

## SPECIAL ARTICLES

# Professional and Educational Initiatives, Supports, and Opportunities for Advanced Training in Public Health

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The United States is facing a public health workforce shortage and pharmacists have the opportunity and obligation to address this challenge in health care. There have been initiatives and supports from within and beyond the profession for the pharmacist's role in public health. This article identifies existing professional and educational initiatives for the pharmacist's expanded role in public health, as well as postgraduate and other advanced educational opportunities in public health. Recommendations also are provided on how to further engage pharmacists in public health activities to alleviate the public health workforce challenge.

**Keywords:** public health, master of public health degree, fellowship, dual degree, residency

## INTRODUCTION

By the year 2020, America will need more than 250,000 public health workers, and the health needs of the US and global populations will not be met given the current shortage in the public health workforce.<sup>1</sup> As one of the most accessible health care professionals in the community, pharmacists have the opportunity and obligation to help address this shortage in health care. A review of Healthy People 2010 shows that pharmacists can contribute to achieving national health goals through education and disease state monitoring and management.<sup>2</sup> There are multiple objectives among the 28 key focus areas of Healthy People 2010 in which there are opportunities for pharmacists.<sup>3</sup> Additionally, a 2004 white paper "Healthy People 2010: Challenges, Opportunities, and a Call to Action for America's Pharmacists" identified specific objectives, assessed pharmacy's existing contributions, and provided recommendations for pharmacists' involvement and impact in public health.<sup>4</sup> Although the pharmacy profession has evolved from product-oriented to patient-centered care, with pharmacists contributing to micro-level public health activities (eg, disease management, health and wellness screening, immunizations, medication therapy management), there remain unmet needs for pharmacists in macro-level public health functions (ie, assessment, policy development, and assurance at the population-based level). It is vital for both

the public's health and the professions of pharmacy and public health that today's pharmacists accept the challenge and embrace the opportunities to expand their public health roles and practice activities to advance society's health. While there are needs and opportunities, it is also important to identify support from within and beyond the profession and provide training for pharmacists to fill these public health roles and alleviate the public health workforce crisis. This article will identify existing supports, serve as an overview to different training strategies for practitioners, and provide recommendations for faculty members and schools/colleges of pharmacy to prepare students, residents, and pharmacists for their expanded role in public health.

## PROFESSIONAL AND EDUCATIONAL INITIATIVES

In 1979, an article published in the *Journal* asked "Where is the Public Health Pharmacist?" The authors argued that there was a lack of pharmacists participating in public health activities, and that it was the role of pharmacy education to fill the gap.<sup>5</sup> Since then, various organizations within and outside the profession of pharmacy have recognized and sought to promote the importance of pharmacists' involvement and contributions in public health. Representing an array of practitioners, educators, and policymakers, these organizations have published vision and/or policy statements in an effort to provide leadership and guidance to the profession. In 2003, representatives from the American Association of Colleges of Pharmacy participated in the Healthy People Curriculum

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Task Force. Convened by the Association for Prevention Teaching and Research, this task force published a curriculum framework for health professions that included key components in which pharmacists' involvement is crucial.<sup>6</sup> In 2004, the Joint Commission of Pharmacy Practitioners, which includes representatives from national pharmacy organizations, released a vision statement on Pharmacy Practice in 2015. The statement includes 3 domains: (1) the foundations of pharmacy practice; (2) how pharmacist will practice; and (3) how pharmacy practice will benefit society.<sup>7</sup> Within these domains were recommendations for the provision of "patient-centered and population-based care" as well as the "promotion of wellness, health improvement, and disease prevention." The American Pharmacist Association released policy statements in 1992 and revised statements in 2005 recognizing and encouraging the pharmacist's role in public health. Among those recommendations was to "encourage(s) pharmacists to provide services, education, and information on public health issues."<sup>8</sup>

