IQIP

IMMUNIZATION QUALITY IMPROVEMENT FOR PROVIDERS

Manual and Resources
Providers 2023

Binder Section Table of Content

Introduction

Section 1
Texas IQIP Program – Operations Manual for Providers

Section 2
IQIP at a Glance for Providers

Section 3
IQIP Strategies for Providers

Section 4
Immunization Champion

Section 5
ImmTrac2 Data Quality Guide

Section 6
ImmTrac2 Guide to the Reminder-Recall Report

Section 7
ImmTrac2 TIPS Guide

Section 8
ImmTrac2 Guide to the Ad Hoc List Report

Section 9
ImmTrac2 Manage Client Status Criteria Guide

Section 10
Resources for Providers (Handouts)

  a. General vaccine resources
  b. Schedule the next vaccination visit before the patient leaves the provider site
  c. Leverage IIS functionality to improve immunization practice
  d. Give a strong vaccine recommendation (include HPV vaccine if the provider has adolescent patients)
  e. Strengthen vaccination communications
  f. Handouts for patients

TEXAS
Health and Human
Services

**Texas Department of State
Health Services**

Texas Immunization Quality Improvement for Providers (IQIP) Resource Binder for Providers

Introduction

The Texas Department of State Health Services (DSHS) Immunization Unit prepared the Immunization Quality Improvement for Providers (IQIP) Resource Binder for use by providers enrolled in the Texas Vaccines for Children (TVFC). This document serves as a companion document to further explain the required activities included in the "Program Evaluation" chapter of the Texas Vaccines for Children and Adult Safety Net (TVFC/ASN) Provider manual.

The purpose of this binder is to consolidate IQIP resources and information into one source document for providers. The content is intended for clinics or eligible facilities to improve immunization processes and ultimately increase vaccine coverage rates. The resources included in this binder inform providers about the IQIP process and expand upon the technical assistance given during the initial site visit. They are not comprehensive of all the resources a provider might use to implement the selected IQIP strategies, but a great toolkit to guide activities, inform process changes, and communicate the importance of vaccination to patients.

Consultations on the policies in this binder are conducted routinely with the Centers for Disease Control and Prevention (CDC), DSHS, and other organizations. Throughout the year, the DSHS Immunization Section will distribute new resources. During the annual update of this binder, all previous resources from the prior year will be incorporated.

Immunization Quality Improvement for Providers (IQIP) Program

Operations Manual for Providers

Version 2.0
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Contents

Introduction

The Texas Department of State Health Services (DSHS) Immunization Unit prepared the Immunization Quality Improvement for Providers (IQIP) Operations Manual for use by Texas Vaccines for Children (TVFC) providers and associated partners. Consultations on the policies in this manual are conducted routinely with the Centers for Disease Control and Prevention (CDC), DSHS, and other organizations.

The purpose of this manual is to consolidate IQIP policies and information into one source document for TVFC providers. Content includes information on the IQIP process, technical assistance guidance, and DSHS specific policy guidance.

Throughout the year, the DSHS Immunization Section will distribute new policies to TVFC providers. During the annual update of this manual, all previous policies from the prior year will be incorporated. This document serves as a companion document to further explain the required activities included in the "Program Evaluation" chapter of the Texas Vaccines for Children and Adult Safety Net (TVFC/ASN) Programs Operations Provider Manual.

Immunization Quality Improvement for Providers (IQIP) Background and Overview

Background

The Federal VFC program was created by the Omnibus Budget Reconciliation Act of 1993. The program was officially implemented in October 1994. VFC funds were awarded to state/local jurisdictions to conduct quality assurance reviews (QARs or VFC visits), which were formal site visits to assess VFC-enrolled providers' compliance with the requirements of the VFC program, beginning in 1995. In the same year, the Senate instructed the CDC to "ensure that all states receiving Section 317 immunization funds, conduct

annual provider assessments in all public clinics using the CDC-approved methodology, ”1 which later evolved into a program known as "Assessment, Feedback, Incentives, and eXchange" (AFIX). The assessment visits were implemented in public-sector clinics to improve immunization practices and vaccination coverage.

In 1999, the National Vaccine Advisory Committee (NVAC) recommended that all immunization providers, both public and private, should have their vaccination coverage assessed annually and that private providers should be assisted in this effort by state and local health departments. This recommendation provided support to expand implementation of AFIX to private provider settings. In 2000, the Task Force on Community Preventive Services completed a review of immunization-focused quality improvement (QI) literature and "strongly recommended" assessment and feedback (key components of the AFIX process) in the Guide to Community Preventive Services (Community Guide). The separate VFC and AFIX initiatives were combined in 2000 to allow the programs to achieve a broader reach among both public and private providers. That year, supplemental funds were awarded to 37 awardees to support a combined VFC-AFIX initiative. A 2011 update of the task force's review concluded that assessment and feedback remained effective interventions for improving vaccination coverage.

Recommendations from the CDC scientific and programmatic staff in 2017–2018, resulting from operational research and an internal evaluation of the AFIX program, focused on the need to refine the CDC's approach to provider-level immunization QI efforts. Recommendations also focused on the need to scale such efforts to function within the boundaries of constraints faced by the CDC and awardee immunization programs as well as the current health care environment. Those recommendations resulted in the transition from AFIX to IQIP.

IQIP Program

IQIP is an immunization quality improvement program for health-care providers enrolled in the TVFC Program. The purpose of IQIP is to promote and support the implementation of provider-level quality improvement

strategies. IQIP strategies are designed to support health-care providers in identifying opportunities to increase vaccine uptake in adherence with the Advisory Committee on Immunization Practices (ACIP)-recommended routine immunization schedule by improving immunization service delivery and ensuring that providers are:

- Aware of and knowledgeable about their vaccine coverage and missed opportunities to vaccinate.

- Motivated to try new immunization service delivery strategies and incorporate changes into their current practices.

- Capable of sustaining changes and improvements to their vaccination delivery services.

- Able to use available data from the Immunization Information System (IIS) and/or Electronic Health Record (EHR) to improve services and coverage.

The core quality improvement strategies of the IQIP Program will support Texas Vaccine for Children (TVFC) providers by focusing on:

- Immunization appointment scheduling practices.

- Leveraging the reporting functionality of the statewide immunization registry, ImmTrac2.

- Giving a strong vaccine recommendation (including emphasis on HPV vaccine for providers with adolescent patients).

- Strengthening vaccination communications.

Using the IQIP process, TVFC-enrolled providers will be assessed on immunization delivery practices and will collaborate with their REs to identify strategies that will enhance their immunizations workflow to improve vaccine uptake. Vaccination coverage is measured at or near the time of an initial contact (site visit) to establish baseline performance and again one year later to evaluate progress. Technical assistance and support are given via telephone calls at two- and six-month intervals to aid providers in staying on course with their strategy implementation plans (SIPs). At the end of 12 months, a final discussion of SIP progress and sustainability of practice changes occurs.
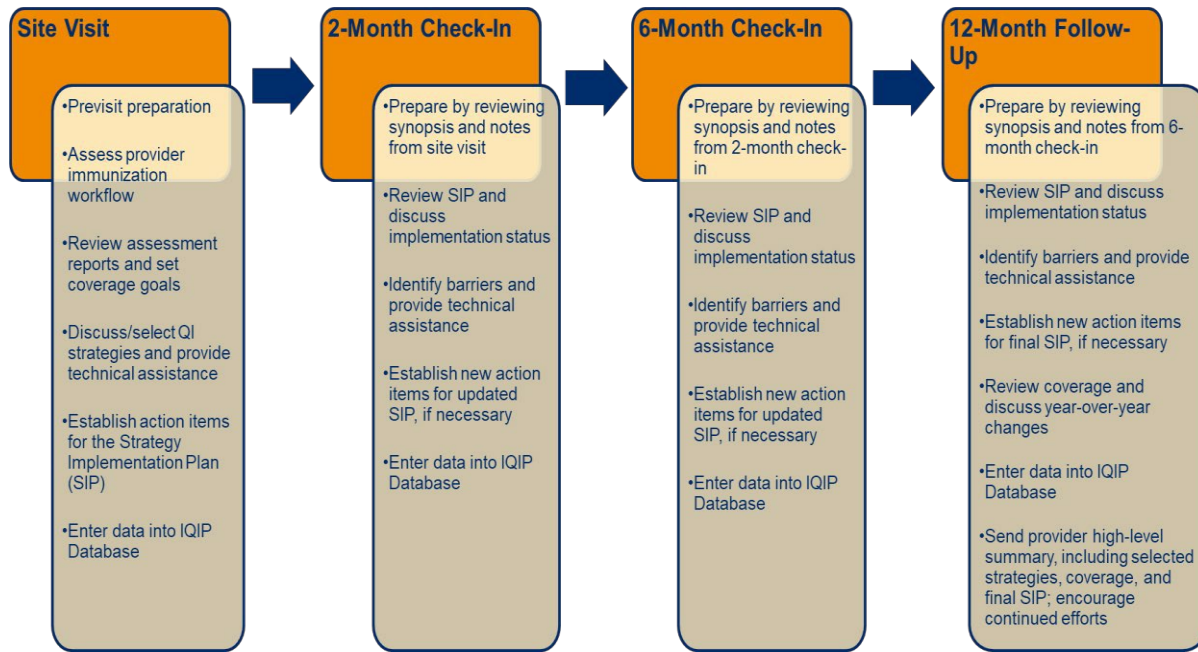
Figure 1-1: IQIP Process

Texas Vaccines for Children (TVFC) Program

The TVFC Program provides low-cost vaccines to eligible children from birth through 18 years of age. The mission of this program is to remove barriers to immunizations by allowing private providers to immunize eligible patients in their communities at little to no cost to the parent. Today there are more than 3,000 Texas providers enrolled in TVFC. The TVFC Program enables over 4.3 million Texas children to have access to immunizations. This is accomplished through a network of support provided by DSHS and with assistance from PHRs and contracted LHDs. These organizations function as Responsible Entities (REs) to ensure compliance with state and federal requirements in their jurisdiction.

