

# Promising Practices to Improve the Uptake of COVID-19 Vaccines for Children



# Overview

Over the course of the COVID-19 pandemic, the United States has seen diminished vaccine confidence and low COVID-19 vaccination coverage among children (Peck, 2022; Centers for Disease Control and Prevention, 2021). Differential access to services is a barrier to vaccine uptake. Parents' hesitancy about COVID-19 vaccines specifically and vaccines more broadly is another barrier to vaccine uptake (Alferi et al., 2021; Ruiz & Bell, 2022; Albers et al., 2022; Corben & Leask, 2016). Addressing these trends and barriers and increasing the uptake of COVID-19 vaccines for children is essential to protecting public health and advancing health equity.

The Association of Immunization Managers (AIM) identified five promising practices for improving the uptake of COVID-19 vaccination and advancing vaccine equity for children ages 6 months to 11 years.

This comprehensive guide contains a series of five guides and tip sheets about promising practices to improve children's uptake of COVID-19 vaccines. Individual implementation guides and tip sheets can be found on [AIM's website](#):



[Conducting Targeted Outreach to Medicaid Beneficiaries for COVID-19 Vaccines by Linking Immunization Information System and Medicaid Data](#)



[Connecting Opportunities to Vaccinate Children Against COVID-19 with the Chance to Address Basic Needs of Children and Families](#)



[Using Mobile Clinics to Vaccinate Children Against COVID-19 at Community-Based Locations](#)



[Vaccinating Children Against COVID-19 at Home](#)



[Providing Operational Support to Help Pediatric Health Care Providers Vaccinate Children Against COVID-19](#)

The information comes from participants in focus groups at the 2023 Great Lakes and Frontier/Southwest Vaccine Access Cooperative (VAC) meetings, interviews with immunization program managers and their partners, a literature review, input from AIM staff and [AIM's Legacy Council](#), and Centers for Disease Control and Prevention (CDC) project officers' review of COVID-19 immunization progress reports and suggestions on potential promising practices. Thank you to all who contributed to this work.

Key findings and lessons learned in this guide are largely based on pediatric vaccination strategies implemented during the COVID-19 public health emergency. Some of the practices were implemented with support that was linked to one-time emergency federal funds. Practices were also supported with a mix of state and local government funds and private and philanthropic funds that were available during the public health emergency.

As such, the practices may not be identically replicated moving forward, as the vaccination landscape has changed due to commercialization of COVID-19 vaccines and other factors. However, we anticipate that lessons learned during the public health emergency can inform strategies for COVID-19 vaccination after the public health emergency, vaccinations for all age groups, routine vaccinations, and future pandemic response. Therefore, this guide also provides strategies and tips to implement the practice in the post-pandemic environment.

### **Implementation context during the public health emergency (PHE) versus post-PHE**

During the COVID-19 PHE, the federal government paid for all COVID-19 vaccines. Moving forward after the PHE, both the federal government (through the Vaccines for Children [VFC] program) and health insurance plans will pay for vaccines. Jurisdictions implementing the practices after the PHE will need to consider how to support providers in billing multiple insurers and managing different stocks of vaccines when insurers only pay for certain COVID-19 vaccines.

# How to Use This Guide

This comprehensive guide includes five practices. Each of the five practice guides is comprised of three chapters that answer “what,” “why,” and “how” of implementing the promising practice. Across these guides, you will find examples from the field, resources and tools, considerations, and lessons learned to help implement these promising practices in your own jurisdiction.

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## About AIM

AIM is a nonprofit membership association comprised of the directors of the 64 federally funded state, territorial, and local public health immunization programs. AIM is dedicated to working with its partners nationwide to reduce, eliminate, or eradicate vaccine-preventable diseases. AIM also works to ensure the success of its members by providing support in their programming interests. Since 1999, AIM has enabled collaboration among immunization managers to effectively control vaccine-preventable diseases and improve immunization coverage in the United States and affiliated territories. For more information on AIM, please visit [www.immunizationmanagers.org/](http://www.immunizationmanagers.org/).

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# Conducting Targeted Outreach to Medicaid Beneficiaries for COVID-19 Vaccines by Linking Immunization Information System (IIS) and Medicaid Data

*An Implementation Guide*



Association of  
Immunization  
Managers

# How to Use This Guide

This guide is comprised of three chapters that answer the “what,” “why,” and “how” of linking immunization information system (IIS) and Medicaid data to target outreach to Medicaid beneficiaries who are not yet vaccinated or missing recommended vaccines. However, note this guide is not intended to be a comprehensive technical guide for connecting IIS and Medicaid data systems. Across these chapters, you will find examples from the field, resources and tools, considerations, and lessons learned to help implement this promising practice in your own jurisdiction.

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*Chapter 1 provides information on what the promising practice is and who implements it.*

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*Chapter 2 covers why immunization program managers might choose to link data and encourage targeted outreach strategies, including the benefits of this strategy and considerations for targeted populations.*

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**Chapter 3: How?** ..... pg 13  
*Chapter 3 provides information on how to implement the promising practice, including the steps, and key considerations to implement the promising practice as it pertains to the*

- ✓ **feasibility** of the practice to start-up, scale, and sustain the practice over time,
- ✓ **costs** related to implementing the practice in the post-pandemic environment,
- ✓ **environmental factors** related to the policy, environment, and funding landscape.

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*Tips for Conducting Targeted Outreach to Medicaid Beneficiaries for COVID-19 Vaccines by Linking Immunization Information System (IIS) and Medicaid Data*

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# Chapter 1: What?

This chapter provides an overview of the promising practice of combining IIS and Medicaid data to enhance the completeness and accuracy of immunization data, which can be used to conduct targeted outreach to individuals missing recommended vaccinations. This chapter also details the entities that implement this promising practice.

<b>Overview of the promising practice</b>	Jurisdictions and state Medicaid agencies link and combine IIS and Medicaid data to support the identification of Medicaid beneficiaries who are not up to date on recommended vaccinations. The Medicaid agency, health insurance plans, or providers then conduct targeted outreach to these beneficiaries encouraging them to get necessary and recommended vaccinations.
<b>Implementing organizations</b>	The jurisdiction's immunization program and state Medicaid agency are the two implementing organizations for this practice. The leadership, technical teams, and legal representatives from each organization will need to be involved to successfully implement this practice and may also bring in other contractors as needed throughout this process (i.e., system vendors, people to conduct outreach, etc.).

## Overview of the promising practice

To identify and provide outreach to un/under-vaccinated Medicaid beneficiaries, IIS and Medicaid data are linked and combined to enhance the overall completeness and accuracy of immunization records. After the data are combined and individuals are identified, the Medicaid agency or their contractors can provide targeted outreach to these individuals encouraging them to get up to date on recommended vaccinations. The types of outreach to individuals can include system-generated alerts, phone calls, text messages, emails, letters/postcards, or geographically targeted community messaging. If there are community events or other vaccination efforts (i.e., large or mass vaccination clinics, mobile vaccination efforts, or in-home vaccination programs), the Medicaid agency can plan targeted outreach to beneficiaries in the community promoting the event and encouraging them to get vaccinated.

Although targeted outreach to Medicaid beneficiaries may be part of a larger vaccination campaign or program, this guide focuses on the immunization program working with the Medicaid agency to link the data that will inform targeted outreach. More information on mobile clinics and in-home programs that vaccinate children is available in the related guides, [Using Mobile Clinics to Vaccinate Children Against COVID-19 at Community-Based Locations](#) and [Vaccinating Children Against COVID-19 at Home](#).

## Implementing organizations

The jurisdiction health department, specifically the immunization program and IIS staff, and the state Medicaid agency and their Medicaid Management Information System (MMIS) staff will work together to determine the best way to link and share data to inform outreach efforts. The management teams, decision-makers, and technical teams for both the IIS and MMIS will need to work together for this promising practice to be successful. Medicaid agencies or managed care organizations perform targeted outreach to their beneficiaries.



## Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit

Find more resources, including tip sheets and slide decks,  
to implement mobile clinics and other strategies to  
improve vaccination rates



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## Example from the Field: Population-level data sharing



### California Medi-Cal Managed Care Organizations Focus Outreach Efforts on Unvaccinated Medi-Cal Beneficiaries

**Description:** The California Medicaid program (Medi-Cal) links to the state's immunization information system to share vaccination information with state managed care organizations so they can focus their outreach efforts on unvaccinated beneficiaries.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** To [improve vaccination rates](#) among Medi-Cal beneficiaries and ensure they are protected against severe disease and death from current and emerging variants of the virus that causes COVID-19.

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**Approach:** The California Department of Health Care Services links eligibility data from the Medi-Cal Data Warehouse Management Information System and COVID-19 vaccination data from the California Department of Public Health's Immunization Information System and uses it to track COVID-19 coverage rates among Medi-Cal beneficiaries of all ages. Medi-Cal officials can also track beneficiary vaccination and share this information with Medi-Cal managed care plans, which can then conduct targeted outreach to unvaccinated beneficiaries. [The San Francisco Health Plan's chief medical officer](#) said that knowing which members are unvaccinated helped the plan's outreach efforts. The plan regularly calls beneficiaries to offer transportation or connect beneficiaries with a doctor to answer concerns about vaccine safety and effectiveness. [Other managed care organizations](#) provide lists of unvaccinated members to primary care providers and support member outreach efforts, including mailings that list primary care providers' contact information.

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#### Lessons learned:

- Collaborate across public health agencies and providers to improve comprehensiveness of outreach.

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**Resource:** The Department of Health Care Services published a [COVID-19 Vaccine Promising Practices resource](#) that summarizes the various approaches health plans are planning or taking to encourage COVID-19 vaccination.

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## Chapter 2: Why?

This chapter reviews the benefits of linking and using Medicaid and IIS data to inform targeted outreach to un/under-vaccinated Medicaid beneficiaries.

### Summary of Chapter 2: Why?

<b>Why might my jurisdiction implement this promising practice?</b>	Improve vaccination rates for Medicaid beneficiaries
	Identify disparities
	Tailor public health interventions to specific populations
	Improve vaccination data
	Improve health and reduce costs for families

### Why might my jurisdiction implement this promising practice?

**Improve vaccination rates for Medicaid beneficiaries.** Targeting outreach to Medicaid beneficiaries is a useful tool to ensure access to vaccination services and improve health outcomes. Evidence shows that interventions that notify parents when their children are due or late for a vaccination can have a positive impact on childhood routine immunizations (Jacobson Vann et al., 2018).

Enhancing existing Medicaid immunization data from the MMIS with data from the IIS will allow for more complete and accurate immunization records for Medicaid agencies to identify individuals with missing recommended vaccinations.

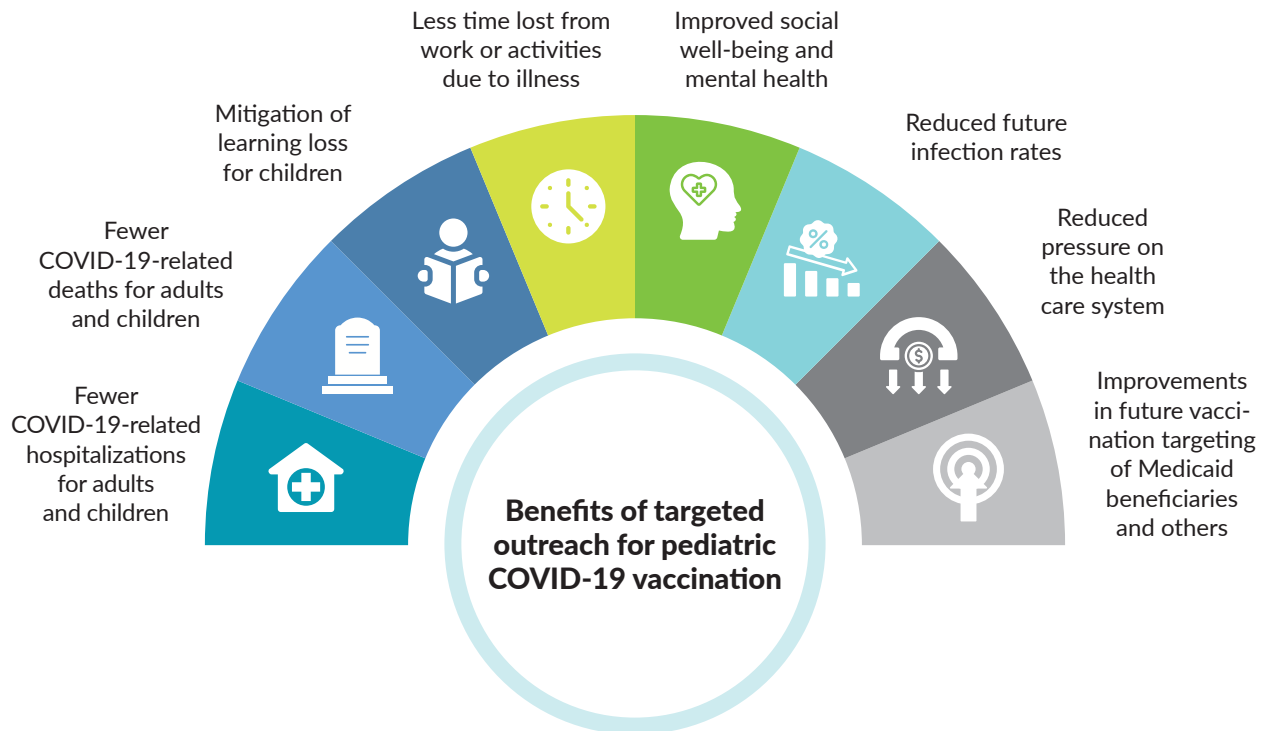
**Identify disparities.** Analyzing the new dataset and breaking down vaccination status by subgroups can help identify disparities in vaccine access for Medicaid beneficiaries.

**Tailor public health interventions to specific populations.** Tailored messaging may be more effective at reaching specific populations or communities to promote the importance of recommended childhood vaccinations than providing broad information for the general public. Messaging can be tailored to best speak to identified populations or communities with low vaccination rates.

**Improve vaccination data.** Linking IIS and Medicaid data can improve the quality and completeness of the vaccination records Medicaid assesses to identify individuals for targeted outreach. If possible, the IIS can also use Medicaid data to populate any missing or incomplete IIS records for individuals in the jurisdiction.

**Improve health and reduce costs for families.** By implementing data-informed targeted outreach, a jurisdiction could benefit from substantial cost savings. See the graphic below for an overview of the promising practice's benefits to families and communities.

### Implementing targeted outreach can lead to better health and well-being and cost savings



## Example from the Field: Individual-level data sharing

### Maryland's Vaccine Tool Helps Providers Focus Their Outreach



**Description:** Maryland providers review the state's health information exchange to identify and reach out to patients with missing immunizations.

**Contacts:** See the AIM [Immunization Program Directory](#)

**Goal:** The state leveraged the integration of its health information exchange and IIS to support COVID-19 vaccination efforts and will expand to include other vaccines.

**Approach:** The Chesapeake Regional Information System for Our Patients (CRISP) is Maryland's health information exchange. [CRISP combines data from Immunet](#), the state's IIS, with patient panels from practices and Medicaid managed care organizations, to create a vaccine tracker service, which allows providers to review their patient roster to identify immunization gaps and conduct outreach to improve COVID-19 vaccination rates. The CRISP Vaccine Tool allows physicians to sort their roster by demographics, vaccination status, age, chronic conditions, and other indicators. CRISP can generate weekly gap-in-care lists, a [Care Alert](#) and encounter notification for every COVID-19 immunization reported in Immunet, and a Care Alert for missed vaccinations. Physicians can review a patient's immunization history through the immunization widget on the patient's CRISP page. The state's Vaccination Equity Task Force, together with local health departments, has used CRISP data to reach out to underserved populations that have faced challenges reaching vaccination services.

#### Lessons learned:

- Develop tools that can sort patients by demographics, vaccination status, age, chronic conditions, and other indicators.
- Create safeguards so only authenticated users can view the data for their specific patients.

#### Resources:

CRISP and the Maryland Health Services Cost Review Commission have made information on their data matching and outreach processes available on their websites.

- [COVID-19 Community Vaccination Program](#)
- [Immunization Data Use Cases](#)
- [HIE Tools for Vaccinations and COVID-19 Response Efforts](#)



# Chapter 3: How?

This chapter lists steps to link data and target outreach to Medicaid beneficiaries, presents considerations for each step, and shares information on key considerations.

## Summary of Chapter 3: How?

<b>Step 1: Partner with your state Medicaid agency</b>	Build relationships with state Medicaid officials and develop an understanding of the available data and system capacity to link data.
<b>Step 2: Set up the data infrastructure to link Medicaid and IIS data</b>	Jurisdictions may consider investing in improvements to the IIS and data infrastructure and assess data completeness.
<b>Step 3: Develop lists of unvaccinated beneficiaries</b>	Individual-level data will need to be matched on unique identifiers. Matched data can be queried to identify and develop a list of unvaccinated beneficiaries.
<b>Step 4: Determine key considerations for implementation</b>	
<b>Feasibility</b>	The practice can be resource-intensive to integrate systems, but outreach can occur with lower-cost, automated processes.
<b>Costs</b>	Consider administrative and actual costs upfront.
<b>Environmental factors</b>	Organized groups, state and federal funding opportunities, and policies on IIS reporting, consent, and data sharing all might affect implementation of this practice.
<b>Other resources to implement this practice</b>	See the list of existing resources to support implementation of this practice.

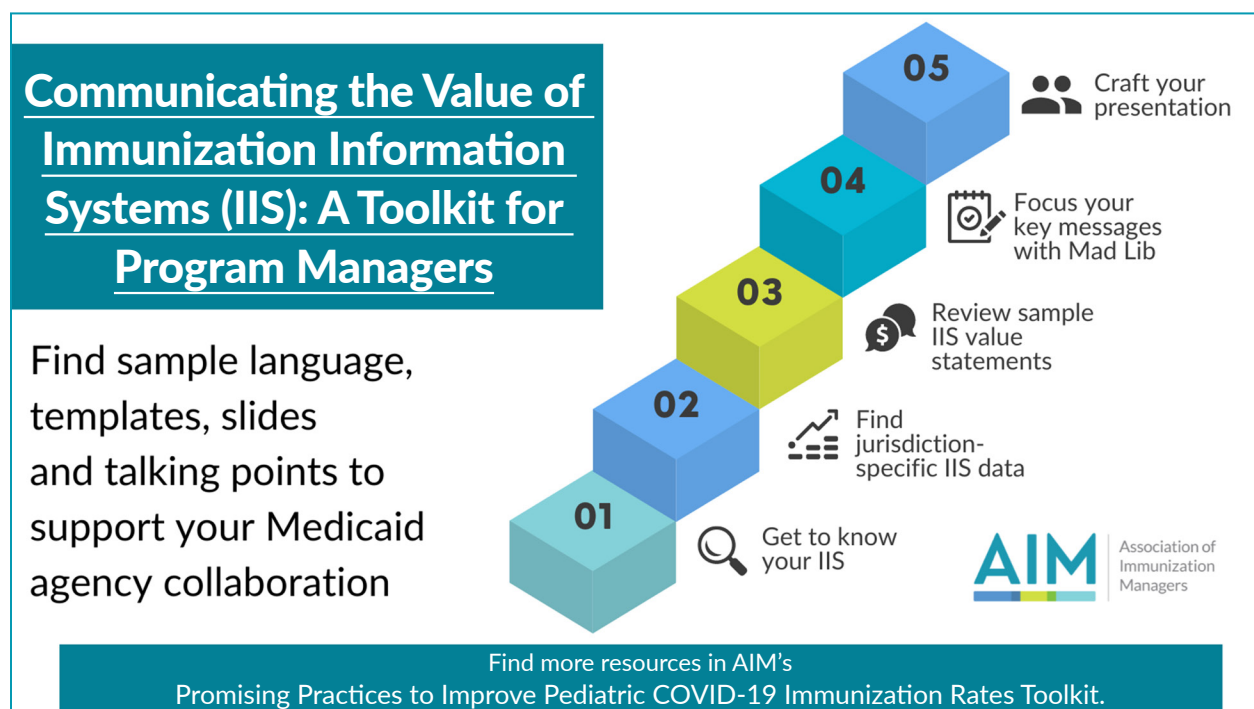
## Step 1: Partner with your state Medicaid agency

As jurisdictions seek to partner with their state Medicaid agency, they will need to identify and build relationships with state Medicaid officials and their data teams to develop an understanding of the data that are available and any barriers that might prevent the sharing of data from either system. The immunization program and IIS staff will want to be prepared to provide an overview of the data in the IIS as well as the capabilities of the IIS for data sharing. To do so jurisdictions can:

- Develop an understanding of your own IIS capabilities
- Cultivate champions within the state Medicaid agency
- Communicate your value proposition
- Engage in conversations with your state Medicaid agency about available data and system capabilities
- Determine the role of Medicaid managed care organizations (if Medicaid is operated through managed care in your jurisdiction) (AIM, 2022; AIM, 2023)

As jurisdictions carry out these steps, they can leverage [AIM's Communicating the Value of Immunization Information Systems \(IIS\): A Toolkit for Program Managers](#), which provides questions to better understand your IIS, talking points to communicate the value of your IIS data, and more.

It is important to get your IT and legal staff involved in the process early on to understand the technical, policy, and legal limitations and to work through the necessary processes, such as developing a memorandum of understanding (MOU) or data sharing agreement. This agreement should account for federal and state privacy laws regarding approving entities as authorized users of immunization data (Greene et al., 2021).



## Step 2: Set up the data infrastructure to link Medicaid and IIS data

Linking Medicaid and IIS data allows state Medicaid agencies and jurisdictions to match individual-level immunization records with unique Medicaid beneficiaries in the Medicaid Management Information Systems (MMIS). To support the linking of Medicaid and IIS data systems, jurisdictions may consider the following:

- Determine what investments were made during the public health emergency and, if needed, invest in improvements to IIS and data infrastructure
  - Secure funding to update legacy systems so the data can be easily retrieved (Greene et al., 2021)
- Assess data completeness and implement strategies to ensure complete and accurate data are available to match with Medicaid data
  - Work with the information technology (IT) department or a third-party vendor so that systems can facilitate data integration and share complete and accurate data
  - Encourage providers to fill out vaccination data for children enrolled in Medicaid to avoid incomplete data

## Step 3: Develop lists of unvaccinated beneficiaries

Once IIS data have been linked with Medicaid data, individual-level data will need to be matched on unique identifiers. Matched data can be queried to identify and develop a list of unvaccinated beneficiaries. Population-level data can also be shared through searchable datasets, weekly reports, and interactive dashboards.

