



**JBS INTERNATIONAL**

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# **American Academy of Pediatrics Supporting Pediatric Healthcare Providers to Increase Vaccination Uptake Project**

## **Final Report**

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# Supporting Pediatric Healthcare Providers to Increase Vaccination Uptake Project Final Report

## Executive Summary

The American Academy of Pediatrics (AAP) funded nine chapters to participate in the Supporting Pediatric Healthcare Providers to Increase Vaccination Uptake project via cooperative agreement funding from the Centers for Disease Control and Prevention (CDC). The goal of the project was to identify and support the immunization program needs of pediatric healthcare clinicians in practice by building their capacity to ensure high immunization coverage levels for vaccine preventable diseases, particularly during the COVID-19 pandemic, through a (1) needs assessment of pediatric healthcare clinicians, with 560 respondents across 9 chapters; and (2) focus group, with chapter grantee representatives from 6 of 9 participating chapters. A summary of key findings and recommendations is provided below.

***Pediatric healthcare providers reported successes related to routine patient vaccination, but there were also some challenges.***

Patient factors, such as vaccination acceptance and access to care, facilitated routine vaccination, as did positive relationships with their providers. COVID-19 was a primary factor challenging routine vaccinations, due to fewer in-person visits attributable to (1) patient and family concerns about risk of COVID-19 infection or (2) activity restrictions related to COVID-19. Patient and family hesitancy related to vaccination was also a challenge.

**Recommendation:** For information related to these facilitators and challenges to routine and COVID-19 vaccinations, provider and family information sources include AAP's information on [Immunizations](#) and [Communicating with Families](#) and CDC's [Childhood Immunization Resources](#) (e.g., [Resources for Encouraging Routine Childhood Vaccinations](#)).

***Vaccine safety—for routine and COVID-19 vaccinations—was a topic about which patients and their families commonly had questions and was also an area where chapter members needed support and materials.***

Chapter grantee representatives also noted that their chapters are encountering a “sense of apathy and complacency” related to routine and COVID-19 vaccinations.

**Recommendation:** Given that vaccine safety was a consideration for patients and providers alike, AAP could engage a national, trusted source (e.g., a pediatrician, primary care provider or a leader in the field with significant experience) to provide facts and information on emerging, vaccination-related issues.

***Chapter members reported interest in using a variety of approaches to reach out to patients and families regarding topics related to the importance of routine vaccination.***

To facilitate communications, chapter members reported needs for materials such as parent-education flyers/handouts/postcards/brochures or a Frequently Asked Questions (FAQs) document. Chapters were exploring other communications approaches, including outreach via radio campaigns and other forms of media. Suggested topics for these materials included catching up on routine visits, addressing vaccine misinformation, engaging with vaccine-hesitant families, and addressing vaccine exemptions and requirements. One respondent noted it “*would help to have very attractive brochures/patient ed[ucation] info, i.e., not statistics so much as 'stories' with positive messages re: vaccines.*”

**Recommendation:** One chapter grantee representative suggested that AAP could consider developing a central portal for all the resources AAP chapters participating in this project have developed and/or plan to use to avoid duplicating existing materials.

***Materials are needed for a variety of populations, but chapters reported challenges addressing information needs for their diverse patient populations.***

Needs assessment respondents reported needs for materials for racial and ethnic minority populations and for patients living in rural and medically underserved areas. Chapter grantee representatives elaborated that they are working on finding ways to (1) provide materials to address the diversity within the populations with whom they are working and (2) conduct outreach to rural and medically underserved areas.

**Recommendation:** AAP could connect chapter members to resources available in multiple languages by linking them to [CDC Resources in Languages Other than English](#), the Immunization Action Coalition’s [Handouts for Patients and Staff](#) and [Vaccine Information Statements](#), or the National Library of Medicine’s [Consumer Health Information in Many Languages Resources](#). AAP could also assist chapters in connecting with their state’s immigrant task force or interpreter services.

***Reminder/recall systems were commonly reported as methods for engaging parents in routine vaccinations, and electronic health records (EHRs) were commonly used as a practice tool for supporting staff in increasing routine vaccination uptake.***

One needs assessment respondent noted that “*a reminder and educating tool with regards [to] what diseases can develop if children were not routinely vaccinated*” would be helpful. During the focus group, chapter grantee representatives expressed the importance of highlighting the capabilities of practice EHRs and of increasing the practice staff’s familiarity with EHR systems.

**Recommendation:** AAP could support chapters in conducting webinars that demonstrate how practices can use their EHR systems and help chapters connect with their state information technology (IT) support staff and the state’s [Contacts for Immunization Information System Immunization Records](#). It could also share resources (e.g., AAP’s [Immunization Information Systems](#) webpage, including [Immunization Information Technology: A Guide for Pediatricians on Immunization Information Systems and Two-Dimensional Barcoding](#), and CDC’s [Immunization Information Systems](#)).

***Communicating with families about the timing/co-administration of the COVID-19 vaccine with other vaccines for children and adolescents was a commonly reported topic that providers need support in addressing during patient counseling.***

Chapter grantee representatives agreed that there is a need for evidence-based talking points and messaging so pediatricians feel comfortable sharing information about timing/co-administration of the COVID-19 vaccine with other routine vaccines.

**Recommendation:** AAP could connect physicians with its [Guidance on Providing Pediatric Well-Care During COVID-19](#) and [The Science Behind COVID-19 Vaccines: Parent FAQs](#). It could also provide physicians with evidence-based talking points to share with patients about the COVID-19 vaccine, including timing/co-administration with other vaccines, vaccine safety, and vaccine hesitancy. CDC’s [Communication Resources](#) can be used to guide the development of evidence-based talking points, especially its [Pediatric Healthcare Professionals COVID-19 Vaccination Toolkit](#) and [Communication Toolkit For Migrants, Refugees, and Other Limited-English-Proficient Populations](#).

***Chapters need support with collecting and analyzing data.***

Two chapter grantee representatives expressed a need for support with analyzing data (e.g., epidemiological data). Other chapter representatives stated that although they have the capability to analyze data, they need a more robust data set. One chapter would like to have leaders from different areas “*come together, share the data, but also analyze it; then we could share that with... pediatricians.*”

**Recommendation:** AAP could develop a centralized epidemiological data source chapters can access. As a centralized data source is built out, AAP could provide chapter members with information from AAP’s interactive [Child Vaccination Across America infographic](#) and CDC’s [VaxView](#), which has vaccination coverage data for all ages.

This document was prepared by JBS, which was funded by AAP, via cooperative agreement funding from CDC, to serve as evaluation consultant for the project.

## Supporting Pediatric Healthcare Providers to Increase Vaccination Uptake Project Overview

AAP funded nine chapters to participate in the Supporting Pediatric Healthcare Providers to Increase Vaccination Uptake project via cooperative agreement funding from CDC. The goal of the project was to identify and support the immunization program needs of pediatric healthcare clinicians in practice by building their capacity to ensure high immunization coverage levels for vaccine preventable diseases, particularly during the COVID-19 pandemic.

As part of this project, the evaluation consultant, JBS, collaborated with AAP to develop a needs assessment of pediatric healthcare clinicians to examine (1) their needs related to increasing routine vaccination in children and adolescents to inform the development of strategies, action plans, and/or resources to meet these needs and (2) COVID-19 vaccination support needs (see the appendix for needs assessment questions). In addition, JBS conducted a focus group with chapter grantee representatives to (1) identify chapters' needs to build capacity to conduct needs assessments on an ongoing basis, (2) discuss the status of chapters' plans to address the needs identified in the needs assessment, and (3) review chapters' needs to successfully sustain the capacity the grant helped chapters build. The following sections provides results from the needs assessment, followed by key themes from the chapter grantee focus group.

