



# Environmental Scan of Pediatric COVID-19 Vaccination: Pharmacist Perspectives

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SEPTEMBER 8, 2024



## Acknowledgements

This environmental scan was supported by the Centers for Disease Control and Prevention (CDC) of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award totaling \$3 million with 100 percent funded by CDC. The contents are those of the authors and do not necessarily represent the official views of, nor an endorsement, by CDC, or the U.S. Government.

This environmental scan was conducted by the Association of Immunization Managers (AIM) and Mathematica. This report was written by the Mathematica team, including Isabel Musse and Alyssa Crawford, with assistance from Alex Kobrin, Eleane Lema, Emmanuel Saint-Phard, Steven Hossen, Joe Zickafoose, John Kennedy, and Colleen Fitts. The report was reviewed and revised with input from the AIM team: Michelle Fiscus, Katy Gore, and Claire Hannan. This report was also reviewed, revised, and includes SME input from CDC staff.

## Caveat

This report is based on data collected in August and September 2023, before and during the commercialization of COVID-19 vaccines. Some of the results therefore reflect previous guidance and processes and may no longer be relevant. To aid the reader in interpreting these findings, we have included footnotes with information available as of September 7, 2024, about new or modified policies and programs that affect pediatric COVID-19 vaccination efforts.

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## I. Introduction

Pharmacists, especially community pharmacists, can be highly trusted sources of medical information and important partners in public health responses (Shearer et al., 2017). Pharmacists have received increasing authority to provide vaccinations in recent decades, and although vaccination services were initially limited to adults, pharmacists in most states may now administer some vaccines to some pediatric age groups (Hofstetter and Schaffer, 2021; National Alliance of State Pharmacy Associations, 2023). Pharmacists played a critical role in the administration of pediatric COVID-19 vaccines during the pandemic after the U.S. Department of Health and Human Services authorized pharmacists to administer vaccines to children 3 years and older (Hughes and Choudhury, 2023; Skoy et al., 2023).

According to one study, nearly half (48 percent) of children ages 12 to 17 years received a COVID-19 vaccination at a pharmacy, as did more than one-third (37 percent) of children ages 5 to 11 years (Santibanez et al., 2022). Pharmacies can also play an important role in improving access: in the 11 weeks after COVID-19 vaccines for children ages 5 to 11 became available, there were more pharmacies than health care facilities actively offering pediatric COVID-19 vaccinations within five miles of eligible children (Kim et al., 2022). Pharmacy-based pediatric COVID-19 vaccinations were also significantly more common in counties with higher social vulnerability index scores than in counties with low social vulnerability index scores (Santibanez et al., 2022).

Historically, most pharmacists have not participated in the Vaccines for Children (VFC) program, but some are interested in becoming involved (Hughes and Choudhury, 2023). The VFC program offers vaccines at no cost for eligible children at VFC-participating providers. Eligible children include people younger than 19 years old who are American Indian or Alaska Native, Medicaid-eligible, uninsured, or underinsured (Centers for Disease Control and Prevention (CDC), 2022). Although most states allow pharmacists to participate in the VFC program, only a subset have enrolled pharmacists into their programs, and pharmacists face unique barriers to participation (Alden et al., 2022). For instance, it can be especially difficult for pharmacists to recoup the cost of vaccine administration as pharmacists cannot bill Medicaid for vaccine administration in all states, and enrolling and participating in the VFC program introduces administrative burdens and investments in equipment and staff time. Additionally, there is ongoing uncertainty as to how much demand pharmacies will have for pediatric vaccinations post-commercialization (Dullea and Knock, 2020).<sup>1</sup>

The COVID-19 public health emergency and provisions of the Public Readiness and Emergency Preparedness (PREP) Act expired in May 2023, although the provisions that

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<sup>1</sup> Although VFC participants receive vaccines at no cost, VFC does not cover the labor and equipment costs incurred when participating pharmacies obtain, store, manage, administer, and report on VFC vaccines. Some costs, such as those related to vaccine counseling and administration, can be covered through Medicaid for eligible patients when allowed by the policies of each state's Medicaid program.

allowed pharmacists, pharmacy interns, and pharmacy technicians in all states to administer COVID-19 and seasonal influenza vaccinations to children 3 years of age and older were extended through December 31, 2024 (U.S. Department of Health and Human Services, 2023). However, the commercialization of COVID-19 vaccines introduced new financial and logistical considerations to the existing barriers to the administration of vaccines at pharmacies (McKeirnan et al., 2022). The transition of the purchase of COVID-19 medications, including vaccines, from the U.S. government to the traditional health care marketplace could influence whether pharmacists will continue to contribute to pediatric COVID-19 vaccination efforts—as well as whether they will be interested and viable participants in the VFC program.

This report summarizes the findings of a mixed-methods environmental scan sponsored by the CDC and conducted by AIM and Mathematica to investigate pharmacists' experiences and perspectives in offering pediatric COVID-19 vaccinations and the feasibility of participation in the VFC program after COVID-19 vaccine commercialization. Our findings are based on data collected in August and September 2023, as plans for the commercialization of the COVID-19 vaccines were still under development. As such, some results may no longer be relevant, and we have included footnotes with explanations about changes that have occurred since the data was collected.

## II. Methods

Mathematica's analysis included three data sources: existing documents, survey, interviews, and focus groups with pharmacists and pharmacy staff. The Health Media Labs Institutional Review Board approved this environmental scan approach before data collection activities began.

- 1. Review of existing documents.** The team began by conducting background research to understand the COVID-19 vaccination and VFC program participation landscape related to pharmacists before defining data collection plans.

The team completed a targeted literature review of peer-reviewed publications and other reputable sources. The scan brought forth several key themes that we incorporated into the survey and qualitative data collections, including pharmacists' perceptions of the VFC program, as well as barriers to and facilitators of providing pediatric vaccines and participating in the VFC program.

- 2. Collaboration for recruitment.** The National Alliance of State Pharmacy Associations (NASPA) emailed state pharmacy associations asking for their assistance with data collection. Thirteen state associations expressed their willingness to help data collection, and we selected 11 for the survey, interviews, and focus groups.
  - A. Survey.** Eight state associations sent an invitation to their members to participate in the Pharmacist Pediatric Vaccination Survey. Each state association sent at least one invitation email to pharmacists to ask them to complete the survey. In

total, the associations contacted about 5,200 email recipients about the survey. Although eight state associations were contacted, we received responses from pharmacists working in 31 states, which might have happened because pharmacists are often licensed in more than one state. We planned to recruit up to 300 individuals to participate in the survey, and to close the survey if the number of responses exceeded that number.

The survey collected data on pharmacists and pharmacy staff (including pharmacy managers, pharmacists in charge, and pharmacy technicians) who were familiar with their pharmacy's pediatric vaccine management practices and, if relevant, their pharmacy's involvement in the VFC program. Answers to most questions in the survey were optional, and respondents could skip questions. The survey instrument is included in Appendix D.

The team used QuestionPro survey software to field the web survey, which was designed to take about 10 minutes to complete. We fielded the survey from August 17 through September 4, 2023, before and as the U.S. Government began to phase out ordering of COVID-19 vaccines in anticipation of commercialization. Pharmacists and pharmacy staff who were eligible and completed the survey received a \$20 Amazon e-gift card.

We received 172 responses, which is just over half (57%) of our 300-participant goal and corresponds to a completion rate of about three percent of all invited participants. This does not include the 66 respondents who were screened out of the survey because they did not take part in key decisions regarding pediatric vaccination.

Demographic information about the final survey sample is available in Appendix A. Most survey respondents were pharmacists (55 percent), followed by pharmacy managers or pharmacists in charge (36 percent) and pharmacy technicians (8 percent). These respondents are collectively referred to as "pharmacy staff" throughout this report. About four in five survey respondents worked in a retail or community pharmacy (84 percent). The rest worked in specialty or hospital pharmacies, compounding pharmacies, or long-term care pharmacies.

**B. Interviews and focus groups.** Four state pharmacist associations invited their members to participate in focus groups or interviews. Pharmacists who participated in AIM-hosted Pediatric COVID-19 Vaccine Access Cooperative meetings held in-person between March and June 2023, were also invited to participate. We planned to recruit up to 20 interview and focus group participants. In total, 14 pharmacists in five states participated in interviews or focus groups. Interviews (with one respondent) and focus groups (with two or three respondents) took place between August 30 and September 6, 2023, during the transition to vaccine commercialization. Interviews and focus groups lasted 45 to 60 minutes, and those who completed an interview or focus group received a



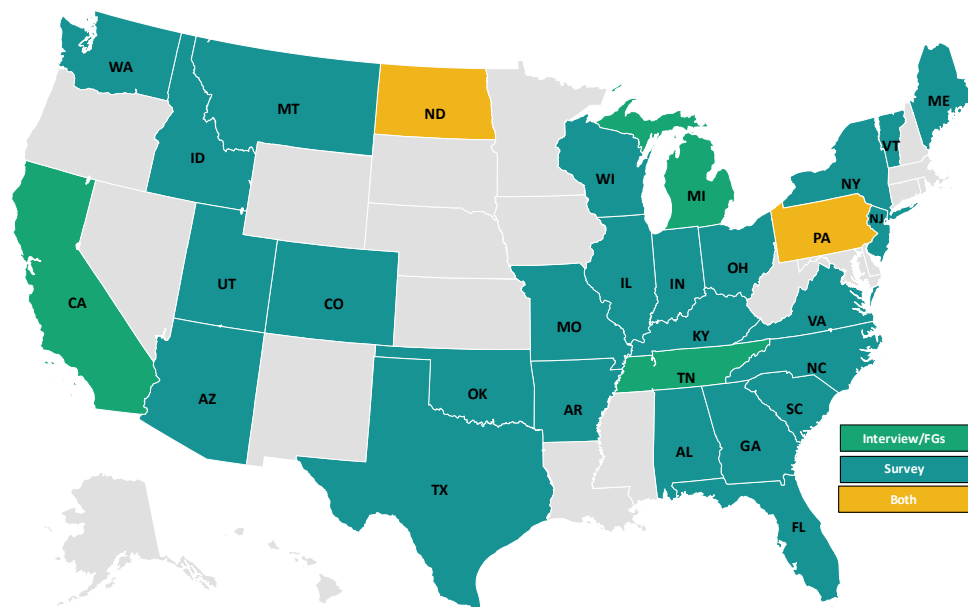
\$100 Amazon e-gift card. The interview and focus group guide, which tailored the questions asked based on respondents' experiences with pediatric COVID-19 vaccinations and the VFC program, is included in Appendix E.

The team conducted all interviews and focus groups virtually, using the Webex platform. With respondents' verbal consent, we recorded interviews and focus groups. A third-party transcription service, Way With Words, professionally transcribed all recordings for the team to use internally for analysis purposes. The team conducted qualitative coding of the transcripts (or notes) using NVivo software to identify key themes for analysis.

Demographic information about the final interview and focus group sample is available in Appendix B. All participants were pharmacists, and many were also pharmacists in charge. Most worked in community pharmacies, but a few worked in chain pharmacies or in other settings, such as in a hospital pharmacy or at pharmacies located on a college campus.

Figure 1 illustrates the states with survey participants, interview and focus group participants, and participants of both forms of data collection. To our knowledge, no single participant took part in both the survey and an interview or focus group. Not all individuals who completed the survey provided their email address to request an e-gift card incentive, however, so there is a small chance that such an instance occurred, given the overlap in sampling approaches.

**Figure 1.** States with interview, focus group, or survey participants



Note: Generated using [GeoNames](https://www.geonames.org/).

After data collection activities, we constructed our analytical samples. We conducted analyses using these samples and present cross-cutting themes in the next section.

### III. Findings

This section presents cross-cutting themes from the environmental scan, including pharmacists' experiences with and interest in pediatric vaccine administration and the VFC program. Most pharmacists who participated in interviews, focus groups, or the survey offered pediatric vaccinations, and many made substantial investments to change their policies and procedures to obtain and properly store and administer COVID-19 vaccines. Unfortunately, most pharmacists were uncertain about whether they would purchase COVID-19 vaccines after the vaccines' commercialization due to **concerns about recouping purchase and administration costs**. Pharmacy staff, particularly those at pharmacies that were not vaccinating children against COVID-19, were also **less confident in vaccinating younger children**. Some **pharmacists were interested in participating in the VFC program**, and those that have participated found their participation in the program rewarding. However, pharmacists mentioned challenges related to being paid for vaccine administration and voiced concerns about how VFC program requirements might affect their ability to participate in the program.<sup>2</sup>

#### a. Types and ages of pediatric vaccinations offered at pharmacies

Three-quarters of survey respondents and all interview participants provided pediatric vaccinations at their pharmacy at the time of the survey, most commonly seasonal influenza and COVID-19 vaccinations. Two-thirds (67 percent) of surveyed pharmacy staff whose pharmacies have experience providing pediatric COVID-19 vaccines still offer them. Most interviewed pharmacists had offered pediatric COVID-19 vaccines since they had become available, but some had stopped because of the lack of demand or when they ran out of government-purchased vaccines during the transition to vaccine commercialization. Some interview participants indicated their pharmacies offered incentives or rewards for children who received a COVID-19 vaccination or invested in toys and other distractions to help children feel comfortable in the space. One interviewee noted that their pharmacy offers vaccinations at times that work better for some working parents.



“My environment is not a doctor’s office, it’s a pharmacy, and we’re able to try and make it fun, and just a little different than a doctor’s office where they’re normally going to get shots.”

Interviewed pharmacist

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<sup>2</sup> To help prevent fraud and abuse of VFC vaccines, the VFC program requires program participants to provide ALL ACIP-recommended vaccines (including COVID-19) to VFC-eligible patients and (2) to stock privately purchased inventory of COVID-19 vaccines for non-VFC-eligible patients. The VFC program recently began to allow for the designation of specialty providers, offering a limited selection of vaccines based on the needs of the population served by that facility. Immunization Programs have the discretion to determine the specialty designation for their jurisdiction. Pharmacies designated as specialty providers could, for instance, only carry influenza and COVID-19 vaccines, rather than all ACIP-recommended vaccines. Specialty providers are still required to carry both VFC and private stock of vaccines, and to offer those vaccines to all ages of eligible patients. However, the CDC has waived the requirement to purchase private stock COVID-19 vaccines until August 31, 2025, with some exceptions. At the time of this environmental scan, the COVID-19 vaccine was approved by ACIP for children ages 6 months and older, but providers were receiving all COVID-19 vaccines at no cost from the federal government.