When sharing information on unvaccinated beneficiaries, jurisdictions may consider the following:

- Create regularly updated dashboards or data sets for providers or health plans to understand vaccination coverage in their communities and track progress toward vaccination goals (Greene et al., 2021)
- Filter the data by categories such as ZIP code, language spoken, and race and ethnicity to focus outreach on those with limited access to vaccination services (Greene et al., 2021)

## Example from the Field: Population-level data sharing

### Massachusetts Department of Public Health (MDPH) Shares Data to Support Outreach Goals



**Description:** The [Massachusetts Department of Public Health required the Massachusetts IIS to share immunization data](#) with insurers in the state, including MassHealth (the state's Medicaid program), Blue Cross Blue Shield of Massachusetts, Inc., Health Maintenance Organizations, and commercial insurers to support insurers' in their efforts to contact and educate their members on COVID-19 vaccination.

**Contacts:** See the AIM [Immunization Program Directory](#)

**Goal:** The Massachusetts Department of Public Health and MassHealth aim to use data to target outreach to Medicaid patients who are unvaccinated to share information about COVID-19 vaccines.

**Approach:** MassHealth signed a data use agreement with the Department of Public Health to receive weekly reporting of raw IIS data. Department IIS staff work with MassHealth data staff to coordinate reporting efforts. MassHealth uses these data to create dashboards that show vaccination rates by age, race and ethnicity, geography, and health plans. MassHealth also shares the IIS data with Medicaid plans to use these data to conduct targeted outreach to unvaccinated people and to help coordinate scheduling appointments. MassHealth created monetary incentives for plans to increase vaccination rates.

#### Lessons learned:

- Collaborate among health agencies, with support of a data use agreement, to facilitate the exchange and reporting of data.

**Resources:** Massachusetts Department of Public Health has developed a [set of tools](#) to support IIS clinical integration.

## Step 4: Determine key considerations for implementation

When jurisdictions are planning to work with their state Medicaid agency to link IIS and Medicaid data to support the targeted outreach to Medicaid beneficiaries, it is important to consider and communicate the: feasibility to start up, scale, and sustain the practice over time, costs related to implementing the practice in the post-pandemic environment, and environmental factors which include the policy, environment, and funding landscape.

### Feasibility

The targeted outreach practice can be resource-intensive in both time and funding, driven by the high-level resources required to integrate IIS and Medicaid data systems (*start-up*). The needed investment can include upgrading legacy systems to systems that can facilitate data integration and improving data quality so that missing or inaccurate data do not impede patient matching (Greene et al. 2021). After these initial investments, however, outreach to families with unvaccinated children can be conducted via lower-cost, automated, and regular processes like telephone calls, text messages, emails, and other reminder and recall systems (*sustain*) (Community Preventive Services Task Force [CPSTF], 2020). The figure below summarizes the level of resources and complexity required to start up, sustain, and scale the practice, and includes information on how the practice can advance vaccine equity.



	Start up	Scale	Sustain	
<b>Practice 1: Targeted outreach</b>	⊖	☑	☑	<ul style="list-style-type: none"> <li>• <b>Resources:</b> High level to start up, but relatively low level to scale and sustain. For example, a jurisdiction will require a high level of resources to establish technological infrastructure but fewer resources to maintain it.</li> <li>• <b>Complexity:</b> Establishing technology infrastructure can be complex. For example, jurisdictions may need to establish data sharing agreements with multiple partners and make several upgrades to their technological functionalities.</li> <li>• <b>Equity:</b> This practice can advance equity by focusing outreach on specific medically underserved communities, such as unvaccinated Medicaid beneficiaries in particular zip code areas.</li> </ul>

⊖ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a high level of resources and is complex to implement.

☑ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a low level of resources and is not complex to implement.

Interviewees implementing this practice during the public health emergency suggested implementing the targeted outreach practice with the mobile clinics practice, pop-up clinics, or mass vaccination sites—the combination of which can increase access and efficiently meet increases in demand for COVID-19 vaccinations. If targeted outreach to families is timed to occur shortly before an upcoming mobile, pop-up, or mass pediatric vaccination event, the two practices can, together, help ensure that demand does not exceed vaccine availability. As demand decreases after the public health emergency, this targeted outreach can encourage families to vaccinate their children, for example, by reminding them that their child has not been vaccinated and providing information on the benefits of vaccination.

### Costs

The COVID-19 public health emergency (PHE) temporarily increased the funding available to implement practices such as targeted outreach to Medicaid beneficiaries. For example, some jurisdictions may have upgraded legacy systems to meet the high demand and urgency for COVID-19 data sharing. In the post-PHE environment, jurisdictions may not have funds available to maintain the improvements to functionality they made during the pandemic, but could focus on reestablishing, maintaining, and improving data sharing processes, which may incur less costs.

### Cost categories

Below are the categories of costs immunization program managers may consider as they are calculating the cost of the promising practice for their own jurisdiction. This does not include the cost of vaccine, staff time for vaccine administration, and vaccine storage and handling, as we assume most

immunization programs would not engage in vaccine administration unless facilitated through jurisdiction led at-home and mobile clinic scenarios.

1. Program administration
2. Infrastructure
3. Software development
4. Legal review

The tables that follow provide considerations and factors that affect cost for each category.

**Program administration**

Costs may include: salaries for program and IIS directors or managers to oversee the set-up and maintenance of data-sharing

Considerations	Factors that affect cost
<p><b>? How many staff will you need based on the size of your program?</b></p> <p><b>? How much time will it take to set-up and maintain data sharing?</b></p>	<ul style="list-style-type: none"> <li>• Hourly rates for staff time will vary by jurisdiction. The Bureau of Labor Statistics estimates the salary of a manager in the United States to be approximately \$62.50/hour, or \$93.75/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li> <li>• Program administration may involve collaborating with other public health department staff leadership, establishing critical partnerships, identifying disproportionately impacted communities, and strategically selecting sites (CDC, 2023).</li> </ul>

**Infrastructure**

Costs may include: hardware, software licenses, other information technology

Considerations	Factors that affect cost
<p><b>? How mature or established are your jurisdiction’s IIS and data sharing capabilities?</b></p>	<ul style="list-style-type: none"> <li>• Infrastructure costs for linking records in the IIS with state Medicaid records are highly variable and depend on “the scale of the IIS and the target population size” as well as the maturity of the systems (Patel et al., 2015).</li> <li>• The up-front cost to enhance IIS is a one-time cost.</li> <li>• IIS system costs may range from \$5.40 to \$60.82 per record (Patel et al., 2015).</li> </ul>

## Software development

Costs may include: IT staff time for software development to enhance IIS and prepare IIS for linking to state Medicaid system

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What is your jurisdiction's current system capacity?</b></li><li>? <b>What level of changes are required to link databases, develop lists of unvaccinated beneficiaries, and conduct outreach?</b></li><li>? <b>What is the current demand on qualified staff and will more staff or contractors be needed to enhance and prepare IIS?</b></li></ul>	<ul style="list-style-type: none"><li>• Software development costs for linking records in the IIS with state Medicaid records are highly variable and depend on “the scale of the IIS” as well as the maturity of the systems (Patel et al., 2015).</li><li>• Costs associated with upgrading state Medicaid systems for bidirectional communication and vice versa with the IIS may affect the cost of software development.</li><li>• IIS system costs may range from \$5.40 to \$60.82 per record (Patel et al., 2015).</li><li>• Hourly rates for IT staff time and contractors will vary by jurisdiction.</li></ul>

## Legal review

Costs may include: meeting with legal team, legal analyses, documentation

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>Does your jurisdiction already have established data use agreements?</b></li></ul>	<ul style="list-style-type: none"><li>• The development of data use agreements may affect the cost of legal review.</li><li>• The approximate rate for legal review is \$175/hour when accounting for fringe benefits.</li></ul>

### How much would it cost to implement this practice in your jurisdiction?

AIM has hypothetical examples available for jurisdictions to use as a starting point to calculate the potential costs to implement this practice. Actual expenses for your immunization program will vary widely based on program specifics and if/how you engage with vaccine purchase and administration. Find the examples and the detailed technical economic analysis in the Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates technical report (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)).

## Environmental factors

Jurisdictions conducting targeted outreach to unvaccinated Medicaid beneficiaries using IIS and Medicaid data will need to navigate environmental factors, including the policy and funding landscape, that can facilitate or challenge the implementation of the outreach to Medicaid beneficiaries. The table below provides examples of specific factors that organizations may consider when implementing Medicaid outreach for children.

### Examples of environmental factors that affect the implementation of Medicaid outreach

Policy or environmental factor	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Organized groups supporting or hindering implementation of practices	<ul style="list-style-type: none"> <li>• Are there any organizations or groups in our jurisdiction that would stop or support this practice?</li> <li>• Are there any organizations or communities of practice that my jurisdiction can join to receive support to implement this practice?</li> </ul>	<ul style="list-style-type: none"> <li>• A community of practice convened by the <a href="#">National Academy for State Health Policy</a> and <a href="#">Academy-Health</a> worked with Louisiana, Michigan, Texas, Washington, Wisconsin, and Wyoming to improve immunization rates for children and pregnant people with Medicaid coverage by enhancing collaboration between state Medicaid agencies, public health agencies, and immunization programs.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consider joining organizations or communities of practice that can connect you to resources on best practices for implementing Medicaid outreach.</li> </ul>
Policies authorizing state and federal funding to support vaccination data sharing	<ul style="list-style-type: none"> <li>• Are there any federal funding opportunities that my jurisdiction can leverage to support vaccination data sharing?</li> <li>• Are there any federal funding opportunities that my jurisdiction can leverage to connect providers to the jurisdiction's IIS?</li> </ul>	<ul style="list-style-type: none"> <li>• Colorado uses a mix of state general funding and <a href="#">Centers for Disease Control and Prevention grant funding</a> from its Immunization and Vaccines for Children cooperative agreement to <a href="#">support data sharing</a> between the Colorado IIS and the Department of Health Care Policy, the state's Medicaid agency.</li> <li>• Colorado also used <a href="#">federal 90/10 Health Information Technology (HITech)* funding</a> to connect providers to Colorado IIS through the state's health information exchange, CORHIO.</li> </ul> <p>*Although HITech funding may no longer be available, opportunities may exist through CMS</p>	<ul style="list-style-type: none"> <li>○ Check with federal* and state agencies to identify funding opportunities for data sharing.</li> </ul> <p>*Although HITech funding may no longer be available, opportunities may exist through CMS</p>

Policy or environmental factor	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Managed care organization requirements to reach out to enrollees about vaccination	<ul style="list-style-type: none"> <li>• How can we leverage Medicaid managed care contracts to support targeted outreach efforts in our jurisdiction?</li> </ul>	<ul style="list-style-type: none"> <li>• Some states' managed care organizations were contractually required to reach out to Medicaid enrollees about COVID-19 vaccination.</li> </ul>	<ul style="list-style-type: none"> <li>○ Check with your jurisdiction's Medicaid agency to understand managed care organization requirements.</li> </ul>
Policies on providers reporting vaccinations to the IIS	<ul style="list-style-type: none"> <li>• How do our jurisdiction's policies on providers reporting vaccinations to the IIS affect our processes for maintaining and using data in the IIS to target outreach to Medicaid enrollees?</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">California</a>, <a href="#">Maryland</a>, and <a href="#">Virginia</a> require certain entities to report all vaccinations to the IIS.</li> <li>• <a href="#">Illinois</a> and <a href="#">Colorado</a> do not require entities to report vaccinations to the IIS.</li> <li>• <a href="#">Arizona</a> and <a href="#">Michigan</a> require entities to report child immunizations to the state IIS.</li> </ul>	<ul style="list-style-type: none"> <li>○ Ensure staff understand policies related to provider reporting requirements.</li> </ul>
Consent policies/laws for reporting vaccinations to the IIS	<ul style="list-style-type: none"> <li>• Is consent (explicit or otherwise) required from the individual or the parent/guardian of a minor prior to reporting vaccination data to the IIS?</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Illinois</a> and <a href="#">Michigan</a> use implicit consent with the ability for parents/guardians to opt out of having their child's information in the IIS.</li> <li>• <a href="#">New Hampshire</a> and <a href="#">Ohio</a> require entities to obtain explicit consent from parents/guardians before reporting vaccination information to the IIS.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consult <a href="#">this School-House Connection webpage on state laws on minor consent to understand minor consent</a> in your state.</li> <li>○ Engage lawmakers through education on informed and minor consent laws (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> </ul>
Policies on COVID-19 vaccination data sharing	<ul style="list-style-type: none"> <li>• How do our jurisdiction's policies on COVID-19 vaccination data sharing between entities such as the state IIS, Medicaid plans, and Medicaid agencies affect our processes for using data in the IIS to target outreach to Medicaid enrollees?</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">California</a> and <a href="#">Rhode Island</a> allow Medicaid plans or agencies access to COVID-19 data to track enrollee vaccinations.</li> <li>• <a href="#">Rhode Island</a> gives commercial insurers and Medicaid plans access to its COVID-19 IIS.</li> </ul>	<ul style="list-style-type: none"> <li>○ Check with your jurisdiction's Medicaid agency to understand COVID-19 vaccination data sharing policies.</li> </ul>

## Other resources to implement this practice

Below are resources for conducting targeted outreach to Medicaid beneficiaries for COVID-19 vaccines by linking IIS and Medicaid data.

### AIM

- **[Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)**: In this toolkit, find more resources, including tip sheets and slide decks, to implement five promising strategies to improve vaccination rates.
- **[Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates Technical Report](#)** (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)): This technical report includes detailed information about this study, including feasibility, policy, and costs analyses of each practice.
- **[Medicaid and Immunization Programs Collaboration Toolkit](#)**: This toolkit from AIM provides tools, information, and resources for state Medicaid agencies and immunization programs to help facilitate and support their goals by improving access to vaccines and increasing vaccination rates.
- **[Library of Sample MOUs](#)**: This page on AIM's member-only website section contains MOUs to gain insight into the data use agreements currently in place in various jurisdictions.
- **[Communicating the Value of Immunization Information Systems \(IIS\): A Toolkit for Program Managers](#)**: A toolkit from AIM that includes sample language, templates, slides, and talking points for immunization program managers to communicate the value of the IIS and its importance to the field of public health.
- **[COVID-19 Reminder/Recall Postcard Templates](#)**: AIM developed four reminder/recall postcard templates for COVID-19 vaccine as part of the Vaccine Access and Training (VAT) project. Upon request, members and partners have free access to the Adobe InDesign files and can fully customize files, including fonts, images, program logos, branding, and text copy.
- **[How Can Reminder/Recall Improve COVID-19 Vaccination Rates?](#)**: This resource provides helpful tips for immunization programs to implement reminder/recall efforts in their jurisdictions. It provides a reminder/recall overview, examples of how the process works, and the importance zip codes can make.
- **[Immunization Program Policy Toolkit](#)**: This toolkit is designed to equip immunization programs with the tools and information necessary to appropriately and effectively engage with elected officials.

### American Immunization Registry Association (AIRA)

- **[Conducting Centralized Reminder/Recall Using an IIS](#)**: This guide will help you implement centralized IIS-based reminder/recall and is primarily designed for people working in public health departments (state and local) or IIS.
- **[Data Quality Assurance in IIS](#)**: This guide intends to provide best practice recommendations that support and sustain high-quality data in IIS.
- **[Six States Join NASHP and AcademyHealth's Community of Practice to Boost Immunization Rates in Medicaid-Enrolled Pregnant Women and Children](#)**: This blog post describes a community of practice (CoP) comprised of state health officials from six states interested in improving their immunization rates.

- [The potential for centralized reminder/recall to increase immunization rates](#): A national survey of IIS managers.

#### Other

- [CMS Vaccine Toolkit of Vaccine Coverage and Administration for Medicaid and Children's Health Insurance Program Individuals](#): A vaccine toolkit that equips states with the tools necessary to meet the needs of people with Medicaid and the Children's Health Insurance Program (CHIP) coverage. The kit helps states understand coverage, cost-sharing, and payment for vaccines, including vaccines administered as part of the Inflation Reduction Act (IRA) under Medicaid, CHIP, and the Basic Health Program (BHP).
- [Immunization Barriers in the United States: Targeting Medicaid Partnerships through Community of Practice](#): This page describes how AcademyHealth's Evidence-Informed State Health Policy Institute and the National Academy for State Health Policy (NASHP) with technical assistance support from Immunize Colorado are working with state health officials to increase immunization rates through the collaborative use of state agency resources.
- [Improving Immunization Information Sharing to Support Targeted COVID-19 Vaccination Outreach](#): This issue brief from the Duke Margolis Center for Health Policy identifies barriers to sharing immunization information with health care partners, highlights strategies for leveraging state immunization data and health care to support targeted outreach, and provides considerations for state and federal leaders.

# Appendix: Tips for Conducting Targeted Outreach to Medicaid Beneficiaries for COVID-19 Vaccines by Linking Immunization Information Systems (IIS) and Medicaid Data



When implementing targeted outreach efforts to Medicaid beneficiaries in your jurisdiction, consider the jurisdictional context to ensure you have the necessary data infrastructure and partnerships to support Medicaid data sharing and outreach.



## Partner with your state Medicaid agency

- Develop an understanding of your own IIS capabilities.
- Cultivate champions within the state Medicaid agency.
- Communicate your value proposition.
- Engage in conversations with your state Medicaid agency about available data and system capabilities.
- Determine the role of Medicaid managed care organizations.



## Coordinate with information technology (IT) and legal staff

- Understand the technical, policy, and legal limitations.
- Develop a memorandum of understanding (MOU) or data sharing agreement.

The COVID-19 public health emergency (PHE) temporarily increased the funding available to implement practices such as targeted outreach to Medicaid beneficiaries. For example, some jurisdictions may have upgraded legacy systems to meet the high demand and urgency for COVID-19 data sharing. In the post-PHE environment, jurisdictions may not have funds available to maintain the improvements to functionality they made during the pandemic, but could focus on reestablishing, maintaining, and improving data sharing processes, which may incur less costs.





### **Understand that the data infrastructure requires upfront investment**

- Leverage infrastructure set up during the public health emergency.
- Secure funding to make improvements to IIS and data infrastructure.



### **Assess data completeness and implement strategies to ensure complete and accurate data**

- Work with the IT department or a third-party vendor so that systems can facilitate data integration and share complete and accurate data.
- Encourage providers to fill out vaccination data for children enrolled in Medicaid to avoid incomplete data.

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# Connecting Opportunities to Vaccinate Children Against COVID-19 with the Chance to Address Basic Needs of Children and Families

*An Implementation Guide*



Association of  
Immunization  
Managers

# How to Use This Guide

This guide is comprised of three chapters that answer the “what,” “why,” and “how” of connecting opportunities to vaccinate children with the chance to address families’ basic needs. Across these chapters, you will find examples from the field, resources and tools, considerations, and lessons learned to help implement this promising practice in your own jurisdiction.

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*Chapter 1 provides information on what the promising practice is and who implements it.*

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*Chapter 2 covers why immunization program managers might choose to implement programs that connect opportunities to vaccinate with the chance to address basic needs.*

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**Chapter 3: How?** ..... pg 36  
*Chapter 3 provides information on necessary steps and key considerations to implement the promising practice as it pertains to the*

- ✓ **feasibility** of the practice to start-up, scale, and sustain the practice over time,
- ✓ **costs** related to implementing the practice in the post-pandemic environment,
- ✓ **environmental factors** related to the policy, environment, and funding landscape.

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# Chapter 1: What?

This chapter provides an overview of connecting opportunities to vaccinate children with efforts to help families meet their basic needs, such as food or diapers. This chapter also details which entities can implement this promising practice.

## Summary of Chapter 1: What?

<b>Overview of the promising practice</b>	This promising practice consists of connecting opportunities to vaccinate children with efforts to help families meet their basic needs, which vary by community and individual family.
<b>Implementing organizations</b>	Local and state health departments, community-based organizations, social service agencies, and health care providers can implement the promising practice.

## Overview of the promising practice

Jurisdictions can connect opportunities to vaccinate children with efforts to help families meet their non-monetary basic needs. Examples of basic needs include food, diapers (see the Example from the Field box about Connections™ Program below), period products, school supplies, and/or safety net program enrollment assistance. This guide focuses on in-kind resources for families and does not cover monetary incentives. Implementing organizations can provide resources to address basic needs during mass vaccination drives, mobile clinics, or during traditional vaccination appointments. Although addressing basic needs might be part of a larger mass, mobile, or in-home vaccination program, this guide focuses on the role of the immunization program to acquire and manage basic needs supplies distribution. More information on mobile clinics and in-home programs that vaccinate children is available in the related guides, [Using Mobile Clinics to Vaccinate Children Against COVID-19 at Community-Based Locations](#) and [Vaccinating Children Against COVID-19 at Home](#).

## Implementing organizations

Vaccination opportunities that address basic needs can be run by local and state health departments, community-based organizations, social service agencies, and health care providers. Examples of community-based organizations include food banks, churches, and community centers. As discussed in greater detail in Chapter 3, these entities can partner with each other to provide vaccinations and resources that address families' basic needs.



### Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit

Find more resources, including tip sheets and slide decks,  
to implement mobile clinics and other strategies to  
improve vaccination rates



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## Example from the Field

### **[Connections™ Program](#) Provides Diapers to Parents During Well-Child and Immunization Visits**

**Description:** The Connections™ Program provides diapers to parents and caregivers in middle Tennessee who bring their children for well-child visits, recommended immunizations, or developmental screenings.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** To promote increased engagement by parents and caregivers in routine health care services by providing diapers to support families.

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**Approach:** The Connections™ Program provides diapers through its Federally Qualified Health Center (FQHC) Clinic Connections™ partners. Clinics provide 50 diapers to parents or caregivers who bring their children for well-child visits, recommended immunizations (including COVID-19 vaccinations), or developmental screenings. Parents or caregivers can receive diapers at each of the encounters recommended in the Bright Futures/American Academy of Pediatrics periodicity schedule. They can also select their diaper size by completing a diaper survey at the clinic. The program is funded through a combination of Medicaid managed care organization funding, federal and state grants, and private donors.

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**Lessons learned:**

- Partner with trusted community-based organizations and clinics to increase uptake of services and vaccines.
- Make the program available to families regardless of insurance coverage to increase accessibility.

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**Resource:** The program created an easy-to-read [webpage](#) describing the program that allows parents or caregivers to search for a clinic near them.

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## Chapter 2: Why?

This chapter reviews the benefits of connecting opportunities to vaccinate children with efforts to help families meet their basic needs.