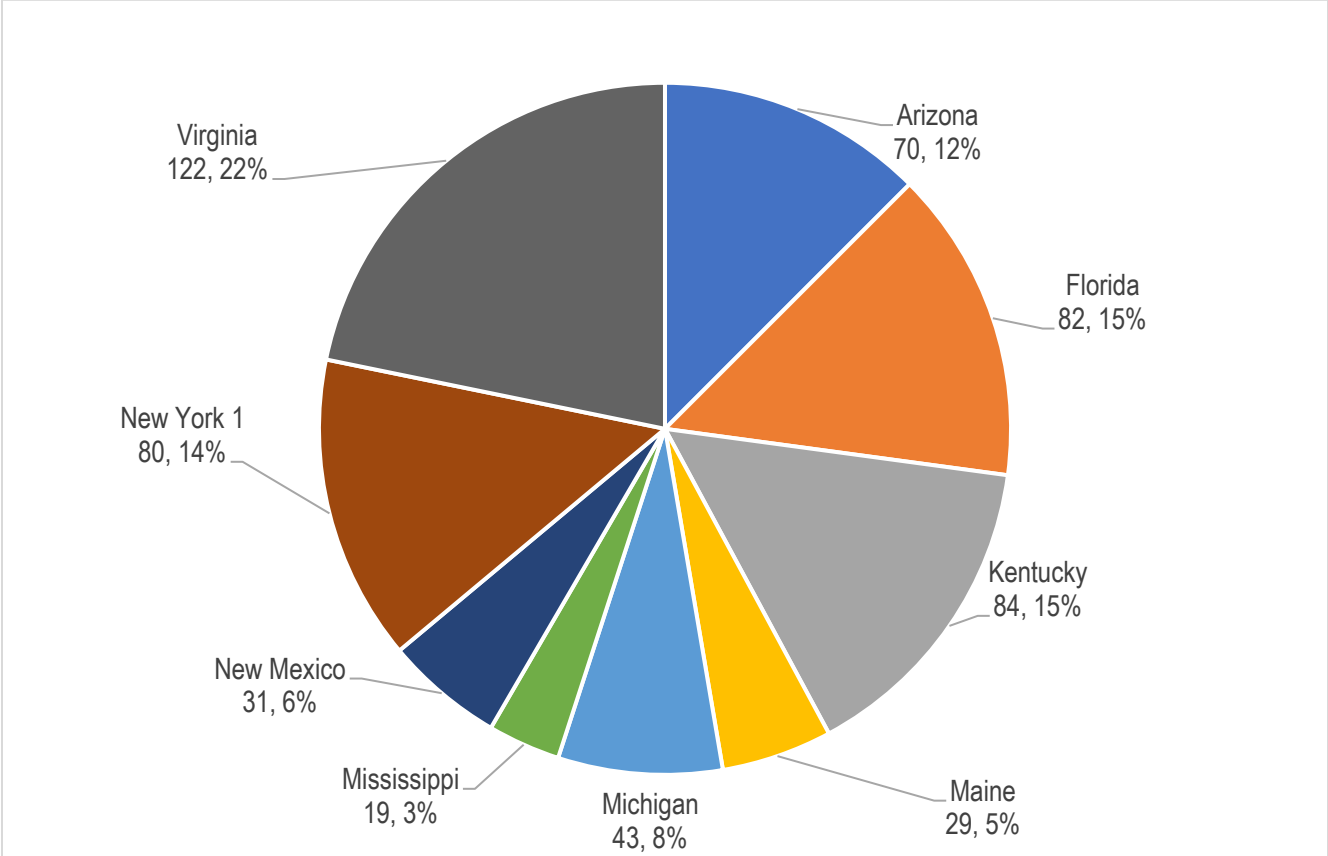
### Needs Assessment of Pediatric Healthcare Clinicians

The needs assessment of pediatric healthcare clinicians was provided to participating chapters to disseminate to their chapter members as part of this grant project. The data collection period was 4/12/2021 – 5/6/2021. Participating chapters provided AAP with their needs assessment data, and AAP, in turn, provided these data to JBS for analysis. This section summarizes aggregate feedback gathered from needs assessment respondents by needs assessment question. Some needs assessment questions were required, as indicated by an R <sup>(R)</sup> in the narrative below, while others were optional. Percentages are rounded to the nearest whole number; consequently, percentages may not total 100 percent due to rounding error. This report contains some partial responses, and N/n have been noted accordingly. Participants' responses to open-ended survey questions were reviewed, and a summary of key themes for each question is provided in the report narrative.

**NEEDS ASSESSMENT RESPONDENT INFORMATION**

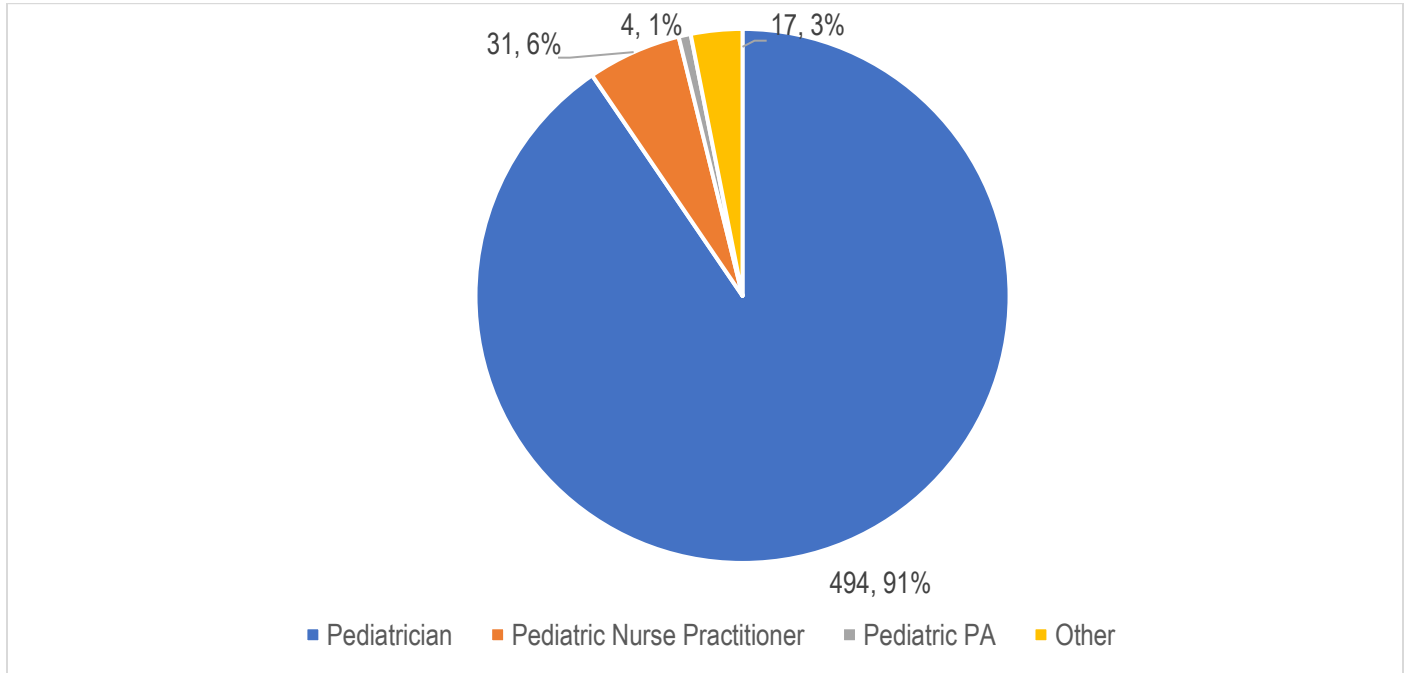
The needs assessment received 560 responses. A breakdown of the number of responses **by chapter** is provided in Exhibit 1.

**Exhibit 1. Number of Needs Assessment Responses by Chapter (N=560)**

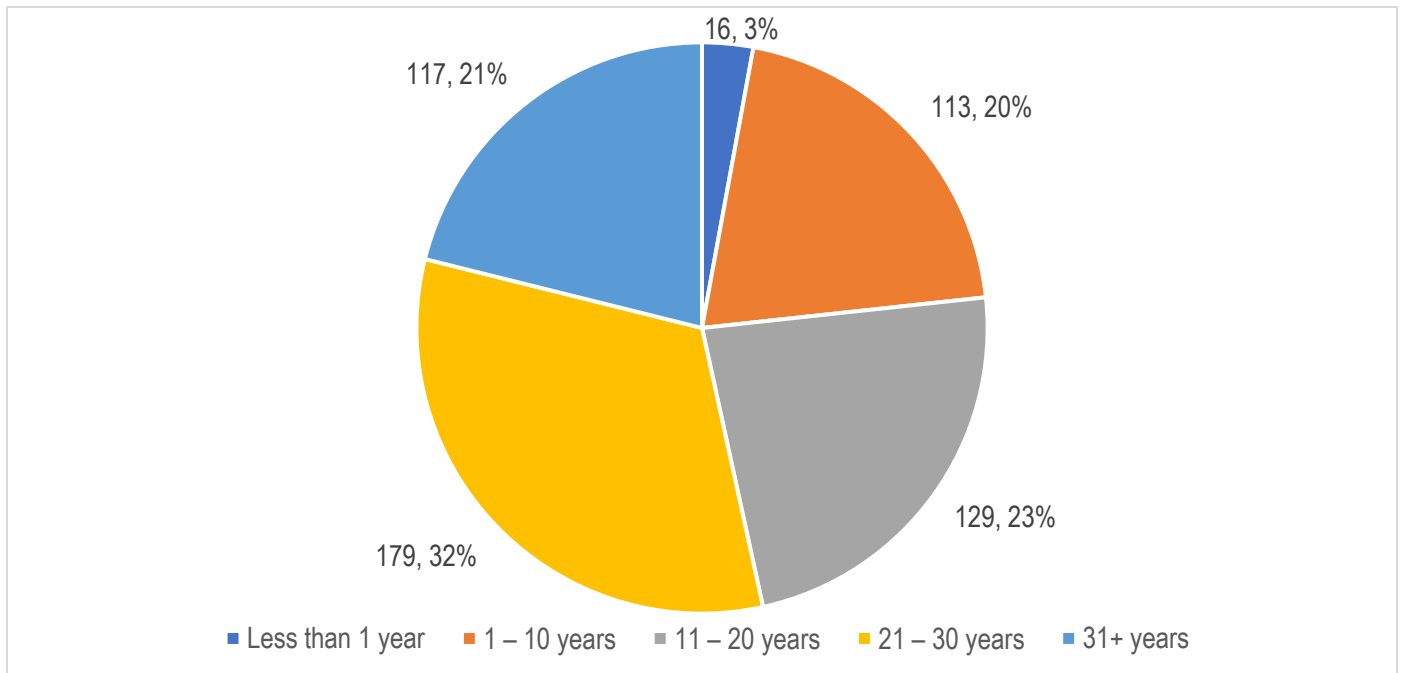


The most common **provider type** was pediatricians, with 91 percent (n=494) of respondents selecting this provider type. The largest percentage of respondents (n=179, 32 percent) had 21-30 **years in practice** (see Exhibits 2 and 3, respectively for additional information).