Pharmacists’ degree of comfort vaccinating children of different ages varied, and those with experience providing pediatric COVID-19 vaccinations were more willing to vaccinate younger ages of children than those who had not provided such vaccinations (Figure 2). More than half (58 percent) of pharmacists that were providing pediatric vaccinations were subject to state laws with prescription requirements for vaccinating children of certain ages. Forty-three percent of surveyed pharmacy staff indicated that their pharmacies had vaccinated children as young as age 3 or 4 years against COVID-19. Most interviewed pharmacists said they provide COVID-19 and other pediatric vaccinations to children as young as 3 to 5 years of age. Some were experienced in vaccinating infants, while others preferred to vaccinate children older than 10 or 11 years of age. Sometimes, the age at which the pharmacist could vaccinate a child depended on the vaccine: for instance, one interviewed pharmacist vaccinated children

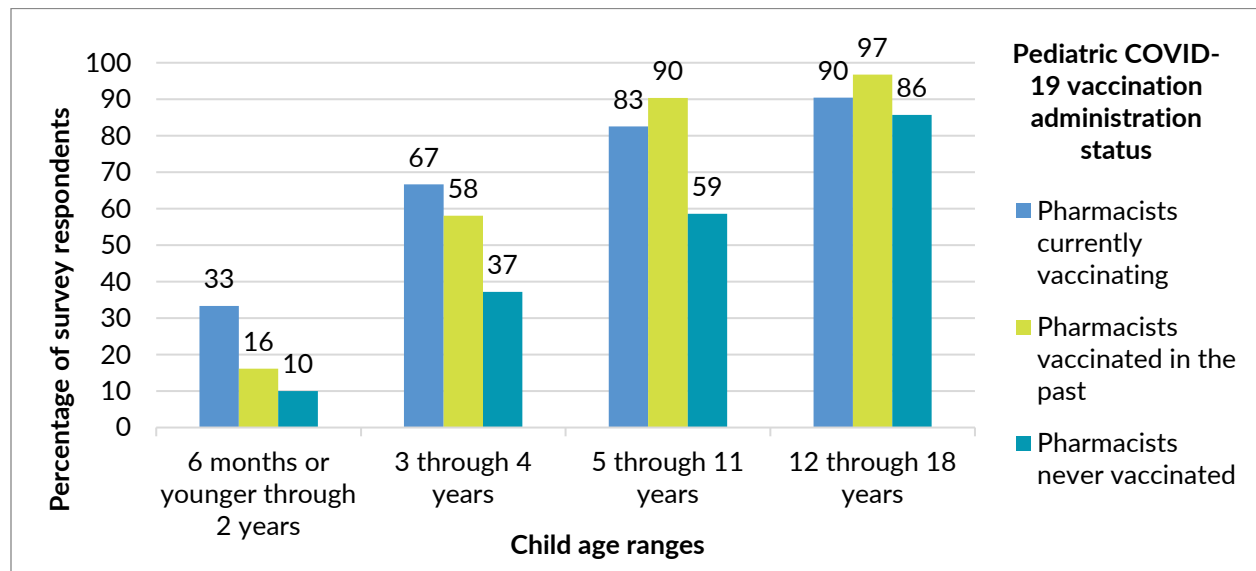


“I could bring the whole family in to get vaccinated at the same time, which is really a lot of my approach. So I found it better, one appointment, one access point. You could do adults, kids, the whole nine right then and there. The kids come in, they see their siblings. It was just one and done, and families loved it.”

Interviewed pharmacist

ages 3 and older against seasonal influenza but only vaccinated children ages 5 and older against COVID-19. Thirty percent of surveyed pharmacy staff said they would be willing to vaccinate children as young as age 5 against COVID-19 if there were no age restrictions based on federal, state, local law, or corporate policies, while only 24 percent said they would be willing to vaccinate children younger than age three.

**Figure 2.** What ages of children would pharmacists be willing to vaccinate against COVID-19 if permitted by law and pharmacy policy? (n=149\*)



Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses)

\* n=149 respondents who answered this question, including 59 respondents vaccinating children at the time of data collection, 30 who vaccinated children in the past, and 60 never vaccinated children.

Nearly all surveyed and interviewed pharmacists said pharmacists were responsible for administering pediatric vaccinations at their pharmacy. Among survey respondents, pharmacy interns or students provided pediatric vaccinations in 39 percent of pharmacies, 25 percent of pharmacies used pharmacy technicians, and a few used nurses (12 percent) or nurse practitioners or physician assistants (5 percent) to administer pediatric vaccines. Some interviewed participants described mobilizing pharmacy technicians, pharmacy students, and nurses only when demand for the pediatric COVID-19 vaccine was high.

### b. Challenges to administering pediatric COVID-19 vaccines in pharmacies

Pharmacists interested in providing pediatric COVID-19 vaccinations have faced several challenges:

- **Low demand and vaccine hesitancy.** Environmental scan participants, including nearly half (45 percent) of surveyed pharmacists who had previously but no longer provided COVID-19 vaccinations (Appendix C, Table C.1), cited low demand a reason why they did not provide pediatric COVID-19 vaccinations. Low demand was also the most frequently cited reason some surveyed pharmacists only vaccinated children of certain ages (Appendix C, Table C.2). Vaccine hesitancy was another common-cited reason, especially among surveyed pharmacy staff who offered COVID-19 vaccinations to only some ages of children. Some interviewed pharmacists reported that they needed to educate parents on the benefits of receiving the vaccine for children and combat misinformation about side effects of the vaccines.

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“I think there was a lot of concern about safety from the parents’ standpoint. A lot of them will get it or eventually will get it for themselves, but for their children they want a lot more information, a lot of explanation if it’s safe, what are the risks versus benefits, things like that. There’s some additional education needed to the patient, so that their kids can get vaccine.”

Interviewed pharmacist

- **Staff experience and capacity.** Survey and interview participants both named the lack of staff confidence in vaccine administration to children as a common barrier. Twenty-six percent of surveyed pharmacy staff whose pharmacies were not providing pediatric COVID-19 vaccinations cited this as a factor, as did a similar proportion (28 percent) of pharmacy staff whose pharmacies only vaccinated some ages of children. As shown in

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“I think one of the challenges we had was just the hesitation from the pharmacists, in general ... [pharmacists have] only been vaccinating for about 20 years or so, which isn’t really that long. It was always like ‘only 18 and up’ and...we’ll let you do flu but only five and up.”

Interviewed pharmacist

Figure 2 above, the surveyed pharmacy staff’s confidence depended on the child’s age. Surveyed pharmacists that had never provided pediatric COVID-19 vaccines also cited limited staff resources as a notable factor (21 percent). Some interview participants mentioned that children having negative reactions to needles was difficult to manage in a pharmacy setting and that staff time constraints made working with children particularly

challenging. Several indicated their staff were not accustomed to vaccinating young children and had not been trained on appropriate vaccine administration techniques for such children, such as injecting vaccines into the thigh.

- **Risk of wastage.** Vaccines being available only in multidose vials was also a frequently cited reason why surveyed pharmacy staff did not offer pediatric COVID-19 vaccinations (30 percent), particularly for pharmacists that had previously provided such vaccinations (42 percent).<sup>3</sup> Most interview participants shared this concern, though some had developed strategies to address it, such as limiting vaccination services to certain dates or pre-scheduling appointments.
- **Financial barriers.** Approximately one-third of interviewed pharmacists noted financial barriers to providing COVID-19 vaccinations. Some pharmacists were not recognized as health care providers by Medicaid or commercial insurance, which made it harder for them to be paid by insurance companies for services rendered. Nearly one in six surveyed pharmacy staff (16 percent) cited concerns about the costs of vaccinating uninsured and underinsured children as a reason for not providing COVID-19 vaccinations, and 10 percent cited payment for COVID-19 vaccine administration being too low (Appendix C, Table C.1).

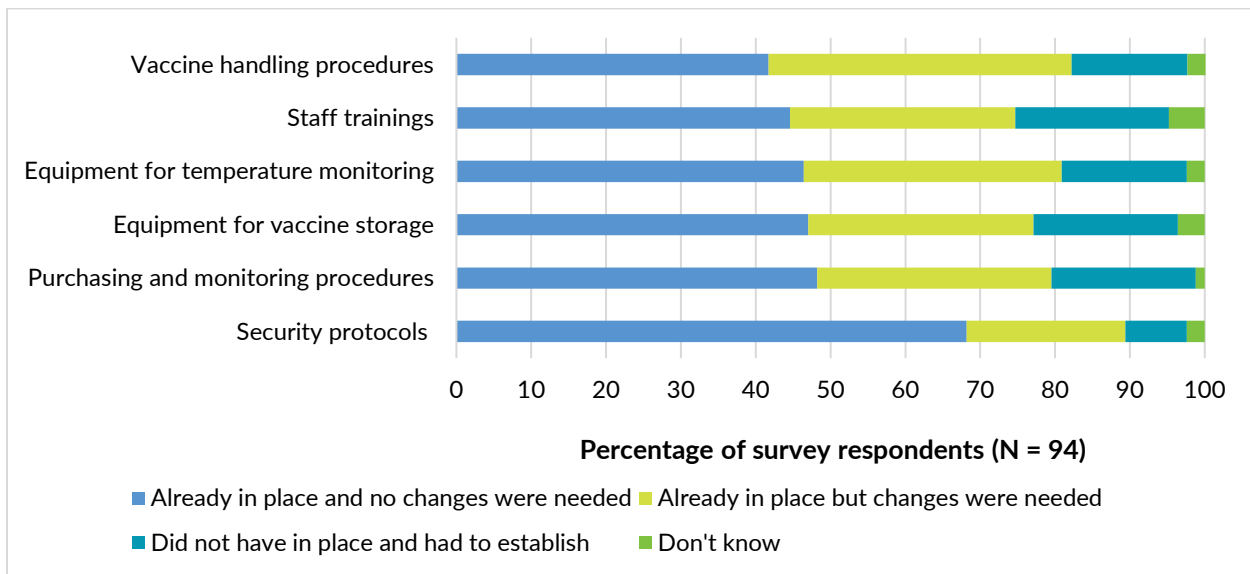
#### c. Pharmacy policies, procedures, and oversight for COVID-19 vaccine storage and handling

Pharmacies undertook significant efforts to adopt and adapt their procedures to be able to administer pediatric COVID-19 vaccinations safely and effectively. More than half (59 percent) of survey respondents who administered COVID-19 vaccines at some point had to establish new procedures or change the ones in place for safe and effective COVID-19 vaccinations (Figure 3). These pharmacy staff most often modified procedures for the vaccination process, vaccine storage and handling, and the purchasing and monitoring of vaccine inventory. Storage, handling, and reporting requirements were also a reason that one-third (32 percent) of surveyed pharmacy staff were no longer offering pediatric COVID-19 vaccinations (Appendix C, Table C.2).

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<sup>3</sup> Most pediatric COVID-19 vaccines are now available in single-dose vials and prefilled syringes, but whether and to what extent such products would be available was not known at the time of this environmental scan.

**Figure 3.** Which kinds of procedures did pharmacists have to establish or modify to provide safe and effective COVID-19 vaccinations? (n=94\*)



Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

\*n = 94, number of respondents who have provided pediatric COVID-19 vaccinations, either currently or in the past. Not all respondents indicated an answer for each row.

Most interview participants reported that their pharmacies had the resources, policies, and procedures to receive, store, and administer COVID-19 vaccines, but some had to quickly adapt to the requirements of handling and administering these highly sought-after vaccines.

“When the COVID vaccine came out, everything changed. I don’t think that it was ever really like that previously. Because you never had to scan a QR code to find out what the expiration is. For all the other vaccines, it’s on the box and stuff. You don’t really have to reconstitute most vaccines.... I think the COVID one was pretty novel. And a lot of new policies had to come into place ... the storage of it was very different than the other vaccines. Making sure it was frozen and taking out at a certain time.... We always had to put in a beyond-use date. We still have to do that. I think that the COVID vaccine is very different than other vaccines that we offer.”

Interviewed pharmacist

Cold storage for COVID-19 vaccines was a challenge for most respondents. Nearly half of survey respondents had to adapt their equipment for temperature monitoring (51 percent). Most interviewees did not have to purchase an ultra-cold freezer, but some had to purchase temperature monitoring devices such as digital data loggers, and some had to establish temperature monitoring and oversight strategies. Interview participants mentioned other oversight strategies, including documenting and cross-referencing vaccine stocks in state platforms (including immunization information systems) and color coding or other procedures for keeping track of different formulations and manufacturers.



"I had to make changes, especially for storage. I had to get a separate refrigerator and freezer. I had to change some of my policies. I got some of my pharmacy technicians to be certified to give vaccines to 18 and above. So I made some changes, but there's some things that remained the same because we always gave vaccines here, even flu vaccines for 3 and up, even before the pandemic. We just had to revamp our processes a little bit. We had to eventually remodel the pharmacy to carve out vaccine rooms so that patients, especially children, would feel more comfortable."

Interviewed pharmacist

Among survey respondents whose pharmacies administered COVID-19 vaccines at some point, about half (51 percent) had to provide training for staff on administering pediatric vaccinations. Interview participants also emphasized the importance of training and relied on guidance from a variety of sources, particularly federal, state, and local health agencies and programs. For example, one pharmacist received a handbook and step-by-step process from the state department of health. Another mentioned participating in monthly calls with state and county departments of health that included training and information on changes in guidelines or best practices. A few pharmacists received trainings from wholesalers or insurers or developed their own trainings on topics such as administration techniques and storage procedures.

