

# PHARMACY TECHNICIAN ROLE EXPANSION

AN EVIDENCE-BASED POSITION PAPER

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## EXECUTIVE SUMMARY

Increasing access to healthcare significantly improves patient care, health outcomes, quality and efficiency, and diminishes gaps in the current healthcare delivery system.<sup>1</sup> As the most accessible healthcare destinations, community pharmacies increase patient access to healthcare in local communities.<sup>2</sup> Community pharmacists provide high quality, accessible patient care services including medication management, immunizations, preventive screenings, and chronic care management. **Despite a growing need for increased access to patient care services, community pharmacists spend only 21% of their professional time performing patient care services that are not associated with dispensing prescriptions.**<sup>3</sup>

To further enhance and optimize patient care services delivered at community pharmacies, leveraging and expanding current roles of the pharmacy technician should be considered in the community pharmacies. **This means working towards a unified vision for advanced pharmacy technician practice, which includes expanded technician roles and responsibilities when dispensing medications and supporting patient care services.**<sup>4</sup> Expanding the roles of pharmacy technicians to include administrative and supportive tasks for pharmacist-provided patient care services<sup>5</sup> will allow pharmacists to more effectively and efficiently provide for patients' medication-related needs.

**This report would not have been possible without the financial support of the National Association of Chain Drug Stores.**

## **PURPOSE**

The purpose of this paper is to provide evidence that supports the expanded roles of pharmacy technicians, including additional administrative and supportive tasks, that enhance and optimize pharmacist-provided patient care.

## **METHODS**

A professional clinical medical librarian (MKF) designed and conducted two searches using the PubMed and EMBASE databases. Controlled vocabulary terms from the MeSH and Emtree thesauri along with text words were searched to retrieve many variations for the concepts of Pharmacy Technician, Community Pharmacy, and Scope of Practice. Adjacency searches provided additional terminology where enabled by database syntax. Boolean operators were used to combine the concepts. Results spanned the years 2000 through October 27, 2017. Only English language articles were included. The retrievals were downloaded into an EndNote Library for screening.

Using DistillerSR (Evidence Partners, Ottawa, Canada) the articles identified above were reviewed by three faculty members and two student pharmacists from the University of Pittsburgh School of Pharmacy. Articles were included in an annotated bibliography if they demonstrated robust and generalizable evidence. Commentaries and opinion pieces were excluded. A panel of academic experts reviewed the annotated bibliography to confirm the completeness of evidence and to identify additional articles for inclusion. These academic experts plus a panel of leaders from community pharmacy chain organizations were convened by telephone on two occasions to provide feedback and ultimately consensus on the position statements below.

## **POSITIONS**

In conventional community pharmacy practice models, pharmacy technicians perform administrative and supportive tasks almost exclusively related to medication dispensing. Evidence-based studies of contemporary practice models in several U.S. states demonstrate that technicians can also perform administrative and supportive tasks for pharmacy patient care services in the following ways.

## POSITION 1

### REALLOCATION OF PHARMACIST TIME TO OPTIMIZE PATIENT CARE

Community pharmacists spend only 21% of their professional time performing patient care services not associated with medication dispensing.<sup>3</sup> To further optimize the pharmacist's role in delivering patient-centered, collaborative care in communities, pharmacists must effectively reallocate their time, resources, and utilization of pharmacy technicians.

#### TIME REALLOCATION | TECHNICIAN PRODUCT VERIFICATION<sup>6</sup>

Technician product verification has the potential to reallocate pharmacist time spent dispensing medications to performing patient care services. A pilot study in several community pharmacies in Iowa illustrated that **pharmacy technicians are as accurate as pharmacists when performing final product verification. Both pharmacists and technicians recorded accuracy rates of over 99%**, suggesting uncompromised patient safety when technician product verification is implemented in community pharmacies. In addition, **pharmacist time spent performing patient care services increased by approximately 19%**. Patient care services were defined as but not limited to medication reviews, medication synchronization appointments with patients, and medication therapy management.

