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COMMENTARY

Pharmacy technician-administered immunizations: A five-year review

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ABSTRACT

In October 2020, the U.S. Department of Health and Human Services (HHS) issued guidance authorizing trained pharmacy technicians in all states to administer immunizations. Given that this action is temporary, it will be necessary for states to adopt their own legislation or regulations to sustain these efforts beyond the coronavirus pandemic. At least 11 different immunization administration training programs have emerged for pharmacy technicians. An increasing number of publications have emerged on pharmacy technician immunization administration, demonstrating the ability to train technicians and have them safely administer immunizations in practice. Supervising pharmacists reported initial hesitancy but strong acceptance of delegating this task after experience in practice. States should look to expand and make permanent the authority of pharmacy technicians to ensure these benefits can continue to be realized after the HHS guidance expires.

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Background

In October 2020, the U.S. Department of Health and Human Services (HHS) issued guidance under the Public Readiness and Emergency Preparedness (PREP) Act authorizing trained pharmacy technicians in all states to administer certain immunizations under the supervision of a qualified pharmacist to patients 3 years of age and older.¹ The federal guidance was intended to augment the supply of trained immunizers for the 2019 coronavirus pandemic. One official proclaimed the strategy part of an “all hands-on deck” approach, noting the relatively untapped potential of 425,000 pharmacy technicians nationwide to augment immunizer supply.² One national pharmacy chain reported hiring more than 10,000 pharmacy technicians to prepare for the coronavirus disease 2019 (COVID-19) vaccine rollout.³

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In most states, the PREP Act declaration was the first opportunity for pharmacy technicians to administer vaccines. Before the pandemic, Idaho initiated a pilot project for technician immunizations in 2016, adopting a permanent regulation that took effect in March 2017.^{4,5} Rhode Island and Utah soon followed with policy changes enabling technician immunization authority.⁶ However, the rapid expansion of pharmacy technician immunizations to all states in just 4 years defied expectations given that it took 15 years for pharmacists to have some level of immunization authority in all 50 states, although technician immunization authority was certainly accelerated by the onset of a global pandemic.⁷

Given that the HHS action is temporary, it will be necessary for states to adopt their own legislation or regulations to sustain these efforts beyond COVID-19. To assist states with permanent action, this manuscript reviews the initial concerns raised before Idaho launching the first technician immunization pilot, specifically concerns related to the ability of technicians to administer immunizations and related policy concerns such as how this would affect legal authority for pharmacists to administer immunizations.⁸ This paper also synthesizes the published evidence that has been generated over the past 5 years since the Idaho pilot project relative to these concerns.

Can pharmacy technicians administer immunizations?

Atkinson et al.⁸ contended the most appropriate starting point in considering legal authority in the question “can

Key Points**Background:**

- Federal guidance has temporarily allowed pharmacy technicians in all states to administer immunizations under the supervision of a qualified pharmacist.
- Before the pandemic, only a limited number of states allowed pharmacy technicians to administer immunizations.

Findings:

- At least 11 training programs have emerged to train pharmacy technicians to administer immunizations.
- Studies show that pharmacy technicians have been trained to administer immunizations, technicians have safely administered immunizations in practice, and supervising pharmacists have felt comfortable with delegating this task.
- Several researchers have noted that pharmacy technicians administering immunizations has improved pharmacy workload and enabled broader clinical skill deployment by pharmacists.

pharmacy technician administer immunizations?" Although there are many steps involved in immunizations, the "administration" step boils down to identifying the proper site of injection and using the proper route of administration.

At the time of approval of the Idaho pilot project, there were no existing training programs on pharmacy technician immunization administration. Instead, the Idaho Board of Pharmacy had to rely on evidence from health professions with similar training (e.g., medical assistants) who had successfully administered vaccines in practice.⁹ Moreover, several studies had demonstrated that untrained laypersons safely administered intranasal or intradermal vaccines, and laypersons regularly administer medications through intramuscular or subcutaneous routes (e.g., patients with diabetes).^{10–12} The Idaho Board had reached the conclusion that, if other similarly trained health professionals and untrained laypersons could administer immunizations, so too could a trained pharmacy technician.