Participating pharmacists were subject to local, state, or federal oversight of their COVID-19 vaccine storage, handling, and administration. Among surveyed pharmacy staff, slightly more than half (51 percent) reported their pharmacies were subject to site visits or verification of delivery and restocking of vaccines, and many had to regularly submit temperature logs (38 percent) or report temperature excursions (41 percent) (Table 1). This oversight usually came from the state's immunization program, public health department, or board of pharmacy, and less frequently from a local immunization program or public health department (Appendix C, Table C.3). Among interview participants, state boards of pharmacy were the most common body with oversight of pharmacy vaccination practices, followed by state, county, or local health departments.

**Table 1.** What did oversight of COVID-19 vaccination storage, handling, and administration entail? (n=73\*)

Type of oversight	Number of pharmacies
Verification of delivery and restocking of vaccines	37 (50.7%)
Site visits from the oversight body	37 (50.7%)
Reporting of temperature excursions to the oversight body	30 (41.1%)
Documentation of a plan for emergencies	29 (39.7%)
Regular submission of temperature logs to the oversight body	28 (38.4%)
Inspection of vaccines for alteration or tampering	27 (37%)
Regulation of access to vaccine inventory	27 (37%)
Mandatory ongoing education specific to COVID-19 vaccines	25 (34.2%)
Demonstration of administration technique to the oversight body	21 (28.8%)

Type of oversight	Number of pharmacies
Daily reporting of inventory and waste was reported as another type of oversight	1 (1.4%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

\*n = 73, respondents who indicated at least one body had oversight of COVID-19 vaccine storage, handling, and administration for their pharmacy. Percentage sum is more than 100 percent because respondents could select multiple response options.

#### d. Pharmacists as VFC program providers



“As a community we want this to be a resource, where people come and get updates. A lot of time we get people just walk in and ask what’s available and the safety and all of that. They may decide not to get the vaccine that day and they may come back another day, but we’re glad to be participating in a program like this, it makes us a center point where when they make that decision, they can come back. They don’t have to wait a couple of weeks to go to wherever they need to go to get their vaccine.”

Interviewed pharmacist

Most surveyed pharmacy staff indicated their pharmacies had never participated in the VFC program (61 percent). Some were participating in the VFC program (14 percent) at the time of the environmental scan: about half were offering all ACIP-recommended vaccines to children, and a third were only offering the influenza vaccines (Appendix C, Table C.8). The rest had previously participated (9 percent) or did not know whether their pharmacy participated (16 percent). Among those who were not participating in the VFC program at the time of data collection, 27 percent had considered enrolling or re-enrolling in the program. However, among those that were participating at the time of the data collection, a similar share (24 percent) had considered ending their participation. Most interviewed pharmacists had never participated in the VFC program but would consider joining should the opportunity become available to more pharmacists in their state. The three interviewed pharmacists who worked at pharmacies enrolled in the VFC program all said they were unlikely to end their participation in the program.



“I think that’s how we have perceived this [VFC program participation] opportunity as looking forward and trying to help the community, while also being able to financially be compensated for the same.”

Interviewed pharmacist

Survey respondents from pharmacies that had experience with the VFC program cited many benefits to program participation (Table 2). Nearly three-quarters (72 percent) of staff at pharmacies that were enrolled in the VFC program mentioned participating to administer vaccinations to all children regardless of ability to pay and to increase access to childhood vaccinations in the community. More than half (57 percent) of those who were participating or had participated in the VFC program also highlighted that the VFC program brought opportunities to strengthen communication and partnerships with medical providers, Medicaid, and immunization programs.



**Table 2.** For which reasons had pharmacists participated in the VFC program? (n=35\*)

Reason	Participating in the VFC program at the time of the survey (n=21)	Former VFC program participants (n=14)	Overall (n=35)
Ability to administer vaccines to all children regardless of ability to pay	15 (71.4%)	4 (28.6%)	19 (54.3%)
Ability to increase access to childhood vaccinations in the community	15 (71.4%)	5 (35.7%)	20 (57.1%)
Large population of VFC-eligible patients in the community	8 (38.1%)	5 (35.7%)	13 (37.1%)
Opportunities to strengthen communication and partnerships with medical providers, Medicaid, and immunization programs	13 (61.9%)	7 (50%)	20 (57.1%)
Participation in the VFC program is a Medicaid enrollment requirement in my state	4 (19%)	4 (28.6%)	8 (22.9%)
The state or local immunization program encouraged my pharmacy to enroll in the VFC program	9 (42.9%)	3 (21.4%)	12 (34.3%)
Other	0 (0%)	2 (14.3%)	2 (5.7%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

\*n=35, number of respondents who had participated the VFC program. Sum of percentages across each column is more than 100 percent because respondents could select multiple response options.

Survey respondents who had considered participating in the VFC program cited many of the same reasons (Table 3). Encouragement and support seemed key: although 43 percent of pharmacists participating in the VFC program at the time of data collection mentioned that a state or local immunization program had encouraged their pharmacy to enroll in the VFC program, only 16 percent of nonparticipants said the same. Interviewed pharmacists felt participating in the VFC program would enable them to reach more people and noted pharmacists were seen as a trusted resource in their communities, which had helped them to reach vulnerable populations. One interviewed pharmacist that was participating in the VFC program shared they were selected to participate because of their ability to administer vaccinations to large numbers of children. One interview participant who had never participated in the VFC program felt that enrolling might help address wastage concerns, as they could order the doses they need rather than receive them in bulk. Another indicated they would be interested in participating if they could choose to only vaccinate older children.<sup>4</sup>

<sup>4</sup> The VFC program requires program participants to provide all ACIP-recommended vaccines (including COVID-19) to VFC-eligible patients. As such, VFC participants are required to provide COVID-19 vaccines to all children ages 6 months and older.

**Table 3.** For which reasons were pharmacists considering participating in the VFC program? (n=31\*)

Reason	Number of pharmacies
Ability to increase access to childhood vaccinations in the community	25 (80.6%)
Ability to administer vaccinations to all children regardless of ability to pay	22 (71%)
Ability to administer COVID-19 vaccines to children after the government no longer provides vaccines	18 (58.1%)
Opportunities to strengthen communication and partnerships with medical providers, Medicaid, and immunization programs	13 (41.9%)
Large population of VFC-eligible patients in the community	9 (29%)
My pharmacy is considering enrolling as a Medicaid provider and participation in the VFC program is a Medicaid enrollment requirement in my state	6 (19.4%)
The state or local immunization program encouraged my pharmacy to enroll in the VFC program	5 (16.1%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

\*n = 31, number of respondents who are considering enrolling or re-enrolling in the VFC program. Percentage sum is more than 100 percent because respondents could select multiple response options.

Among survey respondents who were not VFC program participants nor interested in joining, program requirements were the main barrier (Appendix C, Table C.4). Such respondents most frequently mentioned requirements for maintaining separate vaccine stocks (23 percent), limited staff resources (21 percent), and the need to report inventory and vaccine administration (18 percent). Program requirements were also a concern for interviewed pharmacists, who mentioned costs and challenges with stocking separate vaccine supplies, added paperwork, and financial risks, including the fact that pharmacists are sometimes not paid for vaccine administration.<sup>5</sup>



“In my practice, we completely bill insurance for vaccines. And we profit off of the administration fee from that. And that’s pretty much how we make money on giving vaccines. If it’s through a program where I’m not able to get that administration fee, I don’t foresee my employer taking that under.”

Interviewed pharmacist

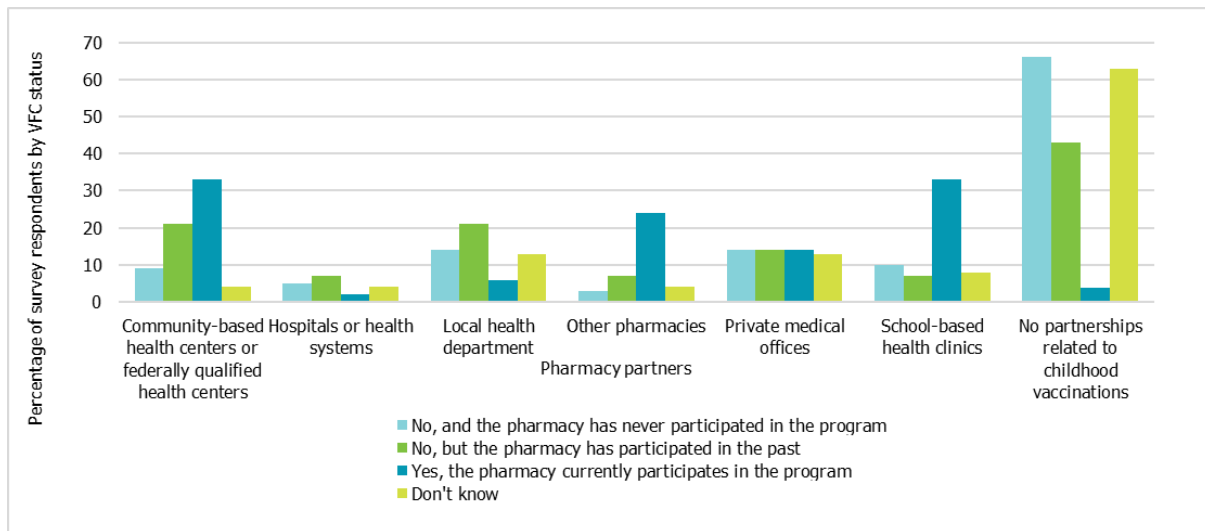
**e. Pharmacists in other vaccination programs and partnerships**

Pharmacists enrolled in the VFC program seemed to be more often involved in partnerships with other providers than those not enrolled in the program. Among survey respondents (Figure 4), nearly all VFC program participants had at least one partnership, while only about half of other respondents reported the same. Compared to former and never VFC participants, pharmacies that were participating in the VFC program more often reported partnerships with school-based clinics, health centers, or other pharmacies, but less often reported partnerships with hospitals or health systems and local health departments. Surveyed VFC program participants were also more likely to be

<sup>5</sup> As of 2020, most states that allowed pharmacists to participate in the VFC program provided some reimbursement of administrative fees for Medicaid-eligible patients, but fees vary widely across states (Dullea and Knock, 2020). Such reimbursement does not cover other VFC-eligible patients, such as those that are uninsured.

involved in other national, state, and local immunization programs, such as the Federal Retail Pharmacy Program for COVID-19 Vaccination (Appendix C, Table C.5). Interview participants had mixed experiences with state vaccination programs. Some had encountered difficulties participating in and receiving vaccines from state COVID-19 vaccination programs. Others had more positive experiences and received manageable and timely orders of vaccines. Some interview participants mentioned forming partnerships with local health departments, VFC program providers and other clinical providers, other pharmacists, and schools.

**Figure 4.** Which providers did pharmacists partner with on efforts related to childhood vaccinations? (n=153\*)



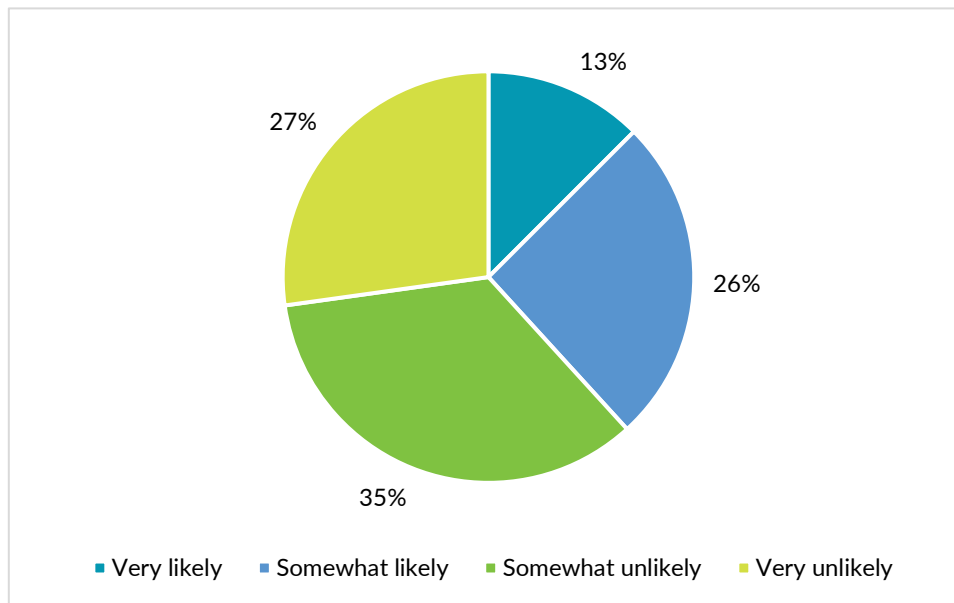
Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

\*n = 153, number of respondents who provided any pediatric vaccinations at the time of the survey. Presented in four groups: Pharmacy currently participates in the program (n = 21); pharmacy has participated in the past (n = 14); pharmacy has never participated in the program (n = 94); don't know about VFC participation (n = 24).

#### f. Expectations around the commercialization of COVID-19 vaccines

Many survey and interview respondents were concerned about the commercialization of COVID-19 vaccines. Less than half (39 percent) of surveyed pharmacy staff said their pharmacies were somewhat or very likely to purchase pediatric COVID-19 vaccines for their patients when the government stopped providing the vaccines at no cost (Figure 5). The likelihood of providing pediatric COVID-19 vaccinations after commercialization did not seem to vary based on whether children were privately or publicly insured or uninsured (Appendix C, Table C.6). Most interview participants said they were likely to continue to offer COVID-19 vaccines to pediatric patients after commercialization as long as there was sufficient demand, ways to minimize wastage (such as single dose vials), and they could effectively bill for vaccines and vaccine administration fees. Most also anticipated their pediatric vaccination services would expand or remain the same, and some viewed COVID-19 vaccines as routine immunizations similar to the seasonal influenza vaccines.

**Figure 5.** How likely did pharmacists say they would be to purchase pediatric COVID-19 vaccines after the federal government stops providing the vaccines at no cost? (n=149\*)



Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

\*n = 149, number of respondents who provided an answer to this question; does not include 13 who selected “not applicable.”

