

PRACTICE INSIGHTS



NAVIGATING THE ADULT IMMUNIZATION LANDSCAPE



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Acknowledgments

This report was developed by the American Pharmacists Association (APhA) with support from Pfizer, Merck, and GSK. APhA gratefully acknowledges the following individuals:

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INVENTING FOR LIFE

Introduction

The number of vaccinations recommended for adults has grown in recent years, leading to an expanded and more complex adult vaccination schedule. As more vaccines have become available, the number of adults who are not current with recommended vaccinations has increased, and many adults are due to receive multiple vaccines.

As of 2022, only 22% of adults in the United States were up to date on common, routinely recommended vaccines (i.e., influenza, pneumococcal, zoster, and tetanus); rates were lower for Black adults (17%) and Hispanic adults (16%).¹ Adult vaccination rates are highest for tetanus vaccine (70.3%) and pneumococcal vaccine (70.1%), which are year-round vaccines that can be offered to patients anytime they are in the pharmacy.¹ Of note, ACIP recently lowered the recommended age for routine pneumococcal vaccination to 50 years.²

The picture is more complex for vaccines that protect against infectious respiratory diseases and are administered on a seasonal basis, including COVID-19, influenza, and RSV vaccines:

- As of August 2024, 81% of adults aged 18 years and older in the United States have received at least one dose of COVID-19 vaccine; 22% received a dose during the 2023–2024 season.³ Rates were somewhat higher for those aged 65 years and older: 90% and 37%, respectively.³
- During the 2023–2024 season, 45% of adults aged 18 years and older received a seasonal influenza vaccine, as did 70% of those aged 65 years and older.⁴ As of November 2024, the 2024–2025 influenza vaccination rates are following a similar pattern.⁴
- Estimated RSV vaccination coverage among all adults aged 60 years and older was 17% and among those with chronic health conditions was 21.4%.⁵ As of October 19, 2024, among adults aged 75 years and older, an estimated 38% reported having ever received an RSV vaccine.⁶ The rate was 31% for adults aged 60 to 74 years with a high-risk condition for RSV.⁶

Pharmacists and pharmacy technicians play an increasingly important role in the administration of adult vaccines. During the 2023–2024 season, 60% of influenza vaccines, 92% of COVID-19 vaccines, and 98% of RSV vaccines were administered in pharmacies.^{6–8} Data from the National Immunization Survey reported that as of August 22, 2024, 81.9% of adults aged 18 years and older had received their COVID-19 vaccine for the 2024–2025 season in a pharmacy.⁹ However, challenges hinder the optimization of pharmacy-based vaccination practices that help patients receive all needed vaccines.

To gain insights on supports that would benefit community-based pharmacy vaccination practices, the American Pharmacists Association (APhA) conducted a national survey (fielded November 15, 2023, through December 8, 2023) and held a virtual focus group with immunizers on September 11, 2024, to explore practice issues. The national survey focused on vaccine coadministration practices in pharmacies. Because many adults are due to receive multiple vaccines, recommendations for coadministration of vaccines are an important strategy to help adults achieve and maintain their protection against vaccine-preventable diseases.^{10,11} The goals of the focus group were to understand current best practices for adult immunization in pharmacy-based settings and identify gaps and opportunities to support the role of pharmacists and technicians in adult immunization.

Findings of the Vaccine Coadministration Survey

A total of 227 pharmacists responded to the APhA survey on vaccine coadministration practices; 218 (96%) reported that vaccines are administered in their practices by pharmacists and/or pharmacy technicians.¹²

