Expanding Pharmacy Technicians Roles to Assist With Patient Medication Adherence

What is already known on this topic?

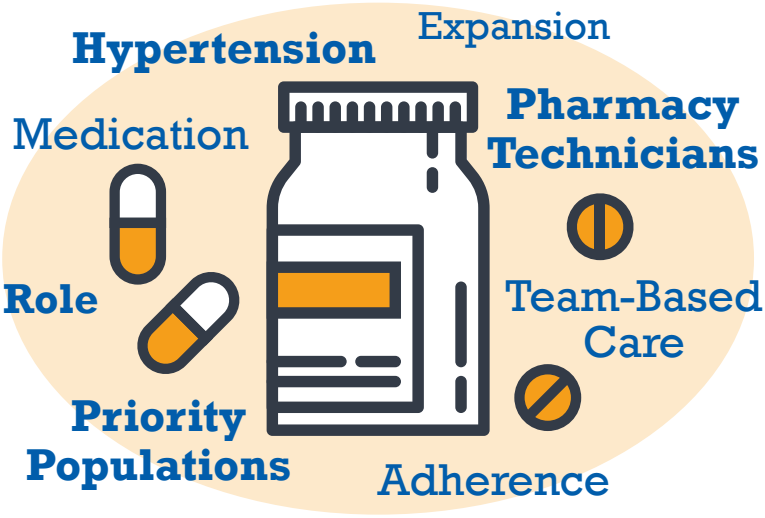
80% of premature heart disease and strokes are preventable.[1]

Although various preventive steps can be taken such as using aspirin when appropriate, controlling blood pressure, managing cholesterol, and ceasing smoking, many Americans are not taking these evidence-based actions to improve their heart health. Only about half of Americans aged 35 to 64 years who have hypertension have it controlled. Additionally, when compared with adults aged 65 years or older, adults aged 35 to 64 years are less likely to use prescribed cholesterol-lowering statins when indicated.[1,2]

The extent to which a person takes their medication as prescribed (medication adherence) is affected by various factors rooted in patient, provider, and systemic barriers.[3-8] A patient is considered adherent when they are taking their medication as prescribed 80% of the time or more, which actually only occurs in about half of patients receiving prescriptions.[7] Some of the potential barriers at the patient-level include cost, concerns about therapy effectiveness, and forgetfulness.[3,4] At the provider-level, patient-provider miscommunication and lack of cultural competency awareness can serve as obstacles as well.[3,6,8] Lastly at the systemic-level, barriers such as a lack of health care provider continuity; socioeconomic factors; and residential segregation have created communities with limited access to high quality health care and pharmacies.[5,8]

Given their community presence, knowledge and skills, and access to refill records, pharmacists have a unique opportunity to positively affect medication adherence in their patient populations.[4] Community pharmacists can help by being proactive in identifying the needs and adherence barriers of patients and then taking action. Some ways that pharmacists could have a positive effect on a patient's adherence include[9]:

- Providing patient care services such as:
  - » Encouraging lifestyle modifications and self-management.



  - » Counseling patients who are not adhering to prescribed drug treatments.
  - » Helping patients take their medications correctly.
  - » Screening for uncontrolled and undiagnosed high blood pressure.
- Participating in team-based care and collaborative practice agreements.
- Supporting e-prescribing with bidirectional messaging between the pharmacist and prescriber to improve medication management.

By expanding pharmacists' roles, it would be helpful if more duties, typically confined to the pharmacist, were reallocated across other members of the pharmacy staff. Viewed as a pharmacist extender, pharmacy technicians traditionally undertake duties such as data entry of prescription information, compounding and dispensing of medication, managing medication inventory, reconciling billing issues with payers (i.e., insurance companies), and assisting with prescription pick-up by patients.[3,10] However, as pharmacists take on additional duties to provide more direct patient care, pharmacy technicians are now positioned to become more active in managing medication adherence programs to reduce pharmacists' burden and provide a cost-effective way to efficiently redistribute a pharmacist's time in medication management duties.[3,10,11]

This Science-in-Brief Feature is a summary of findings described in recent articles exploring the role of pharmacy technicians and their impact on increasing medication adherence in populations with or at risk for cardiovascular disease.

What is added by these studies?

Intervention focused on a priority population

In a randomized control trial (RCT) originally conducted by Svarstad and colleagues,[4] 578 black patients with hypertension were selected to assess the effectiveness and sustainability of a 6-month Team Education and Adherence Monitoring (TEAM) intervention in 28 community chain pharmacies in Wisconsin. A 6-month intervention by pharmacist-technician teams used scheduled visits, medication questionnaires, and toolkits for facilitating medication adherence and pharmacist feedback to patients and physicians. The control group only received patient information.