When asked for suggestions on how to increase pediatric COVID-19 immunization rates, most interview participants encouraged educating the public about vaccines (including addressing mis- and dis-information) and making pediatric vaccines available in single-dose and pre-filled syringes. A couple also suggested improving payments for vaccination services, including vaccine administration.

**g. VFC program participation after commercialization of COVID-19 vaccines**

VFC program requirements may affect pharmacies’ decisions to join or remain in the program after the commercialization of COVID-19 vaccines. Nearly half (48 percent) of survey respondents whose pharmacies participated in the VFC program stated that the inclusion of COVID-19 vaccines in the VFC program had no impact on their interest in remaining in the program, but 24 percent said it did, and 29 percent were unsure. Among survey respondents who believed their pharmacies were not interested in joining the VFC program, nearly one-quarter (23 percent) cited the requirement to maintain separate VFC program and commercial vaccine stocks as a factor and one in six (16 percent) cited the requirement that non-specialty providers offer all ACIP-recommended vaccines, including COVID-19 vaccines, to all eligible pediatric patients (Appendix C, Table C.4).



"I prebooked hundreds of doses already just to get started. I have other expensive vaccines in my fridge. I will continue to do vaccines because I like dealing with vaccine-preventable diseases. So it wouldn't change anything. From a business standpoint, as a business owner, you watch your money to make sure that you're not losing money, but it doesn't change the fact that I want to keep everybody safe."

Interviewed pharmacist

## IV. Considerations

This environmental scan illustrates the commitment of many pharmacists and other pharmacy staff that assist with pediatric COVID-19 vaccination efforts in their communities, with the reality of numerous challenges to doing so effectively. Pharmacist participation in the VFC program expands access to vaccinations for pediatric patients whose families may not be able to pay to vaccinate their children, and benefits pharmacists by providing vaccines for VFC-eligible children at no charge and providing pharmacists with the ability to vaccinate all children, regardless of insurance status. In September 2023, pediatric COVID-19 vaccines transitioned from being provided universally by the federal government to being provided to eligible children through the VFC program and through the commercial market for children with private insurance coverage. With this transition, most vaccines manufactured by Pfizer and Moderna became available in single-dose vials, alleviating some wastage concerns. However, Pfizer vaccines for children ages 6 months through 4 years are still supplied in multi-dose vials as of the publication date of this report, and overall demand for pediatric COVID-19 vaccinations remains low. Pharmacists continue to face financial barriers due to variation in whether and how much Medicaid and other insurers compensate pharmacists for vaccine administration, along with the need to purchase multiple preparations of COVID-19 vaccines for different populations and the slow recoup of capital invested in vaccine purchases. Pharmacists in some states have also lost the authority to administer pediatric vaccines, or to administer vaccines to all ages of children, after the expiration of the PREP Act. Pharmacists participating in the VFC program have benefited from VFC guidance that granted providers flexibility related to the introduction of COVID-19 vaccines, including a one-time grace period (through August 31, 2025) to give providers extra time to purchase private vaccine stock in accordance with the program's requirements.<sup>6</sup> These changes helped to protect access to pharmacy-based pediatric COVID-19 vaccination services, but there are other opportunities based on the findings of this environmental scan.

- **Jurisdictions not currently including pharmacists in the VFC program could expand VFC program eligibility at the jurisdiction level to include pharmacists and assist them in understanding and meeting program requirements.** Many pharmacists are interested in participating in the VFC program but are hesitant due to certain program

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<sup>6</sup> For more information, refer to CDC's *Vaccines for Children Program Addendum: Special Considerations for COVID-19 and Nirsevimab*, available at [https://www.cdc.gov/vaccines-for-children/media/pdfs/2024/08/operations-guide-covid-19-addendum-2024-4-2\\_002-508.pdf](https://www.cdc.gov/vaccines-for-children/media/pdfs/2024/08/operations-guide-covid-19-addendum-2024-4-2_002-508.pdf).

requirements, such as offering all ACIP-recommended vaccines to VFC-eligible patients. To address this challenge, the VFC Program allows pharmacists to enroll in the VFC Program as “specialty providers,” which allows them to offer only a subset of ACIP-recommended vaccines, such as influenza and COVID-19 vaccines. This policy may increase the feasibility of pharmacies participating in the VFC program.

Pharmacists could be encouraged to establish referral mechanisms to connect younger children to VFC program providers in other clinical settings, such as primary care medical homes that provide comprehensive medical care for children. Immunization programs could also partner with medical schools, nursing schools, and medical associations to provide training to pharmacy staff on effective strategies for administering vaccinations to younger children to increase pharmacy staff confidence in the procedure. If, after the current grace period (through August 31, 2025), the requirement for purchasing private COVID-19 vaccine stock is a barrier to pharmacy participation in the VFC program, extending the existing ability of VFC program participants to “borrow” VFC vaccine doses (when ample supply exists) to vaccinate privately insured patients and then purchase and “pay back” the VFC doses once insurance payment for administered vaccines is received could help allay the financial burden and ordering challenges. Pharmacists would benefit from more information about their options for participating in the VFC program and how to enroll, including guidance about how to become a specialty provider. Immunization programs can help interested pharmacists understand the requirements and provide guidance and other assistance to make those processes easier to navigate.

- **Improve the consistency and ease with which pharmacists are paid for vaccination services, especially vaccine administration.** The financial viability of offering pediatric vaccinations is largely influenced by whether insurers will pay pharmacists for administering the vaccines. There is substantial variation across payers in whether and how pharmacists are recognized as medical providers and therefore eligible for such payments. Health insurers committed to protecting access to pediatric COVID-19 vaccinations should consider expanding their provider eligibility requirements to include pharmacists and simplifying their provider enrollment processes.
- **Help pharmacists address vaccine hesitancy and advertise pediatric vaccination services.** If demand for pediatric COVID-19 vaccinations remains low, pharmacists may be unable or unwilling to continue to offer pediatric vaccinations. All sectors involved in COVID-19 and other pediatric vaccination efforts can continue to provide pharmacists with easy-to-use resources for educating families about the benefits of immunizations and addressing vaccine mis- and disinformation. Community-based organizations can also help pharmacists identify children who need to be vaccinated by advertising which pediatric vaccinations the pharmacists offer, referring families seeking vaccinations, and collaborating on vaccination events—particularly when demand is high, such as after the release of updated COVID-19 vaccines or before school enrollment.

- **Implement and assess strategies to reduce wastage and improve ease of vaccine administration.** The possibility of wasting vaccines is a financial risk for all vaccinating providers, including pharmacists. Most formulations are now available in single-dose vials and pre-filled syringes, which pharmacists in this environmental scan indicated would help to alleviate wastage concerns. Pharmacists would also appreciate low minimum order sizes and longer vaccine shelf-life. It will be important to monitor whether the new formulations are sufficient to overcome previously noted obstacles.
- **Protect and expand legal authority for pharmacists and other pharmacy staff to administer pediatric vaccinations, at least to older children.** Pharmacists can contribute to pediatric vaccination efforts only if they have legal authority to do so. State pharmacy boards and government bodies that set pharmacist scope of practice rules could consider allowing pharmacists to administer vaccinations to younger children, such as to those as young as 3 or 5 years old. When they receive such authority, vaccinating pharmacists should work with families, immunization information system administrators, and children’s primary care providers to ensure vaccination records are up to date and preventive care is coordinated.
- **Encourage knowledge sharing of effective strategies across jurisdictions.** As state and local immunization programs and their partners work with pharmacists to tailor and expand their role in pediatric vaccination efforts, they can share information about their experiences, best practices, and other lessons learned with others. This could be particularly useful in situations where a few jurisdictions are at the forefront of testing new approaches, such as expanding pharmacist scope of practice to allow for vaccinating younger children or tailoring specialty provider or other VFC program participation options for pharmacy participation.

## V. Limitations

Although we believe this environmental scan provides useful insights, several limitations could affect the representativeness of our findings. The opinions and experiences of pharmacy staff that volunteered to participate might differ from those who were unable or unwilling to contribute their perspectives. Our convenience sample likely overrepresents pharmacists that offered pediatric COVID-19 vaccinations or participated in the VFC program, and the differences in survey distribution methods and timing across states might have affected response rates. Our virtual data collection methods might have also been biased against those who do not engage frequently with such technology. Finally, we collected data prior to commercialization. Some findings are no longer relevant or of uncertain impact based on changes to guidelines and policies.

## VI. Conclusions

Pharmacists were key partners in the initial rollout of pediatric COVID-19 vaccines, and many are capable and motivated to continue to contribute to pediatric vaccination efforts to meet the needs of the children in their communities. Post-commercialization,

some of the barriers to achieving this intention have been addressed, but many concerns remain, including low demand for COVID-19 vaccines, low and inconsistent eligibility rules for vaccine administration payments, and pharmacists and other vaccinating staff's lack experience and confidence in administering vaccinations to young children. The impact of these remaining challenges on pediatric COVID-19 vaccination rates and pharmacist participation in the VFC program remains to be seen, but the findings of this environmental scan suggest both may be negatively affected by the vaccines' commercialization. **At the time of this environmental scan, only 40 percent of responding pharmacies indicated they would be likely to offer pediatric COVID-19 vaccines after commercialization.** It will be important to closely monitor pharmacists' involvement in pediatric vaccination efforts and the VFC program participation to protect access to all childhood vaccines, including the COVID-19 vaccines.

Government agencies, clinicians, and other entities involved in pediatric vaccination efforts—including the promotion and distribution of COVID-19 vaccines—should continue to look to pharmacists as ready and willing partners. Whether through the VFC program or other initiatives, pharmacists can play a critical role in reaching children and families who have difficulty accessing vaccination services in other clinical settings.



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## Appendix A.

### Survey Sample Demographics

**Table A.1.** VFC program participation (n=153\*)

VFC participation status	Number of pharmacies
Yes, the pharmacy currently participates in the program	21 (13.7%)
No, but the pharmacy has participated in the past	14 (9.2%)
No, and the pharmacy has never participated in the program	94 (61.4%)
Don't know	24 (15.7%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses)

\*n = 153 respondents who answered this question (19 skipped the question).

**Table A.2.** VFC-eligible patients (n=147\*)

Percentage of pediatric patient population eligible for the VFC program **	Number of pharmacies
0 to less than 10 percent	32 (21.8%)
10 to less than 25 percent	37 (25.2%)
25 to less than 50 percent	16 (10.9%)
50 to less than 75 percent	20 (13.6%)
75 to 100 percent	4 (2.7%)
Don't know	38 (25.9%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses)

\*n = 147 respondents who answered this question (25 skipped the question).

\*\* Pediatric patients who are uninsured, underinsured, covered by Medicaid, and Alaska Native or American Indian are eligible for the VFC program.

**Table A.3.** Profession (n=148\*)

Profession type	Number of pharmacies
Pharmacist	81 (54.7%)
Pharmacy manager or pharmacist in charge	53 (35.8%)
Pharmacy technician	12 (8.1%)
Other	2 (1.4%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses)

\*n = 148 respondents who answered this question (24 skipped the question).

**Table A.4. Pharmacy type (n=147\*)**

Pharmacy type	Number of pharmacies
Retail or community pharmacy	123 (83.7%)
Hospital pharmacy	6 (4.1%)
Compounding pharmacy	2 (1.4%)
Specialty pharmacy	11 (7.5%)
Long-term care pharmacy	3 (2%)
Other	2 (1.4%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses)

\*n = 147 respondents who answered this question (25 skipped the question).

**Table A.5. Pharmacy location (n=135\*)**

State by HHS Region	Number of pharmacies**
<b>1</b>	<b>7 (5.2%)</b>
Maine	1 (0.7%)
Vermont	6 (4.4%)
<b>2</b>	<b>10 (7.4%)</b>
New Jersey	2 (1.5%)
New York	8 (5.9%)
<b>3</b>	<b>22 (16.3%)</b>
Pennsylvania	4 (3%)
Virginia	18 (13.3%)
<b>4</b>	<b>38 (28.1%)</b>
Alabama	1 (0.7%)
Florida	4 (3%)
Georgia	2 (1.5%)
Kentucky	2 (1.5%)
North Carolina	5 (3.7%)
South Carolina	23 (17%)
Tennessee	1 (0.7%)
<b>5</b>	<b>20 (14.8%)</b>
Illinois	4 (3%)
Indiana	11 (8.1%)
Michigan	1 (0.7%)
Ohio	3 (2.2%)
Wisconsin	1 (0.7%)
<b>6</b>	<b>6 (4.4%)</b>
Arkansas	1 (0.7%)
Oklahoma	1 (0.7%)
Texas	4 (3%)

State by HHS Region	Number of pharmacies**
<b>7</b>	<b>1 (0.7%)</b>
Missouri	1 (0.7%)
<b>8</b>	<b>21 (15.6%)</b>
Colorado	1 (0.7%)
Montana	1 (0.7%)
North Dakota	16 (11.9%)
Utah	3 (2.2%)
<b>9</b>	<b>5 (3.7%)</b>
Arizona	2 (1.5%)
California	1 (0.7%)
Nevada	2 (1.5%)
<b>10</b>	<b>5 (3.7%)</b>
Idaho	4 (3%)
Washington	1 (0.7%)
<b>Grand Total</b>	<b>135 (100%)</b>

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses)

\*n = 135 respondents who answered this question (37 skipped the question).

\*\*Although this survey was only distributed through eight state pharmacy associations, we received responses from 31 states, which may reflect pharmacists that are licensed in or work in multiple states, pharmacists that have moved, or pharmacists who shared the survey with colleagues in other locations.

## Appendix B.

### Interview and Focus Group Sample Demographics

Four state pharmacist associations invited their members to participate in focus groups or interviews. Pharmacists who participated in Association of Immunization Managers (AIM)-hosted Vaccine Access Cooperative meetings held in-person between March and June 2023, were also invited to participate.