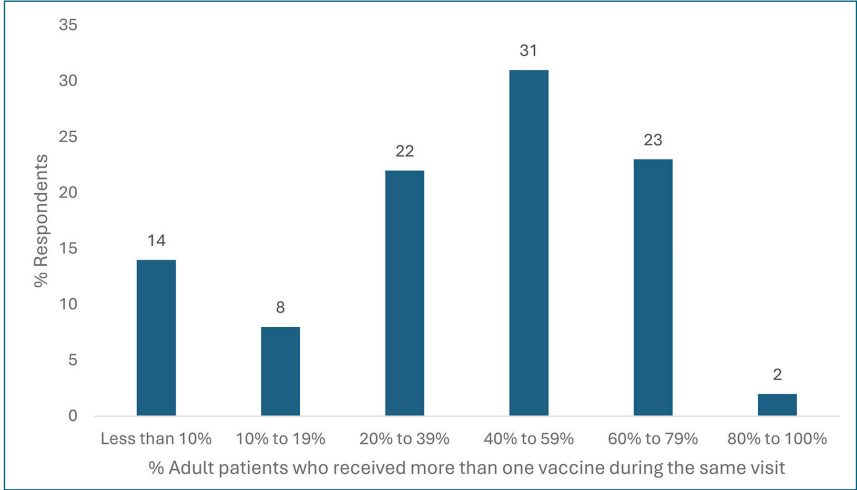
Respondents were well distributed geographically. Almost half (48%) worked in chain pharmacies; another 21% worked in supermarket pharmacies, 16% in independent pharmacies, and the remainder in other settings. Reported roles of survey respondents included duties overseeing vaccine services, administering vaccines, and a combination of these responsibilities (see Table 1 on page 11). Those who were not involved with vaccinations included staff pharmacists, pharmacists-in-charge, and retired individuals; their practice settings included inpatient pharmacy, managed care, independent pharmacy, outpatient clinic, and population health.¹²

Respondents reported administering vaccines to multiple patient populations¹²:

- Adults aged 19 years and older (96%)
- People who are pregnant (94%)
- Adolescents aged 12 to 18 years (93%)
- Children younger than 12 years (78%)
- International travelers seeking travel vaccines (69%)

The majority of respondents reported that a large proportion of adult vaccine recipients receive more than one vaccine during the same visit (Figure 1).¹²

Figure 1. Frequency of Vaccine Coadministration

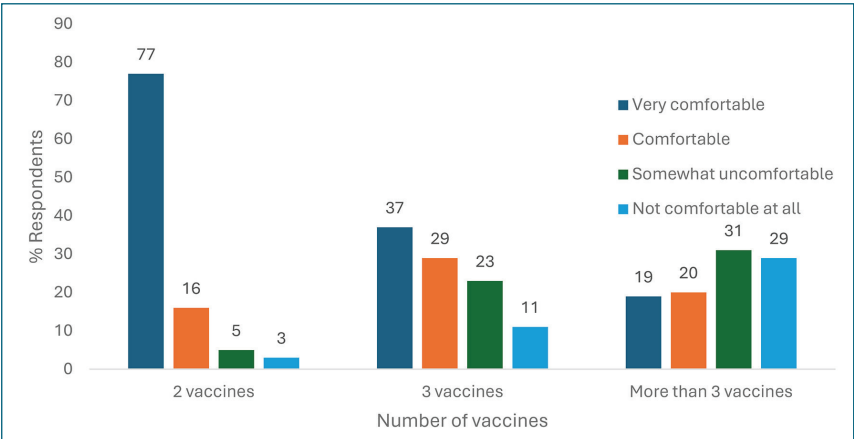


Source: Reference 12.

When patients received more than one vaccine, 92% of the time they received two vaccines. The majority of respondents reported a high comfort level coadministering two

for multiple vaccines but received only one vaccine. Respondents listed multiple reasons for why these patients received only a single vaccine during their pharmacy visit.

Figure 2. Respondent Comfort Level Coadministering Vaccines



Source: Reference 12.

vaccines during the same pharmacy visit, but the level of comfort dropped off for coadministering more than two vaccines (Figure 2).¹²

Most respondents (95%) reported having patients who were eligible

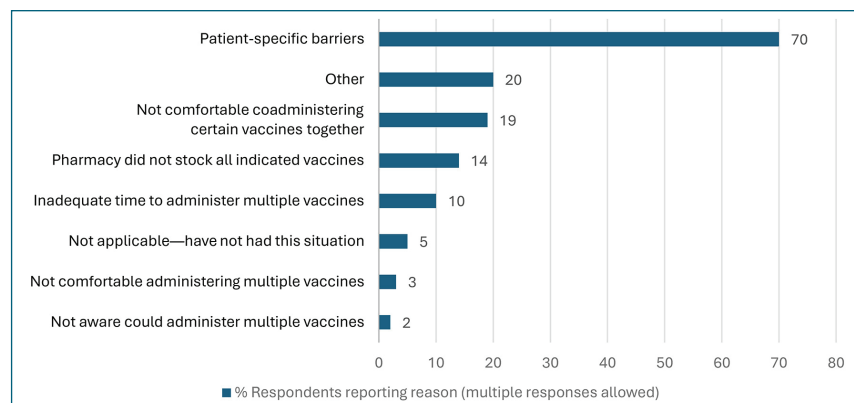
Patient-specific barriers were the most common reason cited by respondents (Figure 3).¹²