**Exhibit 2. Provider Type (N=546)**



**Exhibit 3. Years in Practice (N=554)**





Regarding **primary practice setting**, a 3 – 5-physician pediatric group practice was most commonly reported, followed closely by a pediatric group practice of 6 – 10 physicians (see Exhibit 4).

**Exhibit 4. Primary Practice Setting**

Potential Response Options (N=558)	n	%
Solo- or two-physician practice	86	15
Pediatric group practice (3 – 5 physicians)	115	21
Pediatric group practice (6 – 10 physicians)	97	17
Pediatric group practice (>10 physicians)	88	16
Multi-specialty group practice	36	6
Community health center/Federally Qualified Health Center	61	11
Other (please specify)*	75	13

\*Other responses included: academic centers, hospitals, health departments, and universities.

Exhibit 5 below demonstrates, on average, **how many patients respondents saw per day**. The largest percentage of respondents reporting seeing 11-20 patients per day, on average.

**Exhibit 5. Average Daily Patient Volume (N=559)**

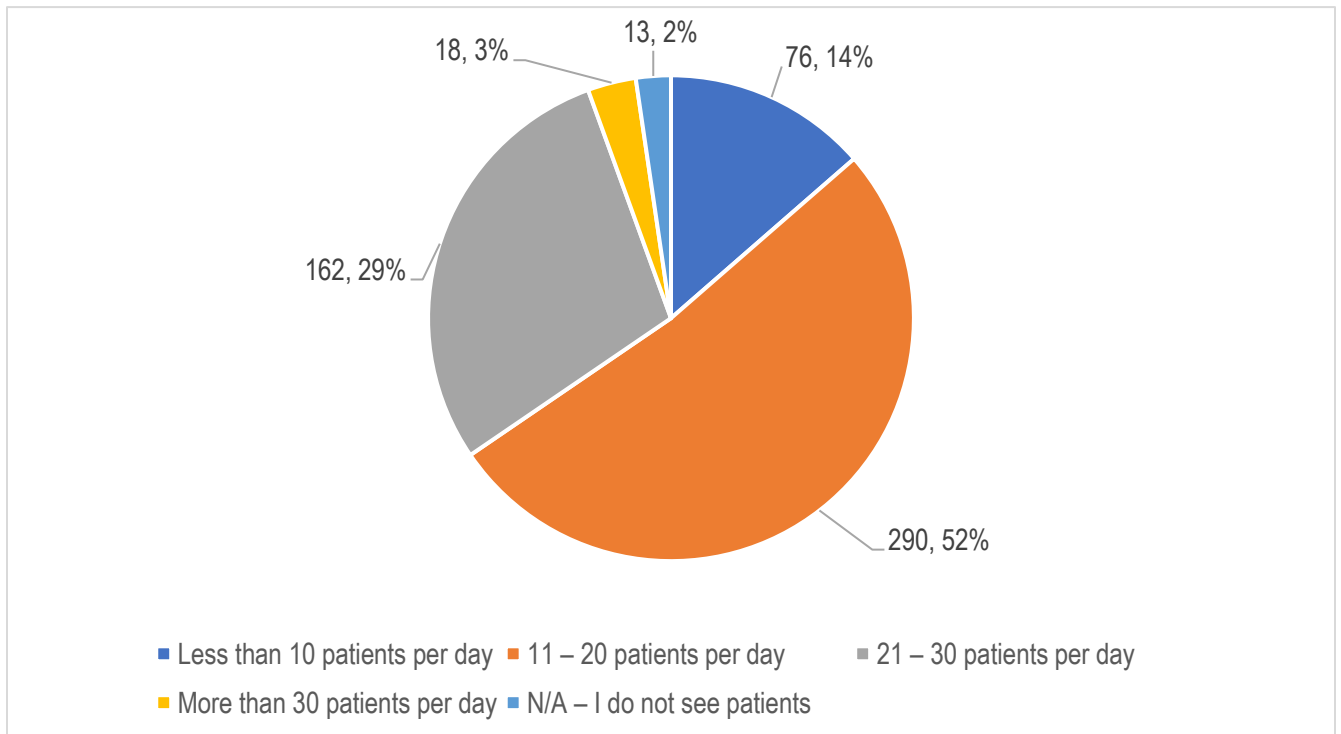


Exhibit 6 below reflects the **primary practice location** of respondents, with the most common primary practice location being suburban.

**Exhibit 6. Primary Practice Location (N=559)**

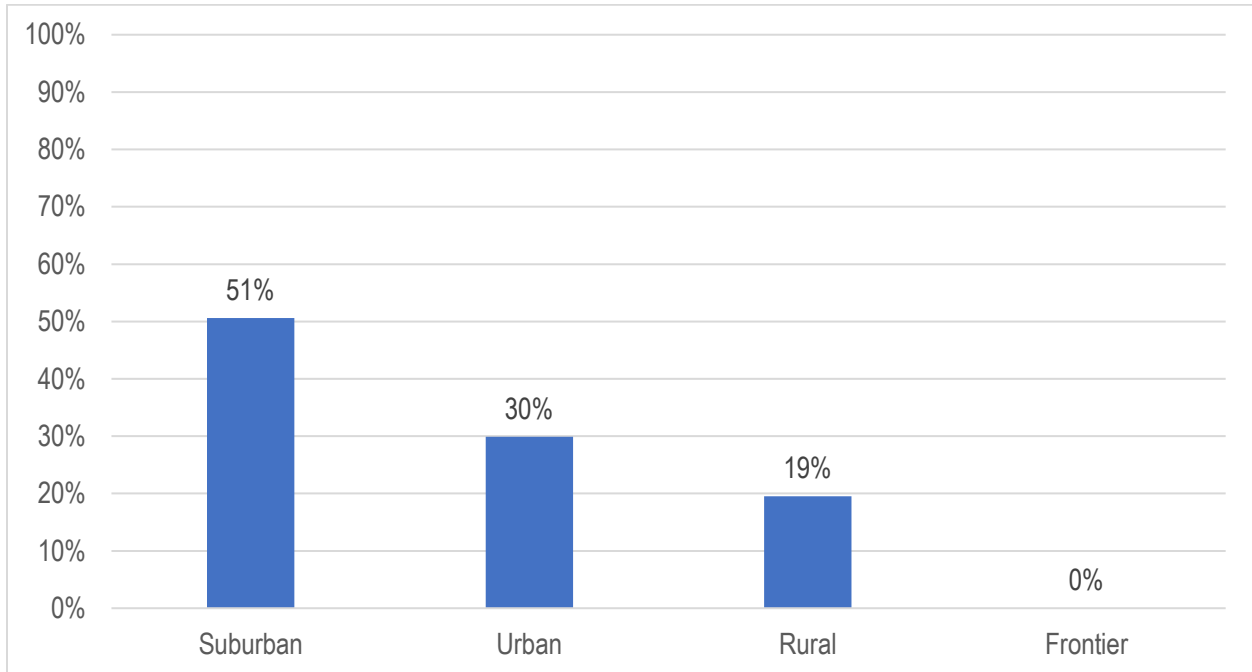


Exhibit 7 shows the **settings where the majority of the respondents’ patient populations live**. Similar to the primary practice setting, suburban was the most commonly reported location.

**Exhibit 7. Setting Where Patient Populations Live (N=560)**

Potential Response Options	n	%*
Suburban	311	56
Urban	193	35
Rural	181	32
Frontier	9	2

\*Percentages do not add up to 100 percent, as respondents could select more than 1 setting.

**FACILITATORS AND CHALLENGES FOR ROUTINE VACCINATIONS**

**Question 7:** What factors have **facilitated** routine patient vaccination within your practice?  
*Select all that apply.*

The three most commonly reported facilitators for routine patient vaccination were patient and family acceptance of vaccinations, positive patient-provider relationship, and consistent patient access to care (see Exhibit 8).

### Exhibit 8. Facilitators to Routine Patient Vaccination

Potential Response Options	n	%*
Patient and family acceptance of vaccinations (N=466)	447	96
Positive patient-provider relationship (N=478)	426	89
Consistent patient access to care (N=478)	386	81
Existing practice infrastructure to support vaccination (N=478)	369	77
Adequate payment for vaccine administration by private payors (N=478)	239	50
Allocated staff time (e.g., for vaccine counseling and documentation) (N=478)	235	49
Adequate payment for vaccine administration by public payors (N=478)	225	47
Other (specify) (N=478)**	45	9

\*Percentages do not add up to 100 percent, as respondents could select more than 1 facilitator.

\*\*Other responses included: using flexible hours, vaccinating at every encounter, school and daycare requirements, and not accepting or choosing to discharge patients who refuse vaccinations.

**Question 8:** To what extent have the following factors **challenged** routine patient vaccination within your practice? <sup>R</sup>

The top three challenges chapter members have faced, from a moderate to a very great extent, regarding routine vaccinations are fewer in-person visits, due to both patient and family concerns about risk of COVID-19 infection and activity restrictions related to COVID-19 (e.g., sports clearance visits or back-to-school visits) and to patient and family hesitancy related to vaccination (see Exhibit 9).