### Summary of Chapter 2: Why?

#### Why might my jurisdiction implement this promising practice?

Improve connections between families and healthcare providers

Support healthy childhood development and family well-being

Enroll families in vital social programs

Improve health and reduce costs for families

### Why might my jurisdiction implement this promising practice?

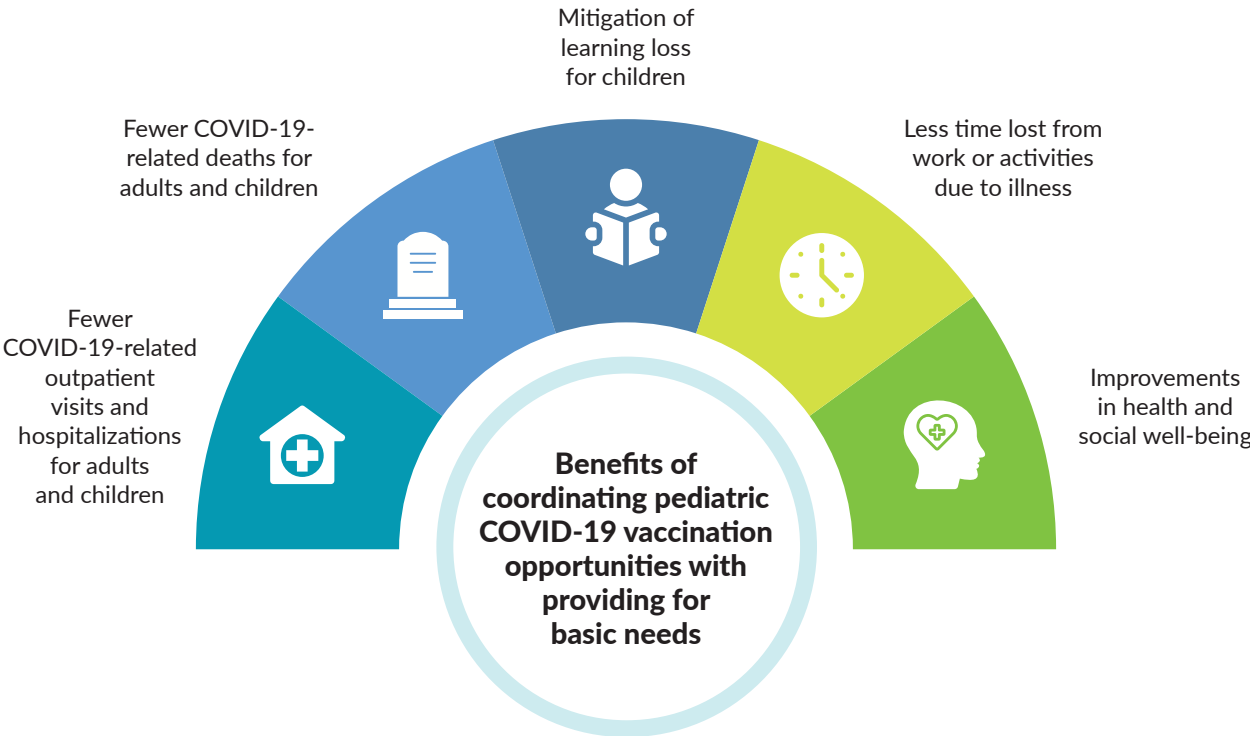
**Improve connections between families and healthcare providers.** Offering free resources that families need from trusted community partners can build a bridge between families and vaccination providers that otherwise may not exist. When essential resources are provided to families, immunization providers demonstrate they care about and understand families' needs. These increased connections create opportunities for families to receive childhood vaccinations or, at the very least, learn about the importance of vaccinations.

**Support healthy childhood development and family well-being.** Many families face difficulties affording food, housing, school supplies, diapers, and other resources that support their physical, social, and economic well-being. Providing essential resources can help address families' basic needs, help children to thrive in school, and free up household resources for other needs.

**Enroll families in vital social programs.** Safety net programs such as the Supplemental Nutrition Assistance Program (SNAP) and Medicaid play an important role in mitigating poverty and addressing families' health and basic needs. By including other public agencies in vaccination events, eligible families can be enrolled in these programs.

**Improve health and reduce costs for families.** By implementing this promising practice, a family could benefit from substantial cost savings. See the figure below for an overview of the promising practice’s benefits to families and communities.

**Coordinating vaccination opportunities with efforts to address basic needs can lead to better health and cost savings**



## Example from the Field



### **Pima County Health Department (PCHD) Implements a [Multi-resource Event Model](#) to Increase Access to COVID-19 Vaccines**

**Description:** PCHD in Arizona connects families with vaccines and resources at its multi-resource events.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** To reverse declining COVID-19 vaccination rates and tackle disparities in access to social and economic resources.

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**Approach:** In early summer 2021, PCHD identified census tracts with COVID-19 vaccination rates below 40 percent and implemented a multi-resource event model to improve COVID-19 vaccine access in these areas. Multi-resource events provide multiple connections to needed resources and allow event organizers to create an intentionally inviting atmosphere in the hopes of reducing barriers to vaccine access in communities with low vaccination rates. PCHD interviewed community partners and organizations to learn about community-specific COVID-19 vaccine barriers and meaningful resources that would promote vaccination. These community partners also informed the design of the event and offered their communication channels to advertise. Community health workers were integral to promoting and running the event, answering questions and concerns, and providing multilingual services. Resources offered included food, referrals to public health clinical services, rental and housing assistance, and others. Resources were also available to all community members regardless of whether they received the vaccination.

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#### **Lessons learned:**

- Tailor events and partner with community organizations that can support the needs of the community.
- Leverage and reinforce existing community assets and aim to mitigate the stressors of daily life.
- Use diverse trusted voices from the community to support event messaging.

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**Resource:** PCHD uses its [Facebook page](#) to share vaccination clinics and multi-resource fair locations and schedules.

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# Chapter 3: How?

This chapter lists steps to implement the promising practice and provides key considerations for implementation.

## Summary of Chapter 3: How?

<b>Step 1: Identify clinical and community partners</b>	Partnering with trusted organizations can increase acceptability of the practice in the community.
<b>Step 2: Identify a need to address</b>	Identifying community-specific needs helps jurisdictions best serve these communities. Jurisdictions can ask partners to identify needs in the community or identify partner organizations based on known needs in the community.
<b>Step 3: Choose a setting</b>	Combining vaccination with opportunities to address basic needs can occur in traditional clinic locations or in the community to best meet people where they are.
<b>Step 4: Determine key considerations for implementation</b>	
<b>Feasibility</b>	Existing campaigns, resources, and local partnerships can help to start up, sustain, and scale the practice.
<b>Costs</b>	Consider all the administrative and actual costs upfront to help determine if the practice is feasible to implement.
<b>Environmental factors</b>	Opportunities or events to vaccinate children against COVID-19 require understanding how organized groups and state and local governments' spending might affect implementation of these initiatives or events.
<b>Other resources to implement this practice</b>	See the list of existing resources to support implementation of this practice.

## Step 1: Identify clinical and community partners

Partner with trusted clinical and community partners to provide vaccinations and resources. Ask other agencies in the state or local government, such as Supplemental Nutrition Program for Women, Infants, and Children (WIC), for their recommendations on trusted community partners. Partnering with local clinical and community partners can do the following:

- Increase community trust
- Help identify community needs (see Step 2 for more information)
- Provide resources

Different communities might see clinical providers differently. For example, in a jurisdiction in the Southwest, some communities saw fire departments as a trusted source of vaccination. By contrast, some immigrant communities in a jurisdiction in the Mountain West avoided attending vaccination events staffed by people in uniform for fear that these officials had connections to U.S. Immigration and Customs Enforcement. Also, in this jurisdiction, local pharmacists were seen by some residents as being competent and were trusted and preferred over pharmacists from other communities.

### Key Partners to Consider When Implementing this Practice

**The key to implementing this practice is to identify and engage entities that can help with the planning, promotion, and/or execution of the practice**

- [Community health centers](#)
- District school health representatives (e.g., [National Association of School Nurses](#))
- [Health Department WIC programs](#)
- Hospitals
- [Immunization coalitions](#) (e.g., [Indiana Immunization Coalition](#))
- Jurisdictional-based councils for supporting children and families
- [Local diaper bank organizations](#)
- [Local food bank organizations](#)
- [Local period supply programs](#)
- [State and tribal child support agencies](#)

Jurisdictions can also leverage the expertise of community partners to provide resources that meet families' basic needs. For example, to meet food needs in a jurisdiction in the Mountain West, the state's Department of Public Health partnered with a large regional food bank, which created food boxes for families to pick up after receiving COVID-19 vaccinations.

## Step 2: Identify a need to address

Know your audience. When implementing this practice in different areas, it is important to understand what the needs of the local communities are so resources meet their needs. Some ways to identify which need(s) to address include the following:

- Survey and listen to community members
- Leverage relationships with established community leaders, community-based organizations, and social service agencies that have already identified the needs
- Use data to understand community needs (for example, data from screenings to assess patient's needs for social services)

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*“The biggest obstacle for people getting vaccinated [will be] if they’re thinking about where they’re going to sleep at night or how they’re going to take their kids to school in the morning or what their kids are going to eat for breakfast the next day.”*

Houston Equity-First Vaccine Initiative partner

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As part of the [Equity-First Vaccination Initiative](#), a community-based organization uses community health workers and local community leaders to conduct outreach and education about COVID-19 vaccines. These community health workers spend about 20 hours a week visiting community partners and talking with residents about their concerns, many of which are about meeting their basic needs. These community health workers used their knowledge of community needs and frequented community locations to help a community-based organization plan an event to meet families' needs by providing vaccinations and free haircuts, food, and more, at a convenient location.

### Step 3: Choose a setting

Select a setting where you will provide vaccinations while addressing basic needs. Events can take place in the community or in traditional clinic settings.

In the community	Traditional clinic locations
<ul style="list-style-type: none"> <li>Organize mobile vaccination units to visit locations convenient to community members.</li> <li>Host vaccination clinics at community organizations' headquarters or community events that address basic needs.</li> </ul>	<ul style="list-style-type: none"> <li>Partner with an organization that can deliver items, such as food bags, diapers, or gift cards for food or groceries, to the clinic.</li> <li>Explore what social services or programs might be located in or near clinics to help coordinate items and events.</li> </ul>

Providing vaccinations and resources in the community can meet people where they are to support their health and social needs. For example, in California, [CalOptima, a Medi-Cal plan, partnered with Orange County](#) to provide plan members aged 14 years and older who were experiencing homelessness with nonmonetary \$25 gift cards to fast food restaurants for receiving up to two doses of a COVID-19 vaccine. CalOptima provided the gift cards to Orange County, which distributed them during the county's vaccination events. Events could include mobile clinics outside of homeless shelters or in areas with larger populations of people experiencing homelessness to increase accessibility.

Providing vaccinations and resources in traditional clinic locations can leverage existing clinical visits or co-located services to provide vaccinations and resources. For example, in a jurisdiction in the South Central region, WIC clinics review vaccination records with parents and caregivers and screen for social needs during appointments. WIC clinics that are co-located with health centers refer children to the health centers for COVID-19 vaccinations.

**Partnering with Diaper Banks to Increase Childhood Vaccination Rates and Improve Access**

Find answers to commonly asked questions regarding partnerships between immunization programs and diaper banks

Find more resources in AIM's Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit.

## Step 4: Determine key considerations for implementation

When jurisdictions are planning opportunities or events to vaccinate children against COVID-19 and provide resources to address their basic needs, it is important to consider the: **feasibility** of the practice to start up, scale, and sustain the practice over time, **costs** related to implementing the practice in the post-pandemic environment, and **environmental factors** which include the policy, environment, and funding landscape.

### Feasibility

The basic needs practice potentially requires fewer resources to start up, sustain, and scale because jurisdictions can incorporate the practice into existing infrastructure and partner with organizations that can provide basic needs resources at low or no cost. The figure below summarizes the level of resources and complexity required to start up, sustain, and scale the practices, and includes information on how the practice can advance vaccine equity.

	Start up	Scale	Sustain	
<b>Practice 2: Basic needs</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<ul style="list-style-type: none"><li>• <b>Resources:</b> Low level to start up, scale, and sustain because jurisdictions can partner with organizations that donate basic needs resources, or with existing vaccine programs.</li><li>• <b>Complexity:</b> Not complex if a jurisdiction works with partners to implement.</li><li>• <b>Equity:</b> This practice can advance equity by tailoring the basic needs and vaccine programs to the unique needs of specific medically underserved communities.</li></ul>

= Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a high level of resources and is complex to implement.

= Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a low level of resources and is not complex to implement.

Jurisdictions can mitigate the cost and resources needed by using existing infrastructure, campaigns, and local partnerships to implement, sustain, and scale the practices. For example, immunization program managers can add the basic needs practice to existing methods of delivering vaccinations, such as by offering a basic needs resource with a mobile clinic or an at-home vaccination program. Alternatively, an existing program that offers basic needs resources can invite vaccination providers to administer vaccines in its setting. For example, a community-based organization or social service agency may partner with a vaccination program that parks a mobile clinic in its parking lot or creates a pop-up clinic inside its building. Jurisdictions can also save costs by partnering with organizations that already have funding to provide basic needs resources at low or no cost. Personnel costs to administer and promote the campaign could be reduced through partnership with community health workers, a trusted network of health champions already embedded in communities. Regardless of the approach, capitalizing on existing resources, networks, and partnerships will aid in making this practice feasible in the post-pandemic environment.

**Costs**

The COVID-19 public health emergency greatly affected the cost of implementing practices such as connecting opportunities to vaccinate children against COVID-19 with the chance to address basic needs. For example, during the COVID-19 pandemic, jurisdictions might have implemented the basic needs practice using government funding that offered a large number of allowances and the flexibility to purchase basic needs resources.

In the post-PHE environment, jurisdictions may not have the flexibility to purchase basic needs supplies using government funding and should consider all the administrative and actual costs upfront to help determine if the practice is feasible to implement in the current environment. The key to implementing this practice is to capitalize on existing infrastructure and engage partners to supply the basic needs resources. Jurisdictions may prioritize building and maintaining long-term relationships with these partners as these relationships are investments in the jurisdiction’s long-term public health infrastructure.

**Cost categories**

Below are categories of costs immunization program managers may consider as they are calculating the cost of the promising practice for their own jurisdiction. This does not include the cost of vaccine, staff time for vaccine administration, and vaccine storage and handling, as we assume most immunization programs would not engage in vaccine administration unless facilitated through jurisdiction-led at-home, mass, or mobile clinic scenarios.

- 1. Program administration
- 2. Basic needs
- 3. Resource distribution

The tables that follow provide considerations and factors that affect cost for each category.

**Program administration**

Costs may include: salaries for program director and/or managers

Considerations	Factors that affect cost
<p><b>? How many managers will you need based on the size of your program?</b></p> <p><b>? What is the current demand for qualified staff?</b></p>	<ul style="list-style-type: none"> <li>• Hourly rates for staff time will vary by jurisdiction.</li> <li>• The Bureau of Labor Statistics estimates the salary of a manager in the United States to be approximately \$62.50/hour, or \$93.75/hour when accounting for fringe benefits (BLS 2022). Rates may be higher during periods of increased demand.</li> <li>• Program administration may involve collaborating with other public health department staff leadership, establishing critical partnerships, identifying disproportionality impacted communities, and strategically selecting sites (CDC, 2023a).</li> </ul>



## Basic needs

Costs may include: cost of items that address basic needs (e.g., food, diapers, school supplies)

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>Who can we partner with to supply basic needs?</b></li><li>? <b>Can we receive donations of supplies to address basic needs?</b></li></ul>	<ul style="list-style-type: none"><li>• Public health emergency funding guidelines offered greater flexibility to purchase basic needs resources, and this flexibility may no longer be available.</li><li>• Under different funding environments, immunization programs will need to rely more on partners to support the provision of basic needs resources.</li></ul>

## Resource distribution

Costs may include: staff capacity and time to organize and distribute resources

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What support can our partners provide for resources distribution?</b></li></ul>	<ul style="list-style-type: none"><li>• Hourly rates for staff time will vary by jurisdiction.</li><li>• The General Services Administration (GSA) authorized reimbursement for privately owned vehicles is slightly lower, at \$0.66/mile as of January 1, 2023 (GSA, 2023).</li></ul>

### How much would it cost to implement this practice in your jurisdiction?

AIM has hypothetical examples available for jurisdictions to use as a starting point to calculate the potential costs to implement this practice. Actual expenses for your immunization program will vary widely based on program specifics and if/how you engage with vaccine purchase and administration. Find the examples and the detailed technical economic analysis in the Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates technical report (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)).

## Environmental factors

Jurisdictions connecting opportunities to vaccinate children with efforts to help families meet their basic needs will need to navigate the environmental, including funding and policy, landscape, which can help or challenge the implementation of the practice. The table below provides examples of factors that organizations may consider when implementing this promising practice.

Policy, environmental or funding issue	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Organized groups supporting or hindering the implementation of the activity	<ul style="list-style-type: none"> <li>• How can organized groups in our jurisdiction help implement multi-resource events to improve vaccination rates in certain communities?</li> <li>• What measures can we take to make sure families and children feel comfortable and safe when receiving vaccinations?</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Stanislaus Asian American Community Resource</a>, a community organization working to support the wellness of the Asian American community in Stanislaus County, California, organized COVID-19 vaccination clinics that included free food for people who received vaccinations.</li> </ul>	<ul style="list-style-type: none"> <li>○ Identify organizations in your jurisdiction that can help implement and promote multi-resource events to improve vaccination rates in certain communities.</li> </ul>
State and local governments' decision to use public funding to host vaccine and multi-resource events	<ul style="list-style-type: none"> <li>• How does our state's <a href="#">health department governance structure</a> (centralized, decentralized, mixed structure, or shared structure) affect my jurisdiction's <a href="#">ability to allocate funding</a> to support public health activities, such as hosting multi-resource events?</li> <li>• Which government agencies in my jurisdiction (state, county, local) can decide to allocate funding to support public health activities, such as hosting multi-resource events?</li> </ul>	<ul style="list-style-type: none"> <li>• The <a href="#">Connecticut Public Health Department</a> used public funds and partnered with local organizations to implement a summerlong event called <a href="#">Summer on Us</a> that offered resources, including free food from restaurants, to individuals and families who got vaccinated.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consult <a href="#">this webpage on state health department governance structures</a> from the CDC to understand your state's public health governance structure.</li> <li>○ Engage state lawmakers through education policies related to public funding (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>)</li> </ul>

## Other resources to implement this practice

Below are resources for partnering to vaccinate children against COVID-19 with the chance to address basic needs:

### AIM

- [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#): In this toolkit, find more resources, including tip sheets and slide decks, to implement five promising strategies to improve vaccination rates.
- [Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates Technical Report](#) (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)): This technical report includes detailed information about this study, including feasibility, policy, and costs analyses of each practice.

- [Partnering with Diaper Banks to Increase Childhood Vaccination Rates and Improve Access Q&A:](#) This resource from AIM and the National Diaper Bank Network provides answers to commonly asked questions regarding immunization stakeholder and partnership strategies to improve immunization rates.
- [COVID-19 Resource Guide:](#) This guide compiles existing communications messaging and materials that you can use to support immunization program outreach.
- [COVID-19 Vaccines: Vaccine Safety FAQs, Dispelling Vaccine Myths:](#) This PowerPoint slide set was developed by iREACH Subject Matter Experts to answer frequently asked questions about COVID-19 vaccine safety and dispel common myths about COVID-19 vaccines.
- [How Can Community-Based Organizations Help Support the COVID-19 Vaccination Effort?:](#) This resource provides community-based organizations (CBOs) with tools to assist in stopping the spread of COVID-19.
- [Immunization Program Policy Toolkit:](#) This toolkit is designed to equip immunization programs with the tools and information necessary to appropriately and effectively engage with elected officials.
- [School Located Vaccination Clinics Toolkit:](#) This toolkit from AIM and the National Association of School Nurses offers resources for schools and immunization partners that can support and simplify SLV operations during a pandemic.
- [Vaccine Confidence Connect the Dots:](#) This guide provides immunization programs with the tools and information necessary to promote vaccine confidence across the nation and its territories.

## CDC

- [12 COVID-19 Vaccination Strategies for Your Community:](#) This field guide presents 12 COVID-19 vaccination strategies adapted from evidence-based practices implemented nationwide to help increase vaccine confidence and uptake.
- [VFC Operations Guide:](#) This guide reflects VFC program policies, processes, and requirements.
- [VFC Vaccine Price List:](#) This website provides vaccine contract prices and lists the private sector vaccine prices for general information.

## Immunize.org

- [Ask the Experts: COVID-19:](#) This page is frequently updated with answers to questions about COVID-19 vaccine products, recommendations, and more.

## Other

- [Autism Society of America's Guide to Accessible Vaccination:](#) This guide provides tips on how to reduce barriers to vaccination and increase vaccination equity and uptake among the Autism community.
- [Centers for Medicare & Medicaid Services Toolkit of Vaccine Coverage and Administration for Medicaid and Children's Health Insurance Program Individuals:](#) This vaccine toolkit equips states with the tools necessary to meet the needs of people with Medicaid and the Children's Health Insurance Program (CHIP) coverage. The kit helps states understand coverage, cost-sharing, and payment for vaccines, including vaccines administered as part of the Inflation Reduction Act (IRA) under Medicaid, CHIP, and the Basic Health Program (BHP).

# Appendix: Tips for Connecting Opportunities to Vaccinate Children Against COVID-19 with the Chance to Address Basic Needs of Children and Families



When implementing partnerships that connect opportunities to vaccinate children against COVID-19 with the chance to address families' basic needs (such as food, diapers, school supplies, period products, or safety net programs enrollment assistance), jurisdictions should consider their communities' local context and the cost and feasibility.



## Leverage local community leaders' and partners' knowledge and influence

- Employ partners and local community leaders, who have strong relationships with the community, to help your department understand what the community needs and to provide assistance meeting those needs.
- Use local partners and community leaders as trusted messengers to provide vaccine education and raise awareness about the opportunities to receive vaccinations and resources.



## Consider the cost and feasibility to start up, scale, and sustain the practice

- Understand expenses will vary widely based on jurisdiction specifics and use of existing staff, infrastructure, funding support, and partnerships.
- Mitigate costs by using existing resources, campaigns, and local partnerships to implement, sustain, and scale the practice.



## Understand the policy and funding landscape

- Consider your jurisdiction's [health department governance structure](#) (centralized, decentralized, mixed structure, or shared structure) and how it could affect your jurisdiction's [ability to allocate funding](#) to support public health activities, such as hosting multi-resource events.
- Understand which government agencies in your jurisdiction (state, county, local) can decide to allocate funding to support public health functions.

In the post-pandemic environment jurisdictions may have less funding to support activities, such as the purchase of basic needs supplies. Each jurisdiction will need to consider their funding landscape and capitalize on existing infrastructure and engage local partners to execute the practice.