Written comments provided for “other” indicated that both pharmacists and patients were concerned



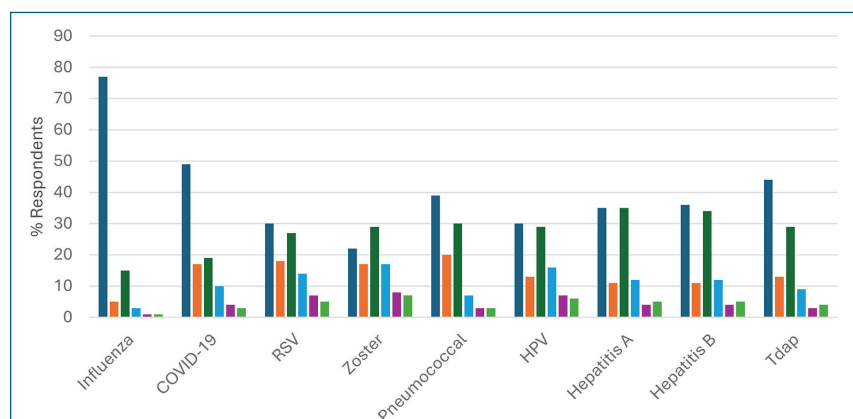
about increased risks for adverse events and reactogenicity when vaccines are coadministered (Figure 3). Some noted coadministration concerns for specific vaccines. When asked about reactogenicity profiles for certain vaccines, respondents reported that they had the most concern for zoster vaccine and the least concern for influenza vaccine (Figure 4). Some pharmacists also reported that compensation, workflow, and staffing pressures favor administering a single vaccine.¹²

Figure 3. Reasons for Administration of Only a Single Vaccine When Multiple Vaccines Would Be Appropriate



Source: Reference 12.

Figure 4. Pharmacist Comfort With Reactogenicity Profile When Coadministering Vaccines



HPV = human papillomavirus; RSV = respiratory syncytial virus; Tdap = tetanus, diphtheria, and pertussis.
Source: Reference 12.

Respondents reported that patients shared multiple concerns about receiving coadministered vaccines, with the most common concern being immediate, short-term adverse events (Figure 5).¹² Written comments provided for “other” included that patients were advised by other health care providers to space out the vaccinations.

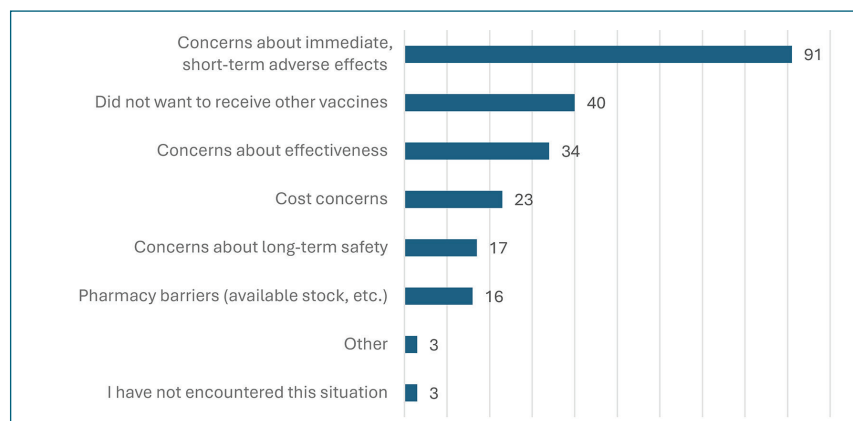


Figure 5. Patient Concerns About Coadministered Vaccines

Source: Reference 12.