### Exhibit 9. Challenges to Routine Patient Vaccination

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Patient and family hesitancy related to vaccination (N=558)	43 (8%)	60 (11%)	165 (30%)	272 (49%)	18 (3%)
Inconsistent patient access to care (N=557)	14 (3%)	39 (7%)	106 (19%)	260 (47%)	138 (25%)
Fewer in-person visits due to patient and family concerns about risk of COVID-19 infection (N=557)	54 (10%)	131 (24%)	209 (38%)	142 (26%)	21 (4%)
Fewer in-person visits due to activity restrictions related to COVID-19 (e.g., sports clearance visits or back-to-school visits) (N=557)	50 (9%)	110 (20%)	180 (32%)	176 (32%)	41 (7%)
Lack of time (e.g., for vaccine counseling and documentation) (N=558)	10 (2%)	23 (4%)	54 (10%)	170 (31%)	301 (54%)
Limited practice infrastructure to support vaccination (N=557)	10 (2%)	19 (3%)	16 (3%)	97 (17%)	415 (75%)

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Inadequate payment for vaccine administration by <i>private</i> payors (N=556)	15 (3%)	28 (5%)	71 (13%)	137 (25%)	305 (55%)
Inadequate payment for vaccine administration by <i>public</i> payors (N=556)	28 (5%)	36 (7%)	62 (11%)	113 (20%)	317 (57%)

**Question 9:** What other factors, if any, **challenged** routine patient vaccination within your practice?

Key themes related to commonly reported challenges from respondents were:

- Challenges with vaccine shipping and storage
- Lack of automated reminder systems
- Patient no shows
- Staffing shortages and turnover
- COVID-19 pandemic, including subsequent workflow changes (e.g., patients not coming to appointments, fear, and providers not in their practice settings to support testing and vaccinations)
- Vaccine (e.g., flu) and other supply shortages
- Difficulties with the [Vaccines for Children Program \(VFC\)](#)
- Vaccine hesitancy, including Internet misinformation, the current political climate, and politicization of vaccines

## SUPPORTING YOUR PATIENTS

**Question 10:** During **patient counseling**, how often do patients and their families have questions about: <sup>R</sup>

The most commonly reported topics about which patients and their families had questions always, often, or sometimes were immediate side effects, vaccine requirements for childcare and school, and vaccine safety (see Exhibit 10).

### Exhibit 10. Patient Counseling Questions

	Always	Often	Sometimes	Rarely	Never
Vaccine exemptions (N=527)	4 (1%)	34 (7%)	178 (34%)	281 (53%)	30 (6%)
Vaccine requirements for childcare and school (N=539)	55 (10%)	214 (40%)	194 (36%)	70 (13%)	6 (1%)
Catching up on routine vaccinations before the back-to-school season, following missed visits due to the COVID-19 pandemic (N=539)	35 (7%)	159 (30%)	251 (47%)	80 (15%)	14 (3%)
Vaccine safety (N=538)	47 (9%)	155 (29%)	257 (48%)	73 (14%)	6 (1%)
Immediate side effects (N=539)	71	225	179	59	5

	Always	Often	Sometimes	Rarely	Never
	(13%)	(42%)	(33%)	(11%)	(1%)
Long-term side effects (N=539)	21 (4%)	97 (18%)	190 (35%)	214 (40%)	17 (3%)
Need for routine vaccines (N=538)	44 (8%)	141 (26%)	223 (41%)	122 (23%)	8 (2%)
Vaccination schedules (N=539)	39 (7%)	172 (32%)	220 (41%)	98 (18%)	10 (2%)
Number of co-administered vaccines (N=539)	32 (6%)	198 (37%)	215 (40%)	80 (15%)	14 (3%)
Vaccine effectiveness (N=538)	21 (4%)	80 (15%)	188 (35%)	214 (40%)	35 (7%)
Coverage for cost of vaccines (N=537)	10 (2%)	16 (3%)	79 (15%)	251 (47%)	181 (34%)
Logistical barriers (e.g., lack of transportation or challenges scheduling appointments due to work schedule) (N=539)	9 (2%)	49 (9%)	163 (30%)	223 (41%)	95 (18%)

**Question 11:** To what extent do you need **support** in addressing the following topics during patient counseling? <sup>R</sup>

Chapter members needed support, from a moderate extent to a very great extent, in addressing topics such as patient logistical barriers (e.g., lack of transportation or challenges scheduling appointments due to work schedule) and vaccine safety (see Exhibit 11).

### Exhibit 11. Patient Counseling Support Needs

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Vaccine exemptions (N=532)	12 (2%)	27 (5%)	89 (17%)	241 (45%)	163 (31%)
Vaccine requirements for childcare and school (N=537)	15 (3%)	24 (5%)	57 (11%)	163 (30%)	278 (52%)
Catching up on routine vaccinations before the back-to-school season, following missed visits due to the COVID-19 pandemic (N=540)	17 (3%)	25 (5%)	90 (17%)	188 (35%)	220 (41%)
Vaccine safety (N=538)	22 (4%)	38 (7%)	99 (18%)	185 (34%)	194 (36%)
Immediate side effects (N=540)	16 (3%)	20 (4%)	54 (10%)	191 (35%)	259 (48%)
Long-term side effects (N=538)	16 (3%)	32 (6%)	69 (13%)	205 (38%)	216 (40%)
Need for routine vaccines (N=540)	24 (4%)	31 (6%)	63 (12%)	148 (27%)	274 (51%)
Vaccination schedules (N=539)	17 (3%)	26 (5%)	65 (12%)	154 (29%)	277 (51%)

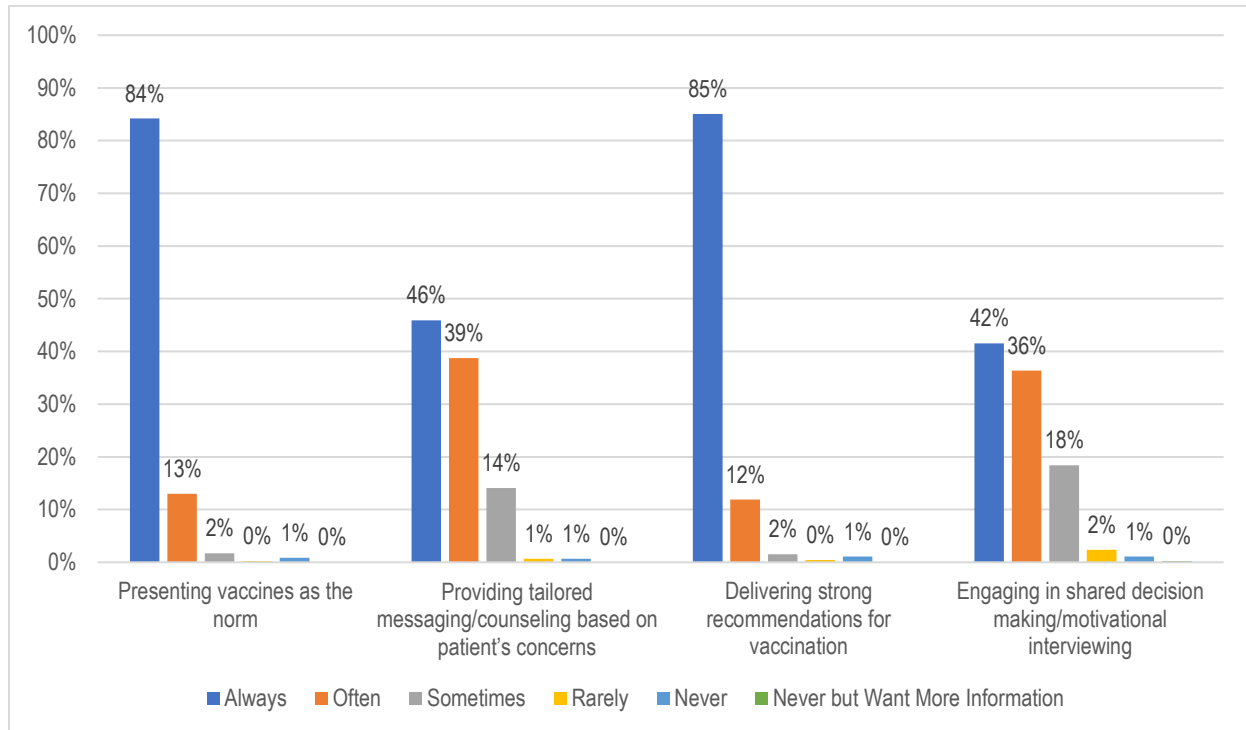
	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Number of co-administered childhood vaccines (N=540)	17 (3%)	21 (4%)	72 (13%)	165 (31%)	265 (49%)
Vaccine effectiveness (N=539)	24 (5%)	28 (5%)	71 (13%)	181 (34%)	235 (44%)
Coverage for cost of vaccines (N=538)	18 (3%)	42 (8%)	76 (14%)	177 (33%)	225 (42%)
Logistical barriers (e.g., lack of transportation or challenges scheduling appointments due to work schedule) (N=539)	14 (3%)	39 (7%)	107 (20%)	196 (36%)	183 (34%)

## COMMUNICATING WITH YOUR PATIENTS ABOUT ROUTINE VACCINATIONS

**Question 12:** How often do you use the following strategies when **communicating** with your patients about routine vaccinations?

Respondents most commonly reported always or often presenting vaccines as the norm and delivering strong recommendations for vaccination (see Exhibit 12).

**Exhibit 12. Routine Vaccination Patient Communication Strategies (N=462)**



**Question 13:** What **topics** for materials would help facilitate your communications with patients and their families related to routine vaccinations? *Select all that apply.*<sup>R</sup>

Needs assessment respondents commonly reported that materials on vaccine safety (including side effects) and the importance of catching up on routine visits (including vaccinations missed due to the COVID-19 pandemic) would help facilitate their communications with patients and their families related to routine vaccinations.