Public health, along with pharmaceutical care and systems management, were the 3 major categories in the American Association of Colleges of Pharmacy (AACP) Center for the Advancement of Pharmacy Education (CAPE) Outcomes published in 2004.<sup>9</sup> From the document, administrators and faculty members were encouraged to create discipline and content-specific outcomes within their curriculum. Within the context of public health, outcomes in the provision of effective, quality health care services and disease prevention services and the development of public health policy were recommended. In the 2007 Standards and Guidelines for the doctor of pharmacy program, the Accreditation Council of Pharmacy Education (ACPE) also included public health competencies for didactic curriculum and experiential education. For example, guidance on pharmacy practice experiences include "participating in educational offerings designed to benefit the health of the public, service-learning, educating the public and health care professionals regarding medical conditions, wellness, . . . participating in discussions and assignments concerning key health care policy matters that may affect pharmacy."<sup>10</sup>

Support for the role of the pharmacist in public health exists beyond the profession. The American Public Health Association (APHA), the largest organization representing public health practitioners of various disciplines, historically has supported the role of pharmacists in public health. In November 2006, APHA issued a policy statement to provide guidance and leadership in the incorporation of the pharmacist into the public health multidisciplinary team. In the statement, APHA made

6 recommendations to facilitate the development of the pharmacists' role. Included in these recommendations was the Association's support for "greater inclusion of public health concepts in the curricula of colleges and schools of pharmacy, the development of more joint PharmD/MPH programs" as well as "the influx of more pharmacists trained in public health."<sup>11</sup>

The benefits and role of the pharmacist in public health have been delineated clearly by the American Society of Health-System Pharmacists (ASHP). In a 2007 policy statement, ASHP identified several public health activities, including population-based care, disease prevention and medication safety, health education, and public health policy as areas where pharmacists may be of great impact. As vital components of the public health system, ASHP recommended that health-system pharmacists "receive adequate education and training."<sup>12</sup>

The importance of training pharmacists and preparing students for advanced educational opportunities to assume expanded roles in public health clearly has been recognized. Numerous organizations have taken the lead in establishing roles and setting goals for this practice area. Opportunities for pharmacy students, pharmacy residents, and practitioners to expand their skill sets in public health will result in greater awareness and an expansion of the role of pharmacists in public health.

## **ADVANCED TRAINING IN PUBLIC HEALTH**

Having identified professional and educational initiatives and supports, the following section provides strategies and opportunities for pharmacists to pursue advanced educational training in public health. These may include: (1) residency programs with an emphasis in public health; (2) fellowship programs in health care policy or public health policy; and (3) graduate degree programs such as master of public health (MPH) and public health certifications. Pharmacists who are interested in public health training should consider these programs to further their knowledge, skills, and experience in public health.

### **Residency Programs in Public Health**

The value of residency training has been recognized by pharmacy organizations as a way to further develop clinical and/or specialized skills that prepare pharmacists for their role as direct patient care providers. Residency training traditionally has taken place in hospitals and health systems, with an opportunity for a pharmacist to complete a postgraduate year 1 (PGY1) generalist training program or to further their training in a specific therapeutic field or specialty during postgraduate year 2 (PGY-2). In the last several years, there has been focus

on alternative settings for residency training, including community pharmacies and ambulatory clinics.

A review of over 630 ASHP-accredited residency programs was conducted to determine the number of residency programs in a federal/government public-health setting (including Veterans Affairs, Naval Health, and Indian Health Service), or that stated outcomes and objectives emphasizing public health. Of about 635 programs, approximately 91 programs are located at a VA or military medical center, 10 are located within the Indian Health Service, and 9 additional programs listed “public health” as a component of the residents’ activities and/or outcomes.<sup>13</sup>

The McWhorter School of Pharmacy created the first ASHP-accredited PGY-1 pharmacy practice residency in public health. Through a partnership with the Jefferson County Department of Health, McWhorter pharmacy residents provide clinical services in state-operated family medicine clinics and assist with a variety of public health initiatives, including emergency-preparedness planning.<sup>14</sup>

The pharmacy practice residency in public health at the University of Missouri-Kansas City provides the aspiring public health pharmacy practitioner with a wide variety of experiences and skill-building opportunities. Activities at the clinic include the provision of pharmaceutical care to general medicine and human immunodeficiency virus (HIV) primary care patients at the Kansas City Free Health Clinic. A longitudinal project involving the identification of a public health issue specific to the Kansas City community and implementation of a program to address the issue is required. The program provides exposure and experience in medication therapy management, public health, HIV primary care, emergency preparedness, global health, academia, and research.<sup>15</sup>