#### TIME REALLOCATION | ADVANCED PATIENT CARE ROLES<sup>7</sup>

Trained and experienced pharmacy technicians can assume administrative tasks, and some clinical tasks, when appropriately delegated to do so by a pharmacist. A two-part study determined the appropriateness and proportion of work at Veterans Affairs anticoagulation clinics that could be shifted from pharmacists to pharmacy technicians. A modified Delphi process was used to categorize administrative and clinical tasks as appropriate units of work for minimally qualified certified pharmacy technicians (MQ-CPT) and advanced-practice pharmacy technicians (AP-CPT). Appropriate administrative tasks for both MQ-CPTs and AP-CPTs included triaging drug-drug and drug-food interactions calls to the pharmacist, obtaining transfer information from outside providers, and entering outside laboratory values into the electronic medical record among others. **Appropriate clinical tasks for both MQ-CPTs and AP-CPTs included calling patients found to have an in-range international normalized ratio (INR) to conduct an interview, fill out a consultation note, and designate a pharmacist cosigner.** Additionally, appropriate clinical tasks for AP-CPTs only extended to performing point-of-care finger-stick assays for INR and calling patients within 0.1 percent of goal INR to conduct interview, document, and designate a pharmacist cosigner. **The results of the time study indicated that 21% and 41% of pharmacist work could be completed by MQ-CPTs and AP-CPTs respectively.** The investigators concluded that **a trained pharmacy technician can help free up pharmacist hours to spend time with more complex patients** in an anticoagulation clinic setting.

## POSITION 2

### TECHNICIAN ASPIRATION FOR EXPANDED ROLES

Most states limit the pharmacy technician's scope of practice to certain aspects of the medication dispensing process. However, many pharmacy technicians have positive attitudes towards performing administrative and supportive tasks that further optimize patient care services in the community pharmacy setting. Technicians involved with these tasks are professionally satisfied in expanded roles. Broadening the pharmacy technician's scope of practice may further advance the pharmacy technician's role as an important contributor to the healthcare team.

### TECHNICIAN ATTITUDES<sup>8</sup>

Pharmacy technicians report positive attitudes toward performing administrative and supportive tasks that can help pharmacists deliver patient care services. A cross-sectional survey assessed U.S. pharmacy technicians' attitudes and self-efficacy performing current and emerging roles in hospitals and in community pharmacies. Technicians from 8 states representing all four geographic regions were included. Community pharmacy technicians reported relatively high levels of involvement, self-efficacy in, and positive attitudes toward many tasks, many of which included prescription receipt and dispensing processes. **Technicians reported positive attitudes with performing tasks related to communicating lifestyle changes to patients, discussing effectiveness of treatment plans for returning patients, collaborating with other health professionals to monitor drug therapy effectiveness, providing information to providers and patients on medication issues, transferring prescriptions, and administering immunizations.** These findings provide further evidence for leveraging the maturation of technicians and their education and professionalization, including the potential for work redesign so that pharmacists can optimize accessible, quality healthcare in communities.

### TECHNICIANS WITH EXPANDED ROLES<sup>9</sup>

Many community pharmacy technicians are more satisfied with their professional work when they can assist with administrative and supportive tasks related to medication therapy management (MTM). A prospective, observational study assessed the impact of technicians' involvement with MTM services in community pharmacies. Identification of MTM opportunities was the most commonly reported role of pharmacy technicians. In addition, **40% of technicians were more satisfied with their professional work after engaging in tasks related to MTM and 44% of pharmacists were satisfied with the technician's expanded role.**

## POSITION 3

### TECHNICIAN SUPPORT FOR PHARMACY PATIENT CARE SERVICES

Historically, pharmacy technicians have been utilized for administrative and supportive tasks throughout the medication dispensing process (i.e. medication preparation, payment adjudication, and customer service). Expanding the role of pharmacy technicians to assume time- and resource-intensive administrative and supportive tasks for pharmacy patient care services redistributes pharmacists' time to further optimize patient care.