Focus Group Perspectives on Adult Vaccination Services in Community Pharmacy

A PhA, in consultation with the pharmacy practice advisory board, selected focus group participants to provide a range of perspectives. They included pharmacists as well as a pharmacy technician and represented regional and national chains, an organization that cares for underserved communities, and a representative from the National Hispanic Pharmacists Association who worked in an inpatient setting.

All focus group participants reported that they (or their organizations) offer a range of adult vaccines, including COVID-19, influenza, RSV, pneumococcal, hepatitis A, hepatitis B, and zoster vaccines. Participants offered vaccines using a variety of practice models, including year-round or seasonal offerings, by appointment or walk-in, pharmacists rounding with physicians in an inpatient setting, and at offsite settings. Participants who provided vaccines to unhoused populations have street teams who bring commonly needed vaccines to patients and check state immunization records to determine individualized needs. In an inpatient setting, when pharmacists identify a need for vaccines that would be more appropriate to administer in the future, the need is recorded in the patient's EHR so that the patient will receive timely alerts to get the vaccines.

Patients in need of vaccines are identified using a range of strategies, including media campaigns, annual vaccine reviews as a part of medication synchronization programs, com-

puter system alerts at the point-of-sale, and pharmacist conversations with patients about their individualized needs. Participants noted that a review of all vaccination needs may be performed when patients schedule an appointment for an influenza or COVID-19 vaccine.

Focus group participants reported several challenges facing their vaccination services, including:

- **Complexity of the vaccination schedule**
- **Keeping up with vaccine recommendations**
- **Patient perceptions**
- **Vaccine cost/payment**
- **Staffing**
- **Other health care providers**

Participants reported that pharmacists and technicians in their practices work at the top of their licenses to administer vaccines, as allowed by state law. Some locations also have student pharmacists who are able to administer vaccines. Participants reported that the staffing at their practice sites is adjusted based on anticipated need and fluctuates by season. Some pharmacy locations have additional staffing with dedicated immunizers during peak seasons whereas in other situations or settings, vaccines were treated as a prescription within the workflow. Some participants offered online scheduling for vaccine appointments, which allows for some of the administrative work to be completed online. One participant noted that all front-end staff including clerks, managers, etc. are

trained to be able to offer support in the pharmacy during busy times.

Many of the participants reported working in pharmacies where technicians could administer vaccinations but noted that roles for technicians vary based on state laws. They also noted that the impending expiration of the PREP Act in 2025 could further limit technician roles in states that have not updated their legislation to align with the act. (In 2020, guidance associated with the PREP Act authorized trained pharmacy technicians in all states to administer certain vaccines to help manage the COVID-19 vaccine roll out,¹³ representing the first time that pharmacy technicians in most states were given this authority.)

In settings where technicians are not authorized to vaccinate, they have roles that include scheduling appointments, inputting data into the pharmacy systems, billing, monitoring patients for adverse effects, and following up with patients to schedule future appointments for vaccines requiring a multidose series for protection against disease.

Vaccine Stocking Patterns

Vaccine offerings varied among participants. Some participants reported offering all vaccines allowed by their state's protocol; others reported stocking vaccines based on demographic needs. However, some participants noted that they do not always routinely stock all vaccines but can typically obtain a



needed vaccine within a few days if someone schedules an appointment. Others reported that vaccine availability can be an issue and that some vaccines, such as mpox, may be difficult to stock.

If multiple brands of a vaccine are available, participants noted that they will first defer to recommendations from ACIP. If there is not a preferred vaccine, contracting may play a role in determining which vaccine is offered. However, participants noted that pharmacists can always apply their clinical judgment and order a specific vaccine for a patient when needed. Others noted that vaccines available in prefilled syringes may be preferred over those available in vials due to the risk of needlestick injuries. Other considerations may include whether one brand requires more doses than another or if one brand is indicated for a broader population than another.

Most participants did not report concerns about administering adult vaccines. However, some had concerns about travel vaccines; polio (inactivated polio vaccine [IPV]); RSV maternal; measles, mumps, and rubella; meningococcal; and HPV. In particular, they noted infrequent requests for IPV so the lack of familiarity decreases their confidence in administering the vaccine. For HPV, they shared that pharmacists sometimes do not have access to information about when or if a first dose was administered, and this situation can impede making accurate recommendations for completing the series.

