Achieving Pharmacy-Based Public Health: A Call for Public Health Engagement

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The evolution of pharmacy practice in the last 15 years has created expanded public health access. Community pharmacies now provide a range of public health services with promising improvements in health access and outcomes. The observed practice changes call our attention to systemic issues that remain in need of collective attention. As we strengthen our intersectoral public health system, we must focus on the pharmacy-public health partnership and establish collaborative policy and research agendas to guide this system change for maximum public health impact. Our collective effort to assure the health of communities depends upon our seeing opportunities across systems and sectors, and upon our success in shifting the policy environment to allow health system flexibility.

INTRODUCTION

Community pharmacies are independent, chain, or supermarket pharmacies that directly serve the general public. A systemic change has occurred in community pharmacy practice during the past 20 years. The once segregated druggist with limited public health engagement in times of epidemics or national initiatives[1] has morphed into a medications evaluator, health educator, immunizer, and health-care partner.[2–4] These changes have helped clarify and institutionalize the expression of pharmacy-based public health.

The practice of pharmacy as we know it in modern times dates back to the 18th century. The role of the pharmacist evolved in response to the ever-changing health environment. For example, the apothecary became a temporary vaccine distributor in the 1800s in response to smallpox efforts.[1] Fast-forward to the 20th century, and pharmacists expanded their clinical role to serve within the Indian Health Service and the Bureau of Prisons.[5] The mid-1990s witnessed the emergence of the pharmacist immunizer and vaccine advocate.

Today, community pharmacists provide many services in addition to drug dispensing: medication therapy management;[6–8] immunizations for children

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and adults;[1,9,10] screening for diabetes and cardiovascular disease;[11–13] and health education consultation for a range of health risks and conditions such as diabetes,[14,15] smoking cessation,[16] weight management, hypertension, osteoporosis,[17,18] and substance abuse.[19] These practice changes highlight the fact that pharmacies are important partners for the expansion of public health access. Pharmacists are located in practically every U.S. town and they are available and perceived as trustworthy—even more so than physicians.[20] Further, in some cases, pharmacies are a preferred location for adult immunizations.[21]

The picture of pharmacy-based public health sharpens when framed in terms of the three levels of prevention: primary, secondary, and tertiary. Ferris and Johnson[22] offered this frame for the pharmacy audience in 2010 and it bears repeating. Primary prevention involves intervening to inhibit the initiation of a negative health outcome. Immunization is the classic example of primary prevention. Pharmacy engagement in vaccine efforts dates back to the 1800s and involved primarily the distribution of vaccine materials.[1] Since the late 1990s, immunizations (e.g., for influenza or shingles) have been routinely provided in community pharmacies. This practice change required the development of state policies allowing collaborative practice; i.e., agreements between physicians and pharmacists whereby pharmacists could provide an agreed scope of services.[23] This important structural shift in policy set the environment for additional pharmacy-based public health access.

Secondary prevention involves intervening early in the disease process and before illness manifests. Examples of prevention activities include early intervention for behavior change or disease diagnosis. Pharmacist intervention to identify people at early stages of cardiovascular disease, diabetes, or substance abuse has proven promising in studies evaluating their impact on health behavior, health services use, and health outcome improvement.[17,24,25] Community pharmacies are increasingly providing diagnostic testing.[10,11,17] Pharmacy-based public health stands at the nexus of diagnostic advancement and testing decentralization, away from laboratories and into the hands of individuals. The possibility that pharmacies could become yet another avenue to diagnosis would be a tremendous advancement for early treatment access in the case of human immunodeficiency virus (HIV), as 20% of people living with HIV do not know it[26] and 40% learn their HIV status within a year of an acquired immunodeficiency syndrome diagnosis, well into disease progression.[27]

Tertiary prevention activities seek to slow the progression of disease and reduce complications. Most pharmacy practice has traditionally operated at this level of prevention because it involves medication consultation. The leading edge of this practice involves intensive models of medications evaluation and management in specialized communities, such as people living with HIV,[5] or among populations taking multiple and possibly conflicting medications, such as older people or those with multiple comorbidities. Pharmacist-initiated interventions focusing on increasing medication adherence, reducing dependence, or preventing disease progression have produced positive outcomes from health and economic standpoints.[5,6,8] Activities at the tertiary level highlight the unique position of pharmacists at the point of sale for medications, where issues of medication adherence and affordability meet. Here, too, policy change facilitated this avenue of public health service. The Medicare Prescription Drug Improvement and Modernization Act of 2003,[28] the Patient Protection and Affordable Care Act of 2010 (ACA),[29] and the Health Care and Education Reconciliation Act of 2010[30] clarified pharmacist roles and responsibilities to create a more direct reimbursement mechanism.

