

## Short Communication

# Pharmacists' Role in Public and Population Health

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## Abstract

In 2006, the American Public Health Association published a policy statement on the public health role of pharmacists with a focus on the major functions of public health: 1) assessment, 2) assurance, 3) prevention and public preparedness, and 4) policy development. These topics align well with the focus on population health in new care models such as Accountable Care Organizations (ACOs), advanced primary care practices, and community-based health teams. Pharmacists can make a valuable contribution to public health initiatives given their unique training and expertise areas. Health care organizations, researchers, public health officials and policymakers need to consider how pharmacists can participate in patient-specific care, as well as public health efforts, at the local, state, and national levels

## ABBREVIATIONS

ACO: Accountable Care Organizations; CDTM: Collaborative Drug Therapy Management

## INTRODUCTION

In 2006, the American Public Health Association published a policy statement on the public health role of pharmacists [1]. This statement focused on the major functions of public health: 1) Assessment, 2) Assurance, 3) Prevention and Public Preparedness, and 4) Policy Development. In addition, the Joint Commission of Pharmacy Practitioners' 2015 vision for pharmacy practice states that pharmacists will be prepared and responsible for patient-centered and population-based care that optimizes drug therapy by managing health care system resources, improves therapeutic outcomes, and promotes health improvement, wellness, and disease prevention [2]. These topics align well with the focus on population health in new care models such as Accountable Care Organizations (ACOs), advanced primary care practices, and community-based health teams.

## ASSESSMENT

Pharmacists are essential team members in medical homes [3], as well as ACOs and integrated care teams [4] to evaluate the appropriateness, effectiveness, and safety of medication use. Pharmacists have unique training and clinical experiences to *identify and resolve* medication discrepancies or gaps in medication care. Beyond identifying a problem, pharmacists have a deep knowledge of pharmacotherapeutics and pharmacoeconomics to resolve a problem by recommending an alternate medication or dosage or more cost-effective medication for a patient's circumstances.

In addition, pharmacists can *prevent* medication errors or

adverse drug events by working with patients/families and prescribers based on the patient's medical history, previous medication experiences, or interpretation of lab monitoring tests.

Pharmacists in 47 states have regulations that authorize physician-pharmacist Collaborative Drug Therapy Management (CDTM) [5] that is defined as the presence of a "*collaborative practice agreement between one or more physicians and pharmacists wherein qualified pharmacists working within the context of a defined protocol are permitted to assume professional responsibility for performing patient assessments; ordering drug therapy-related laboratory tests; administering drugs; and selecting, initiating, monitoring, continuing, and adjusting drug regimens* [6]." These collaborative agreements typically involve the management of drug therapy regimens for patients with chronic conditions. The agreements often vary with state regulations, practice settings, pharmacist education/training requirements, and usually require the approval of involved pharmacists, physicians, and/or a quality improvement committee.

At a population level, pharmacists can work with clinicians and informatics leaders in health systems, ACOs, and practice groups to assure that medications are used effectively, safely, and in a cost-effective manner. By analyzing medication use patterns and patient outcomes data, pharmacists can generate actionable reports of patients who are not receiving appropriate therapies, not at therapeutic goals with current medication regimens, and patients on medications that require more frequent monitoring or are suitable for follow-up evaluations by a pharmacist in-between physician office visits.

Pharmacists may also be involved in population health activities such as developing medication safety policies and procedures, identifying needs for new or expanded chronic care

management programs, collaborating with quality improvement staff on educational programs, or working with information technology staff to enhance documentation and reporting of patient medication-related data [7].

### Assurance

Pharmacists are one of the most accessible health care professionals in a community or health system, such as hospitals, long-term care, or home infusion programs. They are responsible for the distribution of drugs and supplies, delivering drug-related information and consultation to meet needs of patients and other healthcare professionals. Pharmacists can assure accurate and safe medication use by serving as a trained health professional to provide “checks and balances” in the system of dispensing medications and educating patients or health care team members about medications.

The IOM report *To Err is Human* [8] advocated the expertise of pharmacists as a resource for drug information given that most health care professionals – including physicians and nurses – cannot keep up with the immense variety and complexity of medications that are available today. Within a community, pharmacists should be seen as a first-line resource for accurate and timely drug information on prescription, non-prescription, herbal products, dietary supplements, and abusable substances.

Pharmacists have an important role in educating patients about their medications and assuring patients have a sufficient understanding to be adherent to their medication regimens. The National Coalition for Prescription Information and Education reports that 20% to 30% of prescriptions are never filled by patients, while 50%–60% of medications to treat chronic disease are not taken as prescribed. Other findings project that poor health literacy and medication non-adherence, along with suboptimal prescribing, drug administration, and diagnosis, costs the health care system an estimated \$290 billion per year in avoidable medical spending and lost work productivity, translating into 13 percent of total health care expenditures [9].

### Prevention and public preparedness

As the most accessible health care professional in a community, pharmacists play a key role in prevention and access to care. Pharmacists are often involved in community activities such as health education programs, health screenings, medication take-back programs, and disaster planning.

Pharmacists advise patients about self-limited and self-managed conditions that are usually treated with appropriate use of over-the-counter (non-prescription) medications, medical and surgical supplies or equipment; when to seek medical advice for symptoms that persist, and refer patients to public health services.

As of 2012, there were over 200,000 pharmacists who were trained to administer immunizations and approximately 20% of adults received immunizations in a pharmacy. Pharmacists are in a unique position as they have extended hours and are easily accessible health professionals, can identify at-risk patients based on medication usage, understand storage conditions for vaccines, and can support completion of multi-dose vaccines [10].

There needs to be greater emphasis regarding the role of pharmacists in the public health infrastructure at the community and state levels. Pharmacists can be critical members of public health boards or emergency preparedness workgroups. Pharmacists can be a valuable member of public health boards or emergency response teams to provide sound advice on medication distribution, patient care during disasters or emergency situations, or medication shortages. Some pharmacists have been active members in response teams for anthrax events, managing the Strategic National Stockpile, or rebuilding drug regulatory and distribution systems within active military regions.

### Policy development

There are many public health concerns which legislators and regulatory agencies address that relate to pharmacists, medications, and abusable substances. Legislators and regulators need testimony, data and feedback on pending and implemented laws or regulations. Pharmacists are medication-use experts and have multifaceted experiences in care delivery and health systems that can be pertinent to the policy-making or regulatory processes. On a federal level, the Joint Commission of Pharmacy Practitioners (a coalition of 11 national pharmacy organizations established in 1977 as a forum for discussion of issues and priorities of the pharmacy profession.) provides a unified voice on important pharmacy practice issues, whereas a state pharmacists organization will serve this role for each state. A recent state-level example is the role of pharmacists in developing regulatory processes for medical marijuana distribution systems [11].

Many people do not recognize that pharmacists are employed or serve as advisors in many federal agencies including the Agency for Healthcare Research and Quality, the Centers for Medicare & Medicaid Services, the Food and Drug Administration, the Centers for Disease Control, Department of Veterans Affairs, U.S. Public Health Service, and the Bureau of Health Professions of the Health Resources and Services Administration. In addition, pharmacists are involved in local and state health agencies such as public health boards, state and national board of pharmacies. Pharmacists have also been state and national legislators, or served on key state or local health-related committees, with prominent roles in shaping policies that affect public health.

Pharmacists can make a valuable contribution to public health initiatives given their unique training and expertise areas. Health care organizations, researchers, public health officials and policymakers need to consider how pharmacists can participate in patient-specific care, as well as public health efforts, at the local, state, and national levels.

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