ImmTrac2

Texas uses ImmTrac2 as the statewide immunization registry, which IQIP leverages to assess vaccine coverage data. DSHS offers ImmTrac2 at no cost to all Texans. The registry is secure and confidential, and safely consolidates and stores immunization records from multiple sources in one centralized

system. Texas law requires written consent by individuals to participate in the registry. Written or electronic consent for ImmTrac2, is required for an individual who is 17 years of age or younger and must be obtained once for participation. A written consent of the individual's parent or guardian must be submitted to DSHS. After written consent is submitted, the individual's immunization information will be included in the registry until the individual is 26 years of age. If written consent is not collected during the immunization visit, the individual's immunization administration will not be accounted for when vaccination coverage rates are assessed.

Access to the registry records is for those who have authorization. Authorized organizations include health-care providers, schools, and public health departments. The registry is part of the initiative to increase vaccine coverage across Texas. More information can be found at the ImmTrac2 website at **https://immtrac.dshs.texas.gov/TXPRD/portalHeader.do**.

ImmTrac2 Registry Education

All TVFC Providers receiving a site visit will receive IQIP and ImmTrac2 education resources. These education materials have been developed to provide guidance on how to improve reporting of vaccination administrations into ImmTrac2, and best practices to increase childhood and adolescent vaccination coverage rates at the provider site.

ImmTrac2 Resource Packet

All TVFC Providers will receive an ImmTrac2 resource packet and hands-on training during their scheduled IQIP visit. The packet will include the following guidance documents:

- ImmTrac2 Data Quality Guide

- ImmTrac2 Texas Immunization Provider Summary (TIPS) Report Guide

- Guide to Reminder/Recall Report

- Creating a List of Active Clients with the Ad Hoc List Report

- ImmTrac2 Brochures

ImmTrac2 Data Quality Guide

The ImmTrac2 Texas Immunization Summary (TIPS) Report Guide is a report that includes the provider's registered organization information listed in ImmTrac2, an overall summary of user activity, online activity, and data exchange activity for the previous month. This data will assist the provider in identifying how many records are being reported to ImmTrac2, accepted, and rejected monthly. Please reference the document at **www.dshs.texas.gov/immunize/immtrac/forms.shtm**.

Guide to Reminder Recall Report

The Guide to Reminder Recall Report can be generated in ImmTrac2 to help the provider increase immunization levels in their practice. This report gives step-by-step guidance on how to create lists of patients who are due or overdue for immunizations. The reminder recall system can also create and print mailing labels.

Creating a List of Active Clients with the Ad Hoc List Report

All patients assigned to the provider's organization in ImmTrac2 are included in the initial assessment of the coverage assessment rates. An Ad Hoc List Report in ImmTrac2 allows for providers to review patients and determine which ones are considered active. For the patients no longer seen at the provider site, providers can de-activate patients in ImmTrac2. This guidance document assists providers with defining filters for specific clients and choosing a sort order for the report to show inactive or MOGE (moved or gone elsewhere).

ImmTrac2 Technical Assistance

ImmTrac2 Customer Service Team

The ImmTrac2 Customer Service team will work with providers to reset passwords and provide guidance on how to generate the TIPS Report, Patient Active/Inactive List, and Reminder Recall reports in ImmTrac2. For further assistance, please contact the ImmTrac2 Customer Service Team at 800-348-9158, option 1, or email at ImmTrac2@dshs.texas.gov.

ImmTrac2 Inter-Operability Team

The ImmTrac2 Inter-Operability Team works with providers to ensure accurate exchange of medical records into the state registry. They serve as direct support to the provider, and will work diligently to assist in identifying, addressing, and resolving technical issues in collaboration with the provider and EHR vendor. Over 12 months, a representative from this team will work closely with the provider to resolve reporting issues. Contact information for the ImmTrac2 Inter-Operability Team is 800-348-9158, option 3, or email at ImmTracMU@dshs.texas.gov.

Site visits

Provider selection

The TVFC Program is required to initiate IQIP site visits on 25% of the CDC-defined IQIP candidate TVFC-enrolled providers annually. The exact number is determined by the CDC using the TVFC provider data in Provider Education, Assessment, and Reporting System (PEAR). In addition, the TVFC program continues other IQIP activities with providers already engaged in the process.

Providers are selected based on the following criteria:

- TVFC Provider Evaluation and Assessment Reporting System (PEAR) Compliance due date,
- Patient population as assessed in ImmTrac2, and
- Vaccination coverage rates, which are prioritized into high and low categories.

Overview

By signing the TVFC Program Agreement, the signing clinician agrees to allow DSHS or DSHS quality assurance (QA) contractors to conduct site visits at least every other year at their site.

The IQIP Site Visit involves a goal setting discussion with the TVFC Provider and the site reviewer. IQIP requires the presence of at least one of the provider's TVFC points of contact: Primary Vaccine Coordinator, Backup Vaccine Coordinator, or Signing Clinician (PVC, BVC, and/or SC) and any

individuals who has the ability to make process changes at the providers location. A core component of this visit is to focus on assessing provider-level vaccination coverage rates using the data reported to ImmTrac2. During the IQIP site visit, staff at the facility will receive a SIP that will include quality improvement strategies, ImmTrac2 resources, and instructions on action items to be implemented at the facility. Check-in activities will occur by phone or virtual meetings at 2-months, 6- months, and 12- months by the Texas DSHS QAI team. At 12-months, the provider's coverage assessment rates will be re-evaluated, and the data will be documented in the IQIP Database. Once this portion of the site visit is completed, the site reviewer will transition into the TVFC Compliance portion.

Preparing for the IQIP Site Visit

In preparation, the provider should provide adequate workspace for the consultant to meet with at least one TVFC coordinator. It is recommended a prescribing physician and the designated IIS contact person be present to be informed of recommended improvements identified during the IQIP visit. WiFi should also be made available for the consultant to document site visit activities. Lastly, providers should have ready access to their Secure File Transfer Protocol (SFTP) portal at the time of visit to assist in timely data pulls for the consultant.

Providers will receive a scheduling call and a site visit confirmation letter in advance of the visit which includes details about the site visit date, time, and how long the visit will approximately take.

The following documents will be made available to the consultants by DSHS TVFC Program monthly to share with the provider during the visit:

- Childhood and adolescent vaccination coverage rates

- Texas Immunization Provider Summary (TIPS) Report

Assessing Provider Immunization Workflow

The IQIP Site Visit will begin with a discussion about the provider's immunization workflow. The conversation should involve the provider describing each step of their immunization workflow from the moment the patient enters the clinic through the administration of the vaccines,

documentation on the patient's medical record, and scheduling of the next immunization visit.
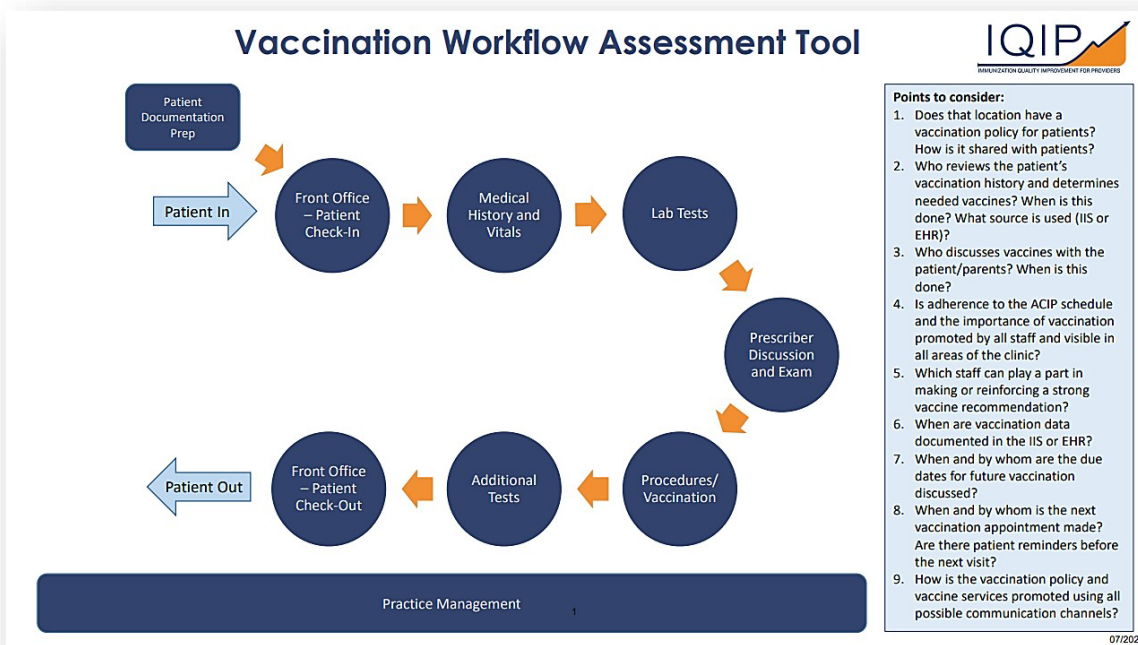
Consultants will discuss steps taken at the provider site to prepare for a patient immunization visit and will assess immunization service delivery through the completion of a patient visit. A SIP will be developed in collaboration between the provider point of contact, and the consultant that will outline the quality improvement strategies selected, supporting action-items, and check-in activities.

