Transforming pharmacy practice: Advancing the role of technicians

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Introduction

Pharmacy technicians have had an important role in supporting the work of pharmacists in a variety of practice settings. Technicians' traditional role was to provide data entry functions, prepare prescriptions, perform inventory control, and assist patients during check-out. As pharmacists moved from a practice model focused solely on product distribution to a more patient-centered practice focused on providing medication therapy management (MTM) services, the role of the technician advanced to performing medication histories, billing for pharmacists' services, and triaging patients.[1–5]

In more recent years, as pharmacists have transformed their practices to provide more enhanced services and participate in value-based reimbursement programs, they have needed to extract themselves from technical duties so they can focus on patient care and ensure their patients are achieving therapeutic outcomes with safe and effective medications. For pharmacists to be successful in this new practice model, they will need to delegate the technical responsibilities to their technicians. These advanced responsibilities can range from communicating prescription information to other providers to performing final product verification to managing patients in a medication synchronization program and administering vaccines.[6–11]

Appropriately trained technicians with advanced responsibilities are complementing the evolving role of pharmacists as patient care providers by freeing up pharmacists from more technical duties so they can spend more time providing patient care.

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Development: This home-study CPE activity was developed by APhA.

Learning objectives

After participating in this activity, pharmacists will be able to

- Describe the advanced technician roles currently offered in some U.S. states.
- Identify the specific requirements technicians must meet to administer immunizations, verify prescriptions, and perform other ex-panded tasks.
- Consider the potential impact technicians as immunizers could have on public health.
- Review the potential impact of advanced technician roles on technician job satisfaction.
- Describe the opportunity for pharmacists created by utilizing technicians in advanced roles.

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Preassessment questions

Before participating in this activity, test your knowledge by answering the following questions. These questions will also be part of the CPE assessment.

1. **Pharmacy technicians are now legally allowed to administer immunizations in which U.S. state?**
   a. Alaska
   b. Washington
   c. California
   d. Idaho
2. **In accordance with the state administrative rule allowing pharmacy technicians to immunize, pharmacy technicians are now able to legally perform which immunization-related task?**
   a. Counseling the patient about the vaccine
   b. Verifying that the correct vaccine was prescribed
   c. Administering the vaccine to the patient
   d. Verifying that the correct vaccine was dispensed
3. **Tech-check-tech has been studied as a new practice model in community pharmacies in which U.S. state?**
   a. Washington
   b. Iowa
   c. Florida
   d. Nebraska

Unfortunately, pharmacists hold opposing views on the evolving role of technicians. Some pharmacists are concerned that technicians will replace them in the workplace; others claim that technicians are not as accurate as pharmacists in final product verification; and others aren't sure what additional roles pharmacists have in the health care system if they are freed from dispensing functions.[12–16]

Despite these opposing views and the threat some pharmacists are feeling, the pharmacy profession needs to embrace advanced roles for technicians. Without this change, the future of our profession is unclear. Pharmacists must change their focus from being purveyors of products to patient care providers. For too long, pharmacists—especially those in community-based pharmacy settings—have viewed themselves and have been by viewed by others in the health care system as "retailers." We need to break away from this perception and create new expectations from patients, payers, and other health care providers that pharmacists are an essential part of the health care team with responsibility and expertise in medication optimization services. Now is the time to embrace the evolving responsibilities of our technician colleagues. Our future success depends on their success, so it is imperative that we provide our technicians with the environment and opportunities to expand and optimize their roles in our practices.[17–21]

Advanced roles for pharmacy technicians

Administering immunizations

Pharmacists play an important role in the national effort to achieve CDC's Healthy People 2020 target goals to improve vaccination rates. All 50 states have passed legislation allowing pharmacists to administer immunizations.[22] Pharmacies are the second most common location for patients to receive an influenza vaccination, after physicians' offices, due in part to pharmacies' extended hours of operation and convenient locations.[23–26] A 2016 study by Gai showed that access to a pharmacy was significantly and positively associated with likelihood of receiving an influenza vaccination.[27]

Unfortunately, workflow challenges such as lack of time for immunizations may be contributing to less than ideal immunization rates.[28] Pharmacy technicians can now play a major role in overcoming the time burden obstacle.