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# Using Mobile Clinics to Vaccinate Children Against COVID-19 at Community-Based Locations

*An Implementation Guide*



Association of  
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Managers

# How to Use This Guide

This guide is comprised of three chapters that answer the “what,” “why,” and “how” of implementing mobile clinics to vaccinate children at community-based locations. Across these chapters, you will find examples from the field, resources and tools, tips, and lessons learned to help implement this practice in your own jurisdiction.

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*Chapter 1 provides information on what the promising practice is and who implements mobile vaccination clinics.*

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**Chapter 2: Why? ..... pg 50**

*Chapter 2 covers why immunization program managers might choose to implement mobile vaccination clinics, including which populations they can reach and benefits of mobile clinics.*

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**Chapter 3: How? ..... pg 53**

*Chapter 3 provides information on how to operate a mobile vaccination clinic, including resources, partners, action steps to address potential challenges, and key considerations needed to implement the promising practice as it pertains to the*

- ✓ **feasibility** of the practice to start-up, scale, and sustain the practice over time,
- ✓ **costs** related to implementing the practice in the post-pandemic environment,
- ✓ **environmental factors** related to the policy, environment, and funding landscape.

**Appendices ..... pg 67**

- A. *Supply and Staff Checklist*
- B. *Tips for Using Mobile Clinics to Vaccinate Children Against COVID-19 at Community-Based Locations*

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# Chapter 1: What?

This chapter describes mobile vaccination clinics and the entities that implement them.

## Summary of Chapter 1: What?

<b>Overview of the practice</b>	Mobile vaccination clinics are vans or other vehicles that bring vaccines to convenient community locations.
<b>Implementing organizations</b>	Various organizations or entities, such as hospitals, local and state health departments, and community-based organizations, can implement mobile vaccination clinics.

## Overview of the practice

Mobile vaccination clinics (or mobile clinics) are vans or other vehicles that bring vaccines to convenient community locations. Although jurisdictions can use other approaches to deliver vaccines to children, such as large-scale vaccination sites or pop-up vaccine clinics, this guide focuses on using mobile clinics to vaccinate children at community-based locations. They can be recurring or one-time events and can have designated driving routes. Because the literature on implementing mobile clinics in school-based settings is already extensive, this guide focuses on implementing mobile clinics in non-school-based community settings, such as parks, flea markets, rail stations, churches, and supermarkets.

## Implementing organizations

Various organizations or entities can implement mobile clinics, such as hospitals, local and state health departments, pharmacies, community-based organizations, and faith-based organizations. As discussed in greater detail in Chapter 3, organizations often form partnerships to leverage each other's resources and capabilities to implement mobile clinics. For example, the [Connecticut Department of Public Health implemented a mobile clinic program](#) that offered vaccinations to everyone who was eligible (6 months or older) and partnered with community-based organizations and local government entities that were interested in hosting mobile vaccination clinics in their community (see the Example from the Field box about Connecticut below for more information).



## Example from the Field

### Connecticut Department of Public Health Operated a Statewide Program to Bring COVID-19 Vaccines to Convenient Community Locations



**Description:** The Connecticut Department of Public Health (DPH) rolled out a statewide mobile vaccination clinic program that provided the COVID-19 vaccine for free to all eligible people, including children 6 months or older.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** Through the program, DPH sought to reduce barriers to COVID-19 vaccination, with a focus on Connecticut's communities hardest-hit by COVID-19.

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**Approach:** To improve uptake and accessibility, the program used highly visible yellow vans and did not require community members to provide proof of insurance or identification. DPH also partnered with community-based organizations and local governments to send outreach workers to raise awareness about upcoming mobile clinics in the community prior to the event. Organizations could [apply using an online form](#) to host a DPH van in their community based on the vans' availability. DPH provided host sites up to 100 to 125 vaccines per day, a team of three or four staff per van (including two vaccinators, one or two staff for registration and non-clinical activities, and one lead vaccinator to oversee clinic management), a marketing toolkit, advertising on the DPH vans website, and consent forms for minors. Host sites were responsible for confirming locations, hours, and points of contact; providing a physically safe location; distributing advertising and marketing materials; and committing to host a second dose mobile clinic at the same location and times. The program ended in June 2023.

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#### Lessons learned:

- Prioritize visibility. Make the van visually appealing, locate the van in a place that is visible to a lot of people (because of high traffic), and work with community leaders to publicize event.
- Reduce administrative barriers, like the need to make appointments.
- Depend on local partners to relieve some of the administrative burden of operating mobile clinics – let the local partners confirm locations, hours, etc.

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**Resources:** DPH created separate [vaccine intake forms](#) for different age groups.

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## Chapter 2: Why?

This chapter reviews the benefits of using mobile clinics in your community.

### Summary of Chapter 2: Why?

<b>Why might my jurisdiction implement a mobile clinic program?</b>	Provide vaccination access across populations —particularly for underserved communities.
	Reduce travel and time burdens.
	Scale up and/or target areas.
	Connect to essential health care services.
	Improve health and reduce costs for families and communities.

### Why might my jurisdiction implement a mobile clinic program?

**Provide vaccination access across populations—particularly for underserved communities.** Although deployment of mobile clinics was prioritized at the height of the COVID-19 pandemic, mobile clinics remain important access points for historically underserved communities, such as rural and low-income communities and medically underserved areas (see the Example from the Field box about Massachusetts below). Early studies suggest that mobile clinics can improve access to COVID-19 vaccinations for diverse populations (Gupta et al., 2022a; Gupta et al., 2022b). Mobile clinics can also help reduce vaccine hesitancy and build trust between families and medical providers by meeting people where they are in their communities and partnering with trusted community institutions to improve access to vaccination services and vaccine information.

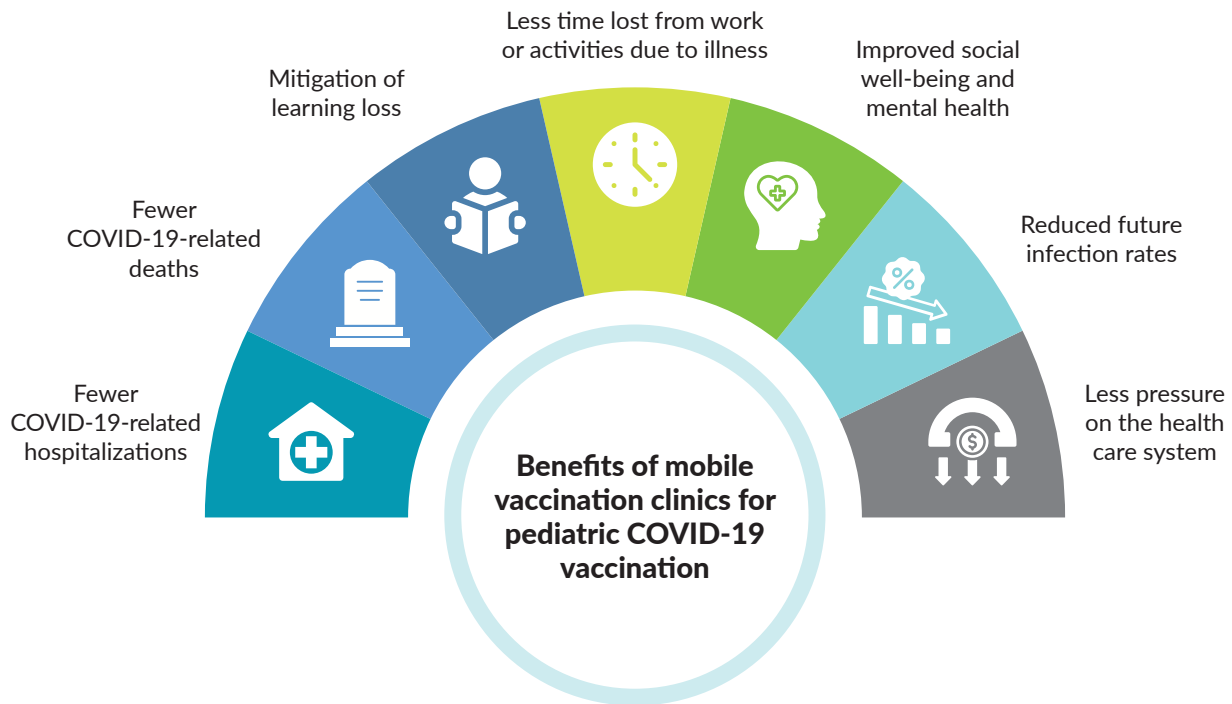
**Reduce travel and time burdens.** By bringing mobile clinics to convenient locations—such as parks, rail stations, churches, and supermarkets—jurisdictions help families avoid the burden of going out of their way to get vaccinated. Community members value mobile clinics because of their convenience.

**Scale up and/or target areas.** These clinics can be operated at decreased capacity to serve communities regularly, or they can ramp up during pandemics and outbreaks. They can also reach communities at seasonal community events, like back-to-school events.

**Connect to essential health care services.** Staff at mobile clinics can connect children and their families to a medical home, which can provide other preventive care services and improve overall health.

**Improve health and reduce costs for families and communities.** By improving access to COVID-19 vaccination through a mobile clinic program, a jurisdiction could benefit from substantial cost savings. See the graphic below for an overview of the health benefits of mobile clinics for families and communities.

### Implementing mobile clinics can lead to better health and cost savings



## Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit

Find more resources, including tip sheets and slide decks, to implement mobile clinics and other strategies to improve vaccination rates



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## Example from the Field

### Massachusetts Department of Public Health Met Local Vaccination Needs through Mobile Services



**Description:** The Massachusetts Department of Public Health (DPH) deployed mobile vaccines to expand vaccine access in communities whose needs were not met by existing vaccination locations.

**Contacts:** See the AIM [Immunization Program Directory](#)

**Goal:** DPH prioritized people in 20 municipalities most disproportionately affected by COVID-19.

**Approach:** This program sought to recognize diverse lived experiences and respond to the needs and preferences of individuals and communities. DPH collaborated with municipal leaders and local partners to meet the needs of certain groups for enhanced vaccination support, such as Indigenous peoples and people of color; individuals whose first language is not English; and people with disabilities, experiencing homelessness, with mental health or substance use disorders, facing transportation barriers, or who did not feel comfortable receiving a vaccine in a traditional health care setting. Vaccination services were often delivered from an ambulance or medical van at sites such as community centers, auditoriums, and central municipal areas. Municipal leaders coordinated with faith-based organizations, located vaccination services at venues responsive to the needs of people with disabilities, and focused on areas with limited access to public transportation or high numbers of prioritized populations.

#### **Lessons learned:**

- Take a whole-family approach and vaccinate the entire family.
- Hold clinics outside of traditional school and work hours.
- Ensure accessibility for children and adults with disabilities and sensory sensitivities.
- Provide activities to occupy children during waiting and observation periods.
- Organize a townhall to answer questions and engage trusted and multilingual community members to assist with messaging and the clinic.

#### **Resources:**

- Massachusetts DPH has developed a toolkit to guide implementation of mobile clinics: [COVID-19 Mobile Vaccination Program \(Hosting a Mobile Vaccination Toolkit\)](#).
- Massachusetts DPH created customizable promotional materials available in several languages and American Sign Language: [COVID-19 Vaccine Promotion Toolkit](#).



## Chapter 3: How?

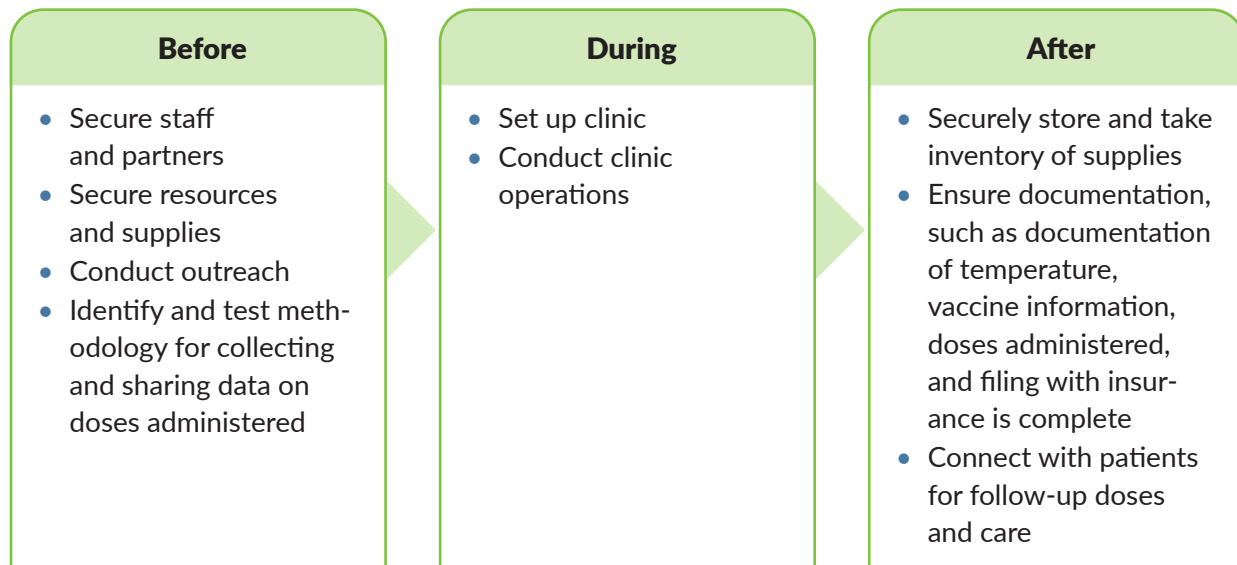
This chapter lists important resources that jurisdictions might use to operate mobile clinics, common challenges and potential solutions, and key considerations.

### Summary of Chapter 3: How?

<b>Step 1: Prepare resources</b>	Mobile clinics require staff and supplies for vaccinating children, mobile unit upkeep, and administrative tasks before and during clinical operations.
<b>Step 2: Establish partnerships</b>	Partnerships can help mobile clinic operators build trust in communities and make clinics more accessible for patients.
<b>Step 3: Identify operational challenges and action steps</b>	Operational challenges, such as patient acceptability and staffing concerns, might be ameliorated by utilizing partnerships and improving accessibility.
<b>Step 4: Determine key considerations for implementation</b>	
<b>Feasibility</b>	Partnerships can help start up and sustain this practice that can potentially improve vaccine equity.
<b>Costs</b>	Consider administrative and actual costs upfront.
<b>Environmental factors</b>	Policies on provider scope of practice, minor consent, and anti-vaccine groups may affect the implementation of mobile clinics.
<b>Other resources to implement this practice</b>	See the list of existing resources to support implementation of this practice.

## Step 1: Prepare resources

Jurisdictions need significant resources to provide vaccinations outside of brick-and-mortar clinics. Before committing to a mobile clinic, jurisdictions may consider which partners and staff can best meet the needs of the community, create a plan for procuring the mobile unit and vaccine supplies, and consider how to spread awareness of the mobile clinic. During the planning phase, mobile clinic providers will also need to work with their software vendor to ensure their electronic health record or other software is set up to document consent and doses administered and to securely share data with other providers and the immunization information system (IIS). To bring a mobile clinic to the community, jurisdictions must also consider the supplies they need to run normal clinical operations, including proper vaccine storage and handling and data entry for patient records and the immunization registry. These steps are summarized below:



The supplies needed to run mobile clinics fall into three broad categories:

1. Vaccine storage, handling, and administration supplies
2. Mobile unit supplies
3. Clinical administration and office supplies

Examples of these types of supplies are below.

Vaccine storage, handling, and administration supplies	Mobile unit supplies	Clinical administration and office supplies
<ul style="list-style-type: none"> <li>Vaccine</li> <li>Digital data logger thermometers</li> <li>Professional grade freezer, refrigeration unit, or authorized vaccine storage units</li> </ul>	<ul style="list-style-type: none"> <li>Mobile unit or van</li> <li>Insurance</li> <li>Utilities</li> <li>Private patient areas</li> </ul>	<ul style="list-style-type: none"> <li>Patient paperwork</li> <li>Office supplies</li> <li>Wi-Fi hotspot</li> <li>Computers</li> <li>Software to collect and share data</li> <li>Tables and chairs</li> </ul>

Mobile clinics also need clinical, administrative, support, and volunteer staff. These staff and possible roles are described below.

Staff	Description of possible role(s)
<b>Clinical staff</b>	<ul style="list-style-type: none"> <li>• Obtain consent</li> <li>• Administer vaccines</li> <li>• Answer medical questions</li> <li>• Provide guidance for decision making</li> <li>• Provide other medical services</li> <li>• Respond to acute adverse events</li> </ul>
<b>Administrative staff</b>	<ul style="list-style-type: none"> <li>• Plan and coordinate clinic operations</li> <li>• Register patients and enter data</li> <li>• Bill health insurers and Medicaid for administration fees, and insurance companies for private vaccine purchase</li> </ul>
<b>Support staff</b>	<ul style="list-style-type: none"> <li>• Provide security</li> <li>• Drive vans</li> <li>• Provide language interpretation</li> </ul>
<b>Volunteers</b>	<ul style="list-style-type: none"> <li>• Manage traffic flow</li> <li>• Act as ambassadors for the community</li> </ul>

A checklist of supplies that can serve as a starting point for organizations interested in operating mobile vaccination clinics can be found in Appendix A.

## Step 2: Establish partnerships

Partnering with local community leaders, community-based organizations, vendors, and other local medical providers can support clinic operations to:

- Improve community engagement and increase community trust (see the Example from the Field box about Los Angeles below)
- Increase capacity to serve patients
- Improve planning and operations
- Connect patients back to medical homes

Partnerships with local medical providers are particularly helpful for ensuring patients trust the mobile clinic providers and have connections to medical homes. For example, in Massachusetts, [Codman Square Health Center and Mattapan Heath Center partnered with Massachusetts General Hospital to operate mobile clinics](#) that decreased barriers to care by expanding services, improving vaccine confidence, and strengthening community relationships. Although the health center’s primary care provider was not part of the mobile unit staff, patients were able to have a telehealth visit with the provider prior to their mobile visit. This telehealth visit made patients and families feel more comfortable receiving care outside of the health center, since they knew their trusted provider approved it.

Partnerships can enable clinics to obtain resources that implementing organizations may not be able to procure on their own. For example, Codman Square Health Center and Mattapan Health Center's partners were able to provide insured drivers and cut down on costs of hiring and insuring a driver for the mobile unit.

## Key Partners to Consider When Implementing this Practice

The key to implementing this practice is to identify and engage entities that can help with the planning, promotion, and/or execution of the practice

- [Community health centers](#)
- Community-based organizations
- Faith-based organizations
- Hospitals
- [Immunization coalitions](#) (e.g., [Indiana Immunization Coalition](#))
- Pharmacies
- Schools

## Example from the Field



### Los Angeles County Department of Public Health (DPH) Partners with Community-Based Organizations to Host Mobile Clinics for Children and Community Members

**Description:** Los Angeles County DPH mobile clinics partner with community-based organizations to provide vaccination clinics at community locations.

**Contacts:** See the AIM [Immunization Program Directory](#)

**Goal:** To provide COVID-19 vaccinations and other selected vaccines (such as flu and routine childhood vaccines) to children and other community members in Los Angeles County.

**Approach:** Los Angeles County DPH operates a mobile clinic program year-round that provides vaccines at community sites such as childcare centers, parks, libraries, and events, such as Juneteenth celebrations. [Community-based organizations complete a form to request](#) mobile clinics in their communities. Los Angeles County DPH partners to host these events. Los Angeles County DPH coordinates staff for the clinics, including the nurse lead, intake staff, vaccinator, driver, security, and a lead coordinator on the day of an event. The community-based organization partners conduct the outreach and promotion activities for the event. Separately, Los Angeles DPH's clinical operations team visits local organizations' sites, building partnerships and trust with local organizations and increasing participation in mobile clinic events.

### Lessons learned:

4. Hire and train culturally competent staff working in mobile clinics or staff clinics with local community members.
5. Design pediatric-specific vans (for example, with smaller chairs and smaller medical instruments).
6. Connect mobile clinic patients back to their pediatricians to allow for appointment follow-up care.

**Resources:** Los Angeles DPH created [frequently asked questions documents](#) in English and Spanish to help interested community organizations learn more about its programs.



### Step 3: Identify operational challenges and action steps

Jurisdictions might run into challenges when planning and operating mobile clinics. The suggested action steps that follow can help overcome these challenges and meet patients' needs.

Category	Possible challenge	Suggested action step(s)
<b>Patient acceptability and privacy</b>	Families might not feel comfortable receiving care outside a brick-and-mortar clinic or from medical staff they do not know (Leibowitz et al., 2021).	<ul style="list-style-type: none"> <li>○ Have local organizations, such as a local health clinic, with which the community has an existing relationship provide the mobile clinic (Leibowitz et al., 2021).</li> </ul>
	Patients in areas of high vaccine hesitancy or distrust might not want other community members to know they are receiving a COVID-19 vaccine and might want privacy when receiving the vaccine.	<ul style="list-style-type: none"> <li>○ Make sure patients have a private area to get their vaccines or to be evaluated or treated if experiencing adverse reactions.</li> </ul>
<b>Patient considerations</b>	Families might lack transportation to the clinic.	<ul style="list-style-type: none"> <li>○ Host the mobile clinic in a location accessible to public transportation.</li> </ul>
	Parents and caregivers might not be able to leave work or arrange childcare.	<ul style="list-style-type: none"> <li>○ Host the mobile clinic during non-business hours.</li> </ul>
	Parents and caregivers might not have the digital literacy to schedule and complete paperwork online.	<ul style="list-style-type: none"> <li>○ Have paper forms available. This can also help if mobile clinics are having trouble with internet connection.</li> </ul>
	Families might need language support.	<ul style="list-style-type: none"> <li>○ Hire multilingual staff or language interpreters.</li> <li>○ Work with partner organizations to provide interpreters.</li> </ul>
<b>Funding</b>	Mobile clinics are resource intensive, and normal payer reimbursement does not offset costs.	<ul style="list-style-type: none"> <li>○ Explore opportunities to receive funding from individual or philanthropic donors.</li> <li>○ Engage volunteers in support roles.</li> </ul>
<b>Operations</b>	Mobile clinics might have difficulty maintaining operations when located in areas without stable internet connection.	<ul style="list-style-type: none"> <li>○ Procure a Wi-Fi hotspot to ensure the clinic has access to electronic medical records, medical billing software, and immunization registries (Leibowitz et al., 2021).</li> <li>○ Have paper copies of required forms and documents as backup.</li> </ul>
<b>Staffing</b>	Mobile clinics might experience high turnover as jobs are often part-time or temporary.	<ul style="list-style-type: none"> <li>○ Ask volunteers to fill roles such as traffic flow management.</li> <li>○ Combine staff from multiple partner organizations so that staff members are not stretched as thin.</li> </ul>
<b>Demand</b>	<p>Clinics might not have enough patients to justify the resource use or have more patients than they can manage given the number of supplies and staff.</p> <p>It can be hard to predict how many patients will attend the clinic.</p>	<ul style="list-style-type: none"> <li>○ Ask community partners to advertise the event and schedule appointments for community members before the clinic.</li> </ul>

## Step 4: Determine key considerations for implementation

When jurisdictions are planning to use mobile clinics to vaccinate children at community-based locations, it is important to consider the feasibility of the practice to start up, scale, and sustain the practice over time; costs related to implementing the practice in the post-pandemic environment; and environmental factors which include the policy, environment, and funding landscape.