**Exhibit 13. Topics for Patient Communication Materials (N=560)**

Potential Response Options	n	%*
Vaccine safety, including side effects	351	63
Importance of catching up on routine visits, including vaccinations, missed due to the COVID-19 pandemic	335	60
Disease-specific vaccine information, including need for vaccination	302	54
Handling risk communication around vaccination	271	48
Vaccine schedules	177	32
Addressing disparities in vaccination uptake	163	29
Other (specify)**	54	10

\*Percentages do not add up to 100 percent, as respondents could select more than 1 topic.

\*\*Other topics included resources addressing misinformation (e.g., dispelling link between autism and vaccines), information (e.g., ingredients in each vaccine) for and how to talk to vaccine hesitant families, and information on vaccine exemptions and requirements. One respondent shared that it “*would help to have very attractive brochures/patient ed[ucation] info, i.e., not statistics so much as 'stories' with positive messages re: vaccines.*”

**Question 14:** What **types** of materials would help facilitate your communications with patients and their families related to vaccinations? *Select all that apply.*<sup>R</sup>

Respondents reported needing materials in the form of parent-education flyers/handouts/postcards/brochures or an FAQs document to help facilitate communications with patients and their families (see Exhibit 14).

**Exhibit 14. Types of Patient Communication Materials (N=560)**

Potential Response Options	n	%*
Parent-education flyers/handouts/postcards/brochures	397	71
FAQs document	373	67
Social media messages	320	57
Videos	147	26
Email templates	109	20
Other (specify)**	35	6

\*Percentages do not add up to 100 percent, as respondents could select more than 1 type.

\*\*Other responses included: posters, videos for the lobby/waiting room to show disease risks to parents, messages and links for patient portals, and public messaging through radio and television.

**Question 15:** For which **populations** would materials facilitate your communications with patients and their families related to vaccinations? *Select all that apply.* <sup>R</sup>

Respondents reported needing materials for racial and ethnic minority populations and for patients living in rural and medically underserved areas.

**Exhibit 15. Target Populations for Patient Communication Materials**

Potential Response Options	n	%*
Racial minority populations (N=560)	210	38
Patients living in medically underserved areas (N=560)	199	36
Patients living in rural areas (N=560)	186	33
Ethnic minority populations (N=560)	185	33
Tribal populations (specify below) (N=560)	40	7
Other (specify below) (N=490)**	139	28

\*Percentages do not add up to 100 percent, as respondents could select more than 1 population.

\*\*Because of differences in administration of the needs assessment questions across chapters, the Other (specify below) response option was not included by all chapters. Therefore, the N represents the number of respondents for chapters who included this response option.

**Question 16:** If you selected racial minority populations, ethnic minority populations, tribal populations, or other populations above, please specify. <sup>R</sup>

Some respondents reported needing materials for all patients, but some other populations that were specifically noted were:

- African American/Black (e.g., Haitian)
- Asian (e.g., Burmese)
- Highly educated parents
- Hispanic/Latino/Spanish speaking
- Middle Eastern/Arab American (e.g., Somalian)
- Native Americans (e.g., Navajo)
- Patients living in suburban, inner-city, or underserved communities
- Refugee populations
- Religious populations (e.g., Amish, Mennonite, Catholic, or Jewish)
- The vaccine hesitant population in general

**PARENT ENGAGEMENT TO INCREASE ROUTINE VACCINATION UPTAKE**

**Question 17:** To what extent does your practice use the following activities to **engage parents** in routine vaccinations for their child(ren)? <sup>R</sup>

Respondents used reminder/recall systems (e.g., postcards, letters, telephone calls, or texts) and parent education regarding vaccines and vaccination schedules, from a moderate to very great extent, to engage parents in routine vaccinations (see Exhibit 16).



### Exhibit 16. Parent Engagement Activities

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Reminder/recall systems (e.g., postcards, letters, telephone calls, or texts) (N=528)	161 (31%)	113 (21%)	110 (21%)	88 (17%)	43 (8%)	13 (3%)
Home visits or other direct contact (N=526)	8 (2%)	10 (2%)	13 (3%)	54 (10%)	357 (68%)	84 (16%)
Parent education regarding vaccines and vaccination schedules (N=528)	161 (31%)	145 (28%)	139 (26%)	62 (12%)	17 (3%)	4 (1%)
Open house, health fair, mobile clinic, etc. (N=528)	6 (1%)	18 (3%)	36 (7%)	97 (18%)	288 (55%)	83 (16%)
Web-based (e.g., website or blog) (N=528)	45 (9%)	54 (10%)	99 (19%)	135 (26%)	143 (27%)	52 (10%)

### STAFF SUPPORT TO INCREASE ROUTINE VACCINATION UPTAKE

**Question 18:** To what extent does your practice use the following activities to **support staff** in increasing routine vaccination uptake? <sup>R</sup>

As indicated in Exhibit 17, from a moderate extent to a very great extent, commonly reported activities to support staff in increasing routine vaccination uptake were increased involvement of pediatric care team members in the immunization process (e.g., nurses and physician assistants), prompts/reminders in EHRs, and tools (e.g., flow sheets and tracking systems).

### Exhibit 17. Staff Support Activities

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Staff education and training to improve vaccine counseling effectiveness and efficacy (N=522)	77 (15%)	116 (22%)	141 (27%)	119 (23%)	52 (10%)	17 (3%)
Prompts/reminders in EHR (N=520)	132 (25%)	122 (24%)	109 (21%)	65 (13%)	75 (14%)	17 (3%)
Increased involvement of non-clinical staff in the immunization process (e.g., front office staff) (N=522)	53 (10%)	84 (16%)	132 (25%)	134 (26%)	96 (18%)	23 (4%)
Increased involvement of pediatric care team	136 (27%)	138 (27%)	108 (22%)	76 (15%)	33 (7%)	12 (2%)

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
members in the immunization process (e.g., nurses and physician assistants) (N=503)						
Tools (e.g., flow sheets and tracking systems) (N=501)	129 (26%)	109 (22%)	97 (19%)	78 (16%)	64 (13%)	24 (5%)
Continuing education opportunities and quality improvement projects (N=502)	50 (10%)	87 (17%)	105 (21%)	130 (26%)	102 (20%)	28 (6%)

## PRACTICE ACTIVITIES TO INCREASE ROUTINE VACCINATION UPTAKE

**Question 19:** To what extent does your practice use the following **practice** tools or activities to increase routine vaccination uptake? <sup>R</sup>

Needs assessment respondents most commonly reported using EHR templates and interfaces, immunization information systems, and all visits to verify/recommend vaccines as practice tools or activities, to a great or very great extent, to increase routine vaccination uptake (see Exhibit 18).

### Exhibit 18. Practice Tools or Activities

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Standing order protocols (N=507)	177 (35%)	101 (20%)	68 (13%)	56 (11%)	93 (18%)	12 (2%)
EHR templates and interfaces (N=505)	218 (43%)	114 (23%)	63 (13%)	42 (8%)	57 (11%)	11 (2%)
Immunization information system (N=504)	217 (43%)	114 (23%)	64 (13%)	46 (9%)	48 (10%)	15 (3%)
Practice immunization champion(s) (N=505)	53 (11%)	41 (8%)	76 (15%)	69 (14%)	203 (40%)	63 (13%)
Implementing quality indicators (N=505)	83 (16%)	91 (18%)	113 (22%)	85 (17%)	108 (21%)	25 (5%)
Using all visits to verify/recommend vaccines (N=507)	197 (39%)	120 (24%)	111 (22%)	54 (11%)	19 (4%)	6 (1%)
Walk-in and after-hours vaccination clinics (N=507)	55 (11%)	43 (9%)	74 (15%)	101 (20%)	199 (39%)	35 (7%)

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Screening for vaccine hesitancy (N=507)	45 (9%)	55 (11%)	71 (14%)	133 (26%)	158 (31%)	45 (9%)
Peer-to-peer exchanges about strategies used to address vaccine hesitancy (N=507)	34 (7%)	64 (13%)	81 (16%)	129 (25%)	158 (31%)	41 (8%)
Additional times for vaccine-hesitant families to receive vaccine counseling (N=507)	28 (6%)	52 (10%)	54 (11%)	125 (25%)	200 (39%)	48 (10%)

**Question 20:** What **additional tools or resources** would support you in increasing vaccination uptake among your patients?

Commonly reported additional supports needed from respondents were:

- Better insurance reimbursement and payment
- Credible online information about vaccines (that preferably appears as a top search result online)
- Educational tools and aids to help patients be more compliant with appointments and to understand the recommended schedule and what can happen if children do not adhere to the schedule
- Help with outreach, researching, and addressing vaccine hesitancy
- More time during patient visits for discussion and education
- Public announcements and campaigns, including social media campaigns
- Reliable recall/reminder systems
- Videos to share with patients on vaccine hesitancy

## COVID-19 VACCINATION SUPPORT

**Question 21:** To what extent do you need **support** in addressing the following COVID-19 topics during patient counseling? <sup>R</sup>

Needs assessment respondents commonly reported needing support in addressing the following COVID-19 topics during patient counseling, from a moderate extent to a very great extent: timing/co-administration of COVID-19 vaccine with other vaccines for children and adolescents, COVID-19 vaccine requirements for childcare and school, COVID-19 vaccine safety, and COVID-19 vaccine availability (see Exhibit 19).