Childhood and adolescent vaccination coverage rates will be presented by the consultant at the initial IQIP visit and 12-month check-in, and coverage goals will be agreed upon for the provider's SIP. Vaccination coverage rates are discussed in more detail in the *Vaccine Coverage Rate Reports* section on page 11.

IQIP Immunization Champion

During the IQIP site visit, an Immunization Champion is highly encouraged to be identified to participate in the initial IQIP site visit, and to take the lead on immunization activities within their clinics. This individual will be responsible for developing and improving clinic policies, implementing the strategies selected in the SIP, training and educating staff, and staying up to date on

vaccine recommendations. During the visit, the IQIP Consultant should reference the Immunization Champion resource document to lead discussions during this portion of the visit. Once the Immunization Champion is identified, the contact information for this person should be collected and documented in the IQIP Database.

Initial IQIP Site Visit Process

During the site visit, consultants will guide providers to:

I. Initiate the site visit with introductions, purpose of the visit, and overview of the IQIP process.

II. Review vaccination coverage rates and vaccination policies for patients.

III. Discuss of the role of immunization champion.

IV. Review and assess provider vaccination workflow in relation to the IQIP strategies.

V. Review assessment reports to identify opportunities for improvement. VI. Discuss and select IQIP strategies.

    a. Schedule the next immunization visit before the patient leaves the office

    b. Leverage IIS Functionality to support immunization practice

    c. Give a strong vaccine recommendation

    d. Strengthen vaccine communications

VII. Develop action items, which will combine to form the Strategy Implementation Plan.

VIII. Wrap up by discussing next steps and establishing tentative dates for the 2- and 6-month check-ins and 12-month check-ins.

Check-in Activities

The provider's 2-month, 6-month, and 12-month check-in dates will be scheduled at the initial site visit. The check-in activity will be conducted by IQIP consultants via phone. Consultants will check- in with the provider to see how well their SIP is working and provide additional technical assistance to aid in provider progress. At 12 months, another check-in call will be conducted by consultants to reassess the provider's childhood and adolescent vaccination

coverage assessment rates. After the 12-month check- in is completed, the provider's IQIP cycle will be finished for the year.

Additional technical assistance between check-ins is available to providers through their regular RE.

During the 2-, 6-, and 12-month check-ins, consultants will:

I. Contact each provider by phone no later than 10 days from the tentative check-in date outlined during the site visit.

II. Discuss the Texas Immunization Provider Summary (TIPS) Report with the provider.

III. Review the implementation plan with the selected strategies and document the progress as communicated by the provider.

IV. Provide further technical assistance and action items for the next check-in. Review information thoroughly with the provider to ensure a clear understanding of guidance documents.

V. Notify provider of next check-in activity date.

VI. If this is the provider's 12-month check-in, consultants will:

a. Insert and discuss the most recent vaccination coverage rates as provided by DSHS.

b. Discuss any improvements and inform provider of the outcome of the SIP.

c. Send an electronic copy of the IQIP Synopsis Report to the provider contact person.

Vaccination Coverage Rate Reports

IQIP coverage assessment rates help providers monitor, evaluate, and select strategies to improve provider performance in vaccinating pediatric patients on time and in adherence to the ACIP-recommended routine schedule.

Vaccination coverage rates will be evaluated based on the vaccine administrations reported to ImmTrac2 for the provider's active patients.

Active patients are those that the provider has a responsibility for vaccinating. Interpretation of coverage rates may be complicated by including inactive patients for whom the provider no longer holds the responsibility for vaccination.

Texas Department of State Health Services (DSHS) Texas Health and Safety Code 161.007 – 161.009 requires all medical providers to report all immunizations administered to clients who are younger than the age of 18 to ImmTrac2 within 30 days.

During the initial site visit, providers are given ImmTrac2 resources that address creating a list of active/inactive patient lists. It is imperative staff at the provider office learn how to properly maintain their ImmTrac2 data.

IQIP is designed to evaluate on-time vaccination and assess childhood patient vaccination coverage at two years of age, and adolescent patients at 13 years of age. Provider vaccination coverage rates are determined based on all the immunization records reported into ImmTrac2. To ensure providers are in accordance with Texas Health and Safety Code 161.007 – 161.009, the vaccination coverage rates will communicate two messages:

(1) how well the provider's EHR is at reporting vaccine administrations into the statewide registry, and

(2) how successful the provider is at vaccinating their patient population on-time according to the ACIP vaccination schedule.

Cohort	Age	Vaccine Series
Childhood	24 months	4:3:1:3:3:1:4 4 DTaP 3 Polio 1 MMR UTD Hib 3 Hepatitis B 1 Varicella UTD PCV
Adolescent	13 years of age	1 Tdap 1 MCV UTD HPV 1 HPV

*UTD = Up-to-date

Please Note: There may be some discrepancies regarding the initial rates pulled due to issues with EHR systems reporting vaccine administrations to ImmTrac2. Action-items outlined to support the *Leveraging the IIS functionality* strategy will help resolve these issues within a 12-month timeframe.

Vaccination Coverage Goals

Based on the provider's current vaccination coverage rates for the previous 12 months, the consultant will suggest coverage goals to meet by the end of the IQIP cycle. If the default coverage goals are not agreed upon, they can be modified as needed.

In the tables below, IQIP database logic is displayed for childhood and adolescent age group coverage goals.

Table: Logic for suggested 12-month childhood coverage goals	
Initial Coverage	**Suggested 12-month Coverage Goal**
0% to less than 80%	Increase by 10 percentage points
80% to less than 85%	Increase to 90%
85% to less than 90%	Increase by 5 percentage points
90% to less than 95%	Increase to 95%
95% and greater	Maintain initial percentage

Table: Logic for suggested 12-month adolescent coverage goals	
Initial Coverage	**Suggested 12-month Coverage Goal**
0% to less than 70%	Increase by 10 percentage points
70% to less than 75%	Increase to 80%

75% to less than 90%	Increase by 5 percentage points
90% to less than 95%	Increase to 95%
95% and greater	Maintain initial percentage

IQIP Website

Additional information about IQIP can be found on the DSHS Immunization Unit website. The webpage can be accessed at https://www.dshs.texas.gov/immunize/Responsible-Entities/QualityAssurance-for-TVFC-Providers/ .

IQIP Functional Inbox

Email all questions or inquiries to the IQIP functional inbox at **IQIP@DSHS.TEXAS.GOV**.

Please Note: *The Texas IQIP Resource Binder for Providers will continue to undergo changes as we assess and adjust program implementation. Updates will be announced, and policy documents will be revised and edited as needed.*

20

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Texas Immunization Registry

The Role of the Immunization Champion

IOI
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What does an immunization champion do?
- Immunization champions take the lead on immunization promotion activities in their clinics.
- By demonstrating leadership, collaboration, and advocacy, they ensure that the children in their care receive all the recommended vaccines on time.

Why be an immunization champion?
- Children rely on the champions in their lives to keep them safe and healthy.

Who can be an immunization champion?
- These champions may be physicians, nurses, or other health care professionals.

Here are ways you can be an immunization champion in your clinic

Facility Processes
- Develop and guide the implementation of procedures that support on time vaccination of every child seen.
- Routinely assess procedures to ensure vaccination workflow continues to support the practice's vaccination policy and on time vaccination.
- Conduct workshops in which clinic staff discuss barriers to vaccinating patients on time and ways to improve.

Training and Education
- Display Advisory Committee on Immunization Practices (ACIP) recommendations throughout the clinic.
- Train staff quarterly on ACIP recommendations, minimum ages and intervals, and contraindications.
- Ensure all office staff can accurately answer parent and/or patient vaccine related questions or refer them to the appropriate resource.
- Work with staff to make sure they are comfortable addressing common parent and/or patient concerns or hesitancy about vaccines.
- Observe staff during vaccination visits and provide feedback.

Immunization Documentation
- Routinely check to ensure the clinic is reporting vaccinations and immunization status to the immunization information system (IIS) in a timely manner.
- Perform spot checks for completeness and accuracy of clinic immunization records.
- Regularly check patients' active/inactive status in the IIS and update if necessary.

Communications
- Stay up to date on vaccine recommendations and immunization quality improvement.
- Develop and propose social media posts. Research vaccine content to add to website.
- Make sure all vaccination promotion materials reflect current recommendations.
- Stay up to date on facility or provider level vaccination coverage. Share and

discuss results routinely
- with staff, working together to evaluate progress and identify performance gaps.
- Update clinic staff on status of key immunization performance measures (e.g., missed opportunities, staff knowledge of vaccine recommendations , IIS data quality, etc.).

At-A-Glance for Providers

IMMUNIZATION QUALITY IMPROVEMENT FOR PROVIDERS

IQIP is CDC's national, Vaccines for Children (VFC) provider-level immunization quality improvement (QI) program.