### Feasibility

The mobile clinics practice requires high levels of resources to both start up and sustain but can potentially improve vaccine equity by reaching children who are medically and/or socially underserved. Because the practice administers vaccines in locations outside of traditional health care settings, it requires significant investments in the physical infrastructure required to transport, store, and administer vaccines (start-up). The investment includes refrigeration and freezer units, digital data loggers, vehicles, billing software, and mobile technology (such as laptops, tablets, and mobile wireless internet devices) for accessing and updating patient records. Moreover, the practice requires a high level of ongoing resources compared to the other practices, given the need to maintain or retain the vehicles, vaccine stock and related supplies, technology, and staff who administer vaccines and run operations (sustain). The figure below summarizes the level of resources and complexity required to start up, sustain, and scale the practices, and includes information on how the practice can advance vaccine equity.

	Start up	Scale	Sustain	
<b>Practice 3: Mobile clinics</b>	⊖	⊖	⊖	<ul style="list-style-type: none"> <li>• <b>Resources:</b> Similarly high levels to start up, scale, and sustain. As mobile clinics are implemented in more locations and for longer periods of time, more resources (like staff and equipment) are needed.</li> <li>• <b>Complexity:</b> The level of complexity can remain high as mobile clinics are implemented in more locations and for longer periods of time.</li> <li>• <b>Equity:</b> Mobile clinics can increase access to vaccination in medically underserved communities.</li> </ul>

⊖ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a high level of resources and is complex to implement.

☑ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a low level of resources and is not complex to implement.

Jurisdictions can mitigate the cost and resources needed by using existing infrastructure and local partnerships to implement, sustain, and scale the practices. Jurisdictions might partner with health care organizations or other entities that already have infrastructure to deliver vaccinations via mobile clinics. Partners may also be able to provide resources to operate mobile clinic programs, for example by donating vehicles, supporting outreach, or providing staff and volunteers. Capitalizing on existing resources, networks, and partnerships will aid in making this practice feasible in the post-pandemic environment.

## Costs

The COVID-19 public health emergency (PHE) greatly affected the cost of implementing practices such as mobile clinics. For example, during the COVID-19 pandemic, the federal government paid for most or all COVID-19 vaccines, jurisdictions experienced high staff turnover and increased labor costs, and some needed to make new investments in vaccine infrastructure to meet the urgent need and high demand for vaccines. In addition, during the COVID-19 PHE, government funding was available that offered a large number of allowances and flexibility for spending, including spending on the leasing, rental, and purchase of vans.

In the post-PHE environment, jurisdictions will have less of this type of government funding and will likely need to find new ways to fund practice implementation. For example, government funding is now available for the leasing of vans, but not purchase.

### Cost Categories

Below are the categories of costs immunization program managers may consider as they are calculating the cost of the promising practice for their own jurisdiction. This includes the cost of vaccines, staff time for vaccine administration, and vaccine storage and handling.

1. Program administration
2. Vaccinations
3. Staff time
4. Transportation
5. Refrigeration and storage
6. Scheduling and logistics
7. Training
8. Outreach

The tables that follow provide considerations and factors that affect cost for each category.

#### Program administration

Costs may include: salaries for program director and/or managers

Considerations	Factors that affect cost
<p>? <b>How many managers will you need based on the size of your program?</b></p> <p>? <b>What is the current demand for qualified staff?</b></p>	<ul style="list-style-type: none"><li>• Hourly rates for staff time will vary by jurisdiction.</li><li>• The Bureau of Labor Statistics estimates the salary of a manager in the United States to be approximately \$62.50/hour, or \$93.75/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li></ul>

## Vaccinations

Costs may include: vaccine purchase for non-VFC eligible, vials, syringes

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What is the expected VFC eligibility of the population?</b></li><li>? <b>For the non-VFC population, are there other funding mechanisms to cover vaccines? Is there a mechanism to purchase private stock and bill for reimbursement?</b></li><li>? <b>What ancillary supplies will you need to buy or acquire through partnerships to offer vaccinations?</b></li></ul>	<ul style="list-style-type: none"><li>• Medicaid and CHIP programs cover all Advisory Committee on Immunization Practices (ACIP)-recommended vaccines for children and vaccine administration without cost sharing (including COVID-19 vaccines).</li><li>• Other ancillary supplies related to vaccinations, such as bandages and alcohol wipes, might affect the total cost of vaccinations.</li></ul>

## Staff time

Costs may include: staff time to prepare and administer vaccinations, staff time for intake, staff time for IIS data entry, security, and to test methodology for collecting and sharing data

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>How many staff will you need for vaccination administration based on your vaccination goals?</b></li><li>? <b>How many staff will you need for data entry based on your vaccination goals?</b></li><li>? <b>What is the current demand for qualified staff?</b></li><li>? <b>Will partners or volunteers be providing any services, such as traffic flow management or security?</b></li></ul>	<ul style="list-style-type: none"><li>• Based on feedback from AIM's Legacy Council Staff, average staff time for vaccine administration is 20 minutes/vaccination for two staff, including time for IIS entry.</li><li>• Hourly rates for staff time will vary by jurisdiction.</li><li>• The Bureau of Labor Statistics estimates the median rate for a registered nurse in the United States to be approximately \$40/hour, or \$60/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li></ul>

## Transportation

Costs may include: leasing of vehicles, retrofitting vehicles, annual maintenance, fuel

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What are current guidelines on allowable costs?</b></li><li>? <b>Do you have partners who can donate vans?</b></li></ul>	<ul style="list-style-type: none"><li>• The General Services Administration (GSA) authorized reimbursement for privately owned vehicles is \$0.66/mile as of January 1, 2023 (GSA, 2023).</li><li>• Government funding is now available for the leasing of vehicles, but not purchase.</li></ul>

## Refrigeration and storage

Costs may include: plug-in refrigeration units, digital data logger thermometers, electrical power

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What existing supplies do you already have?</b></li><li>? <b>And do they meet current storage and handling guidelines?</b></li></ul>	<ul style="list-style-type: none"><li>• The cost of refrigeration can vary widely.</li><li>• An AIM Legacy Council member noted that a cost of \$5,000 may be typical for purpose-built refrigerators, with digital data logger thermometers and backup power systems.</li></ul>

## Scheduling and logistics

Costs may include: staff salary for scheduling and logistics for mobile clinics

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What partners do you already have to support mobile clinics?</b></li><li>? <b>How familiar are your partners with supporting mobile clinic operations?</b></li></ul>	<ul style="list-style-type: none"><li>• CDC guidance on what to consider when planning to operate a COVID-19 vaccination clinic includes a variety of operational and logistics considerations, such as involving public health department staff leadership, establishing critical partnerships, identifying disproportionality impacted communities, and strategically selecting sites (CDC, 2023a).</li><li>• Hourly rates for staff time will vary by jurisdiction.</li></ul>

## Training

Costs may include: staff time to participate in trainings, required training materials

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What level of training do staff already have?</b></li><li>? <b>What type of staff can administer vaccinations in your jurisdiction?</b></li><li>? <b>Do staff have the knowledge and tools to respond to vaccine hesitancy during the event?</b></li></ul>	<ul style="list-style-type: none"><li>• Recommended CDC trainings for administering COVID-19 vaccinations include: (1) COVID-19 training modules, (2) routine vaccination administration training, and (3) routine vaccine storage and handling training (CDC, 2023b).</li><li>• The AIM Legacy Council suggested that these and other trainings can take up to 80 hours.</li><li>• The Bureau of Labor Statistics estimates the median rate for a registered nurse in the United States to be approximately \$40/hour, or \$60/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li></ul>

## Outreach

Costs may include: systems to manage outreach, staff time to conduct outreach

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>Does your jurisdiction currently have enough staff to conduct outreach?</b></li><li>? <b>If not, are there partnerships your jurisdiction could leverage to support outreach efforts?</b></li></ul>	<ul style="list-style-type: none"><li>• Evidence in adjacent contexts suggests that multimodal marketing can enhance vaccination efforts for mobile clinics (Hannings et al., 2022).</li><li>• The outreach modality and the number of individuals receiving outreach will affect the cost of outreach.</li></ul>

### How much would it cost to implement this practice in your jurisdiction?

AIM has hypothetical examples available for jurisdictions to use as a starting point to calculate the potential costs to implement this practice. Actual expenses for your immunization program will vary widely based on program specifics and if/how you engage with vaccine purchase and administration. Find the examples and the detailed technical economic analysis in the Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates technical report (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)).

**Environmental factors**

Jurisdictions using mobile clinics to vaccinate children in community settings will need to navigate environmental factors, including policies, which can help or challenge the implementation of the mobile clinics. The table below provides examples of specific policies and environmental factors that organizations may consider when implementing mobile clinics for children.

Examples of policies and environmental factors that affect the implementation of mobile clinics

Environmental factor or policy	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Policies related to providers' scope of practice	<ul style="list-style-type: none"> <li>• Can pharmacists vaccinate children in our jurisdiction?</li> <li>• If so, how can we work with pharmacist partners to implement mobile clinics?</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">California allows pharmacists</a> to administer COVID-19 vaccines to children (CA A 1064).</li> </ul>	<ul style="list-style-type: none"> <li>○ Check with your jurisdiction's licensing boards to understand scope of practice regulations in your jurisdiction.</li> <li>○ Engage state lawmakers through education surrounding policies related to providers' scope of practice (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> </ul>
Policies on minor consent for vaccination	<ul style="list-style-type: none"> <li>• Can minors consent for vaccination in our jurisdiction or do we need to obtain parental consent? What ages can self-consent?</li> <li>• What processes and protocols do we have in place to capture parental consent, if needed?</li> <li>• What processes or protocols do we have in place to gather consent from the minor?</li> </ul>	<ul style="list-style-type: none"> <li>• Jurisdictions such as Alabama, Florida, and Nevada do not allow minors to get the COVID-19 vaccine without parental or guardian consent.</li> <li>• In contrast, Washington, DC, adopted Law 23-193, which allows a minor of at least 11 years old, to consent to receive a vaccine where the vaccination is recommended by the United States ACIP. Per <a href="#">the law</a>, informed consent is established if a minor is able to comprehend the need for, the nature of, and any significant risks inherent in the medical care.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consult <a href="#">this webpage on state laws on minor consent</a> from SchoolHouse Connection to understand minor consent in your state.</li> <li>○ Engage lawmakers through education surrounding policies related to informed and minor consent laws (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> </ul>

Environmental factor or policy	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Policies on whether entities need minor/parent/guardian consent to report vaccinations to the IIS	<ul style="list-style-type: none"> <li>• How do our jurisdiction's policies on minor or parental consent to report vaccinations to the IIS affect the comprehensiveness of data in the IIS?</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Illinois</a> and <a href="#">Michigan</a> use implicit consent with the ability for parents/guardians to opt out of having their child's information in the IIS.</li> <li>• <a href="#">New Hampshire</a> and <a href="#">Ohio</a> require entities to obtain explicit consent from parents/guardians before reporting vaccination information to the IIS.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consult <a href="#">this School-House Connection webpage on state laws on minor consent</a> to understand minor consent in your state.</li> <li>○ Engage lawmakers through education surrounding policies related to informed and minor consent laws (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> </ul>
Organized groups supporting or hindering the implementation of practices	<ul style="list-style-type: none"> <li>• Are there any organizations or groups in our jurisdiction who would stop this practice?</li> <li>• What measures can we take to make sure children feel comfortable and safe to receive vaccines?</li> </ul>	<ul style="list-style-type: none"> <li>• An anti-vaccine organized group in the Southwest worked to shut down mobile clinics at schools.</li> <li>• A jurisdiction in the Southwest provided other health services at their mobile clinics. This allowed community members who might otherwise experience harassment if they were seen getting the COVID-19 vaccine at the mobile clinic to say they were receiving other services.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consider notifying local law enforcement of your clinic in the case of threats or individuals who attempt to disrupt operations.</li> <li>○ Combat misinformation from anti-vaccine groups (see AIM's <a href="#">COVID-19 Vaccines: Vaccine Safety FAQs, Dispelling Vaccine Myths</a> and CDC's <a href="#">How to Address COVID-19 Vaccine Misinformation</a>).</li> </ul>

## Other resources to implement this practice

Below are resources for mobile clinics:

### AIM

- [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#): In this toolkit, find more resources, including tip sheets and slide decks, to implement five promising strategies to improve vaccination rates.
- [Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates Technical Report](#) (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)): This technical report includes detailed information about this study, including feasibility, policy, and costs analyses of each practice.
- [COVID-19 Resource Guide](#): This guide compiles existing communications messaging and materials that you can use to support immunization program outreach.
- [COVID-19 Vaccines: Vaccine Safety FAQs, Dispelling Vaccine Myths](#): This PowerPoint slide set was developed by iREACH Subject Matter Experts to answer frequently asked questions about COVID-19 vaccine safety and dispel common myths about COVID-19 vaccines.



- [How Can Community-Based Organizations Help Support the COVID-19 Vaccination Effort?:](#) This resource provides community-based organizations (CBOs) with tools to assist in stopping the spread of COVID-19 and tips for supporting vaccine access.
- [How Can Faith Leaders Help Support the COVID-19 Vaccination Effort?:](#) This guide discusses strategies for faith leaders to support COVID-19 vaccination, including messages to share with their communities and tips for supporting vaccine access at their house of worship.
- [Immunization Program Policy Toolkit:](#) This toolkit is designed to equip immunization programs with the tools and information necessary to appropriately and effectively engage with elected officials.
- [Vaccine Confidence Connect the Dots:](#) This guide provides immunization programs with the tools and information necessary to promote vaccine confidence across the nation and its territories.

## CDC

- [12 COVID-19 Vaccination Strategies for Your Community:](#) This field guide presents 12 COVID-19 vaccination strategies adapted from evidence-based practices implemented nationwide to help increase vaccine confidence and uptake.
- [Guidance for Planning Vaccination Clinics:](#) This webpage from the CDC provides considerations for vaccination clinic staffing, location and layout, and coordination with partners, and lists pre-clinic, during the clinic, and post-clinic activities.
- [Hosting Off-Site COVID-19 Vaccination Clinics:](#) This 18-minute webinar from the CDC covers considerations for hosting off-site COVID-19 vaccination clinics.
- [How to Address COVID-19 Vaccine Misinformation:](#) On this page, the CDC shares strategies for communicating accurate information about COVID-19 vaccines, responding to gaps in information, and confronting misinformation with evidence-based messaging from credible sources.
- [Recommended trainings for administering COVID-19 vaccinations:](#) (1) COVID-19 training modules, (2) routine vaccination administration training, and (3) routine vaccine storage and handling training.
- [Satellite, Temporary, and Off-Site Vaccination Clinic Supply Checklist:](#) This page compiles supplies that may be needed to conduct a satellite, temporary, or off-site vaccination clinic.
- [Vaccine Storage and Handling Toolkit:](#) This is a comprehensive guide that reflects best practices for vaccine storage and handling from ACIP recommendations, product information from vaccine manufacturers, and scientific studies.
- [VFC Operations Guide:](#) This guide reflects VFC program policies, processes, and requirements.
- [VFC Vaccine Price List:](#) This website provides vaccine contract prices and lists the private sector vaccine prices for general information.

## Immunize.org

- [Ask the Experts: COVID-19:](#) This page is frequently updated with answers to questions about COVID-19 vaccine products, recommendations, and more.
- [Checklist of Best Practices for Vaccination Clinics Held at Satellite, Temporary, or Off-Site Locations:](#) This PDF created by the Influenza Work Group of the National Adult and Influenza Immunization Summit includes supplies and necessary considerations before the clinic, during the clinic, and after the clinic.

- **[Checklist of Current Versions of U.S. COVID-19 Vaccination Guidance and Clinic Support Tools:](#)** This checklist provides links to key COVID-19 vaccination resources and indicates when they were last updated.
- **[Clinical Storage and Handling Resources:](#)** This page contains numerous clinical storage and handling resources, including temperature logs, suggestions to improve immunization services, and skills checklists for vaccine administration.
- **[COVID-19 Clinical Resources:](#)** This page provides clinical resources related to COVID-19 vaccination.
- **[Improving the Vaccination Experience:](#)** This page provides materials for providers and vaccine recipients on addressing vaccination anxiety, reducing vaccination pain, and other strategies for improving the vaccination experience.
- **[Medical Management of Vaccine Reactions in Children and Teens in a Community Setting:](#)** This table describes procedures to follow if various reactions occur in children and teens, including a supply list.
- **[Supplies You May Need at an Immunization Clinic:](#)** This one-page form lists patient resources, routine clinic supplies, medical emergency supplies, and other supplies that may be needed at immunization clinics.

#### Other

- **[Autism Society of America's Guide to Accessible Vaccination:](#)** This guide provides tips on how to reduce barriers to vaccination and increase vaccination equity and uptake among the Autism community.
- **[Centers for Medicare & Medicaid Services Toolkit of Vaccine Coverage and Administration for Medicaid and Children's Health Insurance Program Individuals:](#)** This vaccine toolkit equips states with the tools necessary to meet the needs of people with Medicaid and the Children's Health Insurance Program (CHIP) coverage. The kit helps states understand coverage, cost-sharing, and payment for vaccines, including vaccines administered as part of the Inflation Reduction Act (IRA) under Medicaid, CHIP, and the Basic Health Program (BHP).

# Appendix A

## Supply and Staff Checklist

The checklist of supplies below can serve as a starting point for organizations interested in operating mobile vaccine clinics.

### Vaccine supplies

- Professional grade freezer, refrigeration unit, electric mobile refrigerator, or freezer
- Digital data logger thermometers
- Transportation coolers
- Vaccine

### Mobile unit supplies

- Mobile units or vans, annual maintenance, and mileage
- Insurance for mobile unit
- Utilities (electricity, heating, and cooling)
- Seating area for patients waiting for vaccines and after receiving vaccines
- Private areas for patients to receive vaccines with chairs for the patient and vaccination provider
- Tents to cover seating areas in case of heat or precipitation

### Clinical administration and office supplies

- Consent and insurance forms for patients, vaccine information sheets (VIS)
- Clinic supplies (syringes, bandages, alcohol prep pads, sharps containers, hand sanitizer, gloves, partition screens, needles, etc.)
- Office supplies (pens, clipboards; signage for clinic hours, dates, and patient flow, etc.)
- Hotspot for internet connection
- Laptops or tablets for data entry
- Software to plan staffing, track doses administered, document consent, bill insurance, and share data with IIS
- Access to medical records and billing forms
- Access to immunization registry
- Language and translation services
- Vaccine information statements and immunization record cards
- Medical emergency supplies (blood pressure monitor, epinephrine, H1 antihistamine, etc.)

### Staff

- Clinic leads to manage staff and logistics
- Administrative staff to register patients and enter data into the registry; help with set-up and teardown
- Volunteers to manage traffic flow and provide water to patients
- Interpreters, community health workers, or volunteers for language interpretation
- Driver for the mobile van or unit
- Security staff to ensure patient and staff safety
- Community health workers or outreach workers to conduct outreach, media, and marketing
- Event coordinators to plan the event and coordinate with partners
- Vaccine coordinators to order vaccines and provide staff training and education

# Appendix B: Tips for Implementing Mobile Clinics to Vaccinate Children Against COVID-19 at Community-Based Locations



When implementing mobile vaccination clinics (mobile clinics) and expanding clinics to new locations, jurisdictions should consider the unique contexts of their communities to provide the best possible care.



## Partner with community organizations to improve trust

- Partner with community organizations to serve as champions and trusted messengers when bringing mobile clinics to new locations, especially when considering historically marginalized communities or communities that might be unfamiliar with the mobile clinic operator.
- Hire community members to serve as community health workers, raising awareness of the clinic and building trust with patients.



## Understand and address language barriers of the particular community

- Hire staff or interpreters who speak the languages and local dialects of the community or ask partner organizations if they can provide interpreters for the clinic.
- Develop and provide translations of specific medical terminology for interpreters to use, such as side effects, common concerns, and information on the vaccine-preventable disease.



## Account for unique weather conditions or terrain when planning and securing supplies

- When operating in hot weather, consider operating clinics during the evening, using funds or donations from partners to provide water for patients and staff, and having enough staff to ensure there are breaks to avoid overheating.
- Set up tents outside the clinic for protection from sun and precipitation. Tents can also help provide privacy for patients.
- In areas that are geographically difficult to reach, work with emergency managers and local jurisdictions to navigate logistical challenges to providing services.



### Be prepared for adverse vaccine events

- Ensure mobile clinic staff are trained in emergency medical response and know where the nearest emergency department is located.
- Supply the mobile clinic with medical emergency supplies, such as a blood pressure monitor, epinephrine, and an H1 antihistamine.



### Connect patients to medical homes for follow-up and essential health care services

- For vaccines that require multiple doses, ensure that patients without a medical home know where and when they can receive their follow-up doses, whether through the mobile clinic or other local providers.
- Collect information on local safety net or Medicaid providers and share the providers' information with families verbally, with QR codes, or via printed handouts.



### Understand the policy, environmental, and funding context

- Understand policies related to which providers can vaccinate children to inform staffing plans.
- Consider how policies on minor consent affect clinic processes and protocols to obtain consent from parents and/or minors.
- Consider whether any local groups would hinder implementation of your program.
- Consider notifying local law enforcement of your clinic in the case of threats or individuals who attempt to disrupt operations.
- Ensure local ordinances around permitting are followed.
- Develop and implement processes for verifying insurance information to accurately bill for vaccinations.
- Understand expenses will vary widely based on jurisdiction specifics and use of existing staff, infrastructure, funding support, and partnerships.
- Mitigate costs by partnering with organizations that already have infrastructure to operate mobile clinics.

During the COVID-19 public health emergency (PHE), government funding was available that offered a large number of allowances and flexibilities for spending, including spending on the leasing, rental, and purchase of vans. In the post-PHE environment, jurisdictions will have less of this type of government funding and will likely need to find new ways to fund practice implementation. For example, government funding is now available for the leasing of vans, but not purchase.



