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

An Implementation Guide

AIM
Association of Immunization Managers

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 (Alfieri 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 guide is one in a series of five guides and tip sheets about promising practices to improve children's uptake of COVID-19 vaccines. 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 in these guides 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 these guides 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 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 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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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/.

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.

Overview of the promising practice	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.
Implementing organizations	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.

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

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.

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.

Lessons learned:

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

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.

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?

Why might my jurisdiction implement this promising practice?	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.

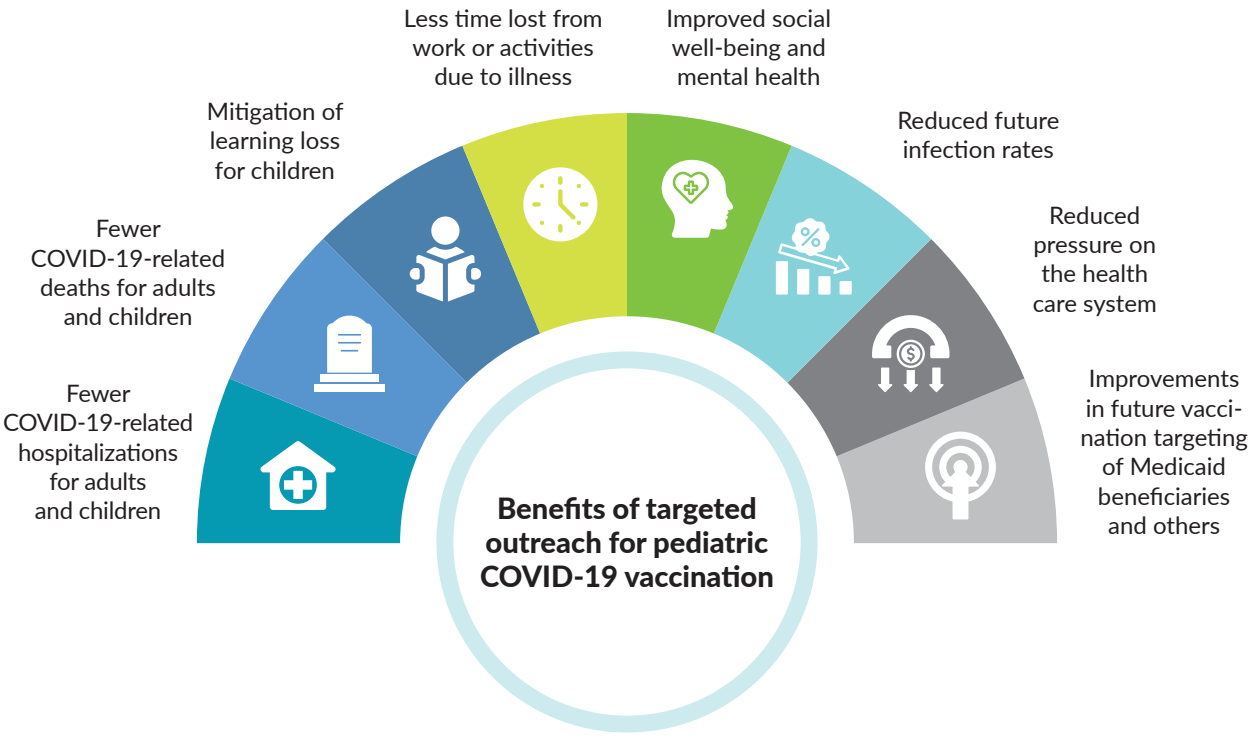
Identify disparities. Analyzing the new dataset and breaking down vaccination status by subgroups can help identify disparities in vaccine access for Medicaid beneficiaries.

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?

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

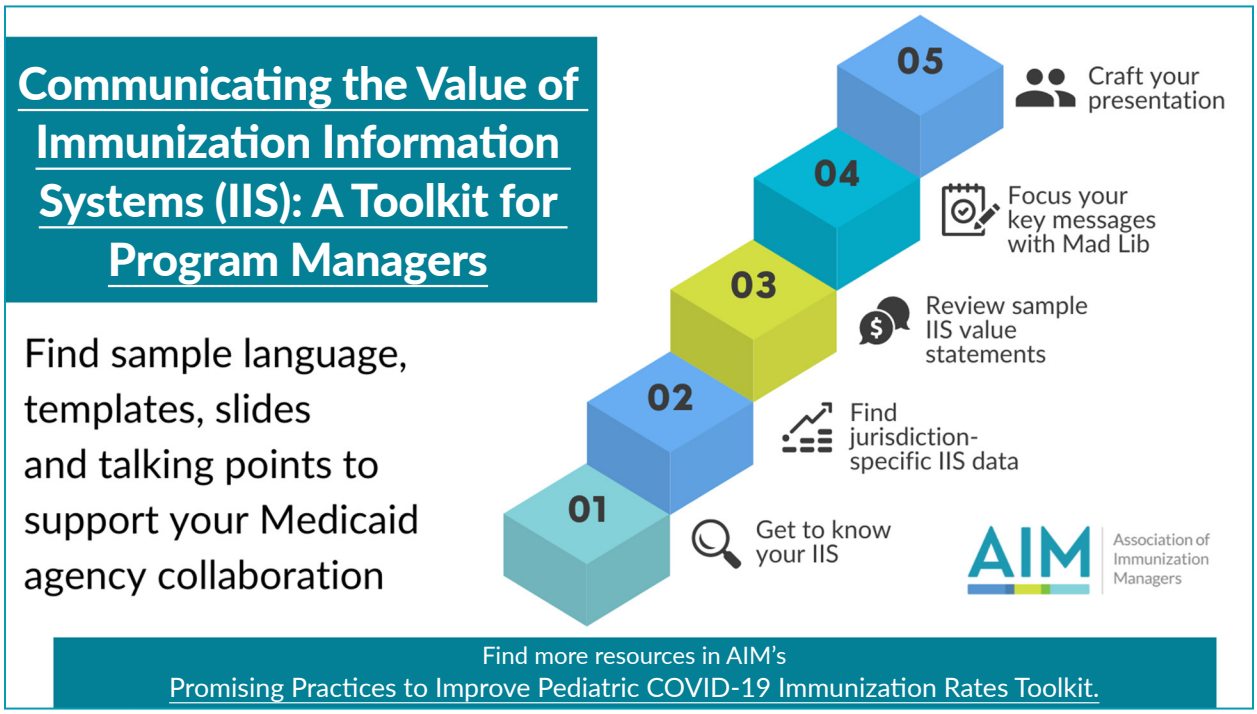
Step 1: Partner with your state Medicaid agency