Over the past 5 years, the training environment for pharmacy technicians has advanced significantly. McKeirnan et al.¹³ reported on the training program created for the pharmacy technicians authorized to administer immunizations under the Idaho pilot project. The training consisted more than 4 hours of training, 2 of which were in person. All participating technicians successfully passed the training on the first attempt, and after the training, technicians reported increased confidence with immunizations skills. This cohort went on to administer 953 immunizations with no reported adverse events.¹³

Currently, at least 11 different immunization administration training programs have emerged for pharmacy technicians, led by accredited colleges of pharmacy, state pharmacy associations, national pharmacy and pharmacy technician professional associations, and a national pharmacy technician

education and certification provider.^{14–26} These training programs vary, but are typically 3–6 hours in length, with both a self-study component and a live training. The training programs generally culminate in a pharmacy technician demonstrating proficiency in injection technique under the observation of a trained professional.

After completion of training, pharmacy technicians may opt to complete an examination offered by the Pharmacy Technician Certification Board (PTCB).²⁷ PTCB is a credentialing organization that is recognized by all state boards of pharmacy. If a trained technician qualified for and passed the examination, they are awarded an Immunization Administration Certificate.

With the advent of recognized training programs and a formal certificate offered by a national credentialing organization, boards of pharmacy have many options to choose from in calibrating a permanent law to allow pharmacy technicians to administer immunizations. Indeed, tens of thousands of pharmacy technicians have since been trained to administer immunizations and have administered immunizations in practice during the COVID-19 pandemic, likely resolving any initial concerns there were regarding the ability to properly train technicians to perform this task.³

Should pharmacy technicians administer?

Atkinson et al.⁸ noted that many secondary concerns centered around the question "should pharmacy technicians administer immunizations?" This question is more inherently political in nature and perhaps beyond the purview of a board of pharmacy tasked solely with ensuring the safety of pharmacy services provided to the public. Nonetheless, this question may be on the mind of some regulators, and reviewing the evidence over the past 5 years is likely of benefit.

Public policy support of pharmacist immunizations

Some initial concerns focused on how authorizing pharmacy technicians to administer immunizations would affect pharmacists' legal immunization authority.⁸ In 2017, some states still limited pharmacists to administering certain immunizations or limited the patient populations pharmacists could administer immunizations to (e.g., patient age limits).²⁸ At issue was whether special interest groups such as medical associations would increase their resistance to pharmacy-based immunizations as a result of technicians also taking on this task.

Technician immunization authority has not seemed to impede the advancement of pharmacist immunization authority. Through April 2021, at least 9 states either expanded pharmacist immunization authority or made permanent changes allowing pharmacy technicians to administer immunizations in 2021.^{29–34} Importantly, each of these bills passed with large, near-unanimous margins. In the states that passed pharmacy technician immunization legislation, state medical association did not appear to oppose to the bills through formal position statements.^{35,36}

National medical associations opposed the initial PREP Act declaration that allowed pharmacists and interns to immunize children in states where this was not already allowed, citing the potential impact on fragmentation of care.^{37,38} This

opposition seemed to have little impact on HHS, given that the PREP Act declaration and associated guidance were later expanded to include pharmacy technician immunization authority and separately allowed immunizations from pharmacists and pharmacy interns with expired licenses.^{1,39} Furthermore, the HHS declaration and guidance have transcended across presidential administrations, even with a change in political party. Importantly, the national medical associations have not seemingly updated their opposition to include concerns on pharmacy technicians administering vaccines when HHS updated the declaration as of the date of this publication.

Another stated concern was the effort pharmacy associations had exerted in gaining pharmacist immunization authority and the belief that it was too early to “give this up.”⁸ This concern has not borne out in the actions of such pharmacy associations. There is no reported formal opposition from national or state pharmacy associations to the HHS action enabling pharmacy technicians to administer immunizations. To the contrary, national associations issued press releases “applauding” and “welcoming” the federal action to allow pharmacy technicians to administer immunizations.⁴⁰⁻⁴² Furthermore, both national and state pharmacy associations have developed and offered immunization administration training programs for pharmacy technicians.

