Identifying key roles of the pharmacy technician in primary care settings

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Purpose. As the pharmacist's role expands, particularly in primary care practice settings, there is an opportunity for expansion of pharmacy technician duties to aid in administrative and clinical tasks that do not require the pharmacist's professional judgment. Identifying, defining, and expanding the roles of pharmacy technicians has been deemed a key part of the pharmacy practice model. These roles have been shown to enhance pharmacist efficiency and patient outreach; however, examples of the various innovative activities performed by technicians in the primary care setting are lacking in the literature.

Methods. The duties of primary care pharmacy technicians were compiled and defined in 2 different healthcare systems. The role of the technician was separately implemented at each institution, and study designs and protocols were individually created and executed. One institution utilized a 4-round consensus-building process to systematically refine and codify tasks for a dictionary of duties. The second institution utilized a free-text survey, task documentation data in the electronic medical record, and a telephone discussion with the technicians.

Results. Despite a lack of methods- and data-sharing between the 2 institutions, similar tasks were identified, including conducting patient outreach, assisting with medication affordability and access, providing patient education, managing referrals, and scheduling appointments. Differences in technician involvement were noted in areas such as prior authorization, care coordination meetings, and quality improvement projects.

Conclusion. Pharmacy technicians are a helpful, yet underutilized, resource in the primary care setting. Further exploration of technician roles is needed to determine the financial and clinical impact of expanding these roles.

Keywords: clinical pharmacy services, pharmacy technicians, practice innovation, primary health care

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In recent years, the pharmacist's role in clinical settings has expanded to fulfill a heightened need for primary care services caused by an aging population, higher utilization of medications, and a shortage of primary care physicians.[1-5] The American Society of Health-System Pharmacists (ASHP) recognizes the opportunity for pharmacists to bridge gaps in care for tasks related to ordering and interpreting results from laboratory tests, modifying or discontinuing pharmacotherapy, identifying adherence barriers, performing limited physical assessment, and collaborating within the patient care team, among others.[6,7] Pharmacists accomplish these tasks through state-specific laws and regulations permitting a degree of prescriptive authority or through collaborative practice agreements. As pharmacist duties increase in the primary care setting, pharmacy technicians are needed to aid in administrative and clinical tasks that do not require the professional judgment of a licensed pharmacist.[8-11] Use of pharmacy technicians allows the pharmacist to optimize their

time with patients, thus improving their efficiency.[12,13]

Identifying, defining, and expanding the roles of pharmacy technicians has been deemed a key part of the evolution of the pharmacy practice model, which has been endorsed by various professional organizations.[9,14-20] ASHP published a statement in 2016 recognizing that well-educated and highly skilled pharmacy technicians have important roles and responsibilities within pharmacy practice.[16] The American College of Clinical Pharmacy identified the incorporation of pharmacy technicians as a "best practice" for extending the reach and depth of clinical pharmacy services.[17] Similarly, the American Pharmacists Association has proposed that advancing the role of pharmacy technicians is integral to optimizing patient care.[18] Innovative technician responsibilities that have been implemented and studied include tech-check-tech programs, medication reconciliation, point-of-care testing, quality improvement, patient assistance, medication therapy management, patient screening, and community outreach programs.[13,16,21-36] Advancements to the technician role are particularly important in the primary care setting, yet few studies have looked into the utility of technicians in this area.[13,24]

To better address this gap, the novel duties of primary care pharmacy technicians were compiled and defined at 2 distinct healthcare systems: Kaweah Health (KH), a healthcare organization serving California's Central Valley, and University of Utah Health (UUH), an academic medical center located in the state of Utah. The role of the pharmacy technician was already separately implemented at each institution, and study designs and protocols to define innovative roles and responsibilities were individually created and executed.

Methods

The 2 institutions, KH in California and UUH in Utah, were included in this descriptive project after discovering

KEY POINTS

- This article elucidates the innovative responsibilities held by pharmacy technicians in the primary care setting and opportunities for the improved utilization of technicians.

- Technician duties overlap across organizations and state lines, including, but not limited to, conducting patient outreach and assisting with medication affordability and access.