Experts concluded that TEAM participants achieved greater improvements in refill adherence and blood pressure control. After a 6-month post-intervention, TEAM participants still showed sustained improvements in refill adherence. This study was among the first to target poor medication adherence among hypertensive black patients in chain pharmacies and one of the first RCTs to demonstrate significant and sustained improvement in refill adherence and blood pressure reduction among this target population post-intervention. In a recent follow-up study examining the cost-effectiveness of this original study,[11] Shireman and Svarstad concluded that the TEAM intervention demonstrated that, when compared with a physician-pharmacist collaborative or pharmacist-led home blood pressure telemonitoring intervention, trained pharmacist-technician teams can implement a cost-effective intervention to improve hypertension control in black patients.

Intervention within a primary care resource center

Fera and colleagues[10] examined the development of an ex¬panded pharmacy technician clinical support role as a cost-effective option to extend the reach of the pharmacist at a primary care resource center (PCRC). A certified pharmacy technician was recruited to perform clinical support functions under pharmacist direction. The technician functions fell into three areas: (1) patient identification and enrollment, (2) administrative support, and (3) data management. The impact of the expanded role on pharmacist efficiency was measured as the time required to perform a comprehensive medication review (CMR), a required element of care for each patient identified with a targeted chronic disease, and by the percent¬age of patients with CMRs completed within 5 days of discharge.

Experts concluded that after the addition of the technician, the time required for each CMR decreased by 42.4% ($p < 0.0001$) and the number of patients with completed CMRs within 5 days of discharge increased by 40.5% ($p = 0.0223$). The pharmacist believed the technician addition was highly valuable as it allowed the pharmacist to spend more quality time with patients and aided in more timely reso¬lution of each patient's issue. This case study demonstrated successful implementation of a technician clinical support role within a hospital's primary care resource center.

Intervention integrating medication therapy management training

Justis and colleagues[12] selected community pharmacy technicians from 16 sites within a supermarket chain division to participate in cognitive pharmaceutical services training (CPS) focused on medication therapy management (MTM) and adherence coaching. The training consisted of classroom, web-based training for MTM, and hands-on training. Using reports from a pharmacy-specific electronic quality improvement platform before and after the intervention, adherence was measured by the proportion of days covered (PDC) for diabetes, cholesterol, and hypertension medications individually. PDC was calculated by examining the percentage of patients within a particular cohort who have at least 80% PDC within a 30-day period for a particular medication.

Experts concluded that 87% of all sites improved cholesterol PDC scores ($p < 0.001$). There was also a trend towards improvement for PDC scores focused on diabetes ($p = 0.156$) and hypertension ($p = 0.097$) but this was not statically significant. This is a first study of its kind to report a positive trend between technician involvement in CPS training and improvement in the standard adherence performance measure, PDC. This is an important first step in studying methods to use pharmacy technicians in non-traditional roles to improve a patient's quality of care and outcomes.

What are implications for public health practice?

- **The scope of work for pharmacy technicians is evolving** and more opportunities are emerging for technicians to assist pharmacists outside of their traditional roles. Community pharmacists are relying on technicians to provide increased decision and clinical support to improve patient

care and outcomes so that pharmacists can practice efficiently and apply the full extent of their education and training.[3,10,12]

- **Pharmacy technician roles are being expanded and the technician's value is being recognized** in anticoagulation clinics, in emergency departments for medication reconciliation, within the sphere of pain management and opioid safety, in facilitating postfracture care, and within the inpatient pharmacies for "tech-check-tech" programs as well.[13-17]
- **With additional education, consistent training, and state board approval, pharmacy technician roles could be expanded** to allow pharmacists to provide more clinical and cognitive services for patients to improve outcomes related to medication adherence and in some instances lower treatment costs.[3,10]
- **Regulations and requirements differ across states** concerning allowable pharmacy technician activities and required trainings as some states require certification for employment, some only registration, and others have no requirements.[3,10]
- **Refill adherence is sustainable** and can be achieved by implementing a team-based model of care involving chain pharmacists and pharmacy technicians.[4]

Additional Resources

Pharmacy Resources

Pharmacy Technician Certification Board

Pharmacy Quality Alliance

American Pharmacists Association

American Society of Health System Pharmacists

CDC Resources

Calculating Proportion of Days Covered (PDC) for Antihypertensive and Antidiabetic Medications: An Evaluation Guide for Grantees

Methods & Resources for Engaging Pharmacy Partners

Using the Pharmacists' Patient Care Process to Manage High Blood Pressure: A Resource Guide for Pharmacists

Vital Signs Fact Sheet on Medication Adherence

Vital Signs Publication on Medication Adherence

Million Hearts® Resources

Action Guide for Health Benefit Managers

Action Guide for Medication Nonadherence for Public Health Practitioners

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