**Table B.1.** Summary of pediatric COVID-19 vaccination experience

Characteristics	Currently offering pediatric COVID-19 vaccines	Previously offered pediatric COVID-19 vaccines <sup>1</sup>	Never offered pediatric COVID-19 vaccines
Number of participants	8	5	1
<b>State</b>			
California	3	1	0
Michigan	0	2	0
North Dakota <sup>2</sup>	1	0	0
Pennsylvania	4	2	0
Tennessee	0	0	1

**Table B.2.** Summary of experience with the VFC program

Characteristics	Current VFC program participant	Never VFC program participant (or didn't know)
Number of participants	3	11
<b>State</b>		
California	1	3
Michigan	0	2
North Dakota	0	1
Pennsylvania	2	4
Tennessee	0	1

<sup>1</sup>Most of the pharmacies who previously offered COVID-19 vaccines to kids were out of government-purchased stock or waiting for the release of the new COVID-19 vaccines.

## Appendix C.

### Additional Survey Results

**Appendix Table C.1.** For which reasons does your pharmacy not currently provide COVID-19 vaccinations to children?

**Appendix Table C.2.** Why has your pharmacy provided pediatric COVID-19 vaccinations only for some ages?

**Appendix Table C.3.** What bodies had oversight of COVID-19 vaccine storage, handling, and administration for your pharmacy (excluding the VFC program and the Federal Retail Pharmacy Program)?

**Appendix Table C.4.** Why isn't your pharmacy interested in participating in the VFC program?

**Appendix Table C.5.** Does your pharmacy participate in the Federal Retail Pharmacy Program for COVID-19 Vaccination?

**Appendix Table C.6.** How likely is your pharmacy to provide COVID-19 vaccines to the following populations when the federal government stops providing these vaccines at no cost?

**Appendix Table C.7.** How likely is your pharmacy to provide COVID-19 vaccines to the following populations when the federal government stops providing these vaccines at no cost?

**Appendix Table C.8.** Which pediatric vaccines does your pharmacy offer to VFC-eligible patients?

**Table C.1.** For which reasons does your pharmacy not currently provide COVID-19 vaccinations to children?

	Never vaccinators	Previous vaccinators	Overall
Patients have access to the vaccine elsewhere, so my pharmacy is not needed as a vaccination provider	27 (38.6%)	4 (12.9%)	31 (30.7%)
Low demand for COVID-19 vaccinations	19 (27.1%)	14 (45.2%)	33 (32.7%)
Not enough children in the community	7 (10%)	4 (12.9%)	11 (10.9%)
Storage and handling requirements (for example, must use digital data logger, temperature monitoring documentation, ultra-cold storage requirements, and equipment limitations)	13 (18.6%)	6 (19.4%)	19 (18.8%)
Vaccine administration reporting requirements	9 (12.9%)	4 (12.9%)	13 (12.9%)
Inventory reporting requirements	8 (11.4%)	5 (16.1%)	13 (12.9%)
Billing process is too cumbersome	6 (8.6%)	2 (6.5%)	8 (7.9%)
Concerns about participating in quality assurance site visits	2 (2.9%)	0 (0%)	2 (2%)
Pharmacy staff's resources too limited	15 (21.4%)	1 (3.2%)	16 (15.8%)
Lack of appropriate space to accommodate vaccination (not enough space or not private enough)	8 (11.4%)	3 (9.7%)	11 (10.9%)
This pharmacy has limited storage space for vaccines or supplies	7 (10%)	4 (12.9%)	11 (10.9%)
Parent or caregiver hesitancy	7 (10%)	1 (3.2%)	8 (7.9%)
Lack of strong endorsement of COVID-19 vaccination for children by pharmacy leadership	7 (10%)	1 (3.2%)	8 (7.9%)
Staff lack confidence administering vaccines to children	17 (24.3%)	9 (29%)	26 (25.7%)
Staff lack confidence to discuss and promote COVID-19 vaccination with parents and caregivers	6 (8.6%)	3 (9.7%)	9 (8.9%)
Security concerns (for example, from antivaccine activists, community pushback, or public harassment)	4 (5.7%)	1 (3.2%)	5 (5%)
Public health guidance surrounding COVID-19 vaccines for children is unclear	4 (5.7%)	0 (0%)	4 (4%)
Only available in multidose vials (concerns about wastage or administrative burden)	17 (24.3%)	13 (41.9%)	30 (29.7%)
Costs to the pharmacy related to vaccinating uninsured and underinsured children	10 (14.3%)	6 (19.4%)	16 (15.8%)
Payment for COVID-19 vaccine administration is too low	9 (12.9%)	1 (3.2%)	10 (9.9%)
Minimum order size too large	8 (11.4%)	9 (29%)	17 (16.8%)
<b>Other<sup>a</sup></b>	4 (5.7%)	1 (3.2%)	5 (5%)
<b>I was not involved in this decision</b>	15 (21.4%)	4 (12.9%)	19 (18.8%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses). Percentages are calculated out of totals in each column: Those that never provided pediatric COVID-19 vaccines [N = 70]; those that provided pediatric COVID-19 vaccinations in the past [N = 31]; overall [N = 101]. Sum of percentages across each column is more than 100 percent because respondents could select multiple response options.

<sup>a</sup> Other commonly reported reasons include (1) perceptions that pharmacies are not appropriate places for pediatric vaccinations, (2) not having enough pediatric patients, and (3) difficulties managing children's distress during vaccination.



**Table C.2.** Why has your pharmacy provided pediatric COVID-19 vaccinations only for some ages?

	Current vaccinators	Previous vaccinators	Overall
Patients have access to the vaccine elsewhere, so my pharmacy is not needed as a vaccination provider for some ages	17 (28.8%)	7 (23.3%)	24 (27%)
Low demand for COVID-19 vaccinations for some ages	29 (49.2%)	14 (46.7%)	43 (48.3%)
Not enough children of some ages in the community	13 (22%)	8 (26.7%)	21 (23.6%)
Pharmacy staff's resources too limited	12 (20.3%)	3 (10%)	15 (16.9%)
Lack of appropriate space to accommodate vaccination (not enough space or not private enough)	7 (11.9%)	4 (13.3%)	11 (12.4%)
Our pharmacy is unable to stock multiple preparations of pediatric vaccine (minimum order sizes are too large, not enough space for all preparations of pediatric vaccines, or limited storage space for vaccines or supplies)	10 (16.9%)	5 (16.7%)	15 (16.9%)
Parent and caregiver hesitancy is greater for some ages	21 (35.6%)	5 (16.7%)	26 (29.2%)
Lack of strong endorsement of COVID-19 vaccination for children of certain ages by pharmacy leadership	3 (5.1%)	4 (13.3%)	7 (7.9%)
Staff lack confidence administering vaccines to children of certain ages	17 (28.8%)	8 (26.7%)	25 (28.1%)
Staff lack confidence to discuss and promote COVID-19 vaccination with parents and caregivers of children of some ages	5 (8.5%)	4 (13.3%)	9 (10.1%)
Public health guidance surrounding COVID-19 vaccines for children of certain ages is unclear	9 (15.3%)	5 (16.7%)	14 (15.7%)
<b>Other<sup>a</sup></b>	9 (15.3%)	1 (3.3%)	10 (11.2%)
<b>I was not involved in this decision</b>	2 (3.4%)	2 (6.7%)	4 (4.5%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses). Percentages are calculated out of totals in each column: those currently providing pediatric COVID-19 vaccines for some ages [N = 59]; those that provided pediatric COVID-19 vaccinations in the past for some ages [N = 30]; overall [N = 89]. Sum of percentages across each column is more than 100 percent because respondents could select multiple response options.

<sup>a</sup> Other commonly reported reasons include (1) age restrictions from state and corporate laws that do not authorize pharmacies to provide COVID-19 vaccinations to children younger than 3 years, (2) the pharmacy carries vaccines from only a certain vaccine manufacture, and (3) perceptions that the risks of vaccinating younger age groups outweigh benefits.

**Table C.3.** What bodies had oversight of COVID-19 vaccine storage, handling, and administration for your pharmacy (excluding VFC and the Federal Retail Pharmacy Program)?

	Those currently vaccinating	Those that vaccinated in the past	Overall
Local immunization program or public health department	16 (25.4%)	2 (6.5%)	18 (19.1%)
State immunization program or public health department	32 (50.8%)	12 (38.7%)	44 (46.8%)
State board of pharmacy	34 (54.0%)	9 (29.0%)	43 (45.7%)
None	10 (15.9%)	11 (35.5%)	21 (22.3%)
Other	1 (1.6%)	0 (0%)	1 (1.1%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

Note: Percentages are calculated out of totals in each column: Those currently providing pediatric COVID-19 vaccines [N = 63]; Those that provided pediatric COVID-19 vaccinations in the past [N = 31]; Overall [N = 94]. Sum of percentages across each column is over 100% because respondents could select multiple response options.

**Table C.4. Why isn't your pharmacy interested in participating in the VFC program?**

	Non-VFC participants	Current VFC participants	Overall
Burden of maintaining separate vaccine stocks	30 (25%)	1 (6.3%)	31 (22.8%)
Burden of inventory reporting requirements	23 (19.2%)	2 (12.5%)	25 (18.4%)
Burden of additional vaccine administration reporting requirements	28 (23.3%)	2 (12.5%)	25 (18.4%)
Burden of site visits	17 (14.2%)	2 (12.5%)	19 (14%)
Requirement to offer all Advisory Committee on Immunization Practices (ACIP) recommended vaccines (including COVID-19 vaccines) to all eligible pediatric patients	21 (17.5%)	1 (6.3%)	22 (16.2%)
Fear of penalties levied by state, local health department, or immunization program	16 (13.3%)	1 (6.3%)	17 (12.5%)
Pharmacy staff's resources too limited	27 (22.5%)	1 (6.3%)	28 (20.6%)
Costs to the pharmacy related to program participation	19 (15.8%)	2 (12.5%)	21 (15.4%)
Lack of support and willingness from pharmacy staff or leadership	16 (13.3%)	0 (0%)	16 (11.8%)
Need more support, information, and assistance from state or local immunization program	13 (10.8%)	0 (0%)	13 (9.6%)
Lack of information about the Vaccines for Children (VFC) program and how to enroll <sup>a</sup>	19 (15.8%)	n.a.	19 (14%)
State or local laws limit the pharmacy's authority and ability to vaccinate children (for example, age restrictions, prescription or protocol requirement)	16 (13.3%)	1 (6.3%)	17 (12.5%)
Not enough VFC-eligible children in the community to warrant participation	17 (14.2%)	0 (0%)	17 (12.5%)
Inadequate payment for vaccine administration	12 (10%)	0 (0%)	12 (8.8%)
This pharmacy is unable to be a Medicaid provider, so there is no reimbursement for administrative fees for Medicaid-eligible patients	12 (10%)	0 (0%)	12 (8.8%)
It is impractical or this pharmacy is unwilling to be a Medicaid provider, so there is no reimbursement for administrative fees for Medicaid-eligible patients	9 (7.5%)	0 (0%)	9 (6.6%)
<b>Other</b>	3 (2.5%)	0 (0%)	3 (2.2%)
<b>Don't know</b>	23 (19.2%)	2 (12.5%)	25 (18.4%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses). Percentages are calculated out of totals in each column: non-VFC participants who are not interested in participating in VFC [N = 120]; current VFC participants considering ending participation [N = 16]; overall [N = 136]. Sum of percentages across each column might be more than 100 percent because respondents could select multiple response options.

<sup>a</sup> This response option did not appear for current VFC participants because they are already enrolled in the program.

n.a. = not applicable

**Table C.5.** Does your pharmacy participate in the Federal Retail Pharmacy Program for COVID-19 Vaccination?

	Current VFC participants	Former VFC participants	Never participated in VFC	Overall
Yes, the pharmacy participated in the program	20 (95.2%)	5 (35.7%)	27 (28.7%)	52 (34.0%)
No, but the pharmacy has participated in the past	0 (0%)	8 (57.1%)	13 (13.8%)	21 (13.7%)
No, and the pharmacy has never participated in the program	1 (4.8%)	1 (7.1%)	46 (48.9%)	48 (31.4%)
Don't know	0 (0%)	0 (0%)	8 (8.5%)	8 (5.2%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses). Percentages are calculated out of totals in each column: Those currently participating in VFC [N = 21]; those that participated in the past [N = 14]; those that never participated [N = 94]; overall [N = 129]. Percentages are calculated across column totals.

**Table C.6.** How likely is your pharmacy to provide COVID-19 vaccines to the following populations when the federal government stops providing these vaccines at no cost?

	Very unlikely	Somewhat unlikely	Somewhat likely	Very likely	Total
Any pediatric patient	37 (27.2%)	47 (34.6%)	35 (25.7%)	17 (12.5%)	136 (100%)
Children with private insurance	40 (27.2%)	46 (31.3%)	40 (27.2%)	21 (14.3%)	147 (100%)
Children with public insurance	42 (29.2%)	44 (30.6%)	34 (23.6%)	24 (16.7%)	144 (100%)
Children with no insurance	42 (29.2%)	41 (28.5%)	41 (28.5%)	20 (13.9%)	144 (100%)

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses). Percentages are calculated out of row totals. Not all 172 respondents indicated an answer for each row.

**Table C.7.** What is the youngest age your pharmacy would vaccinate for COVID-19 if there were no age restrictions based on federal, state, local law, or corporate policies?

	Number	Percentage
Younger than 6 months old	2	1.3%
6 to 12 months old	14	9.4%
13 to 23 months old	2	1.3%
2 years old	17	11.4%
3 years old	45	30.2%
4 years old	8	5.4%
5 years old	26	17.4%
6 years old	4	2.7%
7 years old	0	0.0%

	Number	Percentage
8 years old	1	0.7%
9 years old	0	0.0%
10 years old	4	2.7%
11 years old	0	0.0%
12 years old	9	6.0%
13 years old	1	0.7%
14 years old	1	0.7%
15 years old	0	0.0%
16 years old	4	2.7%
17 years old	0	0.0%
18 years old	11	7.4%

Source: Pharmacist Pediatric Vaccination Survey, fielded by AIM and Mathematica in August and September 2023, prior to the commercialization of COVID-19 vaccines (172 total responses).