### MEDICATION MANAGEMENT SERVICES | ADMINISTRATIVE<sup>10</sup>

Pharmacists want pharmacy technicians to provide administrative support by coordinating, documenting, and billing for medication management services. A 2009 survey of pharmacists was conducted to uncover perceived barriers to implementing medication therapy management services in a supermarket chain pharmacy. **More than 75% of responding pharmacists (n=98) reported a desire for pharmacy technician assistance with scheduling, billing, and patient correspondence;** however, only 21%, 19%, and 20% of technicians were currently assisting with these processes, respectively. **Nearly 42% of responding pharmacists also stated a need for help with patient care documentation,** but only 6% of technicians were helping with this task. The investigators concluded that differentiating pharmacist and technician roles may permit efficient and cost-effective provision of pharmacy patient care services. Furthermore, incorporation of pharmacy technicians to provide administrative support to medication therapy management may reduce barriers to the implementation of patient care services.

### IMMUNIZATIONS | ADMINISTRATIVE AND SUPPORTIVE<sup>11</sup>

Pharmacy technicians can provide administrative support for pharmacist immunization services by assisting with billing, documentation, and reporting adverse events. A review of relevant literature revealed that **community pharmacy technicians can help with administrative tasks for immunization services including documentation, billing, and assisting in adverse event reporting.** Additionally, pharmacy technicians can facilitate communications about immunizations between the pharmacy and physician office practices (i.e. acquire immunization records or notify physician office upon receipt of immunization). Based on the findings of this literature review, the authors concluded that pharmacy technicians can assist pharmacists in community pharmacy immunization services and help remove barriers to optimizing care.

## POSITION 4

### TECHNICIAN SCREENING FOR PATIENT CARE SERVICES

Pharmacy technicians are uniquely positioned to identify and engage patients who would benefit from pharmacist patient care services given that patients frequently speak to pharmacy technicians before interacting with the pharmacist. In settings where expanded technician roles are championed, patients receive comprehensive care through screening, identification, and referral of the patient's medication-related needs to the pharmacist.

### IMMUNIZATIONS | PATIENT IDENTIFICATION<sup>12</sup>

Pharmacy technicians can help identify patients who are eligible for pharmacist immunization services. An immunization screening program by pharmacists and pharmacy technicians was successfully implemented at an independent pharmacy with multiple locations. **Pharmacy technicians**, especially those physically positioned in the pharmacy to facilitate patient interactions, **were instrumental in screening patients eligible for immunizations. Over 600 patients in a 30-day study period were screened for immunizations recommended by the Advisory Committee on Immunization Practices.**

### PHARMACIST EXTENDERS<sup>13</sup>

Pharmacy technicians can extend the reach of pharmacists by identifying potential medication-related problems and referring patients for pharmacist intervention. A transitions of care program at a large healthcare system utilized pharmacy technicians in a broader role as community health workers. **Functioning as pharmacist extenders, certified pharmacy technicians provided telephone follow-up and home visit services to patients following hospital discharge.** Technicians were trained in motivational interviewing, communication skills, teach-back techniques, basic disease state management, and recording medication history. The health system saw an increase in the number of home visits and telephone follow-up rates. **Pharmacy technicians successfully identified and referred potential medication-related problems to pharmacists** to target medication management services. The authors concluded that pharmacy technicians accurately identified patients for pharmacist intervention and collected information to assist with care plans.

### SCREENING AND FACILITATION<sup>14</sup>

Pharmacy technicians can collect clinical information from a patient and screen patients for pharmacist intervention in the outpatient setting. At five primary care outpatient practices within a large integrated health system, the pharmacy technician's performance in supporting a multi-site team of pharmacists providing post-fracture care was assessed. **The pharmacy technician screened patients for adherence with osteoporosis recommendations, identified patients requiring pharmacist intervention, and collected patient-specific clinical information from the electronic health record.** A review of patient cases **demonstrated pharmacist agreement with the technician's determination of the need for intervention in 93% of cases.** As a result of technician support, pharmacists spent less time reviewing patient cases not requiring intervention. **Technician support also reduced the average time pharmacists required to develop care plans.** Conclusions support that pharmacy technicians can accurately screen patients for pharmacist intervention and collect clinical information to facilitate and optimize patient care.



