



Opinion

The public health pharmacist and the role of the pharmacy curriculum: A call to action

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Abstract

The role a pharmacist can play in the public health arena has been discussed in great detail over the past decade, and in 2004, public health objectives were placed in the Center for Advancement of Pharmacy Education (CAPE) Educational Outcomes. Despite these directives and the need for pharmacists in our broken healthcare system, comprehensive implementation and recognition of pharmacists in public health has yet to be realized. Therefore, the following action steps are recommended: dialog with public health departments, expansion of public health in pharmacy curricula, hands-on public health learning, participation in state and national public health associations, advocacy, and restructuring the roles of a public health pharmacist. These steps will further the development and recognition of pharmacists as public health professionals.

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Despite the fact that the United States is a world leader in healthcare spending, many of the most vulnerable Americans go without adequate healthcare because they cannot afford it. A 2010 report by *The Commonwealth Fund* ranked the United States last in a list of seven industrialized nations when compared on healthcare system indicators including access, quality, healthy lives, efficiency, and equity.¹ As of 2012, 43 other countries had a lower infant mortality rate than the United States, being surpassed by countries which spend considerably less on healthcare including Japan and much of Western Europe.² Even though the healthcare provided in the United States falls short of most other industrialized countries, the United States remains the leader in *per capita* healthcare spending.³

In 2006, the United States spent 50% more *per capita* than the second leading healthcare spender, Switzerland.³

Between the years 1960 and 2007, the percentage of the Gross Domestic Product for which national health expenditures have accounted has risen drastically from 5.2% to 16.2%, surpassing the growth rate of the United States economy.³ According to a Kaiser Health Tracking Poll conducted in 2009, 53% of Americans reported cutting back on medical care such as physician visits and dental care because of the rising healthcare costs.³ Moreover, according to the poll, 21% of Americans reported the inability to fill a prescription medication and another 15% reported skipping doses or cutting medications in half because of inability to afford their medications.³ One in five Americans reported financial difficulties because of personal medical costs.³ Many studies have shown the beneficial effects of prevention on decreasing healthcare costs and improving health among citizens.^{4–7} Therefore, prevention is the best cure for our broken healthcare system.

At its core, public health is about prevention of disease and disability, addressing health disparities with a goal of ensuring that all individuals can lead healthy and productive lives.⁸ Pharmacists have the potential to contribute greatly to the public health goals of prevention by improving patient

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outcomes without increasing overall costs⁹ and by promoting community health. In many cases, prescription medications for chronic conditions can be thought of as an investment toward prevention of life-threatening diseases. Pharmacists play a vital role in prevention of disease and therefore public health by finding cheaper alternatives when cost becomes a barrier for adherence, assessing pharmacotherapy to provide optimal risk reduction in disease outcomes, counseling in order to overcome barriers to adherence, and providing professional advice on prescription drug plans and insurance coverage to minimize unexpected prescription costs.

Despite the key role pharmacists are already playing in utilizing prevention to better the healthcare system and control costs, pharmacists are currently not used to their maximum potential. Prescription drug costs accounted for 10% of the total US healthcare expenses in 2007 and have risen at a higher rate than the costs of hospital care and physician/clinical services.¹⁴ In addition, one study found that adverse drug events and fatalities due to adverse drug events have increased 2.6 and 2.7 fold from 1998 to 2005, respectively.¹⁰ Adverse drug events have also been shown to be a notable cause of morbidity and mortality in infants under two years of age.¹¹ Pharmacists are optimally trained to play key roles in decreasing these concerning statistics; however, few are able to step into these roles. Hence, pharmacists are not utilized to their full potential.

The pharmacy curriculum is one of the gatekeepers to optimizing pharmacists' potential. Some argue, however, that pharmacy education "has failed to recognize the potential for pharmacists in public health as well as to acquaint pharmacy students and practitioners with role models in public health."¹² To address this, the 2004 Educational Outcomes of the Center for the Advancement of Pharmacy Education (CAPE) placed strong emphasis on the need for pharmacy students to graduate with adequate knowledge and ability in public health.¹³ Although leaders in pharmacy have long recognized the importance of public health education and population-based care has been recognized as one of the three functional roles for pharmacists in the curricula of the future, many pharmacy curricula are failing to adequately impress upon their students the important roles pharmacists play in public health.^{14–16} A pharmacy curriculum emphasizing public health and prevention can enable pharmacy students and pharmacists to play an important role in the goal of fixing our broken healthcare system. We propose that this goal be accomplished by expanding pharmacy public health curricula and improving dialog with public health departments, providing hands-on public health learning, encouraging political advocacy, participation in state and national public health associations, and restructuring/defining the roles of a public health pharmacist.

Dialog with public health departments

Although pharmacists can be found in most state public health systems, little has been done to "maximize the

community health status benefits that might accrue from a close, coordinated relationship between the practices of pharmacy and public health."¹⁷ Given the accessibility and widespread distribution of pharmacies, a close partnership between pharmacy and public health would provide an optimal avenue for execution of emergency care in mass casualty events, which ensures the health of citizens even during catastrophes. With access issues being especially important in rural areas, pharmacies could partner with health department initiatives and programs to reach more of the state's citizens with a goal of increasing quality of care. Pharmacists could contribute to public health initiatives by implementing the following health department programs at their respective pharmacies: smoking cessation, prenatal care, immunizations, diabetes prevention programming, education on proper nutrition, and chronic disease management. The pharmacists' role in public health programming and initiatives could therefore be instrumental in advancing the health of Americans and increasing health indicators including access, quality, and healthy lives.

Increasing student pharmacist exposure to public health may be accomplished by a closer relationship with public health departments. Exposure will ignite student pharmacists' appreciation of the work in which public health departments engage. Additionally, exposure to public health departments will provide student pharmacists a better understanding of the healthcare system as a whole, highlighting the impact a pharmacist can have. Finally, it would also provide a hands-on understanding of the necessity of a prevention-centered healthcare system.

Expansion of public health in the pharmacy curricula

To ensure that pharmacy students are adequately prepared to be part of the public health team, it is essential that public health-related opportunities are embedded in the pharmacy curriculum.^{18,19} Attention should be given to public health issues or activities within the required didactic and experiential pharmacy coursework and could include topic areas focused on disease prevention and health promotion including inter-professional, patient-centered care, immunizations, the role of a pharmacist in disaster preparedness, decreasing risky sexual behaviors, prescription drug abuse, educating on harms of drug-doping for athletic performance or a myriad of other public health-related topics.²⁰ Coursework could also be designed to expose pharmacy students to the importance of advocacy and legislative participation.²¹

Ideally, students should be exposed to inter-professional public health-related activities on a regular basis. Successful inter-professional courses include topics varying from community education on slowing the progression of cardiovascular disease to providing hepatitis B education at a student-run clinic.^{22,23} Providing combined lectures or courses with public health students would also nurture inter-professional student relationships and collaborative efforts.²⁴

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