IQIP promotes and supports implementation of provider-level strategies designed to increase on-time vaccination of children and adolescents.

IQIP strategies

- Schedule the next vaccination visit before the patient leaves the provider site
- Leverage IIS functionality to improve immunization practice
- Give a strong vaccine recommendation (emphasize HPV vaccine if provider has adolescent patients)
- Strengthen vaccination communications
- Custom strategy based on state or local public health priorities

IQIP Process

IQIP is a 12-month process where public health representatives and VFC providers collaborate to identify QI strategies to increase vaccine uptake by improving and enhancing vaccination workflow.

Site visit

- Observe provider workflow
- Review initial coverage
- Select QI strategies
- Provide technical assistance
- Choose action items for Strategy Implementation Plan

2-month and 6-month check-ins

- Review progress toward strategy implementation
- Provide technical assistance
- Update Strategy Implementation Plan

12-month follow-up

- Review progress toward strategy implementation
- Provide technical assistance
- Review year-over-year coverage change

Description of IQIP Core Strategies for Providers

Immunization Quality Improvement for Providers (IQIP) promotes and supports implementation of provider level strategies designed to help increase on time vaccination of children and adolescents. The IQIP core strategies call for quality improvement activities that focus on improvements to the vaccination workflow.

IQIP supports both implementation *and* improvement of these core strategies. If your practice is already using one of these strategies, IQIP may give you the opportunity to further advance your efforts within that strategy and develop new action items to improve your vaccination workflow.

Schedule the Next Vacc nation Visit before the Patient Leaves the Provider Site

On time vaccinations depend upon providers communicating to patients and parents the importance of returning for subsequent doses in adherence to the ACIP schedule. Scheduling the next visit before the patient leaves the office can help with this effort. This IQIP strategy will allow providers to address gaps in coverage that may exist because of missed opportunities or scheduling oversights.

Providers have several opportunities during a patient visit to address this strategy. Some examples are:

- In the exam room: How do the provider staff talk to parents/patients about the timing of the next dose and the importance of receiving vaccines on schedule?
- The site's current scheduling process: Can scheduling the follow up visit take place in the exam room or before the vaccine is administered?
- Software capacity: What are the capabilities of your scheduling software? Are there limitations or opportunities that the software may be able to address?
- Patient check out: Are check out staff trained to understand minimum intervals for vaccine efficacy and how to reaffirm the importance of staying on schedule for subsequent doses?

Leverage the mmunization nformation System (S) to mprove mmunization Practice

Providers and patients both benefit from a well maintained immunization information system (IIS). The IIS can provide consolidated vaccination records, forecast upcoming due dates to assist with scheduling, and send reminders for upcoming appointments. The IIS also helps providers to manage vaccine inventory and to self monitor vaccination coverage to identify areas for improvement.

Some questions to consider include:

- Are you able to run reports regularly? Are coverage assessments a component of staff meetings and included in decision making about changes at the clinic?
- How are data entered, and who monitors data quality?
- If you consider your EHR records to be more timely, complete, or accurate than the IIS records, why is that? What can be done to align the data in both platforms?
- Are you using all available IIS functions that can boost your vaccination workflow?

07/2021

Data Quality Guide –
Common Issues of Inaccurate Report Data

1.Logging in with the Wrong Org Code

Users who are associated to multiple organizations could potentially log into ImmTrac2 with the wrong Org Code. This could add immunizations to an organization that did not administer the vaccine.

1A. How Do I Know If I Am Associated to Multiple Organizations?

After successfully logging into ImmTrac2 you will see the Manage Access screen. A user may be associated to multiple organizations. See *Figure 1 – User in Multiple Organizations* in which a user is associated to four different organizations.
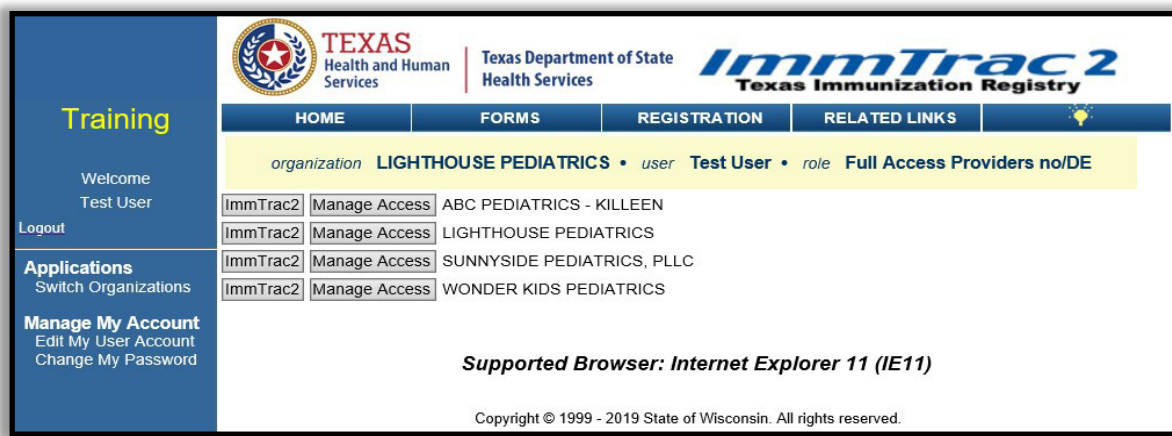
Figure 1 - User in Multiple Organizations

1B. How Do I Know If I Am Logged into the Correct Organization?

The yellow banner at the top of the screen (see *Figure 2 - Logged into Correct Organization)* displays the organization name that you are currently logged in under, the name of the user, and the user's role.
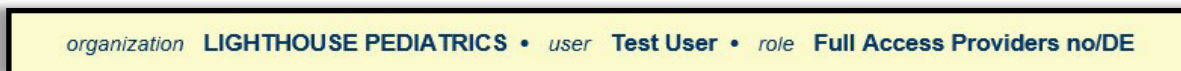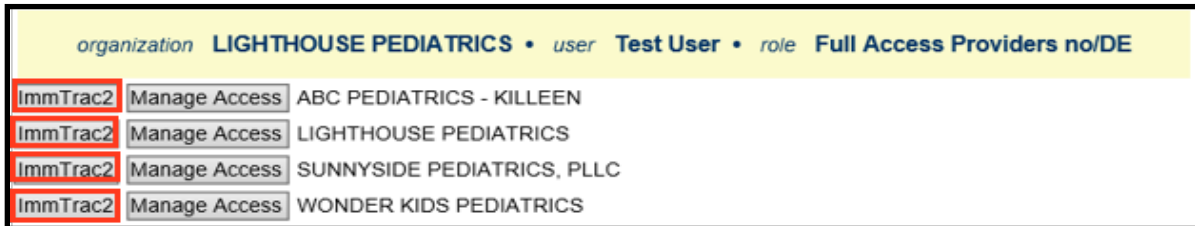
Figure 2 - Logged into Correct Organization

1C. How Can I Switch Between Organizations While Logged into ImmTrac2?

On the Manage Access screen, select "ImmTrac2" for the organization which you would like to add immunizations on behalf of. See *Figure 3 – Switch Between Organizations.*

Figure 3 – Switch Between Organizations

2. Client Status Not Updated

Some reports generated from ImmTrac2 will only include clients that are listed as 'Active' with the organization (for example, the Reminder/Recall report). ***IMPORTANT:*** To ensure the accuracy of these reports, be sure to update the status of clients that are no longer associated to your practice.

2A. How Do Clients Become 'Active' with an Organization?

- Each new client added to ImmTrac2 is automatically 'Active' with that organization. This applies for clients added online as well as clients added through data exchange.
- When a historical or current immunization is added to a client's record. This includes updates that occur online as well as through data exchange.
- A client can also be manually flagged as 'Active' online on the 'Edit Client' screen under the Organization Information tab. See *Figure 4 – Active Status*.

Figure 4 – Active Status

2B. How Do Clients Become 'Inactive' with an Organization?