Identifying Patient Vaccination Needs

Participants noted their use of several strategies to identify patients' vaccination needs and often discuss multiple vaccine needs with their patients. Reported strategies to identify needs included reviewing state immunization registries to confirm the need for the requested vaccine and to identify any other vaccination gaps. (Participants noted that registries in some states do not always have complete information because nonpharmacy health care providers are not required to update the registry when administering vaccines.) Other strategies included robust medication synchronization programs that incorporate regular reviews for vaccine needs. Participants also reported that reviews of medications can help with identification of patients who are high-risk for becoming infected or experiencing complications from vaccine-preventable diseases.

As described by participants, several challenges are associated with determining a patient's vaccination needs. For example, they observed that many adult vaccines have specific eligibility criteria, which can make it more complicated to identify eligible patients. Participants reported that it is easiest to determine eligibility for COVID-19 vaccine, followed by influenza vaccine. They reported less comfort with identifying eligibility for zoster, pneumococcal, hepatitis B, RSV, and hepatitis A vaccines.

Participants stated that they find ACIP recommendations for vaccines that depend on identifying high-risk patients to be more challenging to implement than those that have a universal recommendation for an age group. They also reported that the narrower the recommendation, the more difficult it is to apply in practice. In particular, they noted difficulty assessing needs for pneumococcal vaccines due to the complexity of the recommendations. Participants indicated that some wording in the recommendations can be ambiguous in practice, such as recommendations based on whether there is a high rate of transmission (e.g., for RSV) or whether patients may have difficulty accessing care.

Challenges With Recommendations

Feedback recently obtained by ACIP from organizations (i.e., Infectious Diseases Society of America, American Geriatrics Society, American Pharmacists Association, and Society for Healthcare Epidemiology of America) that focus on older adults, people with immunocompromise, health care providers, and pharmacists revealed the following ¹⁴:

- **Age-based recommendations are preferred over risk-based or shared clinical decision making due to implementation challenges**
- **Shared clinical decision making recommendations can be difficult to communicate and appear to have lower confidence**

- Frequent changes in vaccine recommendations can create confusion
- One or two total doses per year are preferred
- Reiterate that self-attestation of moderate or severe immunocompromise is permissible

The variability of seasonality for RSV vaccine was cited by focus group participants as a challenge that hinders comfort levels with recommending the vaccine and increases hesitancy among patients. Other challenges mentioned for RSV vaccine included that the ACIP recommendation only mentions one pregnancy. Further, participants observed that obstetricians' offices are often unaware that pharmacies can administer the vaccine and do not often refer patients to pharmacies for vaccination. They also shared that some patients have more hesitancy about being vaccinated while pregnant and noted that they are not as accustomed to working with patients who are pregnant and therefore have a lower comfort level with this patient population.

Some participants noted that administrative concerns can also limit vaccine offerings. For example, protocols authorizing pharmacists to administer vaccines will need to be updated when ACIP changes recommendations, and there may be delays that impact the ability of pharmacists to immediately update their practices to align with the changes. These delays can result in missed opportunities to vaccinate.

Staying Current With Recommendations

Many important changes have been made to the adult immunization schedule in recent years, including the addition of new vaccines and changes to recommendations regarding who should receive certain vaccines.¹⁵ Vaccine recommendation changes can create several challenges. Participants noted that each time there is a new vaccine or change to the recommendations for the use of the vaccine, it requires relearning how to discuss the vaccine with patients and maintain their trust in the vaccine.

Formats that participants preferred for learning about new vaccines and vaccination recommendations included live continuing education programs and webinars. They found these formats were helpful because of their ability to interact directly with presenters to ask questions about the updates. However, while the educational offerings for pharmacists are typically robust, they noted gaps in the offerings for pharmacy technicians and requested expanding the number of programs that are accredited for technicians. (Although technicians can participate in continuing education for pharmacists, they are unable to obtain credit unless the educational offering is also accredited for pharmacy technicians.)