- Differences in technician roles between institutions were noted in areas such as prior authorization and quality improvement projects.

synergies in practice and projects. The institutions have varying workflows for clinical pharmacy practice in primary care, but both use pharmacy technicians to support these workflows. Methods differed between KH and UUH and were developed based on feasibility by investigators at each institution; however, the investigators at both institutions met regularly throughout the project to review progress and work toward common goals in defining the roles and responsibilities of pharmacy technicians. To the knowledge of the investigators, no studies have sought to define the various activities performed by pharmacy technicians in the primary care setting. By utilizing 2 healthcare systems, this case study allows for exploration of innovative pharmacy technician roles in different states with different regulations, resources, and practice cultures.

In California, to be licensed as a pharmacy technician, applicants must have a high school diploma or GED equivalent and pass required background screenings.[37] Additionally, applicants must have one of the following:

(1) an affidavit of completed coursework or an associate degree in pharmacy technology or graduation from a school of pharmacy; (2) a Pharmacy Technician Certification Board (PTCB) credential; (3) National Healthcare Association Pharmacy Technician Certification Program (ExCPT) certification; or (4) military training (DD214 documentation).[37]

KH is a level 3 trauma center located in the rural, agriculturally dominated Central Valley of California. The organization has 6 outpatient primary care clinics as well as a hospital-based clinic providing disease state management, many of which are in rural areas within the surrounding municipalities. KH initiated ambulatory care pharmacy services with hiring its first pharmacists in 2016. The same year, the first pharmacy technician was hired to support patient care. The ambulatory care service lines have continued to expand, currently including 8 pharmacists, equating to 6.5 full-time equivalents (FTEs), and 4 pharmacy technicians, equating to 4 FTEs. Technicians at KH spend 2 weeks training with other ambulatory care pharmacy technicians. Thus far, no technicians have been hired with prior ambulatory care experience and no such requirement is in law or organizational policy.

To be licensed as a pharmacy technician in Utah, a technician must complete the appropriate application and background check in addition to completing a pharmacy technician training program through ASHP, Pharmacy Technicians University, the National Pharmacy Technician Association Online Program, or the Armed Forces of the United States; complete 180 hours of supervised practical training in a pharmacy; and pass either the ExCPT or PTCB examination.[38] Technicians may perform a variety of tasks related to the practice of pharmacy so long as these tasks do not require the judgment of a pharmacist and are performed under the general supervision of a pharmacist. No primary care–specific training is required by law to work as a pharmacy technician in the primary care setting.

The UUH system includes 5 hospitals and 13 primary care community clinics throughout northern Utah. Clinical pharmacy services support family practice, internal medicine, and geriatric teams at 12 of the 13 clinics. In 2015, the pharmacy primary care services (PPCS) team began engaging pharmacy technicians alongside pharmacists and providers to manage chronic disease states. Currently, there are 23 part-time to full-time pharmacists, equating to 15 FTEs, and 8 pharmacy technicians, equating to 8 FTEs, embedded within the clinics. Pharmacy technicians have general job responsibilities and receive onsite training, but there is no formal primary care training program required by UUH to be completed by these pharmacy technicians.

Kaweah Health. Pharmacy technicians in the ambulatory care space began tracking their work in 2019 under the direction of a pharmacist. It was quickly realized that a standard list of duties would need to be used among the ambulatory care technicians and pharmacists across various practice sites within the organization. To identify duties performed and standardize their tracking by the technicians, the pharmacy team sought to create a dictionary of responsibilities to better understand the work provided by pharmacy technicians in the primary care setting.

A consensus-building approach was designed by the California investigators that incorporated components of the Delphi method to build consensus around a codified dictionary of duties.[39] While the Delphi method typically consists of rounds of surveying only experts, the complexity of the initial responses needed led to the first round being conducted via individual interview of the panel of pharmacy technicians.[40] The first round created the initial dictionary of responsibilities the investigators were seeking. Three additional rounds of questioning were completed via survey of the pharmacy technicians and pharmacists. These surveys inquired about respondents' expert opinions on each item.

Responses were compiled and analyzed, and investigators adapted the survey after each round.