Image of pharmacy profession

Atkinson et al⁸ noted an expressed concern that immunizations are one of the few areas where “pharmacists are able to demonstrate the expanded role of pharmacist[s]” and delegating this task to technicians may “forfeit” this positive image.

This, too, does not seem to have manifested. First, patients have reported support for pharmacy technicians administering immunizations and the authors did not note any perceived reduction in pharmacist image. McKeirnan and Kaur⁴³ interviewed 46 patients at chain community pharmacies about their perceptions of technicians administering immunizations. Patients reported support for technicians in this role and noted several key themes: (1) technicians would increase accessibility and decrease waiting time, (2) ensuring proper training would improve patient comfort, and (3) technician immunizers would balance the workload on the pharmacy team. Not all patients reported their willingness to receive immunizations by technicians, but this also holds true with pharmacists because, for example, only one-third of influenza vaccines were provided by pharmacists in a recent season.^{43,44} Although this is limited evidence, additional studies after the pandemic will be beneficial given the volume of immunizations now administered by technicians.

Second, allowing pharmacists to delegate administration of immunizations to technicians places the choice at the hands of the pharmacist. Bertsch et al⁴⁵ reported that technicians gave 67%-74% of the immunizations at stores with technician immunizers, meaning pharmacist still administered 26%-33% of the immunizations. Thus, pharmacists still retain a role in administration, while reviewing the clinical appropriateness of all those immunizations to be administered by technicians.

Next, over the past 5 years, pharmacists have gained major practice expansion in many states that allow pharmacists to

demonstrate an expanded role beyond immunizations.⁴⁶ As of June, 48 scope of practice bills had passed legislatures in 28 states in 2021 alone, conferring pharmacists with additional authority to prescribe medications, adapt prescriptions (e.g., therapeutic interchange), provide point-of-care testing services, administer other medications (e.g., long-acting injectables), or participate in collaborative practice agreements.⁴⁷ Three states passed legislation authorizing some level of payment for pharmacist-provided services.⁴⁷

Arguably, there has been more legislation to expand the role of pharmacists in the 5 years since the Idaho technician immunization pilot than in any previous 5-year period. This is particularly true with pharmacist prescriptive authority.⁴⁸ A growing number of states have allowed pharmacists to prescribe preventative therapy (e.g., smoking cessation, Lyme disease prophylaxis) or to treat minor conditions (e.g., mild acne or cold sores) or conditions with a point-of-care test to guide diagnosis (e.g., influenza).⁴⁸⁻⁵⁰

Perhaps more important than issues of image or perception are the issues of workflow and workload. In a survey by Gavaza et al,⁵¹ both pharmacists and pharmacy technicians reported their belief that technician-administered immunizations may improve workflow. Bertsch et al⁵² reported that supervising pharmacists felt that technician immunizers would increase vaccination rates. In addition, pharmacists who worked with trained technician immunizers in a federal facility reported it improved workflow greatly, allowing pharmacists to provide more clinical services.⁵³ Therefore, greater empowerment of pharmacy technicians as immunizers seems to expand the opportunity for advanced pharmacist services.

Pharmacist and technician comfort with technician administration

Atkinson et al⁸ also reported anecdotal concerns from both pharmacists and technicians about their level of comfort with technician administration.

This concern was captured thusly: “My technicians do not have any interest in administering vaccines.”⁸ Recent surveys suggest this seems to be a minority view among technicians. Doucette and Schommer⁵⁴ surveyed 639 pharmacy technicians on their willingness to perform certain activities. A majority (51.3%) reported they were willing to administer a vaccination to patients, with 23.6% of total respondents saying they were “very willing” to do so. Gavaza et al⁵¹ surveyed 54 California community pharmacy technicians. A majority (87%) said pharmacy technicians should be allowed to administer immunizations after training, and 83.3% stated they would be willing to get an influenza vaccine administered by a technician. Of course, beyond perceptions studies, tens of thousands of technicians have demonstrated an interest in administering immunizations by completing training and administering immunizations during the COVID-19 pandemic.