Beyond continuing education programs, participants report relying on data and literature to understand the science that supports the rec-

ommendations. Resources used by participants to stay up to date with current information include:

- CDC website
- ACIP meetings
- ACIP website
- APhA Immunization Center
- Manufacturer websites
- Immunize.org

Participants reported using several strategies to acquire and disseminate updates throughout their organizations. Several reported having clinical leads who review literature and ACIP updates and then communicate with the rest of the organization. Some reported having immunization services staff who are responsible for tracking changes and communicating this information with the entire team. One participant reported a team-based approach with shared responsibility for obtaining and sharing information. The frequency of disseminating information varied from daily huddles to weekly clinical staff meetings, monthly clinician meetings for managers, and annual trainings for all staff.

Reported challenges associated with changes to vaccination recommendations include the requirement for multiple administrative changes (e.g., ensuring current Vaccine Information Statements are provided) and consent forms, online scheduling systems, and EHR systems are updated as needed.

Changes to vaccination recommendations can also cause



confusion or frustration for patients. For example, participants reported encounters with patients who had completed the pneumococcal vaccine requirements years ago and expressed frustration when told they should receive a new pneumococcal vaccine, especially when the recommendation was coupled with recommendations to receive multiple other vaccines as well.

Participants noted that public health departments sometimes have initiatives to support the uptake of certain vaccines and recommendations. These initiatives often include helpful educational materials to increase awareness and confidence for both patients and providers.

Compensation Issues

All participants received payment for administering vaccinations through Medicaid, and most also received payment through Medicare, commercial insurance, and self-paying patients.

However, participants noted that they generally do not receive compensation for providing vaccine history reviews, and therefore it is difficult to devote the time to provide this service. They recommended advocating for payment for vaccine history reviews from Medicare to expand access to this service. They also identified a health equity concern—patients who are regularly able to visit a primary care provider are more likely to have someone who consistently reviews

their health care needs and ensures they receive the right interventions, including vaccines. On the other hand, people who do not regularly visit a primary care provider may have important gaps in their care; pharmacists can help to address these gaps by reviewing people's vaccine needs, offering them care (e.g., vaccinating), and directing them to other appropriate resources.

Participants also noted the need to expand vaccine availability for adults with financial barriers. They observed that the Vaccines for Children program helps to meet needs for children and adolescents, but there is not a parallel program for adults.

Audit risk and payment recoupment were also cited as concerns. Specifically, participants were concerned about the possibility of having compensation from a third-party payer revoked at a later date if pharmacists administer a vaccine that is not explicitly authorized by ACIP, even if it appears to be clinically justified.

Communicating With Patients About Vaccinations

Participants reported using several strategies to stimulate interest and prompt patients to inquire about adult vaccines, including:

- **In-store signage**
- **Offering vaccines when people pick up prescription medications**
- **Putting vaccine notes on prescription bags**

- **Social media posts**
- **Pharmacy app messages**
- **Store announcements**
- **Patient education offerings during National Immunization Awareness Month**

The most common vaccine-related questions that participants reported receiving from patients are about COVID-19 vaccines. These questions arise due to the frequent changes in boosters and recommendations as well as changes in the most prevalent circulating strains. They also noted receiving many questions about the RSV vaccine and observed that the differences in recommendations for older adults and patients who are pregnant can lead to confusion.

Participants reported that vaccine hesitancy (i.e., a delay in the acceptance of vaccination, or a refusal of vaccination, despite availability of vaccine services) is an ongoing issue that has been exacerbated by widespread misinformation about vaccines. They indicated using multiple strategies to address vaccine hesitancy, which vary depending on the patient's concerns. For example, their approach to addressing concerns about adverse events would differ from their approach to addressing concerns linked to conspiracy theories.

While continuing education programs that focus on how to address myths and misperceptions about vaccines can be helpful, participants also expressed that using the broader media to communicate fact-based



messages about vaccines could help to counter misinformation and help educate people about vaccines before they arrive in the pharmacy, thereby taking some of the burden away from pharmacists. Participants also requested more patient-facing educational materials, including infographics and other visually appealing formats, to help with communicating information about vaccines to patients. Participants noted that health literacy is a barrier for many patients and expressed a need for resources that use patient-friendly terminology; they also requested that these resources be translated into multiple languages.