- A client can be manually flagged as 'Inactive' online on the 'Edit Client' screen under the Organization Information tab. See *Figure 5 – Inactive Status*.
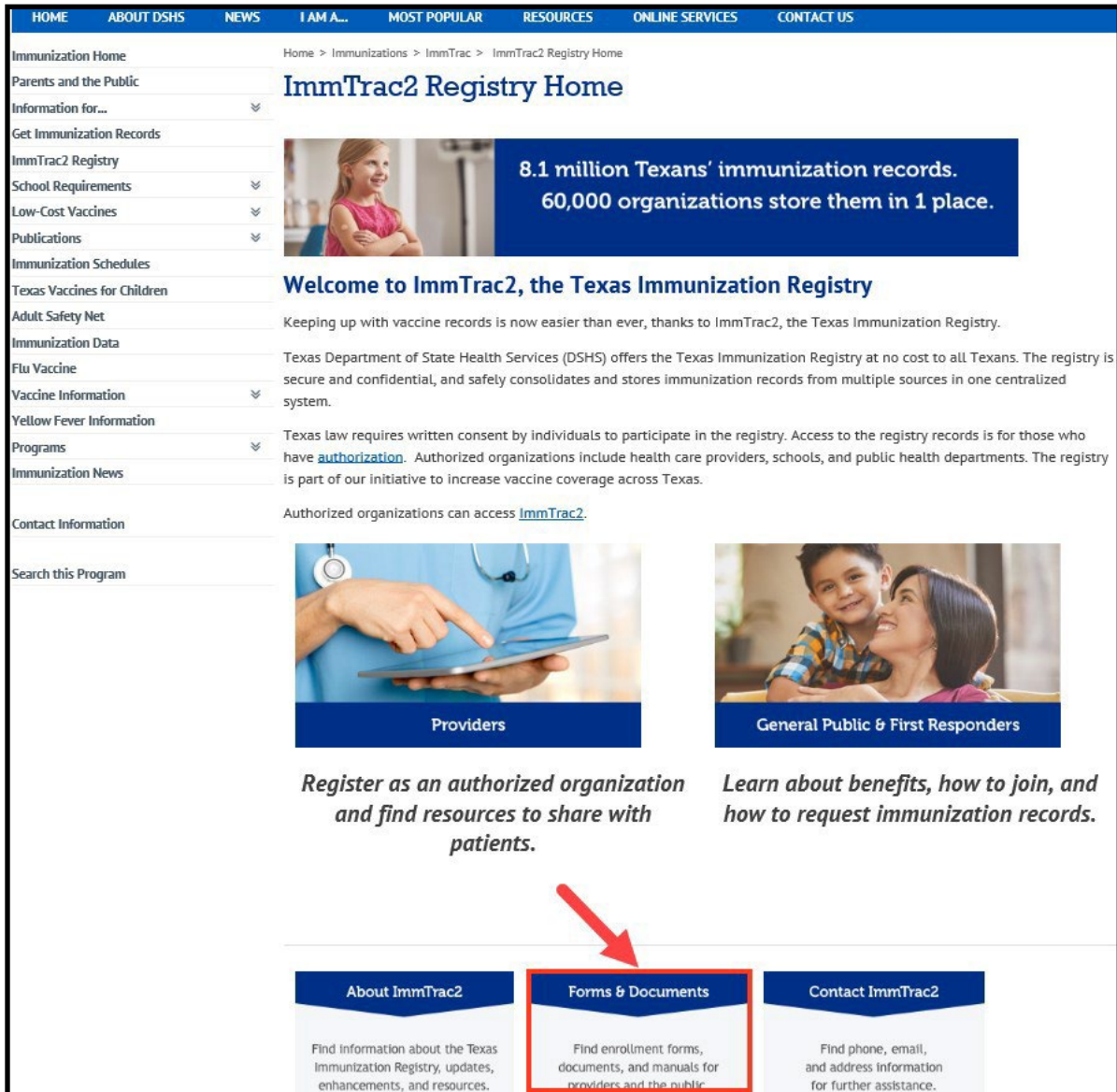
Figure 5 – Inactive Status

- Clients can also be flagged as 'Inactive' through data exchange. For additional information please feel free to contact your Electronic Health Records (EHR) vendor or the ImmTrac2 Interoperability Team toll free at 1-800-348-9158 or email ImmTracMU@dshs.texas.gov.

2C. Other considerations

- Only users associated to your organization can update the status of a client in ImmTrac2.
- Clients can be flagged as 'Active' for multiple ImmTrac2 organizations. Which means they may show up as 'Active' for multiple organizations.

3. No Consent on File

The most common reason why client records are rejected from ImmTrac2 is due to no consent on file. For immunization records to be stored in ImmTrac2, the parent, legal guardian, or managing conservator must complete an ImmTrac2 Minor Consent Form for their child. Adults must complete the ImmTrac2 Adult Consent form. These forms can be found online by going to www.immtrac.com and clicking on "Forms & Documents" at the bottom of the screen. See *Figure 6 – Forms and Documents*.

Figure 6 – Forms and Documents

When the Forms and Documents page comes up, scroll down to ImmTrac2 Forms & Documents and look for the ImmTrac form you want. See *Figure 7 – List of Forms*.

Figure 7 – List of Forms

After clicking on the form you want, depending on your browser a pop-up message may ask you if you want to open or save the form (see *Figure 8 – Message to Open or Save the Document*). You can then open and print the form.

Figure 8 – Message to Open or Save the Document

4. Incorrect Organizational Parent/Child Relationship

NOTE: *This pertains only to organizations that exchange data electronically with ImmTrac2.*

All client information and immunization data are submitted through the 'parent-site' on behalf of themselves and all sub-sites (child-sites) within a provider organization. See *Figure 9* – Parent-Child Hierarchy.
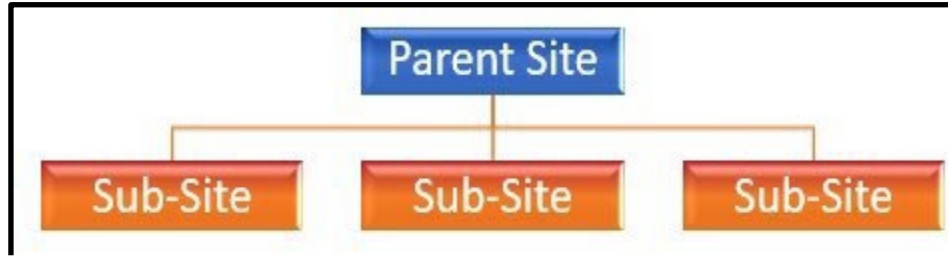
Figure 9 – Parent Child Hierarchy

If an organization is a stand-alone site, their data will transmit directly to the registry.

- If a sub-site (child-site) within a provider group is not correctly associated to the parent organization in ImmTrac2, their data <u>will not</u> be sent to ImmTrac2.
- It is also important for the parent-site to include which sub-site administered the vaccine within the data exchange file otherwise the parent-site will be documented as administering the vaccine.

NOTE: It is not uncommon for EHR systems to only list the parent-site as the submitter and as the administering provider. If reports generated in ImmTrac2 are not reflecting the correct administering provider, please contact your EHR vendor for support.

4A. How can I see the Parent/Child relationship in ImmTrac2?

1. Select 'registration/renewal' at the top of the screen
   (see *Figure 10 – Registration/Renewal Tab*).

Figure 10 – Registration/Renewal Tab

2. Select 'Manage Renewals' hyperlink (see *Figure 11 – Manage Renewals link*).
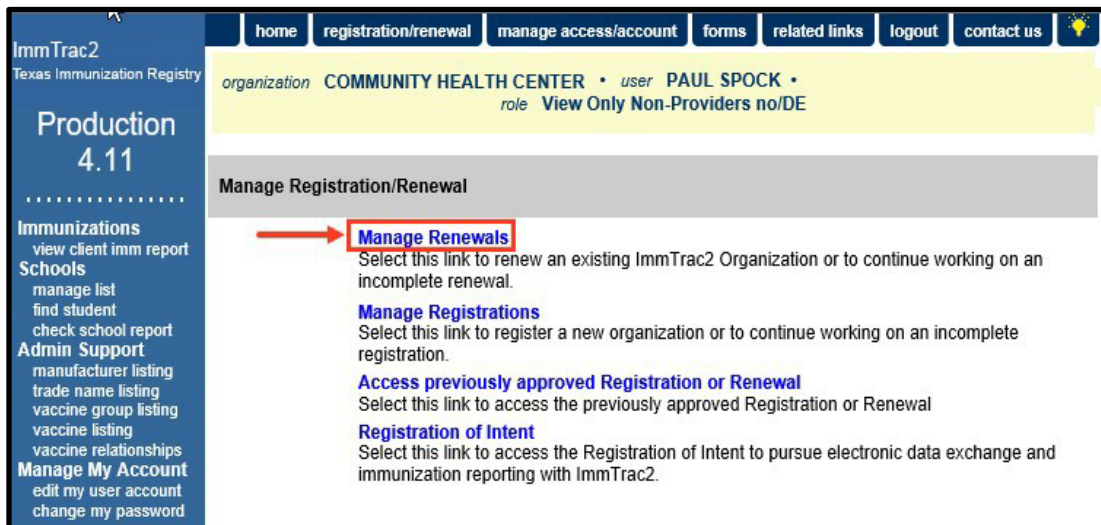
Figure 11 – Manage Renewals link

4B. What Does a Child-Site View Look Like?

The example below is what it looks like from a sub-site, Org Code **MEMO0168**. The parent-site will appear on top and the child-sites below the parent. Child-sites will only be able to view their organization and their parent-site. See *Figure 12 – Child-Site View.*

Figure 12 – Child-Site View

4C. What Does a Parent-Site View Look Like?

The example below is from a parent-site, Org Code **MEMO0169**. The parent-site will appear on top and the child-sites below the parent. Parent-sites will be able to view their organization as well as all child-sites below them. See *Figure 13 – Parent Site View*.

Renewals:

When submitting a renewal for an existing organization, please review the information in each section of the application and make any necessary changes or updates. To save your progress and return at a later time to complete the renewal process, select "Save Progress and Exit". To continue working on an incomplete renewal, click the "Incomplete Renewal" link below.

Applications that are left inactive for more than 14 calendar days will be deleted and a new application must be started and saved.