## Understand the demand for COVID-19 vaccines in the community

- Work with community partners to publicize mobile clinic events through flyers, social media, and other dissemination channels that are popular within the community.
- Ask patients to register for appointments online ahead of the clinic to get a sense of how many people will attend.
- Use information on demand and appointment registration to right-size the supplies needed.

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# Vaccinating Children Against COVID-19 at Home

*An Implementation Guide*



Association of  
Immunization  
Managers

# How to Use This Guide

This guide is comprised of three chapters that answer the “what,” “why,” and “how” of delivering vaccines to children in their homes. Across these chapters, you will find examples from the field, resources and tools, considerations, and lessons learned to help implement this promising practice in your own jurisdiction.

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**Chapter 1: What?**..... pg 75  
*Chapter 1 provides information on what the promising practice is and who implements it.*

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**Chapter 2: Why?** ..... pg 77  
*Chapter 2 covers why immunization program managers might choose to implement programs that vaccinate children in their homes, including which populations they can reach.*

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**Chapter 3: How?** ..... pg 80  
*Chapter 3 provides information on how to implement this practice, including resources, partners, action steps to address potential challenges, and key considerations needed to implement the promising practice as it pertains to the*

- ✓ **feasibility** of the practice to start-up, scale, and sustain the practice over time,
- ✓ **costs** related to implementing the practice in the post-pandemic environment,
- ✓ **environmental factors** related to the policy, environment, and funding landscape.

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*Tips for Vaccinating Children Against COVID-19 at Home*

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# Chapter 1: What?

This chapter provides an overview of the practice of providing in-home vaccinations to children.

## Summary of Chapter 1: What?

<b>Overview of the promising practice</b>	In-home vaccination is when children receive vaccinations in their homes.
<b>Implementing organizations</b>	Local or state health departments, community-based organizations, and health systems or health care providers are among the entities that may have interest in implementing this practice.

## Overview of the promising practice

Jurisdictions can provide vaccinations to children in their homes to serve families that may encounter challenges in obtaining vaccinations for their children at clinics or community locations. Although in-home programs might be part of larger mobile vaccination programs, this guide focuses on in-home operations. More information on mobile clinics that vaccinate children at community-based locations is available in the related guide, [Using Mobile Clinics to Vaccinate Children Against COVID-19 at Community-Based Locations](#).

## Implementing organizations

Those involved in providing in-home vaccinations include local or state health departments, community-based organizations, and health systems or health care providers. These entities can partner with mobile vendors, emergency and fire services, disability agencies, home health programs, and other community-based agencies to effectively provide in-home vaccination.

## Example from the Field



### [Protect Chicago at Home Program](#) Vaccinated Children and Their Families and Neighbors at Home

**Description:** The Chicago Department of Public Health's Protect Chicago at Home program offered in-home COVID-19 vaccination to all Chicago households and anyone 6 months and older.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** To increase COVID-19 vaccination rates among Chicagoans.

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**Approach:** The Protect Chicago at Home program, which coordinated operations with hospitals and community-based organizations, could vaccinate up to ten people at a time in their home. The program was initially intended for home-bound people, but it expanded to anyone 6 months and older to increase access. The program was offered free of charge to participants and encouraged Chicagoans to invite family, friends, or neighbors to their home to get vaccinated together. It offered COVID-19 vaccines and flu vaccines as long as one resident registered to receive the COVID-19 vaccine. As demand for the COVID-19 vaccine has decreased, the program reduced the number of days a week for which appointments are available, decreasing from five days a week to two days a week, specifically on Saturdays and Sundays.

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**Lessons learned:**

- Hold regular check-in calls with partners to discuss issues.
- Scale program to meet demand.

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**Resources:**

- The Chicago Department of Health used X (formerly Twitter) to [advertise its program](#).
  - To increase vaccine uptake around the holidays, the Chicago Department of Health [advertised the program through local news outlets](#).
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## Chapter 2: Why?

This chapter reviews the benefits of implementing in-home vaccination to help vaccinate children in your jurisdiction.

### Summary of Chapter 2: Why?

<b>Why might my jurisdiction implement this promising practice?</b>	Reach areas that are remote or medically underserved
	Support families with high-risk members
	Reduce travel and time burdens
	Promote social distancing during outbreaks
	Improve health and reduce costs for families and communities

### Why might my jurisdiction implement this promising practice?

**Reach areas that are remote or medically underserved.** In-home vaccine services can serve communities that do not have medical centers or other health care facilities and can reach children and families who are unable to easily travel to receive COVID-19 vaccinations (CDC, 2022).

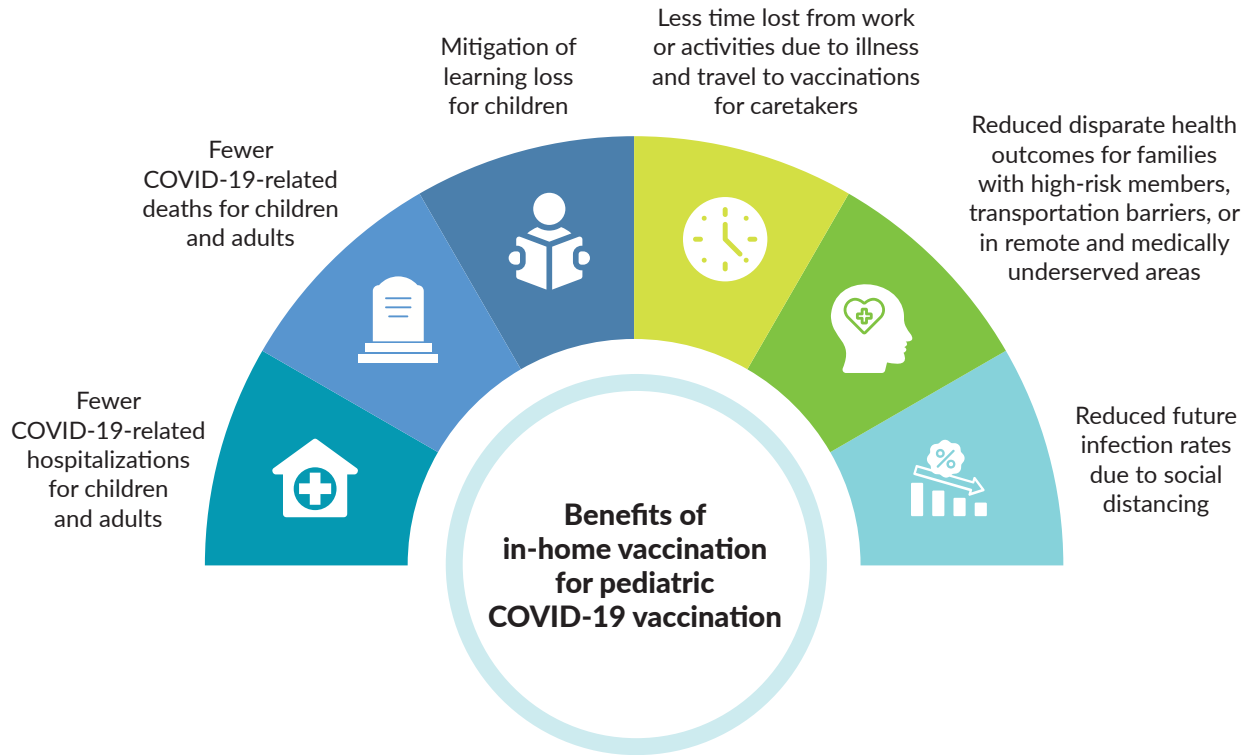
**Support families with high-risk members.** Households might have children and other members who are homebound (see Examples from the Field boxes about Mississippi and Michigan below) or who have underlying medical conditions that put them at risk of serious illness if they are exposed to COVID-19 or other infectious diseases. These families might be unable to leave the home or might feel safer receiving vaccinations at home than they would in a congregate setting.

**Reduce travel and time burdens.** By bringing vaccines to families' homes, jurisdictions make COVID-19 vaccination more convenient and help families avoid the burden of arranging for transportation or taking off time from work or school to get vaccinated.

**Promote social distancing during outbreaks.** Going door-to-door to provide vaccinations allows families to avoid public vaccination settings and increased risk of exposure to respiratory viruses when there may be outbreaks.

**Improve health and reduce costs for families and communities.** By implementing this practice, jurisdictions could save money. See the figure below for an overview of the promising practice's potential benefits to families and communities.

### Implementing in-home vaccination can lead to better health and cost savings



## Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit

Find more resources, including tip sheets and slide decks, to implement mobile clinics and other strategies to improve vaccination rates



Association of Immunization Managers

## Example from the Field



### Mississippi Health Department Provided Homebound Children COVID-19 Vaccines at Home

**Description:** The Mississippi Health Department connected providers enrolled in the COVID-19 Community Vaccination Program (CCVP) with homebound residents, including children, who needed a COVID-19 vaccination and wished to receive it in their home.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** Vaccinate all homebound residents and their families who called the Mississippi Health Department requesting a COVID-19 vaccine.

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**Approach:** The Mississippi Health Department began providing vaccines to residents at home after community members called the department to express interest in the idea. The program was first open to adults who were eligible for the vaccine. In addition to responding to calls from interested residents, the Mississippi Health Department conducted outreach by sending postcards with contact information about in-home vaccines to eligible adults from a file of Medicare beneficiaries. When children became eligible for the vaccine, the program expanded to include them. The Mississippi Health Department connected homebound residents and families requesting a vaccine with a provider that was participating in Mississippi's COVID-19 Community Vaccination Program (CCVP), which was created to focus on underserved communities. The program was funded by supplemental grants from the CDC and offered CCVP providers a \$75 reimbursement per vaccination to cover overhead costs of delivering the COVID-19 vaccine.

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#### Lessons learned:

- Vaccinate entire families while providing in-home vaccinations to patients.
- Determine which providers are willing to provide in-home vaccinations.
- Schedule in-home vaccinations by geographic location to other patients so providers are not driving for a long time.

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**Resource:** Mississippi developed [a PowerPoint presentation that describes their CCVP program and homebound services](#).

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## Chapter 3: How?

This chapter lists important resources that jurisdictions need to operate in-home programs, common challenges and potential solutions, and key considerations.

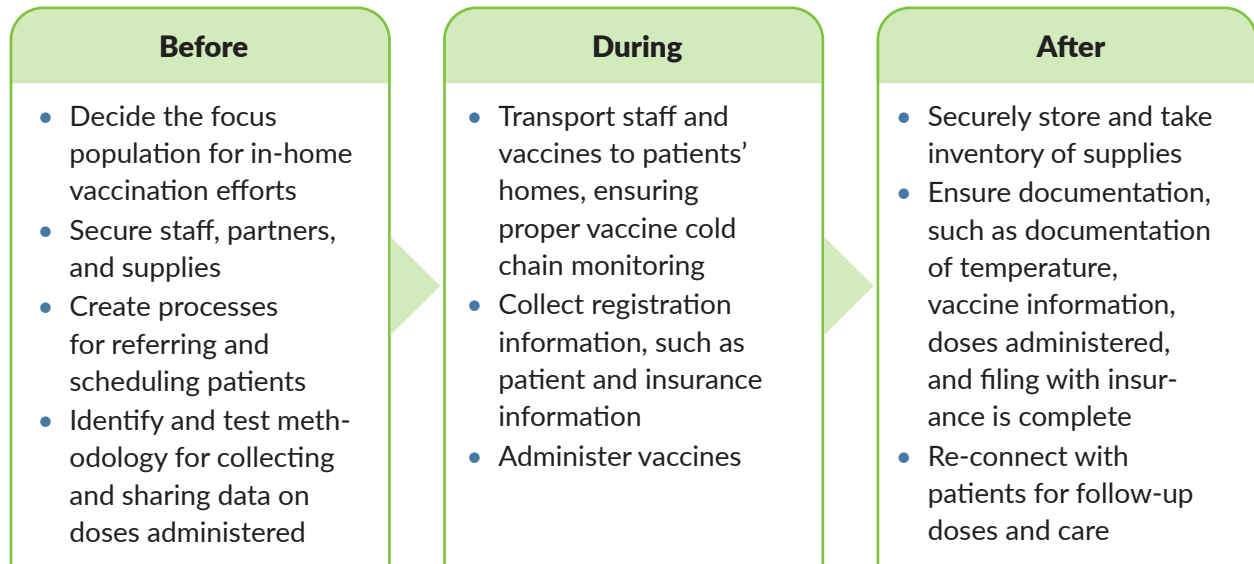
### Summary of Chapter 3: How?

<b>Step 1: Prepare resources</b>	In-home vaccinations require staff and supplies for vaccinating children, transportation, and clinical operations.
<b>Step 2: Establish partnerships</b>	Partnerships can increase community trust, increase capacity, and support planning and operations.
<b>Step 3: Identify operational challenges and action steps</b>	Operational challenges such as patient and staff safety and costs can be avoided with standardized processes and phased outreach approaches.
<b>Step 4: Determine key considerations for implementation</b>	
<b>Feasibility</b>	Partnerships can help start up and sustain this practice that can potentially improve vaccine equity.
<b>Costs</b>	Consider administrative and actual costs upfront.
<b>Environmental factors</b>	Policies on providers' scope of practice, minor consent, and the activities of anti-vaccine groups could affect the implementation of in-home programs.
<b>Other resources to implement this practice</b>	See the list of existing resources to support implementation of this practice.



## Step 1: Prepare resources

Jurisdictions need significant resources to vaccinate people outside brick-and-mortar clinics. Before committing to in-home vaccinations, jurisdictions may consider the scope or focus population for the in-home vaccination effort; create a plan for procuring the mobile unit, staff, and supplies; and create processes for referring and scheduling patients. During the planning phase, in-home vaccination providers will also need to work with their software vendor to ensure their electronic health record, or other software, is set up to document consent and doses administered and to securely share data with other providers and the immunization information system (IIS). To bring vaccines to patients' homes, jurisdictions must also consider the supplies they need to support administration of vaccines, including proper vaccine storage and handling and data entry for patient records and the immunization registry. These steps are summarized below:



The resources needed to provide vaccinations in patients' homes fall into three broad categories:

1. Vaccine storage, handling, and administration supplies
2. Mobile unit supplies
3. Clinical administration and office supplies

Vaccine storage, handling, and administration supplies	Mobile unit supplies	Clinical administration supplies
<ul style="list-style-type: none"> <li>• Vaccine</li> <li>• Digital data logger thermometers</li> <li>• Transport coolers</li> <li>• Needles, syringes, bandages, alcohol swabs, etc.</li> <li>• Emergency response supplies (epinephrine, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• Mobile unit or van</li> <li>• Insurance for mobile unit or van</li> <li>• Utilities</li> </ul>	<ul style="list-style-type: none"> <li>• Patient paperwork (Vaccine Information Sheet, consent forms)</li> <li>• Wi-Fi hotspot</li> <li>• Laptops</li> <li>• Software to collect and share data</li> </ul>

In-home vaccination programs also need clinical and administrative staff. These staff and their possible roles are described below:

Staff	Description of possible role(s)
<b>Nurse, emergency medical technician, or other personnel approved to administer vaccines</b>	<ul style="list-style-type: none"> <li>• Obtain consent</li> <li>• Administer vaccines</li> <li>• Answer medical questions</li> <li>• Provide guidance for decision-making</li> <li>• Provide other medical services</li> <li>• Respond to acute adverse events</li> </ul>
<b>Physician</b>	<ul style="list-style-type: none"> <li>• Approve standing orders</li> <li>• Be available for consultation</li> </ul>
<b>Administrative staff</b>	<ul style="list-style-type: none"> <li>• Schedule appointments</li> <li>• Manage billing</li> <li>• Field requests from families who would benefit from in-home vaccination</li> <li>• Manage vendors and vendor contracts</li> <li>• Provide education and training</li> <li>• Record vaccinations in IIS and provide a paper copy to the patient</li> </ul>

## Step 2: Establish partnerships

Partnering with the local community-based organizations, mobile vendors, and other local medical providers can support in-home program operations by:

- Increasing community trust in in-home vaccinators and healthcare staff
- Increasing capacity to serve patients
- Identifying providers willing to vaccinate patients in their homes
- Identifying people who need to receive vaccinations in their home
- Improving planning and operations

Michigan's Department of Health and Human Services hired mobile vaccination vendors to increase its capacity to reach homebound people and partnered with local health departments and community-based organizations (see the Example from the Field box about Michigan below).

Louisiana [partnered with community health centers](#) to have 14 nurses go door-to-door in neighborhoods with low COVID-19 vaccination coverage rates to offer in-home vaccinations, eliminating one obstacle for individuals who were unable to attend community events where vaccinations were being offered.

## Key Partners to Consider When Implementing this Practice

The key to implementing this practice is to identify and engage entities that can help with the planning, promotion, and/or execution of the practice

- Community-based agencies
- [Home health programs](#)
- [Nurse-family partnership](#)
- Disability agencies and support services
- Emergency and fire services
- Mobile vendors



### Vaccine Confidence Toolkit

Find resources to help you work with key partners to build vaccine confidence



Find more resources to implement strategies to improve vaccination rates in AIM's [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#).

### Step 3: Identify operational challenges and action steps

Jurisdictions might run into challenges when planning and operating in-home programs. The following action steps can help jurisdictions overcome these challenges and meet patients' needs.

Category	Possible challenge	Suggested action step(s)
<b>Safety</b>	Staff might feel unsafe entering patients' homes.	<ul style="list-style-type: none"> <li>○ Ask vaccination staff to check in with centralized administrative staff when entering and leaving the home and any time they feel unsafe (Small, 2020).</li> <li>○ Have staff visit homes in pairs or small teams (Small, 2020).</li> <li>○ Schedule appointments during daylight hours (Small, 2020).</li> <li>○ Ask staff to complete data entry in a safe location (Small, 2020).</li> </ul>
	Patients and families might not feel safe letting staff into their homes.	<ul style="list-style-type: none"> <li>○ Have staff wear uniforms and name tags to establish credibility.</li> <li>○ Train staff and ensure they follow standard operating procedures.</li> <li>○ Leverage Nurse-Family Partnership or similar programs that have existing relationships with families.</li> </ul>
	Staff might be unprepared to evaluate or treat possible adverse events outside of clinical settings.	<ul style="list-style-type: none"> <li>○ Consider hiring emergency medical services staff to accompany the provider on home visits.</li> <li>○ Have staff carry medical emergency supplies, such as a blood pressure monitor, epinephrine, and H1 anti-histamine (e.g., diphenhydramine), and ensure they know the location of the nearest emergency department.</li> </ul>
<b>Resource use</b>	Vaccinating people in their homes is resource intensive because of the costs of vaccine transport and staff time (Community Preventive Services Task Force, 2016).	<ul style="list-style-type: none"> <li>○ Conduct in-home vaccination as a later step of phased outreach, beginning with less intensive forms such as reminder/recall (Small, 2020).</li> <li>○ Offer in-home vaccinations to a subset of patients who might especially benefit from the intervention, such as homebound children, or in large apartment complexes or public housing where staff can go door-to-door.</li> </ul>
	Patients and families might forget about appointments and might not be home when staff arrive.	<ul style="list-style-type: none"> <li>○ Send patient reminders.</li> </ul>
	Local health departments might not have the capacity to organize in-home vaccination programs.	<ul style="list-style-type: none"> <li>○ Contract with mobile vaccination clinic providers at the jurisdiction level to implement in-home vaccination.</li> </ul>

## Example from the Field



### Michigan Department of Health and Human Services (DHHS) Operated a Homebound Program

**Description:** Michigan DHHS partnered with vendors to deliver vaccinations to homebound people, including children.

**Contacts:** See the AIM [Immunization Program Directory](#)

**Goal:** Deliver vaccinations to homebound people who are at high-risk of COVID-19 infection.

**Approach:** Michigan's administration wanted to ensure access to vaccines for homebound people who were high-risk. To support this charge, Michigan DHHS set aside some of its federal COVID-19 funds to reach homebound people. DHHS hired mobile vendors that could support the homebound program and increase the capacity of local health departments that otherwise lacked bandwidth to be able to vaccinate homebound people. DHHS' contract team vetted each vendor and asked whether the vendors would be willing to vaccinate children once the vaccine became available for them. DHHS trained selected vendors on COVID-19 vaccine storage and handling requirements and on how to vaccinate children since many vendors had less experience in this area. DHHS' partners, including local health departments, the Council on Aging, Disability Rights Michigan, the Children's Special Healthcare Program, and others, alerted DHHS of homebound people by completing a form to schedule the homebound visit. The vendor was deployed to their homes to vaccinate the homebound individuals and their family members. Although DHHS' mobile clinics and homebound programs have ended, DHHS maintains agreements with vendors who could support operations if there is an increase in demand for COVID-19 vaccinations.

#### Lessons learned:

- Set aside resources to fund a homebound program.
- Train program staff on giving vaccinations to children.
- Develop a network of local and community-based organization partners to find people who are homebound, coordinate resources, and understand local needs.
- Conduct one-on-one meetings with vendors to understand vendor needs, support needs, and learn more about the local needs.

**Resource:** Michigan DHHS released a [request for proposals](#) to solicit vendors.

## Step 4: Determine key considerations for implementation

When jurisdictions are planning initiatives to vaccinate children against COVID-19 at home, it is important to consider the: feasibility of the practice to start up, scale, and sustain the practice over time, costs related to implementing the practice in the post-pandemic environment, and environmental factors which include the policy, environment, and funding landscape.

## Feasibility

The in-home vaccination practice requires high levels of resources to both start up and sustain but can potentially improve vaccine equity by reaching children who are medically and/or socially underserved. Because the practice administers vaccines in locations outside of traditional health care settings, it requires significant investments in the physical infrastructure required to transport, store, and administer vaccines (start-up). The investment includes refrigeration and freezer units, digital data logger thermometers, vehicles, and mobile technology (such as laptops, tablets, and mobile wireless internet devices) for accessing and updating patient records. Moreover, the practice requires a high level of ongoing resources, given the need to maintain or retain the vehicles, vaccine stock and related supplies, technology, and staff who administer vaccines and run operations (sustain). The figure below summarizes the level of resources and complexity required to start up, sustain, and scale the practice, and includes information on how the practice can advance vaccine equity.

	Start up	Scale	Sustain	
<b>Practice 4: At-home vaccination</b>	⊖	⊖	⊖	<ul style="list-style-type: none"> <li>• <b>Resources:</b> Similarly high levels to start up, scale, and sustain. The level of resources (such as staff and equipment) needed remains relatively constant, even as more vaccinations at home are given over time.</li> <li>• <b>Complexity:</b> The level of complexity of the practice does not change as vaccinations are administered in more homes over time.</li> <li>• <b>Equity:</b> Both practices can increase access to vaccination in medically underserved communities.</li> </ul>

⊖ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a high level of resources and is complex to implement.

