VIEWPOINTS

Transforming Health Professional Education

Claire Anderson, BPharm, PhD,^a Tina Brock, BSPharm, MSc, EdD,^b Ian Bates, BPharm, MSc,^c Mike Rouse, BPharm (hons),^d Jennifer Marriott, BPharm, PhD,^e Henri Manasse, PhD, ScD,^f Billy Futter, BComm, MCom,^g Suresh Bhojraj, MPharm, PhD, DSc,^h Andrew Brown, BPharm,ⁱ and Diane Gal, BscPharm, MPH^j

^aSchool of Pharmacy, University of Nottingham, UK

^bUniversity of California, San Francisco School of Pharmacy, CA

^cSchool of Pharmacy, University of London, UK

^dAccreditation Council for Pharmacy Education, Chicago, IL

^eSchool of Pharmacy and Pharmaceutical Sciences, Monash University, Melbourne, Australia

^fAmerican Society of Health-System Pharmacists, Bethesda, MD

^gRhodes University, South Africa

^hJSS University, Mysore, India

ⁱFaculty of Health, University of Canberra, Australia

^jInternational Pharmaceutical Association, The Hague, Netherlands

The global independent Commission on the Education of Health Professionals for the 21st Century¹ recently published an evidence-based argument for transformation in the education of health professionals. An important barrier to achieving health is the application of knowledge.² In most systems, health professionals are the mediators of knowledge between those who generate it (researchers) and those who need it (patients and communities). As such, the commission concluded that “all health professionals in all countries should be educated to mobilize knowledge and to engage in critical reasoning and ethical conduct so that they are competent to participate in patient and population-centered health systems as members of locally- responsive and globally-connected teams.”

The commission consisted of 20 professional and academic leaders from diverse countries who developed a shared vision and a common strategy for education in medicine, nursing, and public health that reaches beyond the confines of national borders and the silos of individual professions. To do this, they adopted a global outlook, a multiprofessional perspective, and a systems approach. Frenk, Chen, and colleagues argue that global dimensions of health, including leadership, management, policy analysis, and communication skills, not only are essential but also neglected elements of the typical health professions curriculum.¹ This argument is augmented by the work of Berwick and Finkelstein, who suggest that health professions training programs must both teach the scientific foundations of system performance and provide opportunities for trainees to participate in team-based improvement of the real-world health systems in which they work.³ The World

Health Organization (WHO) hosted a project focusing on Global Consensus for Social Accountability of Medical Schools, which recommends global action with regard to advocacy, consultancy, research, and coordination in order to become more socially accountable to the populations served.⁴

While none of these important efforts was focused specifically on pharmacy education, we suggest that all are relevant to pharmacy education. Despite progressive developments in health systems since the start of the 21st century, as a global community we have failed to address the glaring inequalities in health both nationally and transnationally, and this has been further complicated by emergent diseases, infections, and behavioral risks. Indeed, health professions education, including traditional pharmacy education, has failed to systematically link practice competencies to patient and population health needs. And despite that most patient encounters occur in community settings, the prioritization of specialist and hospital-based care models have in some instances usurped a focus on prevention and primary care, thereby compromising measurable improvements in health outcomes. Taken together, these realities suggest a need to reorient our education, research, and service priorities accordingly.

On the positive side, pharmacy practice, science, and education are undergoing unprecedented changes globally. Expanded roles for pharmacists, as providers of health-care services and as scientists, are increasingly recognised and valued. Pharmacists worldwide are serving as the medicines experts in the collaborative health care team, providing critical information to other health providers on the

Table 1. Millennium Development Goals (MDG) Related to Medicines

MDG 4. Reduce child mortality

Pneumonia, diarrhea, malaria and AIDS account for 43 per cent of all deaths in under-fives with most of these lives having been saved through low-cost prevention and treatment measures, including antibiotics for acute respiratory infections, oral rehydration for diarrhea and immunization.

MDG 5. Improve maternal health

More than 80 per cent of maternal deaths are caused by conditions such as haemorrhage, sepsis, and hypertensive diseases of pregnancy, each requiring medication and the use of medical sundries. It is estimated that meeting the unmet needs for contraception alone could cut, by almost a third, the number of maternal deaths.

MDG 6. Combat HIV/AIDS, malaria, and other diseases

Each disease has medication as part of the treatment protocol.