Organization Name	Org Code	Site Aggreement Expiration Date	Application Status	Last Edited By	Application Expires
MEMORIAL HERMANN HEALTH CENTER LAMAR	MEMO0169	01/09/2021	Click to Renew		
NEIGHBORHOOD HEALTH CENTER NE	NEIG0013	02/04/2019	Click to Renew		
MEMORIAL HERMANN ELROD SCHL BSD CL	MEMO0183	02/04/2019	Returned		
MEMORIAL HERMANN HOGG CLINIC - HOUSTON 1	MEMO0178	03/28/2019	Submitted for Approval		
NEIGHBORHOOD HEALTH CENTER - HOUSTON 1	NEIG0016	11/07/2019	Click to Renew		
MEMORIAL HERMANN TERRY CLINIC	MEMO0173	11/07/2019	Click to Renew		
MEMORIAL HERMANN HEALTH CENTERS FOR SCHOOLS- ALIEF CLINIC	MEMO0137	12/06/2019	Click to Renew		
MEMORIAL HERMANN BURBANK CLINIC	MEMO0179	06/04/2020	Click to Renew		
MEMORIAL HERMANN NIMITZ CLINIC	MEMO0174	10/26/2020	Click to Renew		
MMHC FOR SCL SHARPSTOWN CL	MMHC0001	01/14/2021	Click to Renew		
MEMORIAL HERMANN - KRUSE CLINIC	MEMO0185	01/25/2021	Click to Renew		
MEMORIAL HERMANN WAVE CLINIC	MEMO0168	02/05/2021	Click to Renew		

Figure 13 – Parent-Site View

5. Contact Information

For more information and support with data exchange, contact the Texas Immunization Registry Interoperability Team.

Email:
ImmTracMU@dshs.texas.gov
Phone: (800) 348-9158, press
Option 3

Guide to the Reminder/Recall Report

Table of Contents

Summary

The Reminder/Recall Report generates client notices, which include letters, cards, mailing labels, and client listings. Reminder and recall notices can be generated for each client if the following conditions in the client record are met:

- The client status is "Active" in the Client Information section for your organization.

- The "Allow Reminder and Recall Contact?" indicator in the Client Information section is "Yes."

- The client has complete address information listed in the Address Information section.

Generate Reminder/Recall Report Steps 1-2

See *Figure 1: Generate Reminder/Recall Report Steps 1-2*.

To generate the Reminder/Recall Report, follow the steps below.

1. Click the **Generate Report** option from the menu panel.

2. Select the **Reminder/Recall Report.**

Figure 1: Generate Reminder/Recall Report Steps 1-2

See *Figure 2: Generate Reminder/Recall Report Steps 3-6*.

3. **Set the Request Criteria**: The Create New List Section gives users the option of selecting saved reminder recall request criteria or creating a new reminder recall request.

   • **Enter new Reminder Recall Request Criteria:** Selecting the radio button and supplying a list name will generate a new reminder recall request report that can be generated as a report or saved as a template and later generated as a report.

   • **Use a previous Reminder Recall Request Criteria:** Selecting the "Use a previous Reminder Recall Request Criteria" radio button and selecting a list name displays that template's criteria. Once the criteria displays, users can edit the criteria from the previous list before generating the report.

4. **Indicate the Tracking Schedule:** Choose which set of recommended immunizations and corresponding dates will be compared to each client's immunization history.

5. **Select the Vaccine Group to Report on:** Choose which vaccines will be included in the report by selecting a vaccine and clicking the Add button. Also select which vaccines to include, vaccines that are Due Now, Past Due, or Both.

6. **Selecting Subpotent Recall**: This filter will show the clients with Sub-potent vaccinations recorded.

Generate Reminder/Recall Report Steps 7-12

See *Figure 3: Generate Reminder/Recall Report Steps 7-12*.

7. **Selecting a School or Primary Care Provider**: This filters the clients who have been assigned to the selected school or physician.

8. **Enter Additional Demographic Information**: Entering and/or selecting these options allows filtering of clients whose records match specific demographic information.

9. **Enter the Date criteria**: Select a Date Range to filter clients.

    • Target Date – Entering a target date range will return clients who are due now, are past due, or will be due for the selected vaccine within the specified date range.

    • Birth Date - Entering a birth date range will return clients who have a birth date that falls between the dates entered.

    • Age Range - Entering an age range will return clients whose age falls between the dates entered.

10. **Select Vaccine Groups to Display**: Selecting Vaccine Groups to display will filter for the vaccine groups that display on the report as being recommended. By default, all vaccine groups that are due now or past due display on the report.

11. **Specify How to Sort the Report Data**: Allows a choice of sorting options. The default is last name in ascending order, then first name in ascending order.

12. Click the **Save & Generate** [Save & Generate] button to save the request criteria and to generate the report.

    • If previous Reminder Recall Request Criteria was selected, this will save any changes made to template.

    • Click the **Generate** [Generate] button to generate the report and not save as a template or save changes to the criteria list.

    • Click the **Cancel** [Cancel] button to return to the Generate Reports screen.

Figure 3: Generate Reminder/Recall Reports Steps 7-12

Reminder Request Status Screen
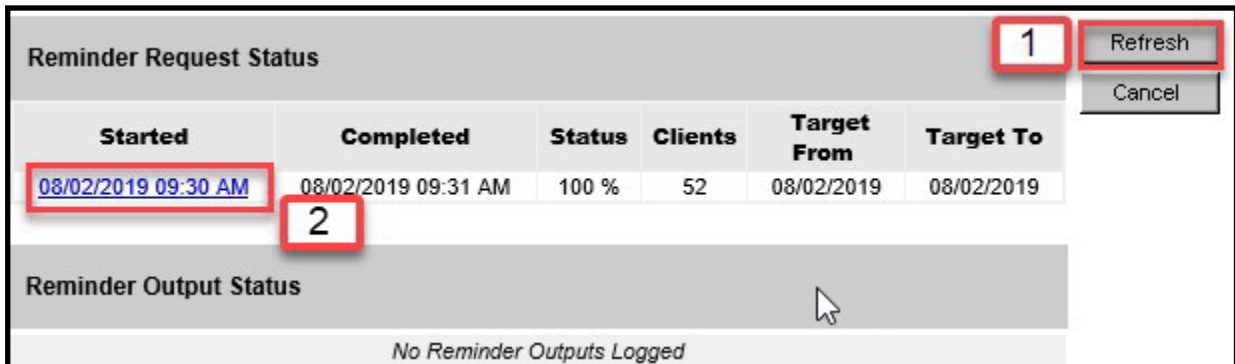
See *Figure 4: Status Screen*.

Once the reports are generated the **Reminder Request Status** screen displays. This screen will only retain one report at a time, and as new reports are generated the previous report will no longer be accessible. The status indicates the percentage of completion for the report.

Periodically click on **Refresh** to update the completion percentage information. The time it will take for the report to generate will depend upon the number of clients associated with the provider organization.

This screen will also display all the reminder output options that were generated for the specific report.

1. When redirected to the Reminder Request Status screen, click the Refresh button until the status is 100%.

2. When the report is ready, click on the blue hyperlink to go to the Reminder Request Process Summary screen.

Figure 4: Status Screen

Note: *The report will run in the background similar to other reports, allowing users to exit ImmTrac2 or work on other ImmTrac2 tasks until it completes. To go to the Reminder Request Status screen, click on "generate report" on the menu panel and click the "Status" link next to the Reminder/Recall Report link.*

Reminder Request Process Summary Screen

The Summary screen is broken up into three sections: Reminder Request Criteria, Reminder Request Output Options, and Last Notice Date Options. From the Summary screen, users can create various reminder output options.

Reminder Request Criteria: This section lists the number of clients involved in the search and the criteria used to define the search. The *Total Number of Clients Eligible for Reminder* at the bottom of the screen is dependent upon the search criteria and is narrowed down by each criteria step. See *Figure 5: Reminder Request Criteria*.

Reminder Request Process Summary

Reminder Request Criteria

Step	Criteria Evaluated at this Step	Clients
1	Clients associated with *COMMUNITY HEALTH CENTER*	2302
2	Clients immunized by *COMMUNITY HEALTH CENTER*	2301
3	Clients that are **active** within *COMMUNITY HEALTH CENTER CLINIC* and allow Reminder & Recall Contact. Additional criteria includes: • **Client Age Range** 17 Year to 18 Year; • **School** is not specified; • **Provider** is not specified;.	52
4	Clients that have a **Valid Address**. Additional criteria includes: • **City** is not specified; • **Zip Code** is not specified.	52
5	Clients that meet the following criteria regarding vaccination status: • Clients that are **Due Now or Past Due** for one or more vaccinations as of 08/02/2019; • Use **all vaccine groups**; • Use **tracking schedule** associated with each client.	52
	Total Number of Clients Eligible for Reminder	52

Figure 5:   Reminder Request Criteria

Reminder Request Output Options: This section lists the various reminder output options available, including both standard outputs and custom outputs. See below and see also *Figure 6: Reminder Request Output Options*.

- **Output** – This column displays the types of reports that can be produced. These reports are described in detail in the table below. **Clicking the Hyperlink in the Output column will generate the report that was selected**.
- **Description** - This column provides a brief description of the output option.
- **Additional Input -** This column displays options for including additional information on the output report and defining a report:

o**Report Name:** Enter the Name to describe the output report. o**Free text:** Enter in text that will appear on the report. o **Phone#:** Enter in the phone number that will appear on the output report.