## POSITION 5

### TECHNICIAN SUPPORT OF MEDICATION DISPENSING

Retrieving, clarifying, and transcribing prescription information from the prescriber or the prescriber's agent does not require clinical judgement; instead it requires competency in verbal and written communication. Often, the prescriber's agent is administrative support staff who perform these tasks at the discretion of the physician. Similarly, pharmacy technicians can receive, clarify, and transcribe prescriptions at the discretion of the pharmacist in permitting states. Fifteen states allow pharmacy technicians to accept verbal prescriptions, and 12 states allow pharmacy technicians to transfer prescriptions from one community pharmacy to another.<sup>15</sup> In other pharmacy practice models, pharmacy technicians may also enter prescriptions for pharmacist review and play significant roles in detecting and preventing electronic prescribing errors. Pharmacy technicians should be recognized by state laws and regulations as competent team members who can support these medication dispensing tasks.

### SAFETY IN E-PRESCRIBING<sup>16</sup>

Community pharmacy technicians play an essential role in detecting and preventing electronic prescription errors. Observations, interviews, and focus groups were conducted to understand the role of pharmacy technicians in electronic-prescribing (e-prescribing). Fourteen pharmacy technicians and thirteen pharmacists from five community pharmacies in Southwest Wisconsin participated. The pharmacy technician took responsibility for reviewing all steps prior to the pharmacist's e-prescription review. **Technicians played a primary role in detecting and preventing e-prescription errors as the first individual to receive and review new prescriptions in the community pharmacy.**

### PRESCRIPTION CLARIFICATION<sup>17</sup>

In many practice models, pharmacy technicians may contact prescriber offices to clarify prescriptions. At five independent community pharmacies in Connecticut, pharmacists and pharmacy technicians used a standardized tool to document number, type, and reason for prescription clarification and time spent to resolve prescriptions necessitating clarification prior to dispensing. **The most common reasons for prescription clarification were prior authorization and missing information. The average time to resolve clarifications ranged from 6 minutes to greater than 2 weeks.** Utilizing pharmacy technicians for prescription clarification supports the pharmacist in the medication dispensing process to further optimize pharmacy care.

## POSITION 6

### TECHNICIAN PRODUCT VERIFICATION

Medication product verification, the final non-clinical review of a medication product to be dispensed, can be performed safely by pharmacy technicians who are given privileges to do so through state laws and regulations. Evidence suggests that pharmacy technicians are equally or more accurate than pharmacists when performing medication product verification. Utilizing technicians for medication product verification may save pharmacist time, further optimizing patient care. Evidence supports the safe and effective implementation of technician product verification in community pharmacies.

### PHARMACIST AND TECHNICIAN PERCEPTIONS<sup>18</sup>

Pharmacists and pharmacy technicians have confidence that pharmacy technicians can perform final medication product verification. A literature review assessed technicians' and pharmacists' perceptions on technician-check-technician (TCT) models in community pharmacy settings. Five studies demonstrated evidence from theoretical TCT models, and two studies demonstrated evidence from implemented TCT practice models. In one theoretical TCT model in New Zealand, **73% of surveyed pharmacists and 89% of surveyed technicians agreed that some technicians could act competently as a product verification technician.** Following one implemented TCT practice model in New Zealand, **all surveyed pharmacists and all but one surveyed technician responded "very confident" that pharmacy technicians had the skills and knowledge to perform final product verification checks following training.**

### COMPARATIVE ERROR RATES<sup>19,20</sup>

With the assistance of barcode scanning technology, pharmacy technicians can perform final medication product verification accurately. Barcode product verification performed by pharmacy technicians was evaluated as an alternative to visual product verification by pharmacists in the final stage of the dispensing process in a hospital pharmacy. The amount of pharmacist time that could potentially be reallocated to patient care services using this process was also assessed. A total of 2,015 medication doses dispensed during the study period were included in the analysis. **The error rate when technicians conducted final product verification using barcode scanning was significantly lower than when pharmacists conducted final verification by a visual check (0% vs. 0.7%).** Pharmacist visual product verification time was approximately 6 seconds per checked prescription. This would result in over 1,200 pharmacist hours that could be reallocated annually to patient care at this institution if technician barcode product verification was implemented. Pharmacy technician barcode product verification is a safe alternative to pharmacist visual product verification. The time saved by the technician barcode product verification process can permit reallocation of pharmacist time to optimize patient care services.<sup>19</sup>