### Exhibit 19. COVID-19 Patient Counseling Support

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Steps the practice has taken to ensure patients and families can safely return to pediatric office (N=505)	58 (12%)	52 (10%)	94 (19%)	149 (30%)	152 (30%)

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
COVID-19 in children and adolescents (N=505)	66 (13%)	82 (16%)	137 (27%)	137 (27%)	83 (16%)
COVID-19 vaccine availability (N=506)	87 (17%)	106 (21%)	135 (27%)	93 (18%)	85 (17%)
COVID-19 vaccine effectiveness (N=506)	85 (17%)	105 (21%)	118 (23%)	107 (21%)	91 (18%)
COVID-19 vaccine safety (N=503)	103 (21%)	114 (23%)	118 (24%)	95 (19%)	73 (15%)
Timing/co-administration of COVID-19 vaccine with other vaccines for children and adolescents (N=505)	117 (23%)	115 (23%)	127 (25%)	79 (16%)	67 (13%)
COVID-19 vaccine exemptions (N=504)	92 (18%)	92 (18%)	127 (25%)	119 (24%)	74 (15%)
COVID-19 vaccine requirements for childcare and school (N=505)	116 (23%)	109 (22%)	120 (24%)	91 (18%)	69 (14%)

**Question 22:** To what extent do you need **support** in addressing the following aspects of practice implementation of the COVID-19 vaccine? <sup>R</sup>

Commonly reported needs to support practice implementation of the COVID-19 vaccine, from a moderate to a very great extent, were communicating with families to address COVID-19 vaccine hesitancy, timing/co-administration of COVID-19 vaccine with other vaccines for children and adolescents, and payment for COVID-19 vaccine administration.

**Exhibit 20. COVID-19 Vaccine Practice Implementation Support**

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Enrolling as a provider in my state's COVID-19 vaccination program (N=504)	57 (11%)	74 (15%)	80 (16%)	79 (16%)	214 (43%)
COVID-19 vaccine storage and handling requirements (N=503)	91 (18%)	88 (18%)	83 (17%)	90 (18%)	151 (30%)
Communicating with families to address COVID-19 vaccine hesitancy (N=504)	91 (18%)	120 (24%)	157 (31%)	71 (14%)	65 (13%)
COVID-19 vaccine reporting (N=503)	77 (15%)	88 (18%)	102 (20%)	98 (20%)	138 (27%)
Timing/co-administration of COVID-19 vaccine with other vaccines for children and adolescents (N=503)	103 (21%)	99 (20%)	111 (22%)	94 (19%)	96 (19%)
Payment for COVID-19 vaccine administration (N=503)	113 (23%)	96 (19%)	96 (19%)	73 (15%)	125 (25%)

## Chapter Grantee Focus Group

A focus group with chapter grantee representatives was conducted to gather information on how AAP can support chapters in addressing needs related to routine vaccination uptake. The purposes of the focus group were to:

- Identify chapters' needs to build capacity to conduct needs assessments on an ongoing basis
- Discuss the status of chapters' plans to address the needs identified in the needs assessment
- Talk about what chapters need to successfully sustain the capacity the grant has helped the chapter build

### METHODOLOGY

To facilitate the discussion, JBS developed a chapter grantee focus group guide, informed by chapter members' responses to the needs assessment of pediatric healthcare clinicians. It was used to guide discussion of the 60-minute, online focus group conducted on 6/10/21, with representatives from six chapters: Arizona, Florida, Kentucky, Maine, Michigan, and Mississippi. Representatives included three Executive Directors, two Chapter Immunization Representatives, and one Project Clinical Team Member.

### SUMMARY OF FINDINGS

The sections below provide a summary of findings from the chapter grantee focus group discussion.

#### Challenges for Routine Vaccinations

Based on needs assessment responses, the top three challenges chapter members had faced regarding routine vaccinations were fewer in-person visits, due to patient and family concerns about risk of COVID-19 infection and to activity restrictions related to COVID-19 (e.g., sports clearance visits or back-to-school visits), and patient and family hesitancy related to vaccination. A summary of responses for **what challenges their chapter faced and activities it had undertaken to help members overcome these barriers** is provided below.

##### *Challenges Encountered:*

- Waiting for the pandemic and the concern about it to subside so that business can return to usual
- Encountering more apathy rather than hesitancy
- Encouraging COVID-19 vaccinations but also needing families to catch up on their routine vaccines
- Having refugee communities that are not aware of vaccines and the subsequent miscommunication between physicians' offices and their communities and also between parents and their children

##### *What Chapters Are Doing to Address These Challenges:*

- Webinars to provide information to chapter members
  - Conducted at various frequencies (e.g., weekly, biweekly, or monthly)

- Included commonly reported challenges by chapter members; COVID-19 vaccinations and how to bring back patients safely to give vaccinations; and, in anticipation of the COVID-19 vaccinations for younger age groups, how to have conversations regarding hesitancy
- Talking points and teaching tools to recruit patients back into practices
- Websites to share available information
- Materials (e.g., palm cards) to print for their own use
- Weekly updates via newsletters to encourage practices and to pass along information as chapters continue to plan how to support practices
- Regular calls with state medical associations, medical officer, medical president, and executive director; pediatricians, epidemiologists, and family practices; AAP; and federal agencies (e.g., CDC) for updates and a roundtable discussion
- Monthly chapter chat sessions for members to share pediatric-specific information that may or may not have been discussed during weekly calls
- Radio campaign to increase awareness about vaccines
- Implementation of law to require vaccinations to return to school unless there is a medical exemption
- Marketing in different languages to reach refugee populations

Chapters continue to look for ways to reach out to the community to gain momentum.

### Communicating and Engaging With Patients and Parents About Routine Vaccinations, Including Patient Counseling

Based on responses to the needs assessment, during patient counseling, chapter members reported needing the most support in addressing topics such as patient logistical barriers (e.g., lack of transportation or challenges scheduling appointments due to work schedule) and vaccine safety. Chapter grantee representatives discussed **how their chapter will support members to address these support needs and any potential challenges.**

#### *Logistical Challenges*

One chapter expressed that logistical challenges are a big barrier, given that it does not have unlimited resources and funds to provide support. It has been working with local resources to create conversations where patients can develop trust, and the chapter can communicate a sense of urgency, due to the current sentiment of apathy and complacency. The state currently has a pertussis outbreak, and the chapter wondered if the risk of getting sick related to this outbreak would motivate more people to overcome logistical barriers and get vaccinated. It also hopes to use the outbreak to motivate people by developing messaging that can be shared elsewhere.

At the county level, one chapter has a van that visits communities and provides services. The chapter representative believes that there may be an opportunity for chapters to help coordinate van services, make connections between offices and where vans can go, address barriers, and help connect with communities to encourage them to get to physician offices.

## Vaccine Safety Information Sources and Dissemination

One chapter reported that patient trust is its biggest challenge and indicated a need for more information on vaccine safety from a trusted source of information (e.g., a pediatrician, primary care provider, or someone who is a leader with significant experience). This chapter is exploring radio outreach and using other forms of media. Another chapter is developing messaging for pediatricians around a state-specific theme.

One chapter noted that it participates in social media outreach, but the impact is limited because people have to be following the account to receive the message. This chapter also liked the idea of conducting a radio campaign and planned to incorporate greater language diversity (e.g., Spanish and Creole) into the patient-directed resources.

Another chapter expressed that it does not have any comments about these concerns because its chapter pediatricians have shared that they are over-resourced (i.e., rather than not knowing where to find information, they are struggling with how to use all of the information available). Furthermore, the shortage of epidemiological staff has led to a delay in the update of current disease rates. Thus, pediatricians do not have up-to-date rates that they can use to determine upon what diseases they need to act and where in the state to mobilize resources.

Needs assessment respondents commonly reported that materials on vaccine safety (including side effects) and the importance of catching up on routine visits (including vaccinations missed due to the COVID-19 pandemic) in the form of parent-education flyers/handouts/postcards/brochures or an FAQs document would help facilitate communications with patients and their families. Chapter grantee representatives were asked **what plans their chapters have to address these materials needs and how their chapter will facilitate their broader use.**

One chapter shared that it has created documents (e.g., reference cards and brochures) about vaccines and catch-up that have been sent out and posted online but is also thinking about printing them in hard copy for dissemination. However, the chapter representative feels like it could do more.

Another chapter is working with a parent organization and a local public relations firm to develop an interactive provider toolkit that a pediatrician can use during conversations with families, giving the provider specific talking points and resources to share. The challenge with this toolkit in an office setting is that providers will need to talk to families and click through it on their computer simultaneously.

Chapters recognize that their providers are over-resourced and have an abundance of flyers, handouts, videos, and websites to use, so the chapter has to *“be nimble responding to current needs”* to capture patients, get them to the pediatrician office, provide the routine vaccinations, and set them up for a COVID-19 vaccine.

One chapter is creating a new campaign to remind residents that routine diseases are prevented by vaccinations and *“that these routine pediatric illnesses that we prevent with vaccines are no joke, they do cause major issues, and they do cause death and destruction if we don't prevent them.”* Possible campaign materials include posters, billboards, and handouts.

One chapter proposed the creation of a central portal for all resources AAP chapters participating in this project have developed and plan to use would be helpful, and the rest of the focus group participants agreed.

Needs assessment respondents also shared that they need materials for racial and ethnic minority populations and for patients living in rural and medically underserved areas. Chapter grantee representatives shared the following **barriers to developing tailored materials for these populations.**

Addressing the diversity within their patient populations was identified as a priority area across different chapters. Examples included distinctions for different populations (e.g., tribal groups); how Spanish materials may not capture the nuances of Mexican Spanish; how materials for immigrants from Africa are needed, but the language that should be used is hard to identify; and how some populations only have oral languages.