Reminder Request Output Options

Output	Description	Additional Input
Reminder Letter	Standard Reminder Letter.	Duplex Printing ☐ Report Name [ ] Free Text [ ] Phone # [ ]
Reminder Card	Standard Reminder Card (4x5).	Report Name [ ] Free Text [ ] Phone # [ ]
Mailing Labels	Avery 5160 Mailing Labels.	Report Name [ ]
Client Query Listing	A list of clients based on the report criteria.	Report Name [ ]
Extract Client Data	Extract client data in XML format.	Report Name [ ]
Client Reminder/Recall Spreadsheet	Client demographics and vaccine due dates in spreadsheet format	Report Name [ ]
Past Due Clients Immunization(s)	Custom Letter.	Duplex Printing ☐ Report Name [ ]

Figure 6: Reminder Request Output Options

Reminder Letter

The letter output option allows users to generate a standard form letter to the parent/guardian for each client returned on the query. The letter allows room at the top for the organization's letterhead. The body of the letter includes the client's immunization history, recommended immunizations, and due dates. There are up to two lines for free text and/or a telephone number.

To generate Reminder Letter, follow the steps below (see *Figure 7: Generate Reminder Letter Steps 1-2)*:

1. Under the *Additional Input* column, there are options to enter the following:

   • **Duplex printing** – printing on both sides.

   • **Report Name** - if a Report Name is not indicated, the report will simply be named Reminder Letter on the Reminder Report Status screen with the date it was generated. Enter up to 20 characters in this field.

   • **Free Text** - include a maximum of 400 characters in

this field. This information will be displayed as the closing for each letter.

- **Phone** - the telephone number is presented in the closing for each letter.

2. Click the **Reminder Letter** hyperlink.

Figure 7: Generate Reminder Letter Steps 1-2

3. Users are redirected back to the Reminder Request and Output Status screen. If needed, click the **Refresh** [Refresh] button until the status is "Ready." See *Figure 8: Generate Reminder Letter Steps 3 and 4.*

Figure 8: Generate Reminder Letter Steps 3-4

4. The Reminder Letter will be listed at the top of the Output Status section as an active hyperlink available in both English and Spanish.

   • For clients who have selected Spanish as their "Language Spoken" option in the Client Information tab of their client's record, the Reminder Letter will be output in Spanish.

   • Click on the Reminder Letter hyperlink to view or print the letters in a PDF file. See *Figure 9: Reminder Letter Example*.

Dear Parent/Guardian of Johnny B Goode,

Our records indicate that Johnny B Goode has received the following immunizations:

Immunization Record		Tracking Schedule:	ACIP
Vaccine Group	Date Administered	Series	Vaccine
HepA	09/06/2018	1 of 2	HepA-Ped 2 Dose
HepB	11/28/2001	1 of 3	HepB-Peds
HPV	10/20/2016	1 of 2	HPV9
	09/06/2018	2 of 2	HPV9
Meningo	09/06/2018	1 of 1	MCV4P
Varicella	09/06/2018	1 of 2	Varicella

Our records also show that Johnny B Goode may be due for the following immunizations. If Johnny received these or other immunizations from another health care provider, please call our office so that we can update Johnny's record. Otherwise please take Johnny to a health care provider to receive them.

Immunizations Due
Flu NOS
HepA, NOS
HepB, NOS
MMR
Polio, NOS
Tdap
Varicella

Please call our office if you have questions or would like to schedule an appointment.

The number for our office is: (512) 999-1234

Figure 9: Reminder Letter Example

Reminder Card

The Reminder Card output option allows users to generate a standard reminder card for the parent/guardian for each client returned on the query. The card allows room at the top for a greeting. The body of the card includes the client's recommended immunizations and due dates. There are up to two lines for free text and/or a telephone number.

To generate Reminder Cards, follow the steps below (see *Figure 10: Generate Reminder Card Steps 1-2* and *Figure 11: Generate Reminder Card Steps 3-4*).

1. Under the *Additional Input* column, users have the option of entering:

a. **Report Name** - If a Report Name is not indicated, the report will simply be named "Reminder Card" on the Reminder Report Status screen with the date it was generated. Enter up to 20 characters in this field.

b. **Free Text** - Includes a maximum of 400 characters in this field. This information will be displayed as the closing for each card.

c. **Phone** - The telephone number is presented in the closing for each of the card.

2. Click the **Reminder Letter** hyperlink.

Figure 10: Generate Reminder Card Steps 1-2

3. Users are redirected back to the Reminder Request and Output Status screen, and if needed click the Refresh button until the status is "Ready."

4. The Reminder Card will be listed at the top of the Output Status section as an active hyperlink available in both English and Spanish. Click on the Reminder Card hyperlink to view or print the letters in a PDF file. See *Figure 12: Generate Reminder Card*

Figure 11: Generate Reminder Card Steps 3-4

Dear Parent of Johnny B Goode

Our records show that Johnny B Goode may be due for the following immunizations. If Johnny received these or other immunizations from another health care provider, please call our office so that we can update Johnny's record. Otherwise please schedule an appointment for Johnny to receive them.

Vaccine Group	Date Needed
Influenza-seasnl	07/01/2019

The number for our office is: (512) 999-1234

Please call our office if you have questions or would like to schedule an appointment.

Figure 12: Generate Reminder Card Example

Mailing Labels

The labels output option produces 30 labels per screen on Avery Mailing Labels #5160. See *Figure 13: Generate Reminder Mailing Labels Example*.

To the Parent/Guardian of:	To the Parent/Guardian of:	To the Parent/Guardian of:
ANCE MARLIN BOB	LANI BOB	LARRY BOB
234 MULBERRY LANE	123 MULBERRY LANE	123 MULBERRY DRIVE
AUSTIN TX 78749	AUSTIN TX 78723	AUSTIN TX 78749

Figure 13: Generate Reminder Mailing Labels Example

Client Query Listing

The Client Query Listing displays contact information for those clients identified as being due/overdue in the Reminder/Recall output in a report format. This report lists every client that was returned in the report query process. See *Figure 14: Client Query Listing Example*.

Report run on : 08/02/2019   **Client Query Listing**   Page 1 of 1

Client Name (FML)	Phone Number	Address	City/State/ZIP
JOHNNY B GOODE – 08/02/2002	(512) 123-4567	9934 PRIVATE ROAD	ANYTOWN, TX 76999-
		Tracking Schedule:	ACIP

Vaccine	Immunizations Due	Immunization Dates
DTP/aP	Complete	1) 08/08/2002 2) 09/17/2002 3) 08/12/2003 4)
HepA	Complete	1) 02/13/2006 2) 09/09/2014
HepB	Complete	1) 02/05/2002 2) 03/05/2002 3) 09/17/2002
Hib	Complete	1) 08/08/2002 2) 09/17/2002 3) 08/12/2003 4)
HPV	Complete	1) 09/09/2014 2) 01/30/2017
Influenza-seasnl	07/01/2019	1) 11/23/2010 2) 11/03/2017
Meningo	Complete	1) 08/13/2014 2) 06/04/2018
Meningococcal B	Complete	1) 06/04/2018 2) 07/12/2018
MMR	Complete	1) 08/12/2003 2) 02/13/2006
PneumoConjugate	Complete	1) 08/08/2002 2) 08/12/2003 3) 02/10/2004
Polio	Complete	1) 08/08/2002 2) 09/17/2002 3) 08/12/2003 4)
Td/Tdap	08/13/2024	1) 08/13/2014
Varicella	Complete	1) 02/10/2004 2) 02/13/2006 3) 08/13/2014

Figure 14: Client Query Listing Example

Extract Client Data

The Client Extract Data displays in an XML format and contains every client and their demographic information that was returned in the report query process.

Client Reminder/Recall Spreadsheet

The Client Extract Data displays client demographic information, immunization history, and recommendations for those clients identified as being due/overdue in the Reminder/Recall output in an Excel spreadsheet. This report lists every client that was returned in the report query process. See *Figure 15: Reminder/Recall Spreadsheet Example*.

Client Reminder/Recall Spreadsheet
Filters:
Type Clients that are **Due Now or Past Due** for one or more vaccinations **as of 04/27/2016**
To and From 04/27/2016 to 04/27/2016
Birthdate range is not specified
TXIIS 1111141000
Organization Name: Training
TVFC PIN: null

Client First Name	Client Last Name	Client Date of Birth	Parent/Guardian First Name	Parent/Guardian Last Name	Client Address 1	Client Address 2	Client City
ANCE	BOB	2015-10-05			234 MULBERRY		AUSTIN
LANI	BOB	2015-10-05			123 MULBERRY		AUSTIN
LARRY	BOB	2015-10-05			123 MULBERRY		AUSTIN
MARY	BOB	2015-10-05			123 MULBERRY		AUSTIN
SALLY	BOB	2015-10-05			456 MULBERRY		AUSTIN
TERRY	BOB	2015-10-05			123 MULBERRY		AUSTIN
TYLER	BOB	2015-10-05			123 MULBERRY		AUSTIN
BONNIE	CLYDE	2015-10-05	BOBBIE	MAGEE	123 MULBERRY		ELGIN
MAVIS	STAPLES	1939-07-10	OCEOLA	STAPLES	1100 W. 49TH ST		AUSTIN
AMANDA	SUE	2016-02-14			123 DECKER LN.		AUSTIN
MAX	SUE	2016-02-14			123 SHOWPLACE		AUSTIN
MYRTLE	TURTLE	2015-10-05			123 MULBERRY	34456	SIMCITY

Figure 15: Reminder/Recall Spreadsheet Example

To generate the Mailing Labels, Client Query Listing, Extract Client Data, and Client Reminder/Recall Spreadsheet, follow the steps below. See *Figure 16: Generate Reminder Output Options Step 1-2*.