In March of 2017, through the creation of a new advanced technician role, pharmacy technicians became legally allowed to administer immunizations for the first time. Idaho is the only state thus far to allow technicians to administer immunizations. Whereas technicians had previously been involved in immunization billing, documentation, and patient scheduling, this legislative change allows technicians to play a more direct role in the immunization process.[29] The Idaho Board of Pharmacy's new administrative rule states, "An immunizing pharmacist may delegate the technical task of administering an immunization to a technician under their supervision who: holds a current certification in basic life support for healthcare providers, has successfully completed an ACPE (Accreditation Counsel for Pharmacy Education)-accredited or comparable course on immunization technique, and is a certified pharmacy technician."[30]

Even with this rule in place, the pharmacist is still responsible for all tasks requiring clinical judgment, including counseling patients, verifying the vaccine was prescribed correctly, and confirming the vaccine was appropriate for the patient. Only the technical task of physically administering the vaccine may be delegated.

Historically, pharmacy technician immunization education focused on vaccine information rather than administration.[31] The first immunization administration training program developed specifically for pharmacy technicians was created by McKeirnan and colleagues at Washington State University (WSU).[9] The 4-hour WSU program included a 2-hour home study and 2-hour live training components. Technicians were required to pass a 10-question multiple-choice exam with a minimum of 70% to complete the self-study, and to demonstrate appropriate technique for both I.M. and S.C. injections to pass the live training.

In December 2016, the training program was piloted, with 25 Idaho pharmacy technicians trained to administer immunizations. The number of immunizations administered by these technicians was tracked during the next 6 months. Between December 2016 and May 2017, the 25 technicians in the pilot program administered 953 immunizations with zero adverse events reported. Vaccines administered included influenza vaccine, shingles vaccine, both adult pneumococcal vaccines, and adult Tdap vaccine. As of April 2018, more than 200 Idaho pharmacy technicians had completed the WSU training program, which was extended from 4 to 6 hours after the pilot program.[32]

Technician verification (tech-check-tech)

One of the most challenging exercises for some pharmacists who do not have the personnel or systems in place for a

tech-check-tech (TCT) program is to do final product verification while simultaneously providing medication management services using the pharmacists' patient care process. In fact, it may even be argued that these two processes need to be separated to optimize the outcomes of each. Any pharmacist who has practiced in community pharmacy can attest to the challenge of focusing on final product verification while trying to effectively evaluate their patients' drug therapy for medication-related problems and developing a plan to resolve the problems. This problem is further compounded when pharmacists lack the time to provide these clinical services because of workplace policies that focus more on prescription volume while minimizing overlap of pharmacists and technicians.[33–35]

In addition, some pharmacists may be evaluated on the basis of metrics that focus on the length of time it takes to fill prescriptions versus how many patients they positively affected by achieving desired therapeutic outcomes.[36] In other words, the practice of pharmacy in those settings is more about product distribution than patient care.

If community pharmacists want recognition for their clinical knowledge and skills and to be integrated as a valued member of the health care team, they will need to focus their activities on helping patients optimize their medications. This means identifying and resolving medication-related problems, monitoring efficacy and safety of drug therapies, educating patients, communicating with prescribers, and documenting their patient care activities. Several strategic practice changes need to occur for pharmacists to provide these activities consistently and effectively, including integrating technology (e.g., robots), using medication synchronization programs, implementing technician-driven dispensing functions, and utilizing technicians for final product verification (TCT). Health systems have used the TCT model successfully.[37–39] It has been shown that technicians perform just as well or even better than pharmacists in their accuracy in final product verification.

Idaho Administrative Rule 410. (Excerpt)

Accuracy Checking Technician Program: An accuracy checking technician program allows qualified technicians to perform accuracy checking of the work of other technicians and student pharmacists, or products filled by an ADS or other technology-assisted filling equipment, in the filling of: a.) Drug orders or prescription drug orders that have previously undergone prospective drug review by a pharmacist; or b.) If in an institutional setting, floor and ward stock, and drugs that a practitioner controls the order, preparation, and administration of in accordance with state and federal law.

This is now expanding into the community pharmacy setting. In Iowa, a New Practice Model (NPM) pilot was implemented in seven community pharmacies to verify if technicians can provide final product verification as efficiently as pharmacists and if this advanced role of technicians increased the pharmacists' abilities to provide more clinical services.[7] In this initial pilot, the TCT program demonstrated that technicians were accurate in checking refill prescriptions while helping pharmacists increase their time in providing patient care services.[7] The pilot has expanded to new sites, including new and refill prescriptions, with the goal that the Iowa Board of Pharmacy will adopt new rules in 2018 that allow the TCT program in community pharmacies contingent upon passage of legislation.