The St. Louis College of Pharmacy offers a residency program in collaboration with the St. Louis County Department of Health. The residency program offers trainees an opportunity to practice clinical pharmacy services within the health department, including pharmacist-managed clinics for diabetes, cardiovascular risk reduction, smoking cessation, asthma, and polypharmacy, as well as participation on multidisciplinary teams to provide individual patient care and public health education classes.<sup>16</sup>

### **Fellowship Programs in Health Care Policy or Public Health Policy**

Similar to residency training, fellowship programs provide practitioners with an advanced general or focused educational experience with an increased emphasis on research. While pharmacists do not complete fellowship trainings as commonly as other health professionals, those interested in health care policy, legislative, advocacy, or research may find it beneficial to pursue a health care or

public health policy fellowship. These types of advanced educational training are offered through collaboration among an academic institution, a congressional office, and a health agency or health organization. A health care policy fellow will divide his/her time among the offices of the collaborating partners to gain hands-on experience and involvement in health policy development and advocacy.

There are at least 3 health care fellowship opportunities available for pharmacists, with at least 1 program specifically designed for pharmacists. In 2006, the Congressional Healthcare Policy Fellow Program was created as a partnership of Virginia Commonwealth University (VCU), the American College of Clinical Pharmacy (ACCP), and the American Society of Health-System Pharmacists (ASHP). The fellow spends 1 month each at the ACCP and ASHP government affairs offices to prepare for work on the staff of a congressional committee or a personal staff member of a US senator or representative for the remainder of the fellowship. This healthcare policy fellowship program provides the opportunities and skills in legislative evaluation, policy development, research and writing, and integration of policy experience with theory. The fellow also has responsibilities that include researching and preparing briefs on healthcare issues, assisting with policy decisions, and planning and implementing program and management objectives.<sup>17</sup>

Pharmacists who are interested in general public health policy or health policy fellowships for all health care professionals can pursue either the Association of Schools of Public Health (ASPH) Public Health Policy Fellowship or the Robert Wood Johnson Foundation (RWJF) Health Policy Fellows Program. The ASPH fellowship includes placement in either a congressional or committee office on Capitol Hill to observe and participate in the legislative process pertinent to public health. During the experience, the fellow will have educational and professional development opportunities to fully participate in public health policy and the legislative process and to network with experienced policymakers, public health professionals, and experts in public health. Additionally, the fellow will have hands-on real-world health policy experience while helping to develop legislative proposals, arranging hearings, briefing legislators for committee sessions and floor debates, and staffing House-Senate conferences.<sup>18</sup> The RWJF Health Policy Fellows program, “. . .the nation’s most comprehensive experience at the nexus of health science, policy, and politics in Washington, DC,” provides the opportunity for mid-career health professionals and behavioral and social scientists to participate in the health care policy and legislative process at the federal level and gain leadership to improve health, health care, and health policy.<sup>19</sup>

### Advanced Educational Opportunities and Certifications in Public Health

Besides completing a public health residency and/or health policy fellowship, pharmacists can pursue additional advanced educational opportunities and certifications in public health. The master of public health (MPH) degree provides training in 5 core areas of public health, including biostatistics, epidemiology, environmental health sciences, health services administration, and social and behavioral sciences.<sup>20</sup> This graduate degree program typically requires the student to earn 42 credits and includes a capstone experience project. Several colleges and schools of pharmacy also collaborate with schools of medicine or public health to offer a PharmD/MPH dual degree program for students. Other graduate degree programs related to the practice of public health include master of health administration (MHA) and master of science in public health (MSPH). Additionally, certifications in public health are offered. There are 2 current options for certification: certified health education specialist (CHES) and certified in public health (CPH). A CHES credential through the National Commission for Health Education Credentialing recognizes professionals who assess, plan, implement and evaluate health education strategies, interventions, and programs.<sup>21</sup> Additional competencies for this certification include research, administration, and advocacy pertinent to health and health education. Pharmacists with a graduate degree from the Council on Education for Public Health (CEPH) accredited schools and programs of public health can also obtain a CPH through examination from the National Board of Public Health Examiners.<sup>22</sup>