MDG 8. Develop a global partnership for development

In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries.

benefits, risks, and potential adverse interactions between therapeutic agents for diseases such as malaria, tuberculosis, and human immunodeficiency virus (HIV)/ acquired immune deficiency syndrome (AIDS). However, countering these achievements, many countries are still faced with critical shortages of the pharmacists, pharmaceutical scientists, and pharmacy support personnel needed to manage all aspects of medicines use (a chain of tasks which includes research and development, manufacture, procurement, distribution, dispensing, administration, counselling, and monitoring at the patient and population levels).

This is an unacceptable policy oversight when access to essential medicines is a basic health need and declared right. These critical shortages in educated staff members also affect the availability of pharmacist services, such as providing appropriate information to patients and other healthcare professionals and monitoring effects of medication use for patients and communities. Of the eight health-related Millennium Development Goals (MDGs), 4 explicitly involve medicines or medical sundries,³ and their availability and use at the primary care level is jeopardized by limited quantity and scope of human resources for medicines management.^{5,6}

Indeed, these workforce policy problems in pharmacy need to be addressed at national and global levels (Table 1).⁷ To do that with any hope of sustainability, we need better information about pharmacy education globally. The International Pharmaceutical Federation (FIP)

Figure 1. Needs-based model for pharmacy education.

Pharmacy Education Taskforce,⁸⁻¹⁰ in collaboration with the World Health Organization (WHO), is currently implementing a global survey of pharmacy colleges and schools, the results of which are intended to support transformational change toward needs-based educational systems within the profession (Figure 1). When received, we encourage all colleges and schools of pharmacy to respond to this important request. Further, we challenge academic pharmacists to continue the discussion and debates presented by the commission and others in order to (1) close the gap between knowledge and action in pharmacy education, (2) become socially accountable to our patients and communities, and (3) implement curricular innovations that will lead to improved teamwork of health professionals across disciplinary lines. These changes will help to ensure that our profession remains relevant, engaged, and focused on the pursuit of health in the years to come.

References

1. Frenk J, Chen L, Bhutta ZA, et al. Health professionals for a new century transforming education to strengthen health systems in an interdependent world. *Lancet*. 2010;376(9756): DOI 10.1016/S0140-6736(10)61854-5. [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)61854-5/fulltext?_eventId=login](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)61854-5/fulltext?_eventId=login) Accessed February 22, 2011.
2. World Health Organization. *World Health Report 1999: Making a Difference*. http://www.who.int/whr/1999/en/whr99_en.pdf. Accessed February 22, 2011.
3. Berwick DM, Finkelstein JA. Preparing medical students for the continual improvement of health and health care: Abraham Flexner and the new "public interest." *Acad Med*. 2010;85(9): S56-65.
4. Global Consensus for Social Accountability of Medical Schools. <http://healthsocialaccountability.org/> Accessed February 22, 2011.
5. Leach M, Palzzi J, Muder P. Prescription for healthy development: increasing access to medicine Earthscan. London.
6. United Nations, *The Millennium Development Goals Report 2010*. [http://www.un.org/millenniumgoals/pdf/MDG%20Report%](http://www.un.org/millenniumgoals/pdf/MDG%20Report%202010.pdf)

American Journal of Pharmaceutical Education 2011; 75 (2) Article 22.

202010%20En%20r15%20-low%20res%2020100615%20-.pdf.
Accessed February 22, 2011.

7. *FIP Global Pharmacy Workforce Report*. T. Wuliji, Ed.
International Pharmaceutical Federation. 2009. www.fip.org/menu_sitemap?page=hrfh_introduction Accessed February 22, 2011.

8. Hawthorne N, Anderson C. The global pharmacy workforce:
a systematic review of the literature. *Human Res Health*. 2009;
7:48.

9. Anderson C, Bates I, Beck D, et al. The WHO UNESCO
FIP Pharmacy Education Taskforce: Enabling Concerted and
Collective Global Action. *Am J Pharm Educ*. 2008;72(6):
127.

10. Anderson C, Bates I, Beck D, Brock TP, Futter B, Mercer H,
Rouse M, Whitmarsh S, Wuliji T, Yonemura A. The WHO UNESCO
FIP Pharmacy Education Taskforce. *Human Resources for Health*.
2009;7:45.