The Iowa TCT program had requirements for technicians who wanted to become "checking" technicians. First, an existing Iowa rule is that technicians must be nationally certified within 1 year of their employment in addition to registering with the board of pharmacy. Checking technicians had to be nationally certified; must have worked 2,000 hours as a pharmacy technician, with 1,000 of those hours in a "study" pharmacy; and had to complete 6 hours of online education that focused on the TCT process. Pharmacists were also required to complete 2 hours of education on the TCT process.[7]

Iowa Administrative Code 657- 40.2 (Excerpt)

Authorized checking functions: A certified pharmacy technician authorized by the pharmacist in charge or responsible pharmacist to check the work of another certified pharmacy technician may check activities relating to the filling of floor stock, unit dose distribution systems, proprietary bag and vial systems or manufactured premix intravenous products, and AMDS components for hospital and long-term care facility patients. Medication orders shall have previously been reviewed by a licensed pharmacist against the patient's medication profile, and the prepared drugs shall be checked by at least one additional licensed health care professional in the facility at the time the drugs are administered to a patient. The checking function performed by the checking technician shall be limited to those types of drugs identified in the written TCT program plan, and the TCT program plan shall specifically describe the method for verifying cassette or drug bin fills.

Case example

Towncrest Pharmacy was one of the initial pilot sites for the new practice model in Iowa. Several technicians underwent the initial training and data collection period. Initially, there was some hesitation from staff pharmacists who were unsure about the TCT process and the technicians' competency. As the program continued and the "checking" technicians demonstrated accurate final product verification for both refill and new prescriptions, those pharmacists' concerns were allayed. Pharmacists could focus more of their attention on evaluating the patients' therapies to determine if medications were being optimized.

At the time the NPM was being implemented, Towncrest Pharmacy participated in a pilot program with a large payer and demonstrated that Towncrest pharmacists helped to reduce total cost of care (approximately $300 per member per month) while helping patients improve their adherence.[40] Towncrest pharmacists reduced the amount of time they spent on technical functions to focus on patient care services, identify medication-related problems, develop care plans to optimize medication therapy, and work collaboratively with other providers, all while documenting their activities.[41] In addition, new patient care services were implemented while existing services were expanded.

A stipulation from the board of pharmacy with NPM was that the TCT program could not replace or reduce pharmacists' hours. At Towncrest, the full-time equivalents (FTEs) expanded for both technicians and pharmacists as new opportunities arose. The pharmacy also invested in

technology, including automation, and expanded its medication synchronization services to fully optimize pharmacists' time. New revenues are being generated from nondispensing activities, including value-based reimbursement, bonus incentives from health plans, and expanded MTM activities and patient care services.

Communicating prescription information

Technicians' ability to accept new and refill prescription orders and communicate prescription transfers depends on the state in which they practice.[42] This is another function traditionally performed by pharmacists that can be delegated to an appropriately trained and experienced technician. As the role of pharmacists and technicians continues to evolve, state boards of pharmacy need to address this function so that technicians are allowed to perform it. This usually requires boards of pharmacy to advocate for passing new state laws, expanding technician roles, and creating new administrative rules. Pharmacists, in turn, need to develop policies, procedures, and training programs to ensure technician competencies in performing these functions.

In Iowa, for example, certified technicians may accept refill authorizations from the prescriber or the prescriber's agent. New prescription orders can be taken by certified technicians at the discretion of the supervising pharmacist if the pharmacy has adequate policies and procedures in place. Ultimately, the pharmacist is responsible for the accuracy of the order. Currently, Iowa rules do not allow technicians to transfer a prescription to another pharmacy or receive a transferred prescription from another pharmacy, although this was addressed in a new bill this past 2018 legislative session. Once signed by the governor, it should be allowed within the year.

Iowa Administrative Code 657- 3.24(155A) (Excerpt)

New prescription drug orders or medication orders: At the discretion of the supervising pharmacist, a certified pharmacy technician may be allowed to accept new prescription drug orders or medication orders communicated to the pharmacy by a prescriber or by the prescriber's agent if the certified pharmacy technician has received appropriate training pursuant to the pharmacy's policies and procedures. The supervising pharmacist shall remain responsible for ensuring the accuracy, validity, and completeness of the information received by the certified pharmacy technician. The pharmacist shall contact the prescriber to resolve any questions, inconsistencies, or other issues relating to the information received by the certified pharmacy technician that involve a pharmacist's professional judgment.

In both Idaho and Ohio, technicians are now allowed to accept a verbal prescription from a prescriber or other authorized person.[43,44] The Idaho board suggested safe practices such as read-back, spell-back to ensure that the core elements of the prescription are received and documented correctly. Technicians are also able to consult with a prescriber for clarification of a prescription if directed to do so by the supervising pharmacist. Prescription transfers can also be communicated by a technician via fax, electronically, or verbally even if the person receiving the transfer is also a technician.[43]

Prescription transfers are difficult to do in a timely manner if the pharmacist is busy providing patient care services. Appropriately trained certified technicians can do this effectively and efficiently, and it is a function already allowed in some states. Boards of pharmacy also need to review their rules regarding this function, as it is another task that can interrupt pharmacists' patient care activities. A thorough prospective drug utilization review by the pharmacist along with appropriate counseling to the patient should be able to identify discrepancies or problems associated with a prescription transfer.

