Diverse sources of financing for health science education**



Source: Appia-Denkyira and Herbst et al, 2013

### The World Bank as Partner

The World Bank is well placed to help African countries fill critical health worker and skills gaps through regional collaboration given its existing knowledge and expertise in HRH and higher education, its ability to work across sectors, and its mandate for regional integration. Through the Africa Region Human Resources for Health Program, the World Bank currently supports over 15 countries in Africa in addressing their health worker crises that are impeding improvements in health outcomes. An equal number of countries in Africa receive World Bank support for higher education, some of which (for example, Liberia) focus on strengthening higher education in health science disciplines. This enables the World Bank to continue, on an ongoing basis, to integrate regional aspects into national programs, foster effective policy dialogue and provide implementation support on the ground.

#### Box 1. Features of a socially accountable education model

- Creation of health training institutions based in more rural or remote parts of countries, or creation of linkages of more urban institutions to rural satellite institutions
- Admission policies give preference to or allot a specific number of slots to applicants from rural regions, or from poorer socio economic backgrounds
- Development of curricula with strong emphasis on local and contextual issues
- Compulsory internship in more rural or front line service delivery partner institutions
- Financial aid and scholarships for rural students or those from poorer backgrounds
- Mentoring of health workers in more remote regions or institutions by higher level faculty and students

#### MORE ON THE TOPIC

- Soucat, Agnes and Scheffler, Richard eds 2013. *The Labor Market for Health Workers in Africa: A New Look at the Crisis*. Directions in Development. Washington DC: World Bank. DOI: 10.1596/978-0-8213-9555-4.
- Appiah-Denkyira E, Herbst C, Soucat A, Lemiere C, and Saleh K, 2013. *Toward Interventions in Human Resources for Health in Ghana: Evidence for Health Workforce Planning and Results*. Directions in Development. Washington, DC: World Bank. DOI: 10.1596/978-0-8213-9667-4.

