

Global Development of Pharmacy Education

Abeer Zeitoun

School of Pharmacy, Lebanese American University, Lebanon

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Pharmacists can influence health outcomes and public health in a variety of ways. Pharmacists in community, hospital, and other settings promote cost-effective use of medicines, reduce morbidity and mortality, reduce avoidable hospital admissions, reduce medication errors, improve rational use and prescribing of medicines, and increase access to healthcare and medicines, particularly for underserved populations [1-11]. Because of their knowledge of medicines and clinical therapeutics, pharmacists are suitably placed for task shifting in health care and could be further trained to undertake functions such as clinical management [5, 6]. Indeed, the underuse of the pharmacy workforce for preventive and treatment-based roles is widely acknowledged [6]. To improve health outcomes, a coordinated and multifaceted effort to advance workforce planning, training and education is needed. As we enter the second decade of the 21st century, pharmacy educators worldwide continue to face a number of pressing issues that threaten the quality of pharmacy education at a time when there are limited resources to address these challenges. While pharmacists have unprecedented opportunities to expand their roles and responsibilities, this unfortunately is a time when there is a global shortage of qualified pharmacist to provide patient care [12].

Key words:

Global, Pharmacy Education, FIP, Competency, Curriculum.

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Corresponding Author:

Abeer Zeitoun

Clinical Assistant Professor, School of Pharmacy
Lebanese American University, Lebanon

Email: abeer.zeitoun@lau.edu.lb

Discussion

In order to have a fully functional, competent workforce capable of improving patient-focused services, strong and robust educational systems must be in place to prepare both current and future pharmacists to provide these services.

When using the term pharmacy education, it is to be understood that this refers to the educational design and capacity to develop the workforce for a diversity of settings (e.g. community, hospital, research and development, academia) across varying levels of service provision and competence (e.g. technical support staff, pharmacists and pharmaceutical scientists) and scope of education (e.g. undergraduate, postgraduate, lifelong learning). This multidimensional conceptualization embodies a systematic approach to education development that enables and supports a sustainable expert health care workforce to effectively improve health [13].

Since healthcare demands are incredibly diverse and complex, often varying widely within and between regions. Therefore, a "one size fits all" educational model or system is neither practical nor desirable; it does not offer the authenticity for buy-in or sustainability at the local level. Rather, a need based education system is required where there is a development strategy that calls for assessment of the needs of its community and then develops or adapts the supporting educational system accordingly [14].

Therefore, the development of optimal educational systems should progress through a cycle that first seeks to assess and understand local needs. Upon determining local needs, the services required to meet those needs can be defined and the competencies of the workforce should be aligned to the delivery of these services.

For that reason, The Pharmacy Education Action Plan of the World Health Organization (WHO) United National Educational, Scientific and Cultural Organization (UNESCO) International Pharmaceutical Federation (FIP) is oriented towards identifying locally determined needs and pharmaceutical services and using those to facilitate comprehensive education development and achievement of competencies, which in turn are required to meet the local services. [13, 14]

This theme issue on international pharmacy education was further developed by the FIP in order to provide greater insight into the issues, concerns, and challenges facing the world pharmacy education and practice community and how countries are addressing them. Representatives from the International Pharmaceutical Federation (FIP) Pharmacy Education Taskforce (Anderson et al), Canada (Austin and Ensom), China (Yang et al), Great Britain (Sosabowski et al),

Australia (Marriott et al), France (Bourdon and Brion), and the Middle East (Kheir et al⁷) were asked to comment on aspects of their pharmacy educational system and practice. Similar concerns and challenges were expressed by all of the authors who were involved in pharmacy education and practice. Perhaps of greatest concern was the reoccurring theme of too few pharmacists and inadequate means to train greater numbers (Anderson et al). These general challenges and opportunities were best summarized by Austin and Ensomas as 1) need to enhance existing educational programs; 2) a better process to integrate internationally educated pharmacists into the country's health care system; 3) the need to develop continuing professional development programs to ensure that the current pharmacy workforce is "fit for purpose, and 4) finding and training the next generation of academic pharmacists. The other contributors to this theme issue expressed similar concerns [15-22].