☑ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a low level of resources and is not complex to implement.

Jurisdictions can mitigate the cost and resources needed by using existing infrastructure and local partnerships to implement, sustain, and scale the practices. Jurisdictions might partner with health care organizations or other entities that already have infrastructure to deliver vaccinations to children in their homes. Partners may also be able to provide resources to operate mobile in-home vaccination programs, for example by donating vehicles or supporting outreach. Rather than take purchased vehicles, jurisdictions can also consider whether staff can use ridesharing services to visit patients' homes. Capitalizing on existing resources, networks, and partnerships will aid in making this practice feasible in the post-pandemic environment.

Consider having staff take a ridesharing service to conduct home visits.

## Costs

The COVID-19 public health emergency (PHE) greatly affected the cost of implementing practices such as vaccinating children against COVID-19 at home. For example, during the COVID-19 pandemic, the federal government paid for most or all COVID-19 vaccines, jurisdictions experienced high staff turnover and increased labor costs, and some needed to make new investments in vaccine infrastructure to meet urgent need and high demand for vaccines. During the COVID-19 PHE, government funding was available that offered a large number of allowances and flexibility for spending, including spending on the leasing, rental, and purchase of vehicles.

In the post-PHE environment, jurisdictions will have less of this type of government funding and will likely need to find new ways to fund practice implementation. For example, government funding is now available for the leasing of vehicles, but not purchase.

### Cost categories

Below are the categories of costs immunization program managers may consider as they are calculating the cost of the promising practice for their own jurisdiction. This includes the cost of vaccine, staff time for vaccine administration, and vaccine storage and handling.

1. Program administration
2. Vaccinations
3. Staff time
4. Transportation
5. Refrigeration and storage
6. Scheduling and logistics
7. Training
8. Outreach

The tables that follow provide considerations and factors that affect cost for each category.

#### Program administration

Costs may include: salaries for program director and/or managers

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>How many managers will you need based on the size of your program?</b></li><li>? <b>What is the current demand for qualified staff?</b></li></ul>	<ul style="list-style-type: none"><li>• Hourly rates for staff time will vary by jurisdiction.</li><li>• The Bureau of Labor Statistics estimates the salary of a manager in the United States to be approximately \$62.50/hour, or \$93.75/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li></ul>

## Vaccinations

Costs may include: vaccine purchase for non-VFC eligible, vials, syringes

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What is the expected VFC eligibility of the population?</b></li><li>? <b>For the non-VFC population, are there other funding mechanisms to cover vaccines? Is there a mechanism to purchase private stock and bill for reimbursement?</b></li><li>? <b>What ancillary supplies will you need to buy or acquire through partnerships to offer vaccinations?</b></li></ul>	<ul style="list-style-type: none"><li>• Medicaid and CHIP programs cover all Advisory Committee on Immunization Practices (ACIP)-recommended vaccines for children and vaccine administration without cost sharing (including COVID-19 vaccines).</li><li>• Other ancillary supplies related to vaccinations, such as bandages and alcohol wipes, might affect the total cost of vaccinations.</li></ul>

## Staff time

Costs may include: staff time to prepare and administer vaccinations, staff time for intake, staff time for IIS data entry, security, and to test methodology for collecting and sharing data

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>How many staff will you need for vaccination administration based on your vaccination goals?</b></li><li>? <b>How many staff will you need for data entry based on your vaccination goals?</b></li><li>? <b>What is the current demand for qualified staff?</b></li></ul>	<ul style="list-style-type: none"><li>• Based on feedback from AIM's Legacy Council Staff average staff time for vaccine administration is 20 minutes/vaccination for two staff, including time for IIS entry.</li><li>• Hourly rates for staff time will vary by jurisdiction.</li><li>• The Bureau of Labor Statistics estimates the median rate for a registered nurse in the United States to be approximately \$40/hour, or \$60/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li></ul>



## Transportation

Costs may include: leasing of vehicles, retrofitting vehicles, annual maintenance, fuel

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What are current guidelines on allowable costs?</b></li><li>? <b>Can our staff use a ridesharing service to visit homes?</b></li></ul>	<ul style="list-style-type: none"><li>• The General Services Administration (GSA) authorized reimbursement for privately owned vehicles is \$0.66/mile as of January 1, 2023 (GSA, 2023).</li><li>• AIM Legacy Council members noted that the use of sports utility vehicles is more typical for at-home vaccinations.</li></ul>

## Refrigeration and storage

Costs may include: plug-in refrigeration units, digital data logger thermometers, electrical power

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What existing supplies do you already have?</b></li><li>? <b>And do they meet current storage and handling guidelines?</b></li></ul>	<ul style="list-style-type: none"><li>• The cost of refrigeration can vary widely.</li><li>• Portable coolers or containers for vaccine storage may be less expensive for at-home vaccination. However, AIM Legacy Council members noted other considerations can add to the cost of refrigeration for this practice.</li></ul>

## Scheduling and logistics

Costs may include: staff salary for scheduling and logistics for mobile clinics

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What partners do you already have to support in-home programs?</b></li><li>? <b>How familiar are your partners with supporting in-home operations?</b></li></ul>	<ul style="list-style-type: none"><li>• CDC guidance on what to consider when planning to operate a COVID-19 vaccination clinic includes a variety of operational and logistics considerations, such as involving public health department staff leadership, establishing critical partnerships, identifying disproportionately impacted communities, and strategically selecting sites (CDC, 2023a).</li><li>• Hourly rates for staff time will vary by jurisdiction.</li></ul>

## Training

Costs may include: staff time to participate in trainings, required training materials

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>What level of training do staff already have?</b></li><li>? <b>What type of staff can administer vaccinations in your jurisdiction?</b></li><li>? <b>Do staff have the knowledge and tools to respond to vaccine hesitancy during the event?</b></li></ul>	<ul style="list-style-type: none"><li>• Recommended CDC trainings for administering COVID-19 vaccinations include: (1) COVID-19 training modules, (2) routine vaccination administration training, and (3) routine vaccine storage and handling training (CDC, 2023b).</li><li>• The AIM Legacy Council suggested that these and other trainings can take up to 80 hours.</li><li>• The Bureau of Labor Statistics estimates the median rate for a registered nurse in the United States to be approximately \$40/hour, or \$60/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li></ul>

## Outreach

Costs may include: systems to manage outreach, staff time to conduct outreach

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>Does your jurisdiction currently have enough staff to conduct outreach?</b></li><li>? <b>If not, are there partnerships your jurisdiction could leverage to support outreach efforts?</b></li></ul>	<ul style="list-style-type: none"><li>• The outreach modality and the number of individuals receiving outreach will affect the cost of outreach.</li></ul>

### How much would it cost to implement this practice in your jurisdiction?

AIM has hypothetical examples available for jurisdictions to use as a starting point to calculate the potential costs to implement this practice. Actual expenses for your immunization program will vary widely based on program specifics and if/how you engage with vaccine purchase and administration. Find the examples and the detailed technical economic analysis in the Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates technical report (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)).

## Environmental factors

Jurisdictions providing in-home vaccination must navigate policies and environmental factors that can help or challenge the implementation of in-home programs. The table below provides examples of specific policies and environmental factors that organizations may consider when implementing this practice.

Environmental factor or policy	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Policies related to providers' scope of practice	<ul style="list-style-type: none"> <li>• Can providers that provide home and community support services purchase, store, transport, and administer vaccines to children in our jurisdiction?</li> <li>• If so, how can our jurisdiction work with our partners that provide home and community support services to implement in-home vaccination?</li> </ul>	<ul style="list-style-type: none"> <li>• Texas's legislature enacted <a href="#">2021 TX H 797</a>, which <a href="#">allows</a> certain home and community support service providers, such as registered nurses, to purchase, store, transport, and administer approved vaccines, which means they can administer COVID-19 vaccines to home health and hospice patients and their family members, including children.</li> </ul>	<ul style="list-style-type: none"> <li>○ Engage state lawmakers through education surrounding policies related to providers' scope of practice (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> <li>○ Check with your jurisdiction's licensing boards to understand scope of practice regulations in your jurisdiction.</li> </ul>
Policies on minor consent for vaccination	<ul style="list-style-type: none"> <li>• Can minors consent for vaccination in our jurisdiction, or do we need to obtain parental consent to vaccinate children in their home or in temporary shelters?</li> <li>• What processes and protocols do we have in place to capture parental consent, if it is needed?</li> <li>• What processes or protocols do we have in place to gather consent from the minor in settings such as temporary shelters?</li> </ul>	<ul style="list-style-type: none"> <li>• Most jurisdictions do not allow minors to get a COVID-19 vaccine without parental or guardian consent.</li> <li>• Washington, DC, adopted Law 23-193, which allows a minor of at least 11 years old to consent to receive a vaccination where the vaccination is recommended by the ACIP. Per <a href="#">the law</a>, informed consent is established if "a minor is able to comprehend the need for, the nature of, and any significant risks" inherent in the medical care.</li> </ul>	<ul style="list-style-type: none"> <li>○ Engage state lawmakers through education surrounding policies related to minor consent for vaccination (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> <li>○ Consult <a href="#">this webpage on state laws on minor consent</a> from SchoolHouse Connection to understand minor consent in your state.</li> </ul>

Environmental factor or policy	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Policies on whether entities need minor/parent/guardian consent to report vaccinations to the IIS	<ul style="list-style-type: none"> <li>How do our jurisdiction's policies on minor or parental consent to report vaccinations to the IIS affect the comprehensiveness of data in the IIS?</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Illinois</a> and <a href="#">Michigan</a> use implicit consent with the ability for parents/guardians to opt out of having their child's information in the IIS.</li> <li><a href="#">New Hampshire</a> and <a href="#">Ohio</a> require entities to obtain explicit consent from parents/guardians before reporting vaccination information to the IIS.</li> </ul>	<ul style="list-style-type: none"> <li>Consult <a href="#">this School-House Connection webpage on state laws on minor consent</a> to understand minor consent in your state.</li> <li>Engage lawmakers through education surrounding informed and minor consent laws (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> </ul>
Organized groups supporting or hindering implementation of practice	<ul style="list-style-type: none"> <li>Are there any organizations or groups in our jurisdiction who would try to stop this practice?</li> <li>What measures can we take to make sure families and children feel comfortable and safe to receive vaccinations?</li> </ul>	<ul style="list-style-type: none"> <li>An anti-vaccine organized group worked to hinder the jurisdiction from administering COVID-19 vaccines to children, accusing the jurisdiction of violating the public health code by requiring the vaccination for children attending school. The jurisdiction addressed this by clarifying to the public that the vaccine was recommended for children but not required for school attendance.</li> </ul>	<ul style="list-style-type: none"> <li>Combat misinformation from anti-vaccine groups (see AIM's <a href="#">COVID-19 Vaccines: Vaccine Safety FAQs, Dispelling Vaccine Myths</a> and CDC's <a href="#">How to Address COVID-19 Vaccine Misinformation</a>).</li> </ul>

### Other resources to implement this practice:

Below are resources for vaccinating children against COVID-19 at home.

#### AIM

- **[Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)**: In this toolkit, find more resources, including tip sheets and slide decks, to implement five promising strategies to improve vaccination rates, including [mobile vaccination clinics](#).
- **[COVID-19 Resource Guide](#)**: This guide compiles existing communications messaging and materials that you can use to support immunization program outreach.
- **[COVID-19 Vaccines: Vaccine Safety FAQs, Dispelling Vaccine Myths](#)**: This PowerPoint slide set was developed by iREACH Subject Matter Experts to answer frequently asked questions about COVID-19 vaccine safety and dispel common myths about COVID-19 vaccines.
- **[Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates Technical Report](#)** (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)): This technical report includes detailed information about this study, including feasibility, policy, and costs analyses of each practice.

- **[How Can Community-Based Organizations Help Support the COVID-19 Vaccination Effort?:](#)** This resource provides community-based organizations (CBOs) with tools to assist in stopping the spread of COVID-19.
- **[Immunization Program Policy Toolkit:](#)** This toolkit is designed to equip immunization programs with the tools and information necessary to appropriately and effectively engage with elected officials.
- **[Vaccine Confidence Connect the Dots:](#)** This guide provides immunization programs with the tools and information necessary to promote vaccine confidence across the nation and its territories.

## CDC

- **[12 COVID-19 Vaccination Strategies for Your Community:](#)** This field guide presents 12 COVID-19 vaccination strategies adapted from evidence-based practices implemented nationwide to help increase vaccine confidence and uptake.
- **[How to Address COVID-19 Vaccine Misinformation:](#)** On this page, the CDC shares strategies for communicating accurate information about COVID-19 vaccines, responding to gaps in information, and confronting misinformation with evidence-based messaging from credible sources.
- **[Recommended trainings for administering COVID-19 vaccinations:](#)** (1) COVID-19 training modules, (2) routine vaccination administration training, and (3) routine vaccine storage and handling training.
- **[Vaccine Storage and Handling Toolkit:](#)** This is a comprehensive guide that reflects best practices for vaccine storage and handling from ACIP recommendations, product information from vaccine manufacturers, and scientific studies.
- **[VFC Operations Guide:](#)** This guide reflects VFC program policies, processes, and requirements.
- **[VFC Vaccine Price List:](#)** This website provides vaccine contract prices and lists the private sector vaccine prices for general information.

## Immunize.org

- **[Ask the Experts: COVID-19:](#)** This page is frequently updated with answers to questions about COVID-19 vaccine products, recommendations, and more.
- **[Checklist of Current Versions of U.S. COVID-19 Vaccination Guidance and Clinic Support Tools:](#)** This checklist provides links to key COVID-19 vaccination resources and indicates when they were last updated.
- **[Clinical Storage and Handling Resources:](#)** This page contains numerous clinical storage and handling resources, including temperature logs, suggestions to improve immunization services, and skills checklists for vaccine administration.
- **[COVID-19 Clinical Resources:](#)** This page provides clinical resources related to COVID-19 vaccination.
- **[Improving the Vaccination Experience:](#)** This page provides materials for providers and vaccine recipients on addressing vaccination anxiety, reducing vaccination pain, and other strategies for improving the vaccination experience.
- **[Medical Management of Vaccine Reactions in Children and Teens in a Community Setting:](#)** This table describes procedures to follow if various reactions occur in children and teens, including a supply list.

- **[Supplies You May Need at an Immunization Clinic](#)**: This one-page form lists patient resources, routine clinic supplies, medical emergency supplies, and other supplies that may be needed at immunization clinics.

## Other

- **[Autism Society of America's Guide to Accessible Vaccination](#)**: This guide provides tips on how to reduce barriers to vaccination and increase vaccination equity and uptake among the Autism community.
- **[Centers for Medicare & Medicaid Services Toolkit of Vaccine Coverage and Administration for Medicaid and Children's Health Insurance Program Individuals](#)**: This vaccine toolkit equips states with the tools necessary to meet the needs of people with Medicaid and the Children's Health Insurance Program (CHIP) coverage. The kit helps states understand coverage, cost-sharing, and payment for vaccines, including vaccines administered as part of the Inflation Reduction Act (IRA) under Medicaid, CHIP, and the Basic Health Program (BHP).

# Appendix: Tips for Vaccinating Children Against COVID-19 at Home



When providing vaccinations to children at home, jurisdictions should consider the local environment, patient and staff safety, and how to use resources efficiently to start up, scale, and sustain the practice.



## Understand the local environment in your jurisdiction

- Work with local partners who understand the local environment and needs of the community.
- Understand which providers in your jurisdiction can and will vaccinate children in their homes to inform your staffing plans.
- Consider how policies on minor consent for vaccination affect in-home program processes and protocols to obtain consent from parents or minors.
- Consider whether any local groups would attempt to hinder implementation of your program.



## Consider the cost and feasibility to start up, scale, and sustain the practice

- Understand expenses will vary widely based on jurisdiction specifics and use of existing staff, infrastructure, funding support, and partnerships.
- Mitigate costs by partnering with organizations that can support the infrastructure to deliver vaccines to homes.
- Determine if staff can use ridesharing services to deliver vaccines to homes rather than having to purchase a vehicle.

During the COVID-19 public health emergency (PHE), government funding was available that offered a large number of allowances and flexibilities for spending, including spending on the leasing, rental, and purchase of vans. In the post-PHE environment, jurisdictions will have less of this type of government funding and will likely need to find new ways to fund practice implementation. For example, government funding is now available for the leasing of vehicles, but not purchase.



### Understand safety concerns for staff and patients

- Adopt procedures for staff safety, including visiting homes in pairs or small teams, scheduling appointments during daylight hours, and checking in with centralized staff when entering and leaving a home and any time they feel unsafe.
- Make patients and families more comfortable letting staff into their homes by asking staff to wear uniforms and name badges and follow standard procedures when conducting in-home vaccinations.



### Plan for vaccine side effects and adverse events

- Hire emergency medical service staff or other personnel trained in emergency medical response as part of the in-home vaccination team.
- Bring medical emergency supplies, such as a blood pressure monitor, epinephrine, and an H1 antihistamine (e.g., diphenhydramine) to in-home appointments.



### Focus the intervention to effectively use staff time and resources

- Offer in-home vaccination to a subset of patients who would especially benefit from the intervention, such as homebound children.
- Conduct in-home vaccination as a later step of phased outreach, beginning with less-intensive forms such as reminder/recall.



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# Providing Operational Support to Help Pediatric Health Care Providers Vaccinate Children Against COVID-19

*An Implementation Guide*



Association of  
Immunization  
Managers

# How to Use This Guide

This guide is comprised of three chapters that answer the “what,” “why,” and “how” of providing operational support to help pediatric health care providers vaccinate children against COVID-19. Across these chapters, you will find examples from the field, resources and tools, considerations, and lessons learned to help implement this promising practice in your own jurisdiction.

## Table of Contents

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**Chapter 1: What?..... pg 100**

*Chapter 1 provides information on what the promising practice is and who implements it.*

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**Chapter 2: Why? ..... pg 102**

*Chapter 2 covers why immunization program managers might choose to implement steps to provide support to help pediatric providers vaccinate children against COVID-19.*

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**Chapter 3: How? ..... pg 105**

*Chapter 3 provides information on which steps and key considerations are needed to implement the promising practice as it pertains to the*

- ✓ **feasibility** of the practice to start-up, scale, and sustain the practice over time,
- ✓ **costs** related to implementing the practice in the post-pandemic environment,
- ✓ **environmental factors** related to the policy, environment, and funding landscape.

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**Appendix ..... pg 114**

*Tips for Providing Operational Support to Help Pediatric Health Care Providers Vaccinate Children Against COVID-19*

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# Chapter 1: What?

This chapter provides an overview of the practice of providing operational support to help pediatric health care providers vaccinate children against COVID-19.

## Summary of Chapter 1: What?

<b>Overview of the promising practice</b>	Provider support consists of local, state, or federal government agencies offering support, free or reduced-cost supplies, technical assistance, and/or additional staff to providers to facilitate COVID-19 vaccine administration to children.
<b>Implementing organizations</b>	Local and state government agencies and organizations can implement this practice in partnership with other organizations.

## Overview of the promising practice

Provider support includes supporting vaccination administration through resources such as free or reduced-cost supplies, technical assistance, and/or additional staff. While these supports may be funded through local, state, or federal grants, the support can also be provided through partnerships with other organizations such as community-based organizations, foundations, and universities.

## Implementing organizations

Implementing organizations primarily include local and state entities, such as community-based organizations (CBOs), universities, foundations, state immunization programs, and local and state departments of health. These programs or departments might receive federal funding by partnering with organizations that receive grants from federal agencies, such as the CDC.

## Example from the Field

### Colorado's COVID-19 Primary Care Vaccination Program Helps Providers Cover COVID-19 Vaccination-Related Expenses

**Description:** The COVID-19 Primary Care Vaccination Program provided grant funding to primary care practices enrolled as COVID-19 vaccination providers to cover costs related to acquiring and reporting on COVID-19 vaccinations.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** To increase engagement and enrollment of primary care providers in Colorado's COVID-19 vaccination strategy by providing financial support to community-based organizations and health care service providers.

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**Approach:** The COVID-19 Primary Care Vaccination Program gave out over \$60 million in grant funding to primary care practices that applied to enroll or were already enrolled as COVID-19 vaccination providers. The program was funded by the Colorado Department of Public Health and administered by the Colorado Health Institute. To receive funds, clinical sites had to receive approval from the Colorado Department of Public Health and Environment to be COVID-19 vaccine providers and order COVID-19 vaccination doses. Clinical sites that were not yet approved as enrolled COVID-19 vaccine providers before the start of the grant program were eligible for \$30,000 and clinical sites that were already enrolled as COVID-19 vaccine providers at the time of application were eligible for \$25,000. Practices could be compensated for expenses related to acquiring and reporting on COVID-19 vaccines, such as personnel, training and development, infrastructure, technology, supplies, and indirect costs. Available compensation for expenses depended on the size of the clinical site, with total funding available ranging from \$60,000 for sites with 1-3 providers, to \$120,000 for sites with 9+ providers.

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#### Lessons learned:

- Form partnerships with state government departments and nonprofits, such as the Colorado Health Institute, to fund and administer COVID-19 vaccination programs.

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**Resource:** The Colorado Department of Public Health and Environment held a [webinar](#) summarizing the program and its requirements and linking to the program application for providers.

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## Chapter 2: Why?

This chapter reviews the benefits of providing operational support to help providers vaccinate children in your jurisdiction.

### Summary of Chapter 2: Why?

#### Why might my jurisdiction implement this promising practice?

Bolster providers' staff capacity to provide vaccine counseling and COVID-19 vaccinations.

Improve providers' ability to order, stock, and administer COVID-19 vaccines.

Improve health and reduce costs for families.