CALL FOR STRONGER PUBLIC HEALTH ENGAGEMENT

The emergence of public health pharmacy practice across the U.S. has created an opportunity for systems-level improvements and related policy activity. Public health in the 21st century is about working in and through many and different sectors.[31] While it is easy to acknowledge that many health and non-health-related systems interact to accomplish public health objectives, it is difficult to support public health activities in these disparate environments through policy and practice. Public health funding streams are isolated and cause the institutionalization of disease-focused work. So, too, pharmacy and public health practice cultures have evolved differently, despite a shared history in medicine. Yet, challenges aside, our pharmacy colleagues have engaged in conversation about public health for the past several years. Pharmacy literature shows evidence of discussion about public health pharmacy emergence, benefits, challenges, and the need for policy changes to assure sustainability.[19,32–35] The public health literature, in contrast, has been largely silent. To strengthen community pharmacies as public health partners, we must fully join the conversation about pharmacy-based public health. The following

areas should be the focus of our collective attention: policy, research, and the meaningful integration of pharmacy and public health in practice and education.

Policy

As pharmacies increasingly deliver preventive health services, barriers emerge that are artifacts of a time when such services were the exclusive domain of medical practice. An example of one such barrier is the definition of a health-care provider. Despite the delivery of myriad health services, pharmacists are not defined as health-care providers under state or federal law.[36] Since 2001, there have been several failed efforts to expand the definition to include pharmacists at the federal level.[37] Elements of the ACA[30] and the Health Care and Education Reconciliation Act[31] have created flexibility for pharmacists in the health-care relationship, but they have stopped short of conveying health-care provider status. As such, pharmacists face a systemic inequity: they cannot be directly reimbursed for health-related services and they remain liable without protection.[35] Pharmacy, public health, and medical communities should engage in an open dialogue about health-care provider designations and implications. Policy solutions must be identified and achieved at state and federal policy levels so that pharmacy-based public health is high quality, reimbursed, and sustainable.

Research

Studies should continue to explore the impact of pharmacy-based public health service provision in U.S. contexts. As public health services become increasingly expressed in community pharmacies, it will be important to understand access to and effectiveness of public health services in these settings. The attitudes of pharmacists and pharmacy users regarding the provision and experience of these services should be explored as they relate to system change, particularly as we implement the ACA. As the demand for preventive health services increases, the need for health access options will also increase. Knowing the perceptions about the pharmacy environment as a preventive services gateway will be important for the diffusion of innovation. As pharmacists assume a greater role in health service provision, there is a need for evaluating the role itself. Pharmacist liability, training, documentation, maintenance of health records, and perception of role value should be evaluated as the role of pharmacists continues to shift from drug dispenser to public health provider.

Meaningful integration of pharmacy and public health in practice and education

Opportunities for collaboration exist for intersectoral learning among public health and pharmacy professionals. Local health departments and pharmacies have partnered to provide emergency preparedness, HIV testing, and vaccinations. Partnerships between schools of public health and colleges of pharmacy offer opportunities for students to assist with outreach events focused on medication reviews, take-back programs to prevent improper medication disposal, patient education, and Medicare prescription health plan comparisons. Educational integration can also be expressed by appointments of pharmacy faculty to schools of public health and vice versa. These professional and educational partnerships will help to erase any real or perceived barriers.

Dual-degree programs and integrated curricula offer rich avenues for thoughtful integration over time. The American Association of Colleges of Pharmacy reports an anticipated 18 dual doctor of pharmacy/master of public health degree programs in the U.S.[38] Public health content integration is required in pharmacy curricula and experiential education for pharmacy schools to obtain and maintain accreditation status.[39] Do schools of public health require learning about pharmacy settings as public health arenas? Such experiences would help to dismantle barriers that prevent the further development of intersectoral collaboration to expand health access.

CONCLUSION

The nexus of pharmacy practice change, escalating health-care costs, and diagnostic evolution has revealed a new arena of public health service access that is promising but challenging. The observed practice changes unearth policy and practice challenges for pharmacists, and addressing these challenges requires collective public health engagement and support. We in the public health community must fully embrace the intersectoral nature of public health and work to achieve our public health mission through the dynamic arena of pharmacy practice. Our collective effort to assure the health of communities depends upon seeing opportunities across systems and sectors and upon successfully shifting the policy environment to allow health system flexibility.

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