Ohio Administrative Code 4729:3-3-04 (Excerpt)

A certified pharmacy technician may, under the direct supervision of a pharmacist, engage in the following activities at a location licensed as a terminal distributor of dangerous drugs to the extent that the activities do not require the exercise of professional judgment: (1) Accepting new written, faxed or electronic prescription orders from a prescriber or a prescriber's agent. New verbal prescription orders from a prescriber or a prescriber's agent for non-controlled drugs may be accepted pursuant to paragraph (B)(14) of this rule.

Idaho Administrative Rule 115.01 (Excerpt)

Communicating Prescription Drug Order Transfers: A pharmacist, student pharmacist, or a certified technician may transfer prescription drug order information for the purpose of filling or refilling if the information is communicated verbally, electronically, or via fax.

Impact of advanced roles on technicians

A 2016 study[45] by Desselle described how many pharmacy technicians entered the career serendipitously rather than through a planned career trajectory. Many community pharmacy technicians began working in another role or department within the store before transitioning into the pharmacy. Others started out with a separate career goal but transitioned to a technician role because of external life factors such as choosing not to complete a separate degree or preferring a work schedule that would allow for care of family members. Additional reasons cited by surveyed pharmacy technicians for choosing the career included a desire to help people, opportunity to serve the public, career fulfillment, and general interest in health care.[46] Advanced technician roles enable trained technicians to expand the reach of their patient interaction and provide new and fulfilling opportunities to help people.

As pharmacy technicians begin to take on advanced roles, several questions about retention of highly trained technicians, technician job satisfaction, and financial compensation have been identified. Providing advanced training to pharmacy technicians through certificate programs can become expensive for employers. Will technicians stay after being trained, creating a return on investment? In 2017, more than one-half of surveyed technicians indicated they planned to stay with their current employer for more than 5 years, and one-third planned to continue working in their current position for more than 10 years.[46]

Are technicians satisfied with pharmacy work? In the same study, technician job satisfaction was highly correlated with commitment to the employer. Technicians reported high levels of job satisfaction when they could use their knowledge. Providing advanced training is a new opportunity to show pharmacy technicians they are

a highly valued and important member of the pharmacy team while simultaneously enhancing technicians' skills to improve pharmacy practice.

Will technicians need to be compensated at a higher rate after advanced training? The average wage of a pharmacy technician in the United States is $12.68, with the highest hourly rate noted at $18.28.[47] Even with higher compensation for advanced roles, the value added to the pharmacy by the increase in clinical services provided and improved workflow could vastly outweigh this additional cost.

Impact of advanced technician roles on pharmacists

The purpose of advancing technicians' role is to free pharmacists from the technical functions of the pharmacy. Ultimately, if pharmacists are to be successful in the evolving health care system and value-based reimbursement, they will need to spend their time focused on patient outcomes, relevant clinical metrics, and strategies to reduce total cost of care. This requires pharmacists to spend more time providing patient care and collaborating with other health care providers. It also requires pharmacists to make clinical recommendations to prescribers to optimize patients' medication therapy. Pharmacists cannot do this adequately if they are "stuck" performing technical duties.

Pharmacies that have embraced this role of technicians—and have been allowed to do so by their state boards of pharmacy—can be more accessible to their patients. They can provide MTM services, immunization programs, medication synchronization programs, medication adherence programs, and medication reconciliation services along with other enhanced services. These pharmacies have a better opportunity to create new revenue sources by providing additional clinical services and successfully implementing services to meet the needs of payers interested in reimbursing pharmacists for patient care outcomes. An enhanced role for technicians can also improve the pharmacists' workload, time constraints, and workplace stress—several obstacles that hinder pharmacists' abilities to provide patient care services.

Unfortunately, antiquated board of pharmacy rules, pharmacist workload issues, and pharmacists/technicians' perceptions about their evolving roles can hinder the profession's progress in moving from a practice focused on dispensing to one focused on patient care and outcomes.[36] Pharmacy technicians are vital to the professions' success in this evolution. It is not something to be feared but accepted and put into practice. A pharmacy that allows both pharmacists and technicians to practice to the top of their training and education has greater odds of succeeding in the future in a health care system focused on quality and patient outcomes.