The process started with semistructured interviews of the pharmacy technicians to understand all duties performed during a typical day (Figure 1). Transcripts of these interviews were analyzed by the investigators to identify consensus in specific duties among responses, thereby leading to an initial dictionary of duties. Definitions for each category were formulated along with specific examples to further clarify respective meaning. In rounds 2 to 4, this dictionary was refined using survey responses from the various ambulatory care pharmacy team members. The survey was created to resolve discrepancies and determine whether there were any additional duties not captured or adequately described. The dictionary and survey were then sent to research participants who were given 2 weeks to provide feedback. Pharmacy technicians acted as the panel of experts as described by the Delphi method; the process utilized at KH added one additional round of feedback from different experts, the ambulatory care pharmacists, as their feedback was considered to be important.[39] While there is no standard method to calculate panel size in a Delphi method, the panel used at KH was limited by the number of experts,

pharmacy technicians acting in this role, available.[40] All pharmacy technicians and pharmacists practicing in ambulatory care at KH were invited via email to participate in their respective rounds. In each round, participants were given 2 weeks to respond, and the 4-round process took 16 weeks. This project was approved by KH's institutional review board (IRB).

University of Utah Health. In coordination with the efforts of the pharmacists, pharmacy technicians work on various tasks throughout the day, including managing referrals from providers, scheduling patient appointments, obtaining medication histories, assisting with medication affordability, and making patient calls to follow up on home disease monitoring. By delegating these tasks to the pharmacy technician, the pharmacist has time to communicate with more patients on a daily basis. As pharmacy technicians complete tasks throughout the day, they document what task was completed using a list of prespecified categories and how much time was spent on the task through an embedded function in the electronic medical record (EMR). Pharmacy technicians are trained on this documentation process when they are hired, and it is part of their expected workflow. The prespecified list of categories has been developed over time by PPCS

Figure 1. Kaweah Health consensus-building process. The panel consisted of pharmacy technicians in rounds 1, 2, and 4 and pharmacists in round 3.
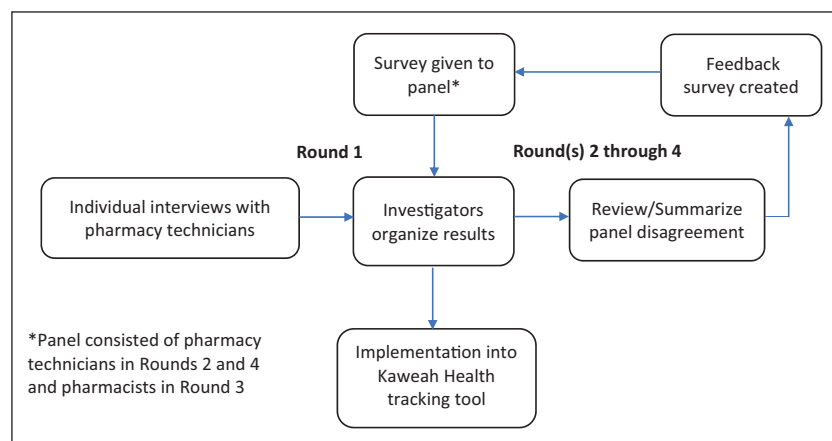
pharmacists and pharmacy technicians to account for the tasks completed by the clinical pharmacy team. To assess the technician tasks and time spent on each one, documentation data were collected and analyzed for all pharmacy technician tasks completed from July 1, 2019 (following an EMR task documentation update and retraining in June 2019) through October 31, 2019.

In addition to the task data, a survey was created and distributed to both pharmacy technicians and pharmacists regarding the perceived value of the various technician duties in optimizing patient care or improving pharmacist and clinic efficiency. The list of tasks to be evaluated were solicited from all PPCS pharmacy technicians and pharmacists, with tasks identified by voluntary technician and pharmacist email submissions for the purpose of this survey. The list of tasks was then compiled and consolidated by the UUH investigators. The optional and anonymous survey, which consisted of Likert scale–type questions assessing the perceived value (from "not at all valuable" to "very valuable") of each of the identified pharmacy technician tasks, was shared on November 2019 via email with all 22 pharmacists (excluding the primary investigator) and 8 trained pharmacy technicians employed by PPCS on the date of survey distribution. Upon accumulating a collection of tasks via EMR data and survey responses, a single telephone conference call with all 8 technicians was held to efficiently discuss the various tasks, identify redundant tasks, and achieve consensus on task definitions. This study was deemed exempt by the University of Utah IRB.