Additionally, published literature of state-authorized programs permitting final product verification of medication orders by pharmacy technicians report that technicians can accurately perform final dispensing product verification comparable to pharmacists. **Accuracy rates for technicians versus pharmacists performing final product verification were similar (99.6% versus 99.3%, respectively).** Several of these studies also found **significant differences in accuracy/error detection rates favoring tech-check-tech.** In the states that have active tech-check-tech practices or pilot programs, **pharmacists reported saving as much as 30 hours per pharmacist per month, enabling them to provide more patient care.** States that allow tech-check-tech require special training for participating technicians.<sup>20</sup>

## POSITION 7

### TECHNICIAN-OBTAINED MEDICATION HISTORIES

Pharmacy technicians have a greater understanding of patients' medication lists and medication-taking behaviors than non-pharmacy healthcare professionals. Multiple studies demonstrate that pharmacy technicians are more accurate than nurses and other non-pharmacy personnel in obtaining patient medication histories. Utilization of pharmacy technicians to obtain medication histories allows pharmacists to more effectively prevent, identify, and resolve drug therapy problems. Reassigning supportive tasks such as obtaining medication histories to pharmacy technicians can optimize patient care.

### MEDICATION HISTORIES | ACCURACY<sup>21</sup>

Pharmacy technicians can collect accurate medication histories. A comparison of medication history error rates of pharmacy technicians with that of nurses in the emergency department (ED) resulted in more accurate medication histories obtained by the pharmacy technician than emergency department nurses. **Pharmacy technician-obtained medication histories had an error rate of 5.6% compared to an 86% error rate for nurses.** Additionally, pharmacy technicians were more likely to identify medication dosing errors (e.g. wrong dose or frequency) when conducting medication histories.

### MEDICATION HISTORIES | PATIENT SAFETY<sup>22</sup>

Medication histories collected by pharmacy technicians in the emergency department (ED) improve patient safety. **Medication histories collected by pharmacy technicians were found to have a 15% error rate compared to a 65% error rate for nurses and other non-pharmacy personnel, a 50% absolute risk reduction.** The investigators concluded that engaging **trained pharmacy technicians to conduct medication histories in the ED improves patient safety during patient care transitions.**

### MEDICATION HISTORIES | REDUCING ERRORS<sup>23</sup>

Pharmacy technicians contribute to patient safety by reducing errors. A randomized controlled trial of 306 inpatients compared the **admission medication history (AMH)** error reduction rates of pharmacist-supervised pharmacy technicians, pharmacists, and usual care. AMH errors and resultant admission medication order (AMO) errors were independently identified and rated. **Pharmacists and pharmacist-supervised pharmacy technicians reduced AMH errors by more than 80%. No differences between pharmacist and pharmacist-supervised pharmacy technician outcomes were found.** This study provides evidence that pharmacy technicians can safely and effectively perform administrative and supportive activities that have traditionally been the responsibility of pharmacists, thereby freeing up pharmacist time to further optimize patient care through advanced patient care services.

## POSITION 8

### TECHNICIAN IMMUNIZATION ADMINISTRATION

Pharmacy technicians perform administrative tasks to support pharmacist-led immunization services. In Idaho, certified pharmacy technicians have begun administering immunizations, a task that is largely considered technical. Permitting pharmacy technicians to administer immunizations has the potential to increase the impact of pharmacist-led immunization services in local communities across the country.

### IMMUNIZATIONS | ADMINISTRATION<sup>24</sup>

Pharmacy technicians are capable of administering immunizations. In Idaho, a small pilot group of pharmacy technicians went through an immunization training program that included both home-study and live components. All technicians who completed the home-study portion passed the home-study assessment (greater than 70% correct) on the first attempt. In the 6-month period following training, **technicians gave 953 immunizations** with adverse events reported at rates similar to that of other immunizing healthcare providers.