\*n = 149 respondents who answered this question.

**Table C.8. Which pediatric vaccines does your pharmacy offer to VFC-eligible patients?**

	Number (percentage)
All Advisory Committee on Immunization Practices (ACIP) recommended routine vaccines for children	10 (47.6%)
Influenza and COVID-19 vaccines only	3 (14.3%)
Influenza vaccine only	7 (33.3%)
COVID-19 vaccine only	1 (4.8%)

Source: Pharmacist Pediatric Vaccination Survey.

\*n = 21 respondents who were participating in the VFC program and answered this question.

## Appendix D

### Survey Instrument (CDC approved 8/1/23)



PROGRAMMER BOX
<ul style="list-style-type: none"><li>• PROGRAM AS AN OPEN GENERIC LINK.</li><li>• OPTIMIZE FOR WEB AND MOBILE.</li><li>• ADD "BACK," AND "NEXT" BUTTONS ON THE BOTTOM OF EACH PAGE.</li><li>• SHOW JUST ONE QUESTION PER SCREEN.</li><li>• THE MATHEMATICA AND AIM LOGOS SHOULD BE AT THE TOP OF ALL SCREENS.</li></ul>

## Pharmacist Pediatric Vaccination Survey

This survey is sponsored by the [Association of Immunization Managers](#) with funding from the Centers for Disease Control and Prevention. We are fielding this survey to better understand your pharmacy's experiences with pediatric COVID-19 vaccination and federal and state vaccination programs and to ask for your thoughts on the potential impact of the commercialization of COVID-19 vaccines on pediatric vaccination efforts. We are particularly interested in hearing from independent pharmacies (those that are not part of a large national chain). For this survey, we define *pediatric* as children younger than age 18.

You will be asked some brief screening questions to make sure you are eligible to complete this survey. The survey will take about ten minutes to complete. **If you are eligible and complete the survey, you will receive a \$20 electronic Amazon gift card.** We will keep all responses confidential.

**This survey should be completed by a professional at your pharmacy (such as a pharmacist, pharmacy manager, pharmacist in charge, or pharmacy technician) who is familiar with your pharmacy's pediatric vaccine management practices and, if relevant, its involvement in vaccine-related initiatives, including the federal Vaccines for Children program. If you are not familiar with these aspects of your pharmacy, please share it with someone at your pharmacy who is. Only ONE person at your pharmacy should complete this survey. Please do not forward this survey to anyone outside your pharmacy.**

**If your pharmacy belongs to an organization with multiple locations, please think of your *primary* pharmacy location as where you spend the most time.**

Your participation in this survey is voluntary. By continuing, you are consenting to participate in this survey. You can decide not to answer any question and can stop the survey at any time for any reason. Your participation in this survey might not benefit you directly, but it could benefit others because your responses could help inform COVID-19 vaccination efforts for children. We do not anticipate any risks associated with your participation.

If you have any questions or concerns about this survey, or want additional information or a copy of the information found on this screen, please contact the project team at [PediatricVaccineScan@mathematica-mpr.com](mailto:PediatricVaccineScan@mathematica-mpr.com).

**PROGRAMMER BOX**

PLEASE DO NOT DISPLAY THE HEADER IN THIS SECTION. PLEASE DO DISPLAY LEAD-IN TEXT ON THE SAME SCREEN AS S1.

## S. Screening Section

Please answer this initial question about your pharmacy.

ALL

IF S1 = 0, ROUTE TO 'CLOSE1'

**S1. Are you involved in your pharmacy's decisions about whether to provide pediatric COVID-19 vaccines (to children younger than age 18) and the policies and procedures in place for obtaining, storing, and administering vaccines?**

- I am involved in both decisions 1
- I am involved in the decision about whether to provide pediatric COVID-19 vaccines 2
- I am involved in decisions about policies and procedures for obtaining, storing, and administering vaccines 3
- No, I am not involved in either of these decisions 0

**PROGRAMMER BOX**

IF S1 = 0, ROUTE TO 'CLOSE1'

**HARD CHECK: IF S1 = NO RESPONSE; You have left the question blank. Please provide an answer before proceeding.**

**CLOSE1. Thank you for your answers to these questions. Based on the answers provided, you are not eligible for this survey. We appreciate your time!**

**PROGRAMMER BOX**

IF RESPONDENT RECEIVES 'CLOSE1', STATUS CASE AS SCREENED



**PROGRAMMER BOX**

PLEASE DO NOT DISPLAY THE HEADER IN THIS SECTION. PLEASE DO DISPLAY LEAD-IN TEXT ON THE SAME SCREEN AS A1.

**A. Pediatric Vaccinations**

The next several questions ask about your pharmacy's experience providing pediatric vaccinations.

S1 = 1, 2, OR 3

IF A1 = 1 OR M, GO TO A2

IF A1 = 0, SKIP TO B1

**A1. Does your pharmacy currently provide pediatric vaccinations, of any type, to children younger than age 18?**

- m Yes ..... 1
- m No ..... 0
- NO RESPONSE M

A1 = 1 OR M

**A2. During your busiest season, about how many pediatric vaccinations does your pharmacy provide per day?**

- 0 to 10 vaccinations per day 1
- 11 to 20 vaccinations per day 2
- 21 to 50 vaccinations per day 3
- More than 50 vaccinations per day 4
- NO RESPONSE M

A1 = 1 OR M

**A3. Which of the following pediatric vaccines does your pharmacy offer to children younger than age 18? Please select all that apply.**

- Influenza 1
- COVID-19 2
- Dengue (DEN4CYD) 3
- Diphtheria, tetanus, and acellular pertussis (DTaP) 4
- Haemophilus influenzae type b (Hib) 5
- Hepatitis A (HepA) 6
- Hepatitis B (HepB) 7
- Human papillomavirus (HPV) 8

o Inactivated poliovirus (IPV)	9
o Measles, mumps, rubella (MMR)	10
o Meningococcal ACWY	11
o Meningococcal B	12
o Pneumococcal conjugate (PCV13, PCV15)	13
o Pneumococcal polysaccharide (PPSV23)	14
o Rotavirus (RV)	15
o Tetanus, diphtheria, & acellular pertussis (Tdap)	16
o Varicella (VAR)	17
o Other, please specify	99
Specify <input type="text"/> (STRING 300)	
NO RESPONSE	M

A1 = 1 OR M
IF A4= 1 OR M, GO TO A5
IF A4 = 0, SKIP TO A6

**A4. Some states limit pharmacists' authority to vaccinate children by requiring a patient-specific prescription from a health care provider, such as a primary care provider. These prescription requirements can vary by patients' age or vaccine depending on state law.**

Is your pharmacy subject to any state laws that impose prescription requirements for vaccinating children of certain ages?

m Yes ..... 1

m No ..... 0

NO RESPONSE M

A4 = 1 OR M
PROVIDE DROPDOWN.

**A5. For any of the vaccines your pharmacy currently provides, what is the youngest age your pharmacy will vaccinate a child with a prescription? (For example, if your pharmacy provides influenza vaccines with a prescription to children 6 months and older but only provides COVID-19 vaccines to children age 3 and older, you should select 6 to 12 months old.)**

[INSERT DROPDOWN LIST]

NO RESPONSE M

((A1 = 1 OR M) AND A4=M) OR (A4= 0) OR (A4=1)
---

IF ((A1 = 1 OR M) AND A4=M) OR (A4=1), FILL WITH [WITHOUT A PRESCRIPTION]  
 PROVIDE DROPDOWN.

**A6.** For any of the vaccines your pharmacy currently provides, what is the *youngest* age your pharmacy will currently vaccinate a child [*without* a prescription]? (For example, if your pharmacy provides influenza vaccines [*without* a prescription] to children age 3 and older but only provides COVID-19 vaccines to children age 5 and older, you should select 3 years old.)

[INSERT DROPDOWN LIST]

NO RESPONSE

M

A1 = 1 OR M

**A7.** What types of professionals currently administer pediatric vaccines at your pharmacy? *Please select all that apply.*

- Pharmacists 1
- Pharmacy technicians 2
- Pharmacy interns or students 3
- Nurses 4
- Nurse practitioners or physician assistants 5
- Other, please specify 99

Specify  (STRING 300)

NO RESPONSE

M

**PROGRAMMER BOX**

PLEASE DO NOT DISPLAY THE HEADER IN THIS SECTION. PLEASE DO DISPLAY LEAD-IN TEXT ON THE SAME SCREEN AS B1.

## B. Pediatric COVID-19 Vaccination

The next several questions ask about your pharmacy's experience providing pediatric COVID-19 vaccinations.

S1 = 1, 2, OR 3

IF B1 = 1, 2, OR M, GO TO B2

IF B1 = 3, SKIP TO B3

**B1. Does your pharmacy provide COVID-19 vaccinations to children?**

- Yes, the pharmacy *currently* provides COVID-19 vaccinations to children 1
- No, but the pharmacy has provided COVID-19 vaccinations to children *in the past* 2
- No, the pharmacy has *never* provided COVID-19 vaccinations to children 3
- NO RESPONSE M

B1 = 1, 2, OR M

IF B1 = 1, FILL WITH [DOES] AND [CURRENTLY VACCINATE]

IF B1 = 2, FILL WITH [DID] AND [VACCINATE IN THE PAST]

IF B1 = M, FILL WITH [HAS] AND [VACCINATED]

**B2. What ages of children [does/did] your pharmacy [currently vaccinate/vaccinate in the past] for COVID-19? Please select all that apply.**

- 6 months through 2 years 1
- 3 through 4 years 2
- 5 through 11 years 3
- 12 through 18 years 4
- NO RESPONSE M

B1 = 2 OR 3 OR M

IF B1 = 2 OR M, FILL WITH [OF ANY AGE]

**B3. For which of the following reasons does your pharmacy not currently provide COVID-19 vaccinations to children [of any age]? Please select all that apply.**

- Only available in multidose vials (concerns about wastage or administrative burden) 1

- o Minimum order size too large 2
- o Inventory reporting requirements 3
- o Vaccine administration reporting requirements 4
- o Storage and handling requirements (for example, must use digital data logger, temperature monitoring documentation, ultra-cold storage requirements, and equipment limitations) 5
- o Payment for COVID-19 vaccine administration is too low 6
- o Billing process is too cumbersome 7
- o Costs to the pharmacy related to vaccinating uninsured and underinsured children 8
- o This pharmacy has limited storage space for vaccines or supplies 9
- o Not enough children in the community 10
- o Parent or caregiver hesitancy 11
- o Low demand for COVID-19 vaccinations 12
- o Lack of strong endorsement of COVID-19 vaccination for children by pharmacy leadership 13
- o Pharmacy staff's resources too limited 14
- o Lack of appropriate space to accommodate vaccination (not enough space or not private enough) 15
- o Staff lack confidence to discuss and promote COVID-19 vaccination with parents and caregivers 16
- o Staff lack confidence administering vaccines to children 17
- o Concerns about participating in quality assurance site visits 18
- o Security concerns (for example, from anti-vaccine activists, community pushback, or public harassment) 19
- o Public health guidance surrounding COVID-19 vaccines for children is unclear 20
- o Patients have access to the vaccine elsewhere, so my pharmacy is not needed as a vaccination provider 21
- o I was not involved in this decision 22
- o Other, please specify 99

Specify  (STRING 300)

NO RESPONSE

M

IF B2 IS NOT ALL SELECTED OR M
IF B1 = 1, FILL WITH [DOES]
IF B1 = 2, FILL WITH [DID]

IF B1= M, FILL WITH [DOES/DID]

**B4.** The PREP Act allows pharmacists, pharmacy interns, and pharmacy technicians to provide COVID-19 vaccinations to children ages 3 and older. In addition, some states authorize pharmacists to administer COVID-19 vaccinations to younger ages. Given these authorizations, why [does/did] your pharmacy provide COVID-19 vaccinations for some but not ALL ages between 6 months and 18 years old? Please select all that apply.

- Our pharmacy is unable to stock multiple preparations of pediatric vaccine (minimum order sizes are too large, not enough space for all preparations of pediatric vaccines, or limited storage space for vaccines or supplies) 1
- Not enough children of some ages in the community 2
- Parent and caregiver hesitancy is greater for some ages 3
- Low demand for COVID-19 vaccinations for some ages 4
- Lack of strong endorsement of COVID-19 vaccination for children of certain ages by pharmacy leadership 5
- Pharmacy staff's resources too limited 6
- Lack of appropriate space to accommodate vaccination (not enough space or not private enough) 7
- Staff lack confidence to discuss and promote COVID-19 vaccination with parents and caregivers of children of some ages 8
- Staff lack confidence administering vaccines to children of certain ages 9
- Public health guidance surrounding COVID-19 vaccines for children of certain ages is unclear 10
- Patients have access to the vaccine elsewhere, so my pharmacy is not needed as a vaccination provider for some ages 11
- I was not involved in this decision 12
- Other, please specify 99

Specify  (STRING 300)

NO RESPONSE

M

S1 = 1, 2, OR 3

PROVIDE DROPDOWN.

**B5.** What is the youngest age your pharmacy would vaccinate for COVID-19 if there were no age restrictions based on federal, state, local law, or corporate policies?

[INSERT DROPDOWN LIST]

NO RESPONSE

M

IF B3=17 OR B4=9

**B6.** You indicated that staff at your pharmacy lack confidence administering COVID-19 vaccines to children. Please rate the level of confidence your pharmacy staff have in administrating COVID-19 vaccines to the following age groups. Please answer this question regardless of your state's authority regulations and whether your pharmacy currently provides COVID-19 vaccinations to children of all ages.

	Very confident	Fairly confident	Slightly confident	Not at all confident
a. 6 months through 2 years	1 ?	2 ?	3 ?	4 ?
b. 3 through 4 years	1 ?	2 ?	3 ?	4 ?
c. 5 through 11 years	1 ?	2 ?	3 ?	4 ?
d. 12 through 18 years	1 ?	2 ?	3 ?	4 ?