To overcome these barriers, one chapter is planning to get recommendations from its state's Immigrant Task Force. Chapters also discussed that they have had challenges finding physicians who speak and can comfortably discuss medical topics in Spanish, Creole, Portuguese, French, Somali, and Arabic or who are fluent in American Sign Language. Another chapter shared that it often does not have physicians who can speak the same languages as its patients, so it uses interpreters.

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Barriers include determining how to conduct outreach to rural and medically underserved areas, with one participant noting, *“How do we actually get the messaging out to those who may or may not take a mail system and may or may not be online? So we don't have any answers. It's an ongoing source of conversation.”*

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### Staff Support and Practice Activities

Needs assessment responses indicated commonly reported activities to support staff in increasing routine vaccination uptake were increased involvement of pediatric care team members in the immunization process (e.g., nurses and physician assistants) and prompts/reminders in EHRs. Chapter grantee focus group participants provided the suggestions below for **how AAP can support its chapters to facilitate routine vaccination-uptake-related activities among chapter members and their staff.**

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Increasing immunization rates among adolescents *“cannot be a one-size-fits-all approach.”*

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One chapter had practices participate in year-long [Plan-Do-Study-Act cycles](#). These practices identified the need to use their EHR to generate reminders and to serve as an outreach tool to patients. However, they do need to partner with IT staff in each practice to make staff comfortable with using the system. Once they are comfortable, it increases the number of callbacks and of patients returning to the office. The chapter needs to ensure that practices have the IT support they need and that they are identifying specific practice needs via surveys, conversations, or focus groups. A statewide representative mix to address common challenges may be beneficial, as well.



Relatedly, needs assessment respondents most commonly reported using EHR templates and interfaces and immunization information systems as practice tools or activities, to a great or very great extent, to increase routine vaccination uptake. **Chapters' areas of need** surrounding these practice tools and activities are summarized below.

On a national level, one chapter recommended the **AAP could advocate for states to have statewide vaccination records** because it changes practices by engaging them and by requiring them to report vaccinations. Having an IT person from the state speak to practices about the state vaccine record also helps practice staff realize what capabilities the platform has.

Another chapter identified that **one of its biggest barriers is the inability of small practices to contact the state immunization services' information system for reporting**. The chapter overcame this barrier by conducting an online research webinar and considered it *"a very simple fix"* that resulted in better reporting. Thus, this chapter believes that conducting webinars to increase the linkage between practices and reporting systems and providing step-by-step information are *"really powerful way[s] to help."*

Another chapter identified that **developing a webinar to provide education to smaller practices on how to optimize a smaller staff could be helpful**. This chapter is also looking to use another AAP grant for social media learning collaboration for practices to see how those practices are engaging with staff and families through this method.

## COVID-19 Vaccination Support Needs

Needs assessment respondents commonly reported needing support in addressing COVID-19 topics during patient counseling, including timing/co-administration of COVID-19 vaccine with other vaccines for children and adolescents, COVID-19 vaccine requirements for childcare and school, COVID-19 vaccine safety, and COVID-19 vaccine availability. **Chapters' support needs** related to these topics are summarized below.

- Chapters agreed that there is a need for **evidence-based talking points and messaging** so pediatricians feel comfortable sharing information about timing/co-administration of the COVID-19 vaccine with other vaccines.
- One chapter expressed needing **messaging on potential state requirements**, such as *"legislative bodies... looking at ways to limit the recommendation for the necessity of having the vaccine before returning to school."*
- Another chapter suggested that using **information from a national, trusted source**, (e.g., [Paul Offit](#)), who could provide facts and information about what we do and do not know and on emerging issues, would be very helpful.

## Sustaining Chapter Grant Activities and Capacity

The chapter grantee focus group discussion regarding anticipated support needs for **assessing immunization-related needs among their members on an ongoing basis** is summarized below.

- Two chapters expressed a need for support in **data analysis**. Some chapters have the ability to gather information but need assistance and expertise on how to analyze the data correctly.
- Other chapters expressed that they have enough support for assessing data. However, the current challenge is collecting data and obtaining a comprehensive data set, due to lack of state data collection or to member survey fatigue. It would be beneficial to have a **centralized data source pediatricians can access**. This would involve having leaders from different areas *“come together, share the data, but also analyze it; then we could share that with our pediatricians.”*

Although *“survey fatigue is definitely real,”* one chapter expressed that there is still a need to continue building out a sustainable survey process to reach people and support them.

## Key Findings and Recommendations

Based on findings from the needs assessment of pediatric healthcare clinicians, along with emerging themes from the chapter grantee focus group, the **key findings and recommendations** in Exhibit 21 are offered related to continuing to support pediatric healthcare clinicians in implementing routine vaccinations.

### Exhibit 21. Key Findings and Recommendations

**Key Finding 1: Pediatric healthcare providers reported successes related to routine patient vaccination, but there were also some challenges.**

**Recommendation:** For information related to these facilitators and challenges to routine and COVID-19 vaccinations, provider and family information sources include AAP’s information on [Immunizations](#) and [Communicating with Families](#) and CDC’s [Childhood Immunization Resources](#) (e.g., [Resources for Encouraging Routine Childhood Vaccinations](#)).

**Key Finding 2: Vaccine safety—for routine and COVID-19 vaccinations—was a topic about which patients and their families commonly had questions and was also an area where chapter members needed support and materials.**

**Recommendation:** Given that vaccine safety was a consideration for patients and providers alike, AAP could engage a national, trusted source (e.g., a pediatrician, primary care provider or a leader in the field with significant experience) to provide facts and information on emerging, vaccination-related issues.

**Key Finding 3: Chapter members reported interest in using a variety of approaches to reach out to patients and families regarding topics related to the importance of routine vaccination.**

**Recommendation:** One chapter grantee representative suggested that AAP could consider developing a central portal for all the resources AAP chapters participating in this project have developed and/or plan to use to avoid duplicating existing materials.

**Key Finding 4: Materials are needed for a variety of populations, but chapters reported challenges addressing information needs for their diverse patient populations.**

**Recommendation:** AAP could connect chapter members to resources available in multiple languages by linking them to [CDC Resources in Languages Other than English](#), the Immunization Action Coalition's [Handouts for Patients and Staff](#) and [Vaccine Information Statements](#), or the National Library of Medicine's [Consumer Health Information in Many Languages Resources](#). AAP could also assist chapters in connecting with their state's immigrant task force or interpreter services.

**Key Finding 5: Reminder/recall systems were commonly reported as methods for engaging parents in routine vaccinations, and EHRs were commonly used as a practice tool for supporting staff in increasing routine vaccination uptake.**

**Recommendation:** AAP could support chapters in conducting webinars that demonstrate how practices can use their EHR systems and help chapters connect with their state IT support staff and the state's [Contacts for Immunization Information System Immunization Records](#). It could also share resources (e.g., AAP's [Immunization Information Systems](#) webpage, including [Immunization Information Technology: A Guide for Pediatricians on Immunization Information Systems and Two-Dimensional Barcoding](#), and CDC's [Immunization Information Systems](#)).

**Key Finding 6: Communicating with families about the timing/co-administration of the COVID-19 vaccine with other vaccines for children and adolescents was a commonly reported topic that providers need support in addressing during patient counseling.**

**Recommendation:** AAP could connect physicians with its [Guidance on Providing Pediatric Well-Care During COVID-19](#) and [The Science Behind COVID-19 Vaccines: Parent FAQs](#). It could also provide physicians with evidence-based talking points to share with patients about the COVID-19 vaccine, including timing/co-administration with other vaccines, vaccine safety, and vaccine hesitancy. CDC's [Communication Resources](#) can be used to guide the development of evidence-based talking points, especially its [Pediatric Healthcare Professionals COVID-19 Vaccination Toolkit](#) and [Communication Toolkit For Migrants, Refugees, and Other Limited-English-Proficient Populations](#).

**Key Finding 7: Chapters need support with collecting and analyzing data.**

**Recommendation:** AAP could develop a centralized epidemiological data source chapters can access. As a centralized data source is built out, AAP could provide chapter members with information from AAP's interactive [Child Vaccination Across America infographic](#) and CDC's [VaxView](#), which has vaccination coverage data for all ages.

## Appendix

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### American Academy of Pediatrics Supporting Pediatric Healthcare Providers to Increase Vaccination Uptake Project

#### **Needs Assessment of Pediatric Healthcare Clinicians**

Data collection funded by the Centers for Disease Control and Prevention

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The American Academy of Pediatrics (AAP) funded nine chapters to participate in the *Supporting Pediatric Healthcare Providers to Increase Vaccination Uptake project* via grant funding from the Centers for Disease Control and Prevention. The goal of the project is to identify and support the immunization program needs of pediatric healthcare clinicians in practice by building their capacity to ensure high immunization coverage levels for vaccine preventable diseases, particularly during the COVID-19 pandemic.

**Needs Assessment Purpose:** The needs assessment will examine (1) the needs of pediatric healthcare clinicians related to increasing routine vaccination in children and adolescents to inform the development of strategies, action plans, and/or resources to meet these needs and (2) COVID-19 vaccination support needs.

**Needs Assessment Instructions:** This needs assessment should take ten (10) minutes for you to complete. Please answer based on your **current** practice and understanding, unless otherwise indicated. There are no right or wrong answers to the questions. Please note that your responses are voluntary.