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## **APPENDIX 1.**

### **POSITION 1**

#### **REALLOCATION OF PHARMACIST TIME TO OPTIMIZE PATIENT CARE**

Community pharmacists spend only 21% of their professional time performing patient care services not associated with medication dispensing.<sup>3</sup> To further optimize the pharmacist's role in delivering patient-centered, collaborative care in communities, pharmacists must effectively reallocate their time, resources, and utilization of pharmacy technicians.

### **POSITION 2**

#### **TECHNICIAN ASPIRATION FOR EXPANDED ROLES**

Most states limit the pharmacy technician's scope of practice to certain aspects of the medication dispensing process. However, many pharmacy technicians have positive attitudes towards performing administrative and supportive tasks that further optimize pharmacy patient care services in the community pharmacy setting. Technicians involved with these tasks are professionally satisfied in expanded roles. Broadening the pharmacy technician's scope of practice may further advance the pharmacy technician's role as an important contributor to the healthcare team.

### **POSITION 3**

#### **TECHNICIAN SUPPORT FOR PHARMACY PATIENT CARE SERVICES**

Historically, pharmacy technicians have been utilized for administrative and supportive tasks throughout the medication dispensing process (i.e. medication preparation, payment adjudication, and customer service). Expanding the role of pharmacy technicians to assume time- and resource-intensive administrative and supportive tasks for pharmacy patient care services redistributes pharmacists' time to further optimize patient care.

### **POSITION 4**

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Pharmacy technicians are uniquely positioned to identify and engage patients who would benefit from pharmacist patient care services given that patients frequently approach pharmacy technicians before interacting with the pharmacist. In settings where expanded technician roles are championed, patients receive comprehensive care through screening, identification, and referral of the patient's medication-related needs to the pharmacist.

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Retrieving, clarifying, and transcribing prescription information from the prescriber or the prescriber's agent does not require clinical judgement; instead it requires competency in verbal and written communication. Often, the prescriber's agent is administrative support staff who perform these tasks at the discretion of the physician. Similarly, pharmacy technicians can receive, clarify, and transcribe prescriptions at the discretion of the pharmacist in permitting states. Fifteen states allow pharmacy technicians to accept verbal prescriptions, and 12 states allow pharmacy technicians to transfer prescriptions from one community pharmacy to another.<sup>15</sup> In other pharmacy practice models, pharmacy technicians may also enter prescriptions for pharmacist review and play significant roles in detecting and preventing electronic prescribing errors. Pharmacy technicians should be recognized by state laws and regulations as competent team members who can support these medication dispensing tasks.

## **POSITION 6**

### **TECHNICIAN PRODUCT VERIFICATION**

Medication product verification, the final non-clinical review of a medication product to be dispensed, can be performed safely by pharmacy technicians who are given privileges to do so through state laws and regulations. Evidence suggests that pharmacy technicians are equally or more accurate than pharmacists when performing medication product verification. Utilization of pharmacy technicians for medication product verification may save pharmacist time further optimize patient care. Evidence supports the safe and effective implementation of technician product verification in community pharmacies.

## **POSITION 7**

### **TECHNICIAN-OBTAINED MEDICATION HISTORIES**

Pharmacy technicians have a greater understanding of patients' medication lists and medication-taking behaviors than non-pharmacy healthcare professionals. Multiple studies demonstrate that pharmacy technicians are more accurate than nurses and other non-pharmacy personnel in obtaining patient medication histories. Utilizing pharmacy technicians to obtain medication histories allows pharmacists to more effectively prevent, identify, and resolve drug therapy problems. Reassigning supportive tasks such as obtaining medication histories to pharmacy technicians can optimize patient care.



## **POSITION 8**

### **TECHNICIAN IMMUNIZATION ADMINISTRATION**

Pharmacy technicians perform administrative tasks to support pharmacist-led immunization services. In Idaho, certified pharmacy technicians have begun administering immunizations, a task that is largely considered technical. Permitting pharmacy technicians to administer immunizations has the potential to increase the impact of pharmacist-led immunization services in local communities across the country.