NO RESPONSE

M

IF B1 =1 OR 2 OR M

**B7.** Please indicate whether your pharmacy had to establish or modify the following procedures to provide safe and effective COVID-19 vaccinations.

	Already in place, and no changes were needed	Already in place, but changes were needed	Did not have in place, and had to establish	Don't know
a. Security protocols (facility cameras, locks, and so on)	1 m	2 m	3 m	4 m
b. Procedures for purchasing and monitoring vaccine inventory	1 m	2 m	3 m	4 m
c. Equipment for storing vaccines	1 m	2 m	3 m	4 m
d. Equipment for temperature monitoring	1 m	2 m	3 m	4 m
e. Training for staff on administering pediatric vaccinations	1 m	2 m	3 m	4 m
f. Procedures for vaccination process, storage and handling, shipping and receiving	1 m	2 m	3 m	4 m

NO RESPONSE

M

IF B1 =1 OR 2 OR M

**B8.** Please describe any other procedures your pharmacy had to establish or modify to provide safe and effective COVID-19 vaccinations.

NO RESPONSE  
(String 3,000)

M



**PROGRAMMER BOX**

PLEASE DO NOT DISPLAY THE HEADER IN THIS SECTION. PLEASE DO DISPLAY LEAD-IN TEXT ON THE SAME SCREEN AS C1.

### C. Federal and State Vaccination Programs

The next several questions ask about your pharmacy's experience with federal and state vaccination programs and whether you have (or would) consider participating in them.

S1 = 1, 2, OR 3

HYPERLINK FEDERAL RETAIL PHARMACY PROGRAM

**C1. Does your pharmacy participate in the [Federal Retail Pharmacy Program for COVID-19 Vaccination](#)—a federally funded program that provides COVID-19 vaccines at no cost to the American public?**

- Yes, the pharmacy *currently* participates in the program 1
- No, but the pharmacy has participated *in the past* 2
- No, and the pharmacy has *never* participated in the program 3
- Don't know d

NO RESPONSE

M

S1 = 1, 2, OR 3

IF C2 = 1, 2, D OR M, GO TO C3

IF C2 = 3, GO TO C4

**C2. Does your pharmacy participate in the [Vaccines for Children \(VFC\) program](#)—a federally funded program that provides vaccines at no cost to eligible children, including those eligible for Medicaid, those who are underinsured or uninsured, and children who are American Indian or Alaska Native?**

- Yes, the pharmacy *currently* participates in the program 1
- No, but the pharmacy has participated *in the past* 2
- No, and the pharmacy has *never* participated in the program 3
- Don't know d

NO RESPONSE

M

C2 = 1, 2, D OR M

IF C2 = 1, FILL WITH "DOES"

IF C2 = 2, FILL WITH "DID"

IF C2 = D OR M, FILL WITH "DOES/DID"

**C3. For which of the following reasons [does/did] your pharmacy participate in the VFC program?**

*Please select all that apply.*

- Ability to administer vaccines to all children regardless of ability to pay 1
- Ability to increase access to childhood vaccines in the community 2
- Large population of VFC-eligible patients in the community 3
- Opportunities to strengthen communication and partnerships with medical providers, Medicaid, and immunization programs 4
- Participation in the VFC program is a Medicaid enrollment requirement in my state 5
- The state or local immunization program encouraged my pharmacy to enroll in the VFC program 6
- Other, please specify 99

Specify  (STRING 300)

NO RESPONSE

M

C2 = 2, 3, D, OR M
IF C2 = 3, FILL WITH [ENROLLING]
IF C2 = 2, FILL WITH [RE-ENROLLING]
IF C2 = D OR M, FILL WITH [ENROLLING/RE-ENROLLING]
IF C4 = 2, D, OR M, GO TO C5
IF C4 = 1, SKIP TO C6

**C4. Would your pharmacy consider [enrolling/re-enrolling] in the VFC program?**

- Yes 1
- No 2
- Don't know d

NO RESPONSE

M

C4 = 2, D OR M
ITALICIZE "IMPRACTICAL" AND "UNABLE" AND "UNWILLING"

**C5. Why isn't your pharmacy interested in participating in the VFC program? Please select all that apply.**

- Burden of maintaining separate vaccine stocks 1
- Burden of inventory reporting requirements 2
- Burden of additional vaccine administration reporting requirements 3

- o Burden of site visits 4
  - o Requirement to offer all Advisory Committee on Immunization Practices (ACIP) recommended vaccines (including COVID-19 vaccines) to all eligible pediatric patients 5
  - o Costs to the pharmacy related to program participation 6
  - o Lack of support and willingness from pharmacy staff or leadership 7
  - o Pharmacy staff's resources too limited 8
  - o Not enough VFC-eligible children in the community to warrant participation 9
  - o State or local laws limit the pharmacy's authority and ability to vaccinate children (for example, age restrictions, prescription or protocol requirement) 10
  - o Need more support, information, and assistance from state/local immunization program 11
  - o Lack of information about the VFC program and how to enroll 12
  - o Inadequate payment for vaccine administration 13
  - o Fear of penalties levied by state, local health department, or immunization program 14
  - o This pharmacy is *unable* to be a Medicaid provider, so there is no reimbursement for administrative fee for Medicaid-eligible patients 15
  - o It is *impractical* or this pharmacy is *unwilling* to be a Medicaid provider, so there is no reimbursement for administrative fee for Medicaid-eligible patients 16
  - o Other, please specify 99
- Specify  (STRING 300)
- Don't know d
  - NO RESPONSE M

C4 =1

**C6. For which of the following reasons is your pharmacy considering participating in the VFC program? Please select all that apply.**

- o Ability to administer vaccines to all children, regardless of ability to pay 1
- o Ability to administer COVID-19 vaccines to children after it is no longer provided by the government 2
- o Ability to increase access to childhood vaccines in the community 3
- o Large population of VFC-eligible patients in the community 4
- o Opportunities to strengthen communication and partnerships with medical providers, Medicaid, and immunization programs 5

- My pharmacy is considering enrolling as a Medicaid provider and participation in the VFC program is a Medicaid enrollment requirement in my state 6
  - The state or local immunization program encouraged my pharmacy to enroll in the VFC program 7
  - Other, please specify 99
- Specify  (STRING 300)
- NO RESPONSE M

C2=1

**C7. Which pediatric vaccines does your pharmacy offer to VFC-eligible patients?**

- ALL Advisory Committee on Immunization Practices (ACIP) recommended routine vaccines for children 1
  - Influenza and COVID-19 vaccines *only* 2
  - Influenza vaccine *only* 3
  - COVID-19 vaccine *only* 4
  - Other, please specify 99
- Specify  (STRING 300)
- NO RESPONSE M

C2=1

IF C8 = 1 OR D OR M, GO TO C9

IF C8= 2, SKIP TO C10

**C8. Is your pharmacy considering ending participation in the VFC program?**

- Yes 1
  - No 2
  - Don't know d
- NO RESPONSE M

C8=1 OR D OR M

ITALICIZE "IMPRACTICAL" AND "UNABLE" AND "UNWILLING"

**C9. For which of the following reasons is your pharmacy considering ending participation in the VFC program? Please select all that apply.**

- Burden of maintaining separate vaccine stocks 1

- Burden of inventory reporting requirements 2
  - Burden of additional vaccine administration reporting requirements 3
  - Burden of site visits 4
  - Requirement to offer all Advisory Committee on Immunization Practices (ACIP) recommended vaccines (including COVID-19 vaccines) to all eligible pediatric patients 5
  - Costs to the pharmacy related to program participation 6
  - Lack of support and willingness from pharmacy staff or leadership 7
  - Pharmacy staff's resources too limited 8
  - Not enough VFC-eligible children in the community to warrant participation 9
  - State or local laws limit the pharmacy's authority and ability to vaccinate children (for example, age restrictions, prescription, or protocol requirement) 10
  - Need more support, information, and assistance from state or local immunization program 11
  - Inadequate payment for vaccine administration 12
  - Fear of penalties levied by state, local health department, or immunization program 13
  - This pharmacy is *unable* to be a Medicaid provider, so there is no reimbursement for administrative fee for Medicaid-eligible patients 14
  - It is *impractical* or this pharmacy is *unwilling* to be a Medicaid provider, so there is no reimbursement for administrative fee for Medicaid-eligible patients 15
  - Other, please specify 99
- Specify  (STRING 300)
- Don't know d
  - NO RESPONSE M

S1 = 1, 2, OR 3

MAKE SELECT ALL THAT APPLY UNLESS OPTION 0 IS SELECTED- THEN DO NOT ALLOW ANY OTHER RESPONSES TO BE SELECTED.

**C10. Does your pharmacy partner with any of the following providers on efforts related to childhood vaccinations? Please select all that apply.**

- My pharmacy does not have any partnerships related to childhood vaccinations 0
- Private medical offices 1
- Other pharmacies 2
- Community-based health centers or Federally Qualified Health Centers 3

- Local health department 4
  - Hospitals or health systems 5
  - School-based health clinics 6
  - Other, please specify 99
- Specify  (STRING 300)
- NO RESPONSE M

C10 = ANY OPTIONS EXCEPT 0 SELECTED OR C10 = M

IF ONE ITEM IS SELECTED IN C10, FILL WITH [DOES THIS PROVIDER].

IF GREATER THAN ONE ITEM SELECTED, FILL WITH [DO ANY OF THESE PROVIDERS].

IF C10 = M, FILL WITH [DOES THIS PROVIDER/DO ANY OF THESE PROVIDERS].

**C11. [Does this provider/Do any of these providers] participate in the VFC program?**

- Yes 1
  - No 2
  - Don't know d
- NO RESPONSE M

B1 = 1 OR 2 OR M

IF B1 = 1, FILL WITH [HAVE]

IF B1 = 2, FILL WITH [HAD]

IF B1= M, FILL WITH [HAVE/HAD]

MAKE SELECT ALL THAT APPLY UNLESS OPTION 0 IS SELECTED- THEN DO NOT ALLOW ANY OTHER RESPONSES TO BE SELECTED.

**C12. Aside from the VFC program and the Federal Retail Pharmacy Program for COVID-19 Vaccination, if applicable, what other local, state, or federal bodies [have/had] oversight of COVID-19 vaccine storage, handling, and administration for your pharmacy? (Oversight could include but is not limited to site visits, reporting requirements and inspections) Please select all that apply.**

- Local immunization program or public health department 1
  - State immunization program or public health department 2
  - State board of pharmacy 3
  - Other, please specify 99
- Specify  (STRING 300)
- None 0
- NO RESPONSE M

C12 = ANY OPTIONS EXCEPT 0 SELECTED OR C12 = M

**C13.** What did this oversight entail? *Please select all that apply.*

- Regular submission of temperature logs to the oversight body 1
- Verification of delivery and restocking of vaccines 2
- Inspection of vaccines for alteration or tampering 3
- Regulation of access to vaccine inventory 4
- Mandatory ongoing education specific to COVID-19 vaccines 5
- Site visits from the oversight body 6
- Documentation of a plan for emergencies 7
- Demonstration of administration technique to the oversight body 8
- Reporting of temperature excursions to the oversight body 9
- Other, please specify 99

Specify  (STRING 300)

NO RESPONSE

M

**PROGRAMMER BOX**

PLEASE DO NOT DISPLAY THE HEADER IN THIS SECTION. PLEASE DO DISPLAY LEAD-IN TEXT ON THE SAME SCREEN AS D1.

**D. COVID-19 Commercialization**

The next several questions ask about your pharmacy's plans and expectations for the future, particularly when the COVID-19 vaccines move to the commercial market.

S1 = 1, 2, OR 3

**D1. When the federal government stops providing COVID-19 vaccines at no cost, how likely is your pharmacy to purchase pediatric COVID-19 vaccines for patients?**

- Very likely 1
- Somewhat likely 2
- Somewhat unlikely 3
- Very unlikely 4
- Not applicable 5
- NO RESPONSE M

S1 = 1, 2, OR 3

**D2. When the federal government stops providing COVID-19 vaccines at no cost, how likely is your pharmacy to provide COVID-19 vaccines to the following populations:**

	Very unlikely	Somewhat unlikely	Somewhat likely	Very likely
a. Children with private insurance	1 ?	2 ?	3 ?	4 ?
b. Children with public insurance	1 ?	2 ?	3 ?	4 ?
c. Children with no insurance	1 ?	2 ?	3 ?	4 ?
NO RESPONSE				M

IF C2 =1 OR C4=1 OR D

IF C2=1, FILL WITH [CONTINUE PARTICIPATING]

IF C4=1 OR D, FILL WITH [PARTICIPATE]

**D3. The COVID-19 vaccine was recently added to the list of Advisory Committee on Immunization Practices (ACIP) recommended childhood vaccines and approved for the VFC program. The VFC program requires program participants to (1) provide all ACIP-recommended vaccines (including COVID-19) to VFC-eligible patients and (2) to stock a privately purchased inventory of COVID-19 vaccines for non-VFC-eligible patients.**



Will these requirements affect your pharmacy's consideration to [participate/continue participating] in the VFC program?

- Yes 1
- No 0
- Unsure d
- Not applicable 2
- NO RESPONSE M

IF D3 = 1 OR D OR M
IF C2=1, FILL WITH [CONTINUE PARTICIPATING]
IF C4=1 OR D, FILL WITH [PARTICIPATE]

**D4.** Please explain how these requirements will affect your pharmacy's consideration to [participate/continue participating] in the VFC program.

--

NO RESPONSE M  
(String 3,000)

S1 = 1, 2, OR 3
-----------------

**D5.** Would you like to share any other thoughts about the role of pharmacies in providing COVID-19 vaccines for children or pharmacies enrolling in the VFC program?

--

NO RESPONSE M  
(String 3,000)

**PROGRAMMER BOX**

PLEASE DO NOT DISPLAY THE HEADER IN THIS SECTION. PLEASE DO DISPLAY LEAD-IN TEXT ON THE SAME SCREEN AS E1.

## E. Pharmacy and Professional Characteristics

In this last section, we will ask about aspects of your pharmacy and your professional experience.