Anecdotes also suggested some pharmacist discomfort with technician immunizations, captured as “I would not trust my technician to administer vaccines.”⁸ Gavaza et al⁵¹ surveyed 123 California community pharmacists; 51.2% reported that they believe technicians should be allowed to administer immunizations after training and that they would be willing to receive an influenza vaccination from a trained pharmacy technician. Kulczycki et al⁵⁵ surveyed 590 pharmacists and

found 24% supported technicians having the authority to administer vaccines.

Although these pharmacist surveys could be viewed as only light support from pharmacists, it is important to point out that it surveyed pharmacists who largely had no direct experience with technician-administered immunizations. Thus, respondents were reacting primarily to a hypothetical scenario, not direct experience in most cases. It is natural for direct experience to improve comfort, just as pharmacists initially reported their own discomfort with pharmacist-administered immunizations.⁵⁶ Bertsch et al⁴⁵ found that supervising pharmacists reported initial apprehension of delegating immunization administration to technicians, but, after practice implementation, found the technicians to be well trained. Supervising pharmacists also noted that implementation improved morale in the pharmacy while also increasing the number of immunizations provided.⁴⁵ Similarly, pharmacists supervising technician immunization administrators in a federal facility reported their support for the effort and encouraged other technicians to participate in training.⁵³

Pharmacist comfort is likely also aided by reports of safety. McKeirnan et al¹³ and McKeirnan and Sarchet⁵³ reported 953 immunizations with no reported adverse events in community pharmacy settings and 4852 vaccinations given in a federal health care facility without issue. An estimated 25,000 immunizations were provided by pharmacy technicians in Idaho by 2018 with no reported adverse events.⁵⁶

Finally, the HHS guidance noted that licensure and registration requirements for pharmacy technicians vary across state lines.¹ In states where no requirements existed for licensure or registration, the HHS guidance clarified that immunization authority was only granted to those with a certified pharmacy technician certification. Pharmacists may find further comfort in knowing that immunizing authority requires specific pharmacy technician credentialing even in jurisdictions where licensure or registration for pharmacy technicians is not required.

Discussion

The rapid advancement of pharmacy technician-administered immunizations over the last 5 years is likely to lead to permanent change, although it will depend on further state action in most states. Research and experience since the initial Idaho pilot project have demonstrated both that technicians can be appropriately trained to safely administer immunizations and that hypothetical concerns have not materialized. Given the hundreds of thousands of vaccines administered by technicians, additional research should be conducted on the implications of overall workflow of technician administration and longer-term satisfaction of both technicians and pharmacists while having this authority.

Technician-administered immunizations provide a valuable case study in the public health benefits of professional advancement. The Idaho Board of Pharmacy enabled a new service and used a pilot project to validate safety before widespread deployment. Without this initial effort and research published in advance of the pandemic, it is debatable whether HHS guidance would have quickly enabled technician immunization administration during COVID-19. This would have reduced the capacity to administer immunizations at the

very time demand was highest. Boards of pharmacy should look to the use of pilot projects to test new models of care for pharmacists and pharmacy technicians to improve access and preparedness for public health needs.

Properly trained pharmacy technicians have the potential to increase the number of immunizations given and reduce the occurrence of vaccine-preventable diseases. It is important to note that pharmacists still perform the most appropriate role for their clinical expertise: evaluating the appropriateness of the immunization for the patient. Furthermore, delegation of the technical task of immunization administration remains at the discretion of the supervising pharmacist in all states.

States should look to expand and make permanent the authority of pharmacy technicians to ensure these benefits can continue to be realized after the HHS guidance expires. Simply put, tens of thousands of technicians have invested in the requisite training to perform this task, and thousands of pharmacies have redesigned their workflow to enable this task in practice. States failing to sustain technician immunizations will squander this historic investment in public health capacity.

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