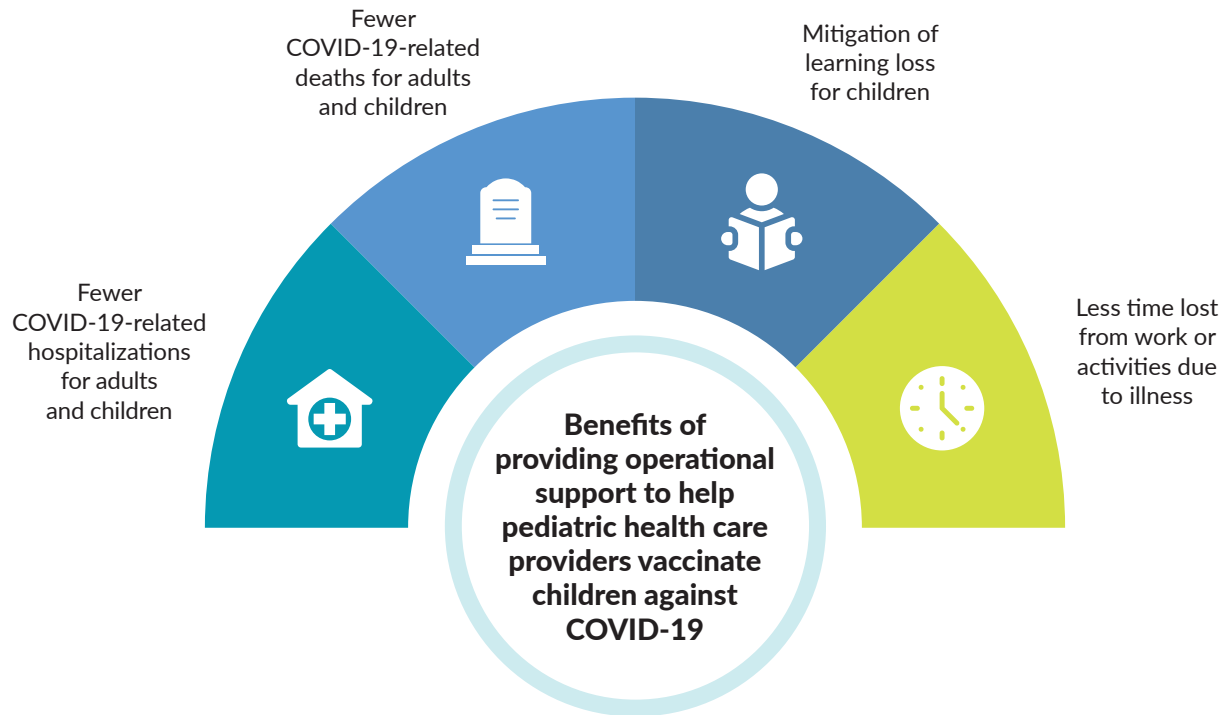
### Why might my jurisdiction implement this promising practice?

**Bolster providers' staff capacity to provide vaccine counseling and COVID-19 vaccinations.** When medical practices are provided additional funding to offset the cost of providing COVID-19 vaccinations to children, practices can expand their provided services. This increases vaccine access, supports providers who may be experiencing burnout, and helps to ensure medical practices remain viable.

**Improve providers' ability to order, stock, and administer COVID-19 vaccines.** Provider support programs can fund initiatives to improve vaccination demand, staff time to implement and enhance workflows to learn about, order, and administer vaccines, and needed vaccine storage equipment. These investments in staff, workflows, and equipment can reduce the risk of vaccine loss and the financial burden of administering COVID-19 vaccines on providers.

**Improve health and reduce costs for families.** Implementing provider support programs can help jurisdictions save money by reducing sickness and death from COVID-19. See the figure below for an overview of the promising practice's benefits to families and communities.

## Implementing provider supports can lead to better health and cost savings



## Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit

Find more resources, including tip sheets and slide decks, to implement mobile clinics and other strategies to improve vaccination rates



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## Example from the Field



### **California's KidsVaxGrant Program Encouraged Pediatricians and Other Vaccines for Children Providers to Give COVID-19 Vaccinations**

**Description:** The KidsVaxGrant program provided infrastructure support for providers to offer COVID-19 vaccines and track vaccinations in the electronic health record.

**Contacts:** See the AIM [Immunization Program Directory](#)

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**Goal:** To encourage VFC and other pediatric providers to enroll as COVID-19 vaccine providers and address low vaccination rates across California.

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**Approach:** Pediatric providers outside large health systems could apply for \$10,000 grants to support their practice in providing COVID-19 vaccinations to children. Guidelines allowed grant recipients to use funds in a variety of ways to best serve the recipient's practice, such as funding staff, vaccine storage equipment, and expanded office hours. The department partnered with Physicians for Healthy California to administer the grant program and created an application that allowed Physicians for Healthy California to verify providers' enrollment as COVID-19 vaccine providers. Providers could use the application to log their plans for their grant funds and associated costs before funds were spent. About \$45 million was available for KidsVaxGrant and CalVaxGrant, an earlier iteration of the grant program.

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#### **Lessons learned:**

- Reduce the administrative burden of applying and reporting for the grants to increase providers' uptake of similar grant programs.
- Leverage relationships with existing partner networks, professional organizations, and physician representatives to promote and improve uptake of provider support programs.
- Seek financial support from the state and logistical support from partners to help run the program.

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**Resources:** The program developed informational sheets that describe the impact of their program: [KidsVaxGrant - Impact](#).

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# Chapter 3: How?

This chapter describes ways jurisdictions can provide operational support to help pediatric providers vaccinate children against COVID-19. The chapter also details considerations for implementation and some examples.

## Summary of Chapter 3: How?

<b>Step 1: Provide provider support</b>	Jurisdictions can offer funding to providers, which they can use for staffing, technology and infrastructure, supplies and equipment, and/or administrative tasks.
<b>Step 2: Provide equipment</b>	Jurisdictions can purchase equipment or partner with organizations to provide equipment to reduce providers' costs for new equipment.
<b>Step 3: Provide hands-on assistance</b>	Jurisdictions can offer direct assistance with staffing and data entry to assist providers during periods of high vaccine demand.
<b>Steps 4: Provide technical assistance as needed</b>	Jurisdictions can help providers through non-financial assistance as needed, such as synthesizing and disseminating guidance or training providers and staff on new processes.
<b>Step 5: Determine key considerations for implementation</b>	
<b>Feasibility</b>	This practice requires substantial upfront resources when funds are being disbursed to providers but can be implemented with the support of partners and can have a lasting impact without the need to sustain funding for the practice.
<b>Costs</b>	Consider administrative and actual costs upfront.
<b>Environmental factors</b>	Policies authorizing funding, changing vaccination guidelines, and perceived patient demand for vaccines can affect the types of support needed or available to providers.
<b>Other resources to implement this practice</b>	See the list of existing resources to support implementation of this practice.

## Step 1: Provide provider support

Jurisdictions can support providers by offering funding or partnering with organizations that offer funding in the form of grants supported by state or federal funds. Offering funding to providers allows them to use the resources to best meet their practices' unique needs. Jurisdictions can allow providers to spend grant funding on any of or all of the following categories described in the table below (Colorado Department of Public Health and Environment [CDPHE], n.d.; Mississippi State Department of Health, n.d.). Jurisdictions may note that funds used during the public health emergency may have been tied to emergency federal funding that is no longer available. As such, jurisdictions may need to identify new funding sources.

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<b>Staffing</b> <ul style="list-style-type: none"><li>• Hiring new staff</li><li>• Paying staff overtime</li></ul>	<b>Technology and Infrastructure</b> <ul style="list-style-type: none"><li>• Development of procedures</li><li>• Information technology upgrades</li><li>• Modifications for interoperability</li></ul>
<b>Supplies and Equipment</b> <ul style="list-style-type: none"><li>• Vaccine storage</li><li>• Vaccine handling equipment</li></ul>	<b>Administrative Tasks or Overhead Vaccine Ordering</b> <ul style="list-style-type: none"><li>• Outreach and scheduling</li><li>• Marketing or promoting services</li><li>• Reporting</li><li>• Costs related to providing vaccinations in non-clinical locations (e.g., mileage, internet access, tents, utilities, and medical waste disposal)</li></ul>

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Jurisdictions that choose to provide resources to providers may also choose the schedule of when to pay providers. Options include one or more of the following:

- When providers order vaccines
- As a lump sum upon approval of grant application (CDPHE, n.d.)

## Step 2: Provide equipment

Jurisdictions can purchase equipment or partner with organizations to provide equipment for providers to help them comply with storage and handling requirements. Equipment such as digital data logger thermometers, vaccine refrigerators, and portable refrigerators/freezers allow providers to capture and track vaccine temperatures and properly store vaccines, reducing the risk of vaccine waste. For example, prior to the COVID-19 pandemic, the [Massachusetts Department of Public Health provided digital data logger thermometers](#) to pediatric providers. The Department of Public Health researched temperature data loggers, tested loggers, and surveyed providers about their preferences before selecting a vendor. After selecting a vendor, pediatric sites pilot tested the loggers before they were rolled out to almost 500 providers. The Maine immunization program also gave pediatric providers digital data logger thermometers (see the Example from the Field box about Maine below).

### **Step 3: Provide hands-on assistance**

Offer hands-on assistance coordinating additional staff, organizing vaccination events, or assisting with data entry. Staffing shortages and data-reporting requirements might hinder providers' ability to provide vaccinations, especially during periods of high vaccine demand. Jurisdictions can help providers by coordinating additional staff or vaccination events and/or assisting with data entry. The Example from the Field box below shares how the Maine immunization program assisted providers with COVID-19 vaccination data entry.

### **Step 4: Provide technical assistance as needed**

In addition to financial assistance, provide guidance on proper vaccine storage, handling, and administration, especially when official guidance is frequently updated. Providers might express confusion or opt out of providing COVID-19 vaccines because of the complexity of changing guidelines, formulations, storage requirements, and the shift from federally provided vaccines to those purchased through the commercial market. Providers might feel they do not have time to understand or keep up with complex guidelines. Jurisdictions can alleviate this burden by synthesizing and disseminating guidance on vaccine storage and handling, schedules, and dosing (see the Example from the Field box about Maine below) and providing training on proper vaccine storage and handling.

## Example from the Field



### **The Maine Immunization Program** Supported Providers During the Pandemic

**Description:** The Maine immunization program used CDC funding that was available during the pandemic to provide equipment, data entry support, and technical assistance to providers during the COVID-19 pandemic.

**Contacts:** See the AIM [Immunization Program Directory](#)

**Goal:** To support providers to meet vaccine storage requirements, enter data into the immunization information system in a timely manner, and understand COVID-19 vaccination recommendations.

**Approach:** During the pandemic, the Maine immunization program helped providers, including pediatric and other VFC providers, meet vaccine storage requirements by giving out digital data logger thermometers. Immunization program staff conducted research to determine digital data logger thermometers that had capabilities to support uploading data via Bluetooth and could work for long-term use. These loggers were shipped directly to providers. Each month, Maine immunization program staff visited providers to check that they were adhering to storage and handling requirements and answered questions about the loggers and requirements. The Maine immunization program also helped providers meet data entry requirements. To do this, Maine immunization program staff assisted several provider organizations for at least three weeks by entering data into the immunization information system. Finally, the Maine immunization program offered technical assistance to providers, which included synthesizing and disseminating changing CDC recommendations.

#### **Lessons learned:**

- Conduct research to determine which digital data logger thermometers have data uploading capabilities.
- Conduct monthly site visits to ensure providers are correctly using digital data logger thermometers.

**Resource:** The program developed [a PowerPoint slide deck](#) on best practices for installing and using digital data logger thermometers.

## Step 5: Determine key considerations for implementation

When jurisdictions are planning to provide operational support to help pediatric health care providers vaccinate children against COVID-19, it is important to consider the: feasibility of the practice to start up, scale, and sustain the practice over time, costs related to implementing the practice in the post-pandemic environment, and environmental factors which include the policy, environment, and funding landscape.

### **Feasibility**

The provider support practice can require substantial upfront resources when funds are being disbursed to providers (start-up) but can have a lasting impact without the need to sustain funding for the practice. For example, the California Department of Public Health, in partnership with Physicians for Healthy California, administered one-time grants of \$10,000 to providers serving pediatric populations who

enrolled in the federal government’s COVID-19 Vaccination Program (see Example from the Field box about California above). Interviewees reported that, after the grant money was disbursed, the county ended the program and providers who participated could continue providing COVID-19 vaccinations at no additional cost to the state. The figure below summarizes the level of resources and complexity required to start up, sustain, and scale the practices, and includes information on how the practice can advance vaccine equity.

	Start up	Scale	Sustain	
<b>Practice 5: Provider support</b>	⊖	⊖	☑	<ul style="list-style-type: none"> <li>• <b>Resources:</b> High level to start up and scale because this is a one-time investment for a jurisdiction; there is no additional burden on jurisdictions or providers to sustain the practice.</li> <li>• <b>Complexity:</b> Can be complex depending on how many providers a jurisdiction is aiming to support and how.</li> <li>• <b>Equity:</b> This practice can advance equity by catering support to providers serving medically underserved communities.</li> </ul>

⊖ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a high level of resources and is complex to implement.

☑ = Qualitative analysis of literature, interview, and focus group data indicate that the practice requires a low level of resources and is not complex to implement.

### Key Partners to Consider When Implementing this Practice

The key to implementing this practice is to identify and engage entities that can help with the planning, promotion, and/or execution of the practice

- Community-based organizations
- [Local departments of health](#)
- Local chapters of professional medical organizations (e.g., [American Academy of Pediatrics](#))

During the public health emergency, resources for this practice may have been linked to one-time emergency federal funds, which may limit or preclude replication of this practice in the future. To feasibly implement this practice in the post-PHE environment, jurisdictions may partner with other organizations, such as community-based organizations, universities, or foundations that can help support the provision of resources or free or reduced cost supplies. Local partners can also provide insight into the focus population’s preferred language and any needs for language translation. Partners may be able to help support the development and dissemination of guidance in the languages and at the reading levels preferred by the target population.

## Costs

The COVID-19 public health emergency greatly affected the cost of implementing practices such as providing operational support to help pediatric health care providers vaccinate children against COVID-19. For example, during the COVID-19 pandemic, the federal government paid for most or all COVID-19 vaccines, jurisdictions experienced high staff turnover and increased labor costs, and some needed to make new investments in vaccine infrastructure to meet urgent need and high demand for vaccines. During the COVID-19 PHE, government funding was available that offered a large number of allowances and flexibilities for spending.

In the post-PHE environment, jurisdictions will have less of this type of government funding and will likely need to find new ways to fund practice implementation. For example, a jurisdiction that implemented a practice during the public health emergency only using government funding might, moving forward, implement the practice with a mix of government funding, philanthropic funding, and in-kind donations.

### Cost categories

Below are categories of costs immunization program managers may consider as they are calculating the cost of the promising practice for their own jurisdiction. This does not include the cost of vaccine, staff time for vaccine administration, and vaccine storage and handling, as we assume providers would absorb these costs.

1. Program administration
2. Grants
3. Developing request for applications (RFA) and managing grants
4. Outreach

The tables that follow provide considerations and factors that affect cost for each category.

### Program administration

Costs may include: salaries for program director/or managers to oversee and report on the program

Considerations	Factors that affect cost
<ul style="list-style-type: none"><li>? <b>How many managers will you need based on the size of your program?</b></li><li>? <b>What is the current demand for qualified staff?</b></li></ul>	<ul style="list-style-type: none"><li>• Hourly rates for staff time will vary by jurisdiction.</li><li>• The Bureau of Labor Statistics estimates the salary of a manager in the United States to be approximately \$62.50/hour, or \$93.75/hour when accounting for fringe benefits (BLS, 2022). Rates may be higher during periods of increased demand.</li></ul>

## Grants

Costs may include: the number of grants, award amount per grant

Considerations	Factors that affect cost
<b>? What funds are available for disbursement?</b>	<ul style="list-style-type: none"><li>• The number of providers that receive awards.</li><li>• The amount of funds awarded per grant.</li></ul>

## Developing request for applications (RFA) and managing grants

Costs may include: developing the RFA, recruiting providers, reviewing applications, and managing the grant after award

Considerations	Factors that affect cost
<b>? What is your jurisdiction's current capacity for developing RFAs?</b>	<ul style="list-style-type: none"><li>• The number of providers that are recruited will vary by jurisdiction.</li></ul>
<b>? What is your jurisdiction's current capacity for reviewing applications and managing grants?</b>	<ul style="list-style-type: none"><li>• Access to pre-existing or boilerplate RFA language that can be adapted for future grants can save costs.</li><li>• Experience of staff in reviewing applications and managing grants.</li></ul>

## Outreach

Costs may include: costs of advertising or promoting the grant opportunity

Considerations	Factors that affect cost
<b>? Does your jurisdiction currently have enough staff to conduct outreach?</b>	<ul style="list-style-type: none"><li>• Cost of advertising the grant opportunity will vary by method and jurisdiction.</li></ul>
<b>? If not, are there partnerships your jurisdiction could leverage to support outreach efforts?</b>	

## How much would it cost to implement this practice in your jurisdiction?

AIM has hypothetical examples available for jurisdictions to use as a starting point to calculate the potential costs to implement this practice. Actual expenses for your immunization program will vary widely based on program specifics and if/how you engage with vaccine purchase and administration. Find the examples and the detailed technical economic analysis in the Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates technical report (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)).

## Environmental factors

Jurisdictions working to reduce operational barriers to support pediatric health care providers in vaccinating children against COVID-19 will need to navigate environmental factors, including policies and funding, which can help or challenge the implementation of the practice. The table below provides examples of factors that organizations may consider in implementing this promising practice.

Policy or environmental factor	Questions for implementers to consider	Example(s) of policy or environmental factor affecting the practice	Action steps
Policies related to federal and state funding to support pediatric health care providers in vaccine administration	<ul style="list-style-type: none"> <li>• What federal and state funding opportunities can we leverage to cover overhead costs or the cost of supplies associated with providing COVID-19 vaccinations to children?</li> <li>• How can we create and promote opportunities for providers to use state or federal funding to support their COVID-19 vaccination efforts for children?</li> </ul>	<ul style="list-style-type: none"> <li>• The Colorado Department of Public Health &amp; Environment funded the <a href="#">COVID-19 Primary Care Vaccination Program</a>, which provided over \$60 million in grant funding to primary care practices that applied to enroll as a COVID-19 vaccination provider to cover expenses related to acquiring, administering, and reporting on COVID-19 vaccines.</li> </ul>	<ul style="list-style-type: none"> <li>○ Engage state lawmakers through education to support pediatric health care providers in vaccine administration (see <a href="#">AIM's Immunization Program Policy Resource Guide</a>).</li> </ul>
Changing COVID-19 vaccination recommendations	<ul style="list-style-type: none"> <li>• How can we develop processes to track and effectively communicate the CDC recommendations on COVID-19 vaccinations for children?</li> <li>• What supports can we provide so providers are not overwhelmed by changing recommendations?</li> </ul>	<ul style="list-style-type: none"> <li>• The Michigan Department of Health and Human Services' education team synthesized federal and state recommendations and shared them with providers.</li> </ul>	<ul style="list-style-type: none"> <li>○ Develop processes to track and efficiently communicate the CDC's recommendations on COVID-19 vaccinations for children.</li> <li>○ Consult <a href="#">this webpage from the CDC on training and education for providers</a>. It contains resources that you can use to support providers in understanding COVID-19 vaccination guidelines.</li> </ul>
Providers' perceptions of their patient populations' demand for COVID-19 vaccines, which can affect their interest and willingness to seek support	<ul style="list-style-type: none"> <li>• What are providers' perceptions of their patient populations' demand for COVID-19 vaccines in our jurisdiction?</li> <li>• How can we support providers in seeing COVID-19 vaccination for children as a priority and in obtaining operational support to administer vaccines?</li> </ul>	<ul style="list-style-type: none"> <li>• The California Department of Health indicated that some providers were not interested in obtaining support to vaccinate children against COVID-19 because of perceived low demand for COVID-19 vaccination for children. Providers believed that families thought the vaccine was unnecessary, ineffective, or unsafe.</li> </ul>	<ul style="list-style-type: none"> <li>○ Consult <a href="#">this webpage from the CDC</a>, which contains resources that providers can share with COVID-19 vaccine recipients who want more information about the vaccines.</li> </ul>



## Other resources to implement this practice

Below are resources for providing operational support to help pediatric health care providers vaccinate children against COVID-19:

### AIM

- **[Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)**: In this toolkit, find more resources, including tip sheets and slide decks, to implement five promising strategies to improve vaccination rates.
- **[COVID-19 Resource Guide](#)**: This guide compiles existing communications messaging and materials that you can use to support immunization program outreach.
- **[Evaluation of Five Promising Practices Used During the COVID-19 Public Health Emergency to Improve Pediatric COVID-19 Immunization Rates Technical Report](#)** (available in the [Promising Practices to Improve Pediatric COVID-19 Immunization Rates Toolkit](#)): This technical report includes detailed information about this study, including feasibility, policy, and costs analyses of each practice.
- **[Immunization Program Policy Toolkit](#)**: This toolkit is designed to equip immunization programs with the tools and information necessary to appropriately and effectively engage with elected officials.

### CDC

- **[Provider Education Resources](#)**: This page contains job aids and toolkits for clinician offices.
- **[VFC Operations Guide](#)**: This guide reflects VFC program policies, processes, and requirements.
- **[VFC Vaccine Price List](#)**: This website provides vaccine contract prices and lists the private sector vaccine prices for general information.

### Other

- **[Centers for Medicare & Medicaid Services Toolkit of Vaccine Coverage and Administration for Medicaid and Children's Health Insurance Program Individuals](#)**: This vaccine toolkit equips states with the tools necessary to meet the needs of people with Medicaid and the Children's Health Insurance Program (CHIP) coverage. The kit helps states understand coverage, cost-sharing, and payment for vaccines, including vaccines administered as part of the Inflation Reduction Act (IRA) under Medicaid, CHIP, and the Basic Health Program (BHP).

# Appendix: Tips for Providing Operational Support to Help Pediatric Health Care Providers Vaccinate Children Against COVID-19



When implementing programs that support providers, jurisdictions can consider different types of support strategies, such as offering operational assistance, equipment, hands-on assistance, or other technical assistance.



## Provide provider support

- Develop relationships with partners who can provide resources to support providers.
- Offer funding to providers to allow them to use the resources to best meet their practices' unique needs.



## Provide equipment

- Purchase equipment or partner with organizations to provide equipment for providers to help them comply with storage and handling requirements.



## Provide hands-on assistance during periods of high vaccine demand

- Coordinate additional staff to assist providers.
- Organize vaccination events to help providers meet high demand in their communities.
- Provide staff to assist with data entry.

During the COVID-19 public health emergency (PHE), government funding was available that offered a large number of allowances and flexibilities for spending. In the post-PHE environment, jurisdictions will have less of this type of government funding and will likely need to find new ways to fund practice implementation. For example, a jurisdiction that implemented a practice during the public health emergency only using government funding might, moving forward, implement the practice with a mix of government funding, philanthropic funding, and in-kind donations.



### **Provide technical assistance as needed**

- Synthesize and disseminate guidance to keep providers up to date on vaccine storage and handling requirements and formulations, especially when official guidance is frequently updated.
- Train providers, especially those who are new to vaccinating or vaccinating children, on proper storage, handling, administration, and workflows.



### **Consider the cost and feasibility to start up, scale, and sustain the practice**

- Understand expenses will vary widely based on jurisdiction specifics and use of existing staff, infrastructure, funding support, and partnerships.
- Mitigate costs by forming partnerships with organizations, such as community-based organizations, foundations, and universities, to help support the provision of resources or free or reduced cost supplies.

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