S1 = 1, 2, OR 3

**E1. What is your profession?**

- Pharmacist 1
  - Pharmacy manager or pharmacist in charge 2
  - Pharmacy technician 3
  - Other 99
- Specify  (STRING 100)
- NO RESPONSE M

S1 = 1, 2, OR 3

PLEASE ITALICIZE "BEST" IN QUESTION STEM

**E2. Which of the following *best* describes your pharmacy?**

- Retail or community pharmacy 1
  - Hospital pharmacy 2
  - Compounding pharmacy 3
  - Specialty pharmacy 4
  - Long-term care pharmacy 5
  - Other, please specify 99
- Specify  (STRING 100)
- NO RESPONSE M

S1 = 1, 2, OR 3

NUMERIC. RANGE IS 0-99.

**E3. How many professionals administer immunizations at your pharmacy location?**

\_\_\_\_\_ Professionals

NO RESPONSE ..... M

S1 = 1, 2, OR 3

INCLUDE SOFT CHECK FOR VALID 5-DIGIT RESPONSES: "Please provide a valid zip code with 5 digits."

E4. What is the zip code of your pharmacy location?

-----  
NO RESPONSE

M

S1 = 1, 2, OR 3

E5. About what percentage of your pharmacy's pediatric patients are uninsured, underinsured, covered by Medicaid, or Alaska Native or American Indian? *These patients are eligible for the VFC program. Your best estimate is ok.*

- 0 to less than 10 percent 1
- 10 to less than 25 percent 2
- 25 to less than 50 percent 3
- 50 to less than 75 percent 4
- 75 to 100 percent 5
- Don't know d
- NO RESPONSE M

S1 = 1, 2, OR 3

E6. Thank you for your responses! As a token of our appreciation, we are pleased to offer you a \$20 electronic Amazon gift card. If you want to receive the gift card, please check the box below and provide your email address.

- Yes, please send a \$20 electronic Amazon gift card to the email address below.

NO RESPONSE

M

**PROGRAMMER BOX**

FOR EMAIL, ALLOW A STRING OF 60.

INCLUDE SOFT CHECK FOR INVALID EMAILS AND BLANK: "Please provide a valid email address."

**E6\_Email.**

Email address \_\_\_\_\_

For more information about the VFC program, please visit <https://www.cdc.gov/vaccines/programs/vfc/index.html>

## Appendix E

### Interview and Focus Group Guide (CDC approved 6/7/23)

#### Consent

##### **Introduction**

Hello, my name is [INSERT FACILITATOR/INTERVIEWER'S NAME] and I am a [INSERT POSITION] at [MATHEMATICA]. [I am joined by [INTRODUCE NOTETAKER].] Thank you for taking the time to meet with us today. As you know, we are working with the Association of Immunization Managers (AIM) with funding from the Centers for Disease Control and Prevention. Our call today is to discuss your experiences with pediatric COVID-19 vaccination and federal and state vaccination programs. We hope that the information gathered from these interviews may help inform COVID-19 immunization efforts for children.

##### **Time Commitment**

We'll spend about [FOR FOCUS GROUPS: one hour/FOR INTERVIEWS: 30-45 minutes] together for this [FOCUS GROUP/INTERVIEW].

##### **Voluntary Participation**

Your participation in this [FOCUS GROUP/INTERVIEW] is voluntary. If you don't want to participate, it is OK. If you agree to participate, you can decide not to answer any question and can stop the interview at any time for any reason.

##### **Confidentiality**

The information you provide will be strictly confidential and never connected to you. No one outside of the data collection team will know that you participated in the interview or focus group or what you have said. [FOCUS GROUP ONLY: To respect participants' confidentiality, please do not share information we discuss with people outside the group.]

##### **Uses of the Data**

Only staff from the Mathematica-AIM team will have access to the information you provide. We will share the combined information we gather with AIM in a summary report but will never use your name and no one will ever know what answers you gave. All the information we gather will be stored securely under the care of the project director. We will destroy the information at the end of the project.

##### **Risks & Benefits**

Your participation in this [FOCUS GROUP/INTERVIEW] may not benefit you directly, but it may benefit others, as your responses may help inform COVID-19 immunization efforts for children. We do not see any risks associated with your participation.

##### **Verbal Consent and Contact Information**

We're happy to answer any questions you have about participating in this [FOCUS GROUP/INTERVIEW]. You can ask questions at any time [FOR FOCUS GROUPS: by private chat] during this discussion.

- Do you have any questions now?

- Do you understand everything I have explained?
- Do you agree to participate in this [FOCUS GROUP/INTERVIEW]?
  - [FOR FOCUS GROUPS ONLY] Please indicate your agreement with a thumbs up or down.
- You may also contact [facilitator name] at [email][@mathematica-mpr.com](mailto: @mathematica-mpr.com) if you have any questions or concerns after our discussion.

### Recording

We would like to record this discussion as a backup to our notes. The recording will not be shared with anyone beyond the data collection team and will be destroyed after we complete our summary report.

- Is it okay with you if we record? [FOR FOCUS GROUPS ONLY] Please indicate your agreement with a thumbs up or down.

We will share a copy of this information by email following our meeting.

### Discussion Questions

- 1) Before we jump in, can you tell me a bit about your pharmacy? [If your pharmacy belongs to an organization, we would like to know about the specific location you work at most often. If possible, please consider this location when answering the rest of the questions in this interview.]
  - a. At what kind of pharmacy do you work?
    - i. PROMPTS:
      1. Are you a community or retail pharmacy? Hospital or clinical pharmacy? Independent vs. chain?
      2. How many pharmacies does your organization own or manage? Do you have locations in more than one state?
      3. About how many vaccinations does your pharmacy [overall or each pharmacy location] provide per day?
        - a. Which vaccines?
          - i. Influenza
          - ii. COVID-19
          - iii. Shingles
          - iv. Pneumococcal
          - v. Other (please specify)
        - b. What ages of children are you vaccinating, or have you vaccinated in the past?
          - i. PROMPT: Are you vaccinating children younger than five years old?
        - c. What type(s) of professionals administer these vaccines?
          - i. Pharmacists
          - ii. Pharmacy techs
          - iii. Pharmacy interns/students
          - iv. Nurse practitioners or physician assistants
          - v. Other (please specify)

- b. Thinking about the pharmacy location you work at most frequently, please tell me a little about the people you serve.
  - i. PROMPTS:
    - 1. We would like to know about the people you serve for any pharmacy services, including prescription services.
    - 2. What is the make-up of the community (communities) in which your pharmacy is located? Urban or rural? Higher or lower rates of factors, such as poverty, lack of access to transportation, and crowded housing, that may weaken a community's ability to prepare for and respond to hazardous events, such as a pandemic.
    - 3. Can you share some examples of pharmacy services are you providing for children (as opposed to services for adults)?
      - a. Roughly what proportion of those children are uninsured? Underinsured? Covered by Medicaid? Alaska Natives/American Indians?

**Section 1: I'd like to start out by learning about your experiences with pediatric COVID-19 vaccinations.**

- 2) When did you start offering the COVID-19 vaccine to children?
  - a. Are you still offering the COVID-19 vaccine for children?
    - i. If no, when and why did you stop?
  - b. What ages of children do you currently vaccinate against COVID-19?
    - i. PROMPT: Do you vaccinate children ages 3 and up?
    - ii. [IF NOT ALL CHILDREN AGES 3 AND OLDER] Why don't you vaccinate other ages? [PROMPTS: federal or state restrictions, access to vaccines, organizational capacity/policy/priorities, staff experience/comfort, challenges/logistics unique to working with specific ages of children?
  - c. How many different COVID-19 vaccine preparations do you stock? Do you stock more than one manufacturer?
- 3) Did you have the resources, policies, and procedures you needed to receive, store, administer, and report COVID-19 vaccines in place prior to the pandemic, or did you have to have to make changes?
  - a. Could you tell us about the controls you already had in place or needed to establish to ensure proper storage, security, and monitoring of the vaccines? [PROMPTS: facilities (cameras), physical access (locks), frequent inventory checks, special temperature monitoring?]
    - i. What equipment did you use to store vaccines? Did your pharmacy have to acquire ultra-cold freezers? How did you monitor their temperatures?
    - ii. What training did pharmacy staff receive on administering pediatric COVID-19 vaccinations? Who provided these trainings?
    - iii. What monitoring and oversight strategies did you use in receiving, storing, administering, and documenting administration or disposal of vaccines?
- 4) Have you encountered any challenges when offering COVID-19 vaccines to children?
  - a. PROMPTS: For example, did you have the right doses for the ages of children seeking vaccination? Were the staff administering vaccines comfortable

vaccinating children? Does your pharmacy have appropriate space for children and their caregivers to wait the recommended amount of time after the vaccination is administered?

5) [IF TIME ALLOWS]

- a. Which position oversees vaccine storage, handling, and safety within your pharmacy?
- b. What local or state bodies have oversight of vaccine storage, handling, and administration for your pharmacy?

**Section 2: Now I'd like to hear more about your experience with federal and state vaccination programs, and whether you have (or would) consider participating in them.**

6) Has your pharmacy partnered with your state or local immunization program on efforts related to either adult or childhood vaccinations?

- a. If so, what does (or did) that partnership involve?
  - i. PROMPT: did you partner with local health departments to provide vaccinations at community events where children were present or for special populations, such as children in foster care?

7) Would your pharmacy consider participating in the Vaccines for Children (VFC) program?

- a. If they already do [CURRENT VFC PARTICIPANTS, expect very few if any respondents]:
  - i. Do you know why your pharmacy first decided to participate in the VFC program?
    1. PROMPT: What about the VFC program made your pharmacy think it would be beneficial to participate?
  - ii. What has been your experience with enrolling and participating in the VFC program?
  - iii. Has your pharmacy considered, or is it likely to consider, ending its participation in the VFC program? If yes, why?
    1. PROMPT [if time allows]: Were there any challenges associated with your participation in the VFC program? What were those challenges?
  - iv. The COVID-19 vaccine was recently added to the list of ACIP-recommended childhood vaccines and approved for the VFC Program. To help prevent fraud or abuse, the VFC program requires program participants to 1) provide ALL ACIP-recommended vaccines (including COVID-19) to VFC-eligible patients, and (2) stock privately purchased inventory of COVID-19 vaccines for non-VFC-eligible patients. Will these requirements impact your pharmacy's decision to continue its participation in the VFC program?
    1. [PROMPTS]: Please tell me more about why this will or will not affect your pharmacy's participation in the VFC program. Do you have concerns about how this requirement might affect your pharmacy?

- b. If **yes**:
    - i. Why would your pharmacy consider joining the VFC program?
      - 1. PROMPT: What about the VFC program makes your pharmacy think it would be beneficial?
    - ii. What information or assistance would you need in order to be able to enroll in the VFC program?
    - iii. To help prevent fraud or abuse, the VFC program requires program participants to 1) provide ALL ACIP-recommended vaccines (including COVID-19) to VFC-eligible patients, and (2) stock privately purchased inventory of COVID-19 vaccines for non-VFC-eligible patients. Will these requirements impact your pharmacy's decision to continue its participation in the VFC program?
      - 1. [PROMPTS]: Please tell me more about why this could affect your pharmacy's participation in the VFC program. Do you have concerns about how this requirement might affect your pharmacy?
  - c. If **no**:
    - i. Why is your pharmacy unlikely to participate in the program?
      - 1. PROMPT: What about the VFC program makes your pharmacy think it would not be beneficial?
    - ii. Is there information or assistance that would make you consider enrolling in the VFC program?
- 8) Has your pharmacy partnered with VFC providers? [PROMPT: Have you set up formal or informal referral mechanisms with physicians, health centers, or other local health care organizations? Collaborated on vaccination events?]
- 9) Has your pharmacy enrolled in the Medicaid program as a medical provider? Why/why not?
- a. Is your pharmacy able to get reimbursed for COVID-19 vaccine administration through Medicaid?
- 10) [If time allows] Have you participated in any other federal or state programs related to immunizations (for instance, the CDC's Federal Retail Pharmacy Program, HRSA's COVID-19 Uninsured Program and COVID-19 Coverage Assistance Fund, or MOUs established early in the pandemic before these programs were in place)?
- a. What influenced your decision about which program(s) to join?
  - b. What were your experience(s) with this (these) program(s)?

**Section 3: Next, I'd like to hear your thoughts on your plans and expectations for the future, particularly when the COVID-19 vaccines move to the commercial market.**

- 11) Thinking about the upcoming movement of COVID-19 vaccines to the commercial market and the end of the federal government providing those vaccines at no charge, how likely is it that your pharmacy will purchase pediatric COVID-19 vaccines to offer patients in the future?
- a. Is there anything that would make it difficult to offer COVID-19 vaccines to children, compared to adults?



- b. Are you more likely, less likely, or just as likely to offer COVID-19 vaccines to publicly-insured or uninsured children, compared to children with private insurance?
  - c. Is there anything that would make it easier to offer COVID-19 vaccines to your pediatric patients?
    - i. What, besides having the legal authority to vaccinate children, would need to change for you to consider offering COVID-19 vaccines to children as young as 6 months?
- 12) Is your pharmacy likely to continue or return to offering pediatric vaccinations in the future?
- a. Do you anticipate these services will expand or remain the same?
- 13) Will your resources, policies, and procedures for stocking and administering pediatric COVID-19 vaccines need to change when vaccines are no longer provided through the federal program?
- a. How do you plan to address wastage concerns?

**Section 4: Finally, I'd like to wrap up by hearing any final thoughts you have about vaccinating children against COVID-19.**

- 14) If you could change one thing to increase COVID-19 immunization rates among children in the United States, what would it be?
- a. PROMPT: What do you see as the biggest barrier to pediatric COVID-19 vaccinations, and what do you think would be most effective at overcoming that barrier?
- 15) Would you like to share any other thoughts about the role of pharmacies in providing COVID-19 vaccines for children or pharmacies enrolling in the VFC program?

*Thank you for your participation! We appreciate your candid input. Please feel free to reach out anytime if you have any questions or think of additional information you'd like to share. Our contact information can be found on the consent and information sheet you received via email.*