## BACKGROUND INFORMATION

1. What type of healthcare provider are you? \*
  - Pediatrician
  - Pediatric nurse practitioner
  - Pediatric physician assistant
  - Other (please specify)
  
2. For how many years have you been in practice? \*
  - Less than 1 year
  - 1 – 10 years
  - 11 – 20 years
  - 21 – 30 years
  - 31+ years
  
3. What is your primary practice setting? \*
  - Solo- or two-physician practice
  - Pediatric group practice (3 – 5 physicians)
  - Pediatric group practice (6 – 10 physicians)
  - Pediatric group practice (>10 physicians)
  - Multi-specialty group practice
  - Community health center/Federally Qualified Health Center
  - Other (please specify)
  
4. On average, how many patients **do you see per day**? \*
  - Less than 10 patients per day
  - 11 – 20 patients per day
  - 21 – 30 patients per day
  - More than 30 patients per day
  - N/A – I do not see patients
  
5. What is your primary practice location? \*
  - Urban
  - Suburban
  - Rural
  - Frontier
  
6. In what setting(s) does the majority of your patient population live? *Select all that apply.* \*
  - Urban
  - Suburban
  - Rural
  - Frontier

## FACILITATORS AND CHALLENGES FOR ROUTINE VACCINATIONS

7. What factors have **facilitated** routine patient vaccination within your practice? *Select all that apply.*

- Patient and family acceptance of vaccinations
- Positive patient-provider relationship
- Consistent patient access to care
- Allocated staff time (e.g., for vaccine counseling and documentation)
- Existing practice infrastructure to support vaccination
- Adequate payment for vaccine administration by *private* payors
- Adequate payment for vaccine administration by *public* payors
- Other (specify)

8. To what extent have the following factors **challenged** routine patient vaccination within your practice? \*

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Patient and family hesitancy related to vaccination	0	0	0	0	0
Inconsistent patient access to care	0	0	0	0	0
Fewer in-person visits due to patient and family concerns about risk of COVID-19 infection	0	0	0	0	0
Fewer in-person visits due to activity restrictions related to COVID-19 (e.g., sports clearance visits or back-to-school visits)	0	0	0	0	0
Lack of time (e.g., for vaccine counseling and documentation)	0	0	0	0	0
Limited practice infrastructure to support vaccination	0	0	0	0	0
Inadequate payment for vaccine administration by <i>private</i> payors	0	0	0	0	0
Inadequate payment for vaccine administration by <i>public</i> payors	0	0	0	0	0

9. What other factors, if any, **challenged** routine patient vaccination within your practice?  
○ [OPEN-ENDED RESPONSE]

## SUPPORTING YOUR PATIENTS

10. During patient counseling, how often do patients and their families have questions about: \*

	Always	Often	Sometimes	Rarely	Never
Vaccine exemptions	0	0	0	0	0
Vaccine requirements for childcare and school	0	0	0	0	0
Catching up on routine vaccinations before the back-to-school season following missed visits due to the COVID-19 pandemic	0	0	0	0	0
Vaccine safety	0	0	0	0	0
Immediate side effects	0	0	0	0	0
Long-term side effects	0	0	0	0	0
Need for routine vaccines	0	0	0	0	0
Vaccination schedules	0	0	0	0	0
Number of co-administered vaccines	0	0	0	0	0
Vaccine effectiveness	0	0	0	0	0
Coverage for cost of vaccines	0	0	0	0	0
Logistical barriers (e.g., lack of transportation or challenges scheduling appointments due to work schedule)	0	0	0	0	0

11. To what extent do you need support in addressing the following topics during patient counseling? \*

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Vaccine exemptions	0	0	0	0	0
Vaccine requirements for childcare and school	0	0	0	0	0
Catching up on routine vaccinations before the back-to-school season following missed visits due to the COVID-19 pandemic	0	0	0	0	0
Vaccine safety	0	0	0	0	0
Immediate side effects	0	0	0	0	0
Long-term side effects	0	0	0	0	0
Need for routine vaccines	0	0	0	0	0
Vaccination schedules	0	0	0	0	0
Number of co-administered childhood vaccines	0	0	0	0	0
Vaccine effectiveness	0	0	0	0	0
Coverage for cost of vaccines	0	0	0	0	0

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Logistical barriers (e.g., lack of transportation or challenges scheduling appointments due to work schedule)	0	0	0	0	0

## COMMUNICATING WITH YOUR PATIENTS ABOUT ROUTINE VACCINATIONS

12. How often do you use the following strategies when communicating with your patients about routine vaccinations?

	Always	Often	Sometimes	Rarely	Never	Never but Want More Information
Presenting vaccines as the norm	0	0	0	0	0	0
Providing tailored messaging/counseling based on patient's concerns	0	0	0	0	0	0
Delivering strong recommendations for vaccination	0	0	0	0	0	0
Engaging in shared decision making/motivational interviewing	0	0	0	0	0	0

13. What **topics** for materials would help facilitate your communications with patients and their families related to routine vaccinations? *Select all that apply.* \*

- Importance of catching up on routine visits, including vaccinations, missed due to the COVID-19 pandemic.
- Handling risk communication around vaccination
- Addressing disparities in vaccination uptake
- Disease-specific vaccine information, including need for vaccination
- Vaccine safety, including side effects
- Vaccine schedules
- Other (specify)

14. What **types** of materials would help facilitate your communications with patients and their families related to vaccinations? *Select all that apply.* \*

- Parent-education flyers/handouts/postcards/brochures
- Frequently Asked Questions (FAQs) document
- Videos
- Email templates



- Social media messages
- Other (specify)

15. For which **populations** would materials facilitate your communications with patients and their families related to vaccinations? *Select all that apply.* \*

- Racial minority populations (specify below)
- Ethnic minority populations (specify below)
- Tribal populations (specify below)
- Patients living in rural areas
- Patients living in medically underserved areas
- Other (specify below)

16. If you selected racial minority populations, ethnic minority populations, tribal populations, or other populations above, please specify. \*

- [OPEN-ENDED RESPONSE]

### PARENT ENGAGEMENT TO INCREASE ROUTINE VACCINATION UPTAKE

17. To what extent does your practice use the following activities to engage **parents** in routine vaccinations for their child(ren)? \*

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Reminder/recall systems (e.g., postcards, letters, telephone calls, or texts)	0	0	0	0	0	0
Home visits or other direct contact	0	0	0	0	0	0
Parent education regarding vaccines and vaccination schedules	0	0	0	0	0	0
Open house, health fair, mobile clinic, etc.	0	0	0	0	0	0
Web-based (e.g., website, blog)	0	0	0	0	0	0

## STAFF SUPPORT TO INCREASE ROUTINE VACCINATION UPTAKE

18. To what extent does your practice use the following activities to support **staff** in increasing routine vaccination uptake? \*

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Staff education and training to improve vaccine counseling effectiveness and efficacy	0	0	0	0	0	0
Prompts/reminders in electronic health record (EHR)	0	0	0	0	0	0
Increased involvement of non-clinical staff in the immunization process (e.g., front office staff)	0	0	0	0	0	0
Increased involvement of pediatric care team members in the immunization process (e.g., nurses and physician assistants)	0	0	0	0	0	0
Tools (e.g., flow sheets and tracking systems)	0	0	0	0	0	0
Continuing education opportunities, quality improvement projects	0	0	0	0	0	0

## PRACTICE ACTIVITIES TO INCREASE ROUTINE VACCINATION UPTAKE

19. To what extent does your practice use the following **practice** tools or activities to increase routine vaccination uptake? \*

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Standing order protocols	0	0	0	0	0	0
EHR templates and interfaces	0	0	0	0	0	0
Immunization information system	0	0	0	0	0	0
Practice immunization champion(s)	0	0	0	0	0	0
Implementing quality indicators	0	0	0	0	0	0

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All	Not at All but Want More Information
Using all visits to verify/recommend vaccines	0	0	0	0	0	0
Walk-in and after-hours vaccination clinics	0	0	0	0	0	0
Screening for vaccine hesitancy	0	0	0	0	0	0
Peer-to-peer exchanges about strategies used to address vaccine hesitancy	0	0	0	0	0	0
Additional times for vaccine-hesitant families to receive vaccine counseling	0	0	0	0	0	0

20. What additional tools or resources would support you in increasing vaccination uptake among your patients?
- [OPEN-ENDED RESPONSE]

### COVID-19 VACCINATION SUPPORT

21. To what extent do you need support in addressing the following COVID-19 topics during patient counseling? \*

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Steps the practice has taken to ensure patients and families can safely return to pediatric office	0	0	0	0	0
COVID-19 in children and adolescents	0	0	0	0	0
COVID-19 vaccine availability	0	0	0	0	0
COVID-19 vaccine effectiveness	0	0	0	0	0
COVID-19 vaccine safety	0	0	0	0	0
Timing/co-administration of COVID-19 vaccine with other vaccines for children and adolescents	0	0	0	0	0
COVID-19 vaccine exemptions	0	0	0	0	0
COVID-19 vaccine requirements for childcare and school	0	0	0	0	0

22. To what extent do you need support in addressing the following aspects of practice implementation of the COVID-19 vaccine? \*

	To a Very Great Extent	To a Great Extent	To a Moderate Extent	To a Small Extent	Not at All
Enrolling as a provider in my state's COVID-19 vaccination program	0	0	0	0	0
COVID-19 vaccine storage and handling requirements	0	0	0	0	0
Communicating with families to address COVID-19 vaccine hesitancy	0	0	0	0	0
COVID-19 vaccine reporting	0	0	0	0	0
Timing/co-administration of COVID-19 vaccine with other vaccines for children and adolescents	0	0	0	0	0
Payment for COVID-19 vaccine administration	0	0	0	0	0