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	
Practice 1: Targeted outreach	⊖	☑	☑	• **Resources:** 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. • **Complexity:** 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. • **Equity:** This practice can advance equity by focusing outreach on specific medically underserved communities, such as unvaccinated Medicaid beneficiaries in particular zip code areas.

⊖ = 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
? How many staff will you need based on the size of your program? **? How much time will it take to set-up and maintain data sharing?**	• 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. • Program administration may involve collaborating with other public health department staff leadership, establishing critical partnerships, identifying disproportionally impacted communities, and strategically selecting sites (CDC, 2023).

Infrastructure

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

Considerations	Factors that affect cost
? How mature or established are your jurisdiction's IIS and data sharing capabilities?	• 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). • The up-front cost to enhance IIS is a one-time cost. • IIS system costs may range from $5.40 to $60.82 per record (Patel et al., 2015).

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
? What is your jurisdiction's current system capacity? **? What level of changes are required to link databases, develop lists of unvaccinated beneficiaries, and conduct outreach?** **? What is the current demand on qualified staff and will more staff or contractors be needed to enhance and prepare IIS?**	• 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). • Costs associated with upgrading state Medicaid systems for bidirectional communication and vice versa with the IIS may affect the cost of software development. • IIS system costs may range from $5.40 to $60.82 per record (Patel et al., 2015). • Hourly rates for IT staff time and contractors will vary by jurisdiction.

Legal review

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

Considerations	Factors that affect cost
? Does your jurisdiction already have established data use agreements?	• The development of data use agreements may affect the cost of legal review. • The approximate rate for legal review is $175/hour when accounting for fringe benefits.

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	• Are there any organizations or groups in our jurisdiction that would stop or support this practice? • Are there any organizations or communities of practice that my jurisdiction can join to receive support to implement this practice?	• A community of practice convened by the National Academy for State Health Policy and AcademyHealth 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.	◯ Consider joining organizations or communities of practice that can connect you to resources on best practices for implementing Medicaid outreach.
Policies authorizing state and federal funding to support vaccination data sharing	• Are there any federal funding opportunities that my jurisdiction can leverage to support vaccination data sharing? • Are there any federal funding opportunities that my jurisdiction can leverage to connect providers to the jurisdiction's IIS?	• Colorado uses a mix of state general funding and Centers for Disease Control and Prevention grant funding from its Immunization and Vaccines for Children cooperative agreement to support data sharing between the Colorado IIS and the Department of Health Care Policy, the state's Medicaid agency. • Colorado also used federal 90/10 Health Information Technology (HITech)* funding to connect providers to Colorado IIS through the state's health information exchange, CORHIO. *Although HITech funding may no longer be available, opportunities may exist through CMS	◯ Check with federal* and state agencies to identify funding opportunities for data sharing. *Although HITech funding may no longer be available, opportunities may exist through CMS

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	• How can we leverage Medicaid managed care contracts to support targeted outreach efforts in our jurisdiction?	• Some states' managed care organizations were contractually required to reach out to Medicaid enrollees about COVID-19 vaccination.	◯ Check with your jurisdiction's Medicaid agency to understand managed care organization requirements.
Policies on providers reporting vaccinations to the IIS	• 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?	• California, Maryland, and Virginia require certain entities to report all vaccinations to the IIS. • Illinois and Colorado do not require entities to report vaccinations to the IIS. • Arizona and Michigan require entities to report child immunizations to the state IIS.	◯ Ensure staff understand policies related to provider reporting requirements.
Consent policies/laws for reporting vaccinations to the IIS	• Is consent (explicit or otherwise) required from the individual or the parent/guardian of a minor prior to reporting vaccination data to the IIS?	• Illinois and Michigan use implicit consent with the ability for parents/guardians to opt out of having their child's information in the IIS. • New Hampshire and Ohio require entities to obtain explicit consent from parents/guardians before reporting vaccination information to the IIS.	◯ Consult this SchoolHouse Connection webpage on state laws on minor consent to understand minor consent in your state. ◯ Engage lawmakers through education on informed and minor consent laws (see AIM's Immunization Program Policy Resource Guide).
Policies on COVID-19 vaccination data sharing	• 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?	• California and Rhode Island allow Medicaid plans or agencies access to COVID-19 data to track enrollee vaccinations. • Rhode Island gives commercial insurers and Medicaid plans access to its COVID-19 IIS.	◯ Check with your jurisdiction's Medicaid agency to understand COVID-19 vaccination data sharing policies.

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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