Results

Kaweah Health. For the first round of the consensus-building process, 3 of 4 pharmacy technicians (75%) participated. After all interviews were completed, responses from the pharmacy technicians were reviewed, analyzed, and compiled through group consensus. Two of 4 pharmacy

technicians (50%) responded to the second-round survey and did not provide any additional feedback. For round 3, three of 7 pharmacists (42%) completed the pharmacist survey. One response expressed concern about the "thoroughness" of medication reconciliations performed by pharmacy technicians, and this feedback was implemented. Two of 4 pharmacy technicians (50%) completed the final round of the survey. Table 1 contains the final definitions that were implemented into a web-based survey tracking tool for technicians to complete as they accomplish daily tasks. The tracking tool was recently implemented at KH, and the time spent on each task had not been analyzed at the time of publication.

University of Utah Health. According to the EMR documentation, 10,929 activities were logged by pharmacy technicians from July 1, 2019, through October 31, 2019, totaling 2,025 hours. Tasks that made up the largest percentage of the total time logged by technicians were patient calls (58%), test claims (13%), scheduling (8%), and chart review (5%). Surveys were completed by 8 of 8 pharmacy technicians (100%) and 17 of the 22 pharmacists (77%). The pharmacy technician tasks perceived to be of the highest value according to the pharmacy technicians were patient calls, test claims, referral management, and patient list management. The pharmacy technician tasks perceived to be of the highest value according to the pharmacists were patient calls, test claims, scheduling, and patient list management.

Twenty-one tasks were identified from the EMR data and free-text survey responses. These were reviewed in detail with each technician during a subsequent combined technician call. Definitions and examples of these tasks were collected, discussed, modified, and agreed upon, through a consensus approach, to create a comprehensive list to be used for this research as well as for training and onboarding of future technicians. Several tasks were deemed to be

redundant and were removed from the EMR task options, resulting in a list of 10 primary care pharmacy technician tasks (Table 1).

Discussion

The expanding role of ambulatory care pharmacists provides an opportunity for creating innovative responsibilities for pharmacy technicians and enhancing their utilization. This project analyzed the pharmacy technician tasks at 2 distinct health systems. A dictionary, including a list of tasks and their definitions, was compiled for each institution using different methods. KH utilized a 4-round consensus-building process based on the Delphi method, and UUH utilized a survey, task documentation data, and a telephone discussion with the technicians. This paper elucidates innovative responsibilities held by pharmacy technicians in a primary care setting and opportunities for better utilization of this resource.

Originally, researchers at each institution independently sought to codify technician roles within their organizations. Through networking, these parallel efforts were uncovered and the potential synergy of combined results was theorized. Because these efforts originated as single-site studies, technician tasks or definitions do not explicitly align between the sites. However, and remarkably, many of the pharmacy technician tasks overlapped between the 2 organizations (Figure 2). These overlaps include conducting patient outreach, assisting with medication affordability and access, providing patient education, managing referrals, and scheduling appointments. Differences in technician involvement were noted in areas such as prior authorization, care coordination meetings, and quality improvement projects, although some of these differences can be explained by task grouping and the importance of a specific task differing between the groups. The approach of using parallel efforts at 2 institutions strengthened the results, as it introduced a level of reproducibility.

Table 1. Dictionary of Clinical Pharmacy Technician Duties at Kaweah Health and University of Utah Health

| Kaweah Health		University of Utah Health	
Task	**Definition**	**Task**	**Definition**
Community pharmacy coordination	Any actions that facilitate a patient receiving a medication at any community pharmacy	Catches in clinic	Meeting with patients during PCP appointments as requested by PCP and bringing in the pharmacist for any questions that are out of the technician's scope of practice
Patient care coordination	Activities to facilitate patient care by the pharmacist or between other providers (both inside and outside the pharmacist's clinic)	Chart review	Monitoring between pharmacist appointments, reviewing previous notes before patient calls
Population health	Performing outreach calls to a group of patients from a population pool (list)	Glucometer teaching	Teaching patients how to use a glucometer and test their blood sugar, at the request of the pharmacist or provider
Prior authorization	Prior authorizations requiring telephone calls, faxes, and emails to all parties (patient, provider, insurance) involved	Patient assistance	Helping the patient identify or enroll in affordability programs
Technician clinical assessment and patient education	Any task the requires the skill set or knowledge of the technician plus an assessment of or education for a patient	Patient calls	Calling patients to obtain information regarding DM, HTN, and smoking cessation control
Community to mail-order/assist with OTC orders	Assist Medicare patients with the community to mail-order transition and OTC medication orders	Patient list management	Identifying any needed test claims or other services that could be beneficial to the patient or pharmacist
Administrative	Not explicitly defined	Population health	Attending and completing activities related to care coordination meetings and quality improvement projects
		Referral management	Managing incoming referrals from providers and ensuring that they are renewed annually, according to the patient's care plan
		Scheduling	Scheduling appointments as requested by the pharmacist or provider
		Test claims	Running medications through insurance to assess coverage