Participants emphasized that regardless of the concerns raised by patients, it is always important to provide scientific and fact-based information tailored to the patient's concern. They reported sharing CDC resources—including the Vaccine Information Statements—with their patients as these demonstrate the recommendations are being provided by an authoritative source. Other resources that they reported using include pharmacist.com from APhA and Immunize.org as well as educational resources from manufacturers.

For many patients who are receptive to vaccine recommendations, reading the vaccine schedule can be difficult. Participants indicated they would like to have resources that provide lists of vaccines needed based on age or condition in a patient-friendly format. They indicated that such a resource would help

patients self-identify which vaccines they should receive.

However, participants observed that it will not always be possible to change someone's mind when addressing concerns about vaccines. Nevertheless, they emphasized the importance of listening to people and treating them with respect in order to develop a relationship as a trusted professional with the hope that creating open communication will allow for opportunities to have more meaningful and productive conversations in the future.

Future Directions

Looking to the future, participants noted an ongoing need to improve patient education to overcome distrust of vaccines. Ensuring that educational resources are written in layman's terms and are available in multiple languages were seen as important steps for communicating with broader audiences. Resources for all pharmacy staff members on how to navigate challenging conversations with patients were also recommended. Participants shared that increased provider training could improve pharmacists' confidence with making vaccine recommendations. They also noted that it is important to build confidence with vaccine coadministration to increase the comfort level of both patients and pharmacists.

Addressing compensation for vaccine history reviews and patient education was emphasized by partic-

ipants as a strategy for supporting the delivery of enhanced vaccination services in community-based pharmacies. They remarked that as the types of vaccines routinely administered in pharmacies continue to grow, compensating pharmacists for their clinical expertise in assessing vaccination needs is an essential aspect. They indicated a need for greater compensation for vaccine-related services, including vaccine history reviews and patient education. They encouraged community-based pharmacists to partner with professional organizations such as APhA to advocate for expanded compensation opportunities.

Participants stressed the importance of advocating for technician roles in expanding vaccination services. They felt that technicians' roles could be broadened to help advocate for vaccines and to allow technicians to be able to inform patients that they might be eligible for a vaccine.

Staffing and workflow issues in busy pharmacies were cited by participants as they emphasized the need to provide people with the tools that they need to be successful. They also noted the need for improved strategies to support uninsured and underinsured populations.



Summary

Community-based pharmacy services continue to fill a vital role in addressing vaccination needs of adult patients, especially as the number of vaccines recommended for adults continues to expand. Several strategies may

be helpful for enhancing the role of pharmacy-based services in meeting vaccination needs. Among these strategies are addressing workflow challenges, technician roles, payment gaps, continuing education for pharmacy professionals, and

patient education needs. Strategies that support coadministration of vaccines through increasing education and awareness along with removing administrative barriers may further help address vaccination gaps in the adult population.

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Table 1. Demographics of Respondents to the APhA Survey on Vaccine Coadministration

Parameter	Percent of Respondents*
Pharmacy practice setting	
Chain pharmacy	48
Supermarket pharmacy	2a1
Independent pharmacy (1–3 units)	16
Mass-merchant pharmacy	6
Clinic (outpatient) pharmacy	6
Hospital/Institutional (inpatient) pharmacy	2
Long-term care pharmacy	1
Ambulatory care clinic	1
Federal/Military/Department of Defense	0
Other†	2
Role	
Staff pharmacist	49
Pharmacist-in-charge/manager	39
Clinical coordinator	4
Pharmacist supervisor	2
Regional manager	1
District manager	<1
Other‡	4
Year of entry-level pharmacy degree	
1983 or before	3
1984 to 1993	17
1994 to 2003	19
2004 to 2013	24
2014 to 2018	24
2019 or later	13
Pharmacy practice region	
Northeast	14
Midwest	23
South	47
West	16
Puerto Rico/Outside U.S.	1

*Percentages for survey responses may not add to 100% due to rounding.

†Other included retail pharmacy in a hospital, managed care, chain supermarket, and population health.

‡Other included floater pharmacist, part-time pharmacist, retired, owner/pharmacist/manager, director of pharmacy services, and pharmacist intern.

Source: Reference 12.





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