Mind the Gap: A Market-based Approach for Closing the Healthcare Workforce Shortage

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INTRODUCTION

It is widely acknowledged that the developing world is in the midst of a healthcare personnel crisis. Even the citizens of middle-income countries that have begun to reap the rewards of increasing standards of living and the emergence of disposable incomes are finding that local health systems lack the healthcare personnel to provide adequate care. The World Health Organization estimates that 57 countries lack the health care personnel needed to reach health-related Millennium Development Goals.(1) The vast majority of these countries are found in sub-Saharan Africa and South Asia where improvements in health are one of the major obstacles to successful development. Even small increases in the ratio of healthcare workers to the general population correlate with substantial declines in maternal, infant, and child mortality.(2) Additionally, many non-governmental organizations have noted that their work in these countries is stymied by the lack of adequately trained individuals needed to deliver healthcare resources and supplies.(3) Some of the many factors causing this disparity between community needs and healthcare personnel available include inadequate workforce production, workforce emigration ("brain drain"), and exit to more lucrative careers in other fields.(1, 3, 4)

Although progress has been made in each of these causes of healthcare workforce depletion, incremental changes in policy and existing infrastructure will not have a meaningful impact due to the magnitude of current healthcare workforce shortages. The consensus for adequate healthcare worker coverage is approximately 2.5 high-level healthcare professionals per 1,000 people.(5) Modeling of current workforce education practices estimates that $33 billion and 300 new medical schools would be needed in sub-Saharan Africa alone to meet the continent's workforce needs.(4) Millions of health care professionals are needed immediately, and the adjustments being made to the existing workforce model are designed to increase the healthcare workforce in decades. Radical changes to the existing system of healthcare workforce education are needed if health systems are to meet the demands of a world in need of accessible and quality healthcare.

The current paradigm of health workforce education across much of the world involves a massive financial and social investment into the education of highly-skilled, upper-tier medical professionals that typically requires 5-10 years of higher education. Evidence now suggests that much of the work of these intensively trained doctors and nurses could be performed at a fraction of the cost by adding a multiplicative number of middle-tier paraprofessionals and community health workers. The historical use of these paraprofessionals in Iran, Brazil, and China has led to substantial improvements in health outcomes without a commensurate rise in the cost of delivering care.(4)

In their current form, health systems in developing countries simply cannot provide the workforce education options needed to meet international health standards. Moreover, these systems are typically state-controlled which often limit their ability to adopt novel programs that could potentially alleviate

the current shortages. In many of these countries, the conditions are ripe for private enterprise to leverage current demand for healthcare workers by offering a fee-based healthcare worker training program that is financially-sustainable and beneficial for both the individual participating in the program and the health of the population at large.

THE BIG IDEA

The innovation proposed here is a private, market-based program model that uses both high-tech and low-tech methods of distance education to allow individuals in low- and middle-income countries to be trained as healthcare paraprofessionals while they continue to work and live in the village, town, or city of their choice.

The underlying concept of this innovation is to take the skills and knowledge being taught in paraprofessional programs run by centralized, state-sponsored institutions in a limited number of locations and offer them to individuals who would otherwise not have access.

Each program would be designed at the country level and an international consortium would then collaborate to offer the service in a means that specifically meets each country's needs. Paradoxically, a number of countries that suffer from healthcare workforce shortages do not lack other development milestones such as a telecommunication infrastructure. In countries where it is feasible, the curriculum would be offered through web-enabled and smartphone-based applications with equipment provided by the training program. In other countries, the same essential model would be employed but using paper-based correspondence education methods. In addition to distance education, each program would also use a series of quarterly workshops at central locations to administer monitored exams and to teach practical skills.

CONSIDERATIONS

Role of the State

In all countries, healthcare is a heavily regulated field, and licensure in particular is a considerable barrier to entry. It is reasonable to question whether a private business model could operate in a space that is currently solely controlled by the state. Evidence exists, however, that suggests in many countries state-run educational institutions are unable to satisfy current demand for training slots. In Ghana, McKinsey, a consulting firm, has suggested that 60% of qualified nursing applicants are turned away by the state educational institution because of insufficient capacity.(4)

Even with overwhelming demand for paraprofessional education, it could be argued that no state licensure authority would accept instruction and evaluation by a third-party. A key component of the innovation outlined above is to overcome this reluctance by developing cooperative partnerships between the private education program and state-run programs. A component of the partnership could include a licensure exam administered by the state and given to both groups to ensure educational parity. Such public-private partnerships have already been proven effective in Thailand's efforts to license graduates of private allied health schools.(6)

Distance-Education

In the industrialized world, the popularity of distance-education programs have gone through periods of wax and wane, and it is understandable that concerns would arise that such an individual-driven educational model would be difficult to implement. Distance-education, however, is no stranger to the developing world. With core problems of developing areas being lack of infrastructure and geographically disparate population groups, distance-education has been used in developing countries for many years. As an example, Nelson Mandela received his undergraduate degree through correspondence courses at the University of South Africa, which still offers such courses today.

In the context of medical education, Kenya's African Medical Research Foundation offers both correspondence and distance-learning programs to doctors seeking licensure upgrades and meeting continuing education requirements. Although the clientele of the program proposed here would not include postgraduate medical professionals, literacy and a basic grade school education would be entry requirements.

Country Selection Criteria

It is also important to note that this innovative business model is not meant as a panacea for all countries with healthcare workforce shortages. Just as such a model would not work in the United States due to the vast array of healthcare education options already available, such a program would also have a small chance of success in an ongoing conflict zone like Western Sudan or Afghanistan. Each country program would be implemented only after the potential market was found to fulfill a set of selection criteria. These criteria include: 1) healthcare workforce shortage; 2) demand for healthcare educational programs; 3) government receptiveness; 4) microfinance availability; and 5) political stability.

Cost

With any for-profit business model, cost will always be a consideration. The price to students would be carefully set based on local conditions. Market rates would be charged for distance education. It is important for participants to view the program as an investment into their future rather than a humanitarian hand-out. These costs, however, will be defrayed through a variety of different methods. For example, many of the countries where such a scheme could be implemented already have a number of governmental and NGO microfinancing programs. The business model outlined above would partner with such financial institutions to provide training with only a manageable debt burden for each trainee. Additionally, the business model would adopt the current trend in many countries where governments offer scholarships and loan forgiveness through public sector commitments following licensure.(3) Boston Consulting Group, a consulting firm, has demonstrated that a budding low-income consumer class is developing across much of the world that would be uniquely able to afford such a program and also benefit greatly from it.(7)

CONCLUSION

The current world-wide healthcare workforce shortage is a major obstacle for progress toward meeting the Millennium Development Goals and international development as a whole. The problem of lacking material health resources is quickly being eclipsed by lacking individuals able to distribute them. Current strategies of increasing typical healthcare workers have been inadequate to meet the magnitude of this crisis. Without novel training programs, these workforce shortages will increasingly affect our ability to provide care to the poorest and those most in need.

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