Abbreviations: DM, diabetes mellitus; HTN, hypertension; OTC, over the counter; PCP, primary care provider.

There are several limitations recognized in this study. The KH consensus-building process consisted of a small sample size (round 1, $n = 3$; round 2, $n = 2$; round 3, $n = 7$; round 4, $n = 2$). In the technician group, only one responder remained consistent in all 3 rounds (rounds 1, 2, and 4); a true Delphi method seeks to have a consistent expert panel. While the process used aspects of the Delphi method, the Delphi method was originally created for consensus building around quantitative findings. In qualitative consensus-finding research, it can be challenging to aggregate, analyze, and find commonality among responses between participants. Results can often contain bias from those conducting the research. However, the investigators utilized a well-defined process aimed at eliminating this bias. One limitation for the UUH portion of the study was the lack of a value definition for the technician and pharmacist survey; as value may be perceived differently, the lack of a definition allows for a variety of interpretations and may have affected how the tasks were ranked on the Likert scale. Another UUH limitation was defining pharmacy technician tasks through a group telephone call. While such an approach allows

Figure 2. Overlap of pharmacy technician activity definitions at Kaweah Health and University of Utah Health. KH indicates Kaweah Health; OTC, over the counter; UUH, University of Utah Health.
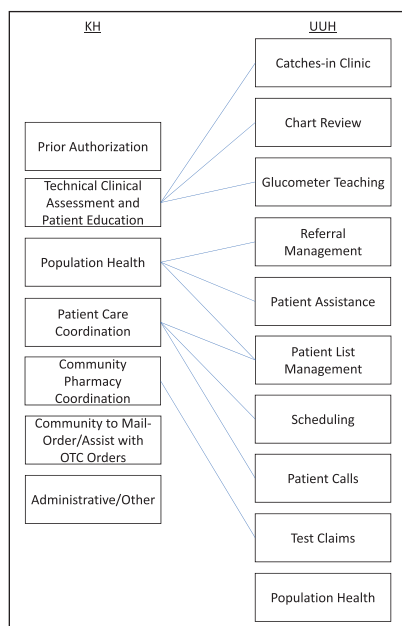
for discussion and ideally helps reach group consensus in an efficient way, it may lead some individuals to not share their thoughts and opinions as freely as they would during a one-on-one discussion or through an anonymous survey. Additionally, some variation in the tasks completed at UUH was seen between clinics. This variance is to be expected due to the different patient demographics, provider preferences, and specialty services at each of the clinics.

The data obtained in this project demonstrate a variety of novel roles for technicians that have yet to be studied or described in the literature. While this research may provide a template to justify, develop, and train innovative pharmacy technician positions, it serves largely as an introduction to these emerging roles, recognizing that there is significant need for further exploration. Recent publications have demonstrated improved pharmacist efficiency and patient volume.[12,13] KH and UUH are currently exploring the impact of individual pharmacy

technician tasks. Additional future directions may involve an implementation science approach to determine how a pharmacy technician position may best be developed and integrated, the pharmacy technician's effect on patient and provider satisfaction, and the pharmacy technician's clinical and financial impact on pharmacist and practice efficiency in the primary care setting.

Conclusion

Pharmacy technicians are a helpful, yet underutilized, resource in the primary care setting. Two institutions separately implemented and studied the technician role and described innovative roles that can be implemented in other institutions. Tasks completed by pharmacy technicians at both institutions included conducting patient outreach, assisting with medication affordability and access, providing patient education, managing referrals, and scheduling appointments. Further exploration of pharmacy technician roles is also needed to determine the financial and clinical impact of expanding these roles.

Disclosures

The authors have declared no potential conflicts of interest.

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