### RECOMMENDATIONS

The role of the pharmacist has expanded from an emphasis on distributive and product-oriented responsibilities to a focus on patient-centered and population-based care. Along with this role change is the opportunity and support for pharmacists to participate in public health on both a micro and macro level. In order to prepare current and future pharmacists as effective public health practitioners, we recommend the following.<sup>23</sup>

**Increase training opportunities in public health.** Currently there is a limited number of postgraduate training opportunities focused on the role of the pharmacist in the public health setting. As the pharmacist's practice expands into a variety of specialized areas, so too should the diversity of residency training. By providing more postgraduate opportunities in public health, there will be more expertly trained practitioners to lead current and future pharmacists in the public health practice.

**Partner with health departments for residency training and experiential sites in public health.** There are at least 3 colleges and schools of pharmacy collaborating with health departments to offer residency training in public health, and 1 also offers a master of public health degree (Table 1). The APHA has called for "...cross-training to maximize resources and address work force needs..."<sup>11</sup> Colleges and schools of pharmacy should partner with health departments to provide pharmacy residents or students with further skills and experiences in health education, health promotion, and disease prevention through interprofessional training at these sites.

**Partner with national health agencies/departments and associations for health policy fellowship.** There are at least 3 health policy fellowship programs in the United States but only 1 was specifically developed for pharmacists (Table 1). The APHA called for "transdisciplinary collaborations of health planning agencies, schools of public health, schools of pharmacy, public health agencies, policy-makers and pharmacy and public health professionals to develop legislation and advocate for plans addressing health care needs."<sup>11</sup> Colleges and schools of pharmacy and professional pharmacy associations should respond to this call and develop more health policy fellowship programs to address this important need in public health.

**Develop and offer PharmD/MPH dual degree programs through collaboration with schools of medicine or public health.** Several colleges and schools of pharmacy offer the PharmD/MPH dual-degree programs

Table 1. US Colleges and Schools of Pharmacy Offering Residency and Fellowship Training in Public Health

Residency Programs
Samford University McWhorter School of Pharmacy in collaboration with the Jefferson County, Alabama, Department of Health and the Perry County, Alabama, Health Department
St. Louis College of Pharmacy in collaboration with St. Louis County Department of Health
University of Missouri-Kansas City in collaboration with Kansas City Free Health Clinic
Fellowship Programs
Virginia Commonwealth University in partnership with American College of Clinical Pharmacy (ACCP) and American Society of Health-System Pharmacists (ASHP) Congressional Healthcare Policy Fellow Program
Association of Schools of Public Health (ASPH) Public Health Policy Fellowship
Robert Wood Johnson Foundation (RWJF) Health Policy Fellows Program

Source: references 14-19.

Table 2. Schools/Colleges of Pharmacy Offering Doctor of Pharmacy and Master of Public Health Dual Degree Programs

University of California-San Francisco
University of Florida
University of Georgia
University of Iowa
University of Kentucky
University of Maryland-Baltimore
University of Southern California
University of Wisconsin-Madison
Virginia Commonwealth University

Source: Adapted from Vincent WR, Smith KM, Steinke D. Opportunities for pharmacists in public health. *Am J Health-Syst Pharm.* 2007; 64(19):2002-2007.

(Table 2).<sup>24</sup> As mentioned earlier, the APHA 2006 policy statement on the role of the pharmacist in public health called for an increase in PharmD/MPH dual degree programs. Schools/colleges of pharmacy should develop and offer this opportunity for students who are interested in public health.

## CONCLUSIONS

Support for the public health pharmacist exists through a variety of professional and educational initiatives and expands beyond the profession as recognized by the American Public Health Association. In order to fulfill the demand for pharmacists in public health, there must be an increase in the number of well-trained practitioners. Encouraging additional training not only is in accordance with current educational recommendations, it also is vital to expanding the pharmacists' role in public health.

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