Conclusion

Pharmacy technicians in some states are now allowed to perform advanced roles, including administering immunizations, verifying prescriptions, and communicating prescription information. Pilot programs have demonstrated that pharmacy technicians can be trained to successfully perform these advanced roles, reducing the work burden on pharmacists while ensuring quality patient care is maintained.

Advancing the role of technicians will free pharmacists from dispensing responsibilities and enable them to focus on clinical aspects and on ensuring patients are achieving positive therapeutic outcomes through medication optimization services. Transforming community pharmacy practice requires changing roles and tasks for both pharmacists and technicians. For pharmacists to truly excel in the provision of clinical services, allowing technicians to perform advanced roles is integral.

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CPE assessment

This assessment must be taken online; please see "CPE information" in the sidebar on page 61 for further instructions. The online system will present these questions in random order to help reinforce the learning opportunity. There is only one correct answer to each question.

1. **Pharmacy technicians are now legally allowed to administer immunizations in which U.S. state?**
   a. Alaska
   b. Washington
   c. California
   d. Idaho

2. **In accordance with the state administrative rule allowing pharmacy technicians to immunize, pharmacy technicians are now able to legally perform which immunization-related task?**
   a. Counseling the patient about the vaccine
   b. Verifying that the correct vaccine was prescribed
   c. Administering the vaccine to the patient
   d. Verifying that the correct vaccine was dispensed

3. **A pharmacy technician immunization training program is currently available from which U.S. university?**
   a. Washington State University
   b. University of Washington
   c. Idaho State University
   d. University of Idaho

4. **What percentage of pharmacy technicians surveyed reported they planned to stay with their existing employer for the next 5 years?**
   a. 30%
   b. 40%
   c. 50%
   d. 60%

5. **What is the average hourly pharmacy technician wage as of 2017 in the United States?**
   a. $9.36
   b. $12.87
   c. $16.53
   d. $18.28

6. **How many U.S. states have passed legislation allowing pharmacists to administer immunizations?**
   a. 50
   b. 40
   c. 30
   d. 25

7. **Tech-check-tech has been studied as a new practice model in community pharmacies in which U.S. state?**
   a. Washington
   b. Iowa
   c. Florida
   d. Nebraska

8. **In accordance with state requirements to become a checking technician, the technician must**
   a. Have worked at least 5,000 hours
   b. Have completed 10 hours of online education on this topic
   c. Participate in a live training and certificate program
   d. Be a nationally certified pharmacy technician

9. **Currently, Iowa rules allow technicians to**
   a. Transfer a prescription to another pharmacy
   b. Receive a transferred prescription from another pharmacy
   c. Administer immunizations
   d. Accept refill orders from a prescriber

10. **In the Iowa Towncrest pilot, "checking" technicians demonstrated accurate final product verification for both refill and new prescriptions.**
    a. True
    b. False

11. **Technicians in Iowa can receive transfer prescriptions as part of their advanced role.**
    a. True
    b. False

12. **What outcome(s) occurred in Iowa's New Practice Model?**
    a. Technicians provided final product verification as effectively as pharmacists.
    b. Pharmacists had more time to provide clinical services.
    c. All of the above
    d. None of the above

13. **Which of the following statements is true?**
    a. The tech-check-tech (TCT) model originated from the work done in health systems.
    b. An opposing view of the TCT model is that technicians are not as accurate as pharmacists in final product verification.
    c. In Iowa, the TCT model helped to reduce pharmacists' hours needed at the pharmacy.
    d. a & b

14. **Technicians are more satisfied with their job when they can use their knowledge.**
    a. True
    b. False

15. **In Idaho, technicians who are certified can transfer a prescription from another pharmacy.**
    a. True
    b. False

16. **In Idaho, technicians can receive a prescription transfer from a pharmacist but not from another technician.**
    a. True
    b. False

17. **Providing advanced training is a new opportunity to show pharmacy technicians they are a highly valued and important member of the pharmacy team.**
    a. True
    b. False

18. **All of the following are advanced roles for technicians, except**
    a. Managing the medication synchronization process
    b. Doing final product verification
    c. Administering vaccines
    d. None of the above

19. **Pharmacies that have embraced advanced roles for technicians, and have been allowed to do so by their state boards of pharmacy, are better able to**
    a. Provide MTM services
    b. Create medication synchronization programs
    c. Provide mediation adherence programs
    d. All of the above

20. **Providing opportunities for technicians to have advanced roles**
    a. Takes clinical responsibilities away from pharmacists
    b. Is cost prohibitive
    c. Creates time for pharmacists to implement new clinical services
    d. Creates more errors than when the work is done by pharmacists

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