Differences in how pharmacy students are educated were also identified. Sosabowski and colleagues who noted that in order to practice pharmacy in the United Kingdom, a 4-year master's degree in pharmacy (MPharm) program, followed by a 1-year pre-registration placement must be completed. The authors' explain that under the Bologna agreement for educational equivalence across Europe, the MPharm degree is classified as an "undergraduate master's program" requiring lower qualifications than the traditional master of science (MSc) degree. Recent developments in the United Kingdom have led to a shift to an integrated 5-year MPharm program. As well, Kheir et al noted that although the curricula of the 5-year baccalaureate degree programs generally resemble most western accredited programs, the clinical training experiences required for graduation among the 13 Middle Eastern schools reviewed was quite variable. Some programs did not have a structured practical experience as a requirement for graduation, while others had experiential training requirements that ranged from 10 to 36 weeks. In China, Ryan and colleagues note that, presently, the emphasis in practice is beginning to shift to clinical pharmacy. With this change, additional degree offerings are being developed to meet the growing demand for clinical pharmacists. There is also interest in practicing pharmacists developing more clinical skills through additional non-degree training. The Ministry of Education in China is considering a proposal for an entry-level program offering a master's and/or doctorate degree in clinical pharmacy similar to the doctor of pharmacy degree in the United States. Bourdon and colleagues describe a more universal approach in France, with a national committee that developed a program at the national level. The program is then adapted by each university and faculty of pharmacy according to its skills, specific features, and means [15-22].

To achieve a high quality global infrastructure for pharmacy, the educational system should be mapped to the required competencies of pharmacists to provide the relevant pharmaceutical services for meeting the health needs in any given country context. While no one national model may be appropriate for all systems, there are significant global health and labor and market drivers which suggest that a competency-based approach is sensible and sustainable for workforce development [23].

Competence is very much a contemporary currency in the health care professions. It carries with it traditional meanings that can be hard to escape from, especially when we start to talk about new models of professional development and new ways in which to regulate professional performance. Competences are the functional part or the "what" that is attached to competence. Competencies refer to the qualities of capability or the "how" of competence. Looking holistically, all these concepts directly contribute to the development of effective and sustained performance within an individual [24].

As for challenges to acceptance of a global competency framework, the barriers identified included economic, educational, and linguistic; highlighting variability in pharmaceutical service provision and functional challenges such as how one framework with applicability to different settings could be developed. It was acknowledged that culture can influence expectations of pharmaceutical services by the public and regulatory bodies and that religion, traditions, history, experiences and perceptions of medicines are challenges to a unified understanding of competency in pharmacy. Despite this, the participants agreed that a pharmacist is still considered a medicines expert, regardless of the country in which he or she practices [24].

Acknowledging that health care needs can vary across geography and culture, an international group of key stakeholders in pharmacy education and global health has reached unanimous agreement that pharmacy education must be quality-driven and directed towards societal health care needs, the services required to meet those needs, the competences necessary to provide these services and the education needed to ensure those competences. Using that framework, this commentary describes the Pharmacy Education Taskforce of the World Health Organization, United Nations Educational, Scientific and Cultural Organization and the International Pharmaceutical Federation Global Pharmacy and the Education Action Plan 2008-2010, including the foundation, domains, objectives and outcome measures, and includes several examples of current activities within this scope [25].

Statement of Policy on Quality Assurance:

FIP Council approved the Statement of Policy on Quality Assurance of Pharmacy Education in September 2009. The statement recommends that "in order to support the development of an adequate and appropriate pharmacy workforce and the academic and institutional infrastructure to deliver the required competency-based education and training, each country should have its own standards-based system for the QA of pharmacy education. According to the statement, a standards-based QA system should:

- Reflect the vision for pharmacy practice and education that has been developed through profession-wide consensus;

- Allow appropriate input from all stakeholders, including students and the public;
- Ensure that educational programs are evidence and competency based, of high quality and meet the needs of the people, the pharmacists, and their country;
- Evaluate programmatic outcomes as well as institutional structures and processes;
- Be transparent and free of inappropriate influences and appearances of conflicts of interest in its development and implementation;
- Promote and foster self-assessment and continuous quality improvement of educational institutions;
- Be accountable to the appropriate governmental authorities.

The statement also recommends and encourages specific action and implementation by national governments, regulatory and QA organizations, FIP member organizations, and universities, colleges, and schools of pharmacy. [26, 27]

Conclusion

There appears to be many educational opportunities for the global pharmacy community. Providing educational and pharmacy practice experiences in different parts of the globe appears possible, and if standardized across collaborating nations, could serve to overcome the lack of experiential practice sites and enhance the quality of pharmacist-provided patient care. In addition, there is an opportunity to cooperate on the development of both the content and delivery of pharmacy curriculum through the use of existing and future methods of communication. With increased globalization, pharmacy educators worldwide will continue to face many challenges to improving the quality of pharmacy education needed for enhanced pharmacist-provided patient care. By broadening our individual horizons and respecting pharmacy education and practice worldwide, educators can acquire and learn insight into strategies to improve individual programs and foster opportunities for additional collaboration.

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