Note: *The reminder output options are generated one at a time.*

1. Under the Additional Input column of the table enter a **Report Name** - if a Report Name is not indicated, the report will simply be named "Mailing Labels" or "Client List", or "Client XML", or "Client Reminder/Recall Spreadsheet" on the Reminder Report

Status screen with the date and time it was generated. Enter up to 20 characters in each file name field.

2. Click the appropriate Output hyperlink: "Mailing Labels", "Client Query Listing", "Extract Client Data", or "Client Reminder/Recall Spreadsheet".

Figure 16: Generate Reminder Output Options Step 1-2

3. You will be redirected back to the Reminder Request Status and Output Status screen (See *Figure 17: Generate Reminder Output Options Step 3-4)*. Click the Refresh button until the status is "Ready."

4. Each reminder output will be listed in the Output Status section as an active hyperlink - click on the applicable option to open the output file.

Figure 17: Generate Reminder Output Options Step 3-4

Last Notice Date Options

The Reminder Request Process Summary screen allows users to reset the last notice date, which will affect future reminder/recall notices generated using this information. See *Figure 18: Reminder/Recall Last Notice Date*

Figure 18: Reminder/Recall Last Notice Date Options

Preview Clients: view a list of clients included in the Reminder Recall Report. This information includes a hyperlink to each client's demographic record. This is the same screen that display if the Check Reminder List is selected from the *Generate Report* menu option.

Increment Eligible: used to reset the last notice date for all clients eligible for this reminder. The last notice date is viewable on the client's demographic record under the organization information

section.

Increment Immunized: used to increment the last notice date for all clients immunized by your organization.

Cancel: to return to the Reminder Request Status screen.

Custom Letter

In addition to the standard letter, ImmTrac2 allows users to create and store up to three custom letters to be used for reminders and recalls. Once a custom letter is created it is available for selection on the Reminder Request Output Option screen for the Reminder Report.
See *Figure 19: Reminder Request Output Options*.

Figure 19: Reminder Request Output Options

Create a New Reminder/Recall Custom Letter

NOTE: One advantage of the Reminder/Recall Custom Letter is that you can choose to not include the client's immunization history in the letter if you do not want to include it. To create Reminder/Recall Custom Letters, follow the steps below. See *Figure 20: Generate Reminder/Recall Custom Letters Steps 1-2*.

1. Click the **Generate Report** option from the menu panel.

2. Select **Reminder/Recall Custom Letters**.

Figure 20: Generate Reminder/Recall Custom Letters Steps 1-2

3. On the Reminder/Recall Customer Letter screen, click the New Customer Letter link to begin creating the custom letter. See *Figure 21: Reminder/Recall Custom Letters Step 3*.

Figure 21: Generate Reminder/Recall Custom Letters Step 3

4. Fill out the template using *Figure 22: Reminder/Recall Custom Letters Step 4* and also see the Reminder/Recall Custom Letters Options to help complete the customized template.

Top Margin
Number of blank lines at the top of the letter: 3 ▾   **4**

Client Address
Include a name with the client address: (no name) ▾
☐ Include client address

Salutation
Enter a salutation for the letter: To the
Include a name at the end of the salutation: Responsible person ▾

Paragraph 1
First Part

We care about

Include a name between the first and second parts of this paragraph: Client name ▾
Second Part

and your child's health, and that is why we're sending this letter. Here is your child's immunization history:

Immunization History
☑ Include immunization history

Paragraph 2

And here are the recommended immunizations:

Immunization Recommendations
☑ Include immunization recommendations

Paragraph 3

Closing
Enter a closing for the letter: Thank you, and call if you have questions!
☑ Include provider organization name in the closing
☑ Include provider organization phone number in the closing

Figure 22: Reminder/Recall Custom Letters Data Step 4
Reminder/Recall Custom Letter options:
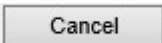
- **Top Margin**. From the drop-down list provided, choose the number of blank lines at the top of the letter. **These blank spaces will leave room for your office letterhead.** This field will default to 3.
- **Client Address**. Check the box to include the client's address at the top of the letter.

- **Salutation**. Enter a greeting in the text box to begin the letter. For example, "Dear" or "Greetings." Use the drop-down arrow to determine if you want to **Include a name at the end of the salutation**. If "Name" is selected, the name of the client will show up after the salutation. If "Responsible Person" is chosen, the letter will read <salutation> Parent/Guardian of <client name>. For example, "Dean Parent/Guardian of Peggy Sue."
- **Paragraph 1 First Part**. Enter desired text. Enter up to 4,000 characters of text in this field.
- **Paragraph 1 Name Option**. Include a name between the first and second part of this paragraph: Choose the name to appear within the paragraph from the drop-down list. Select either parent/guardian, client name or no name.
- **Paragraph 1 Second Part**. If you chose to enter a name, add the remaining text for the first paragraph in this field.
- **Immunization History Option**. Check the box to include the client's immunization history in the letter. **If you do not want to include the client's immunization history in this letter, do not check the box "Include immunization history".**
- **Paragraph 2**. Enter desired text. Enter up to 4,000 characters of text in this field.
- **Immunizations Recommended Option**. Check this box to include the immunization needed forecast for the client in the letter.
- **Paragraph 3**. Enter desired text. Enter up to 4,000 characters of text in this field.
- **Closing**. Enter a closing word or statement for the letter in this field. You have the option of checking a box to include the name of the provider organization in the closing, and another option of checking a box to include the phone number of the organization in the closing.

5. Enter the Customer Letter Name, and then Click the **Save** [Save] button. See
    Figure 23: Reminder/Recall Custom Letters Data Step 5.

- The screen will refresh, but no message displays.
- Click the Cancel [Cancel] button to return to the previous

Reminder/Recall Customer Letters screen as seen in step 3, where the newly created letter displays as a hyperlink.

Figure 23: Reminder/Recall Custom Letters Data Step 5

Edit a Reminder/Recall Custom Letter

To edit an existing Reminder/Recall Customer Letter, follow the steps below.

See *Figure 24: Edit Reminder/Recall Custom Letters Step 1.*

1. Once you have navigated to the Reminder/Recall Custom Letter screen, click the customer letter link**.**

Figure 24: Edit Reminder/Recall Custom Letters Step 1

2. Update the customer letter data or letter name as needed, and then click the Save [Save] button**.** See *Figure 24: Reminder/Recall Custom Letters Data Table* for details on each data field.

   - The screen will refresh, but no message displays. *(Not Shown)*

   - Click the Cancel [Cancel] button to return to the previous Reminder/Recall Customer Letters screen as seen in step 3. If the letter name was updated, the new name displays.

Delete a Reminder/Recall Custom Letter

To delete an existing Reminder/Recall Customer Letters, follow the steps below.

See *Figure 25: Delete Reminder/Recall Custom Letters Steps 1 and 2.*

1. Once users have navigated to the Reminder/Recall Custom Letter screen, click the Delete [Delete] button next to the letter to be deleted**.**

2. Click the OK [OK] button to delete the Reminder/Recall Custom Letter.
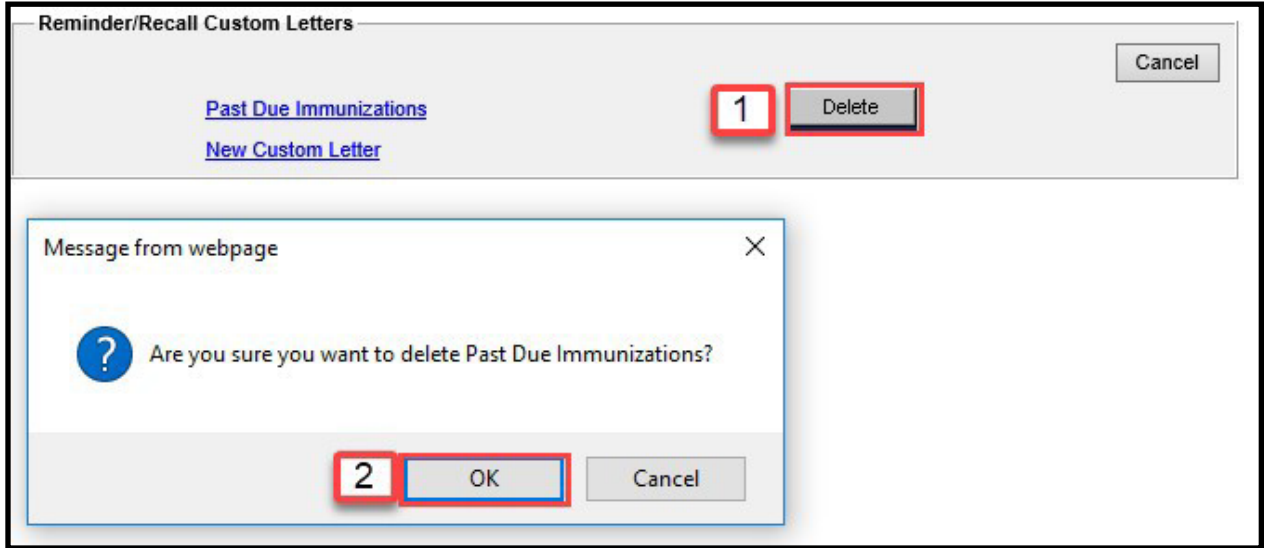
Figure 25: Delete Reminder/Recall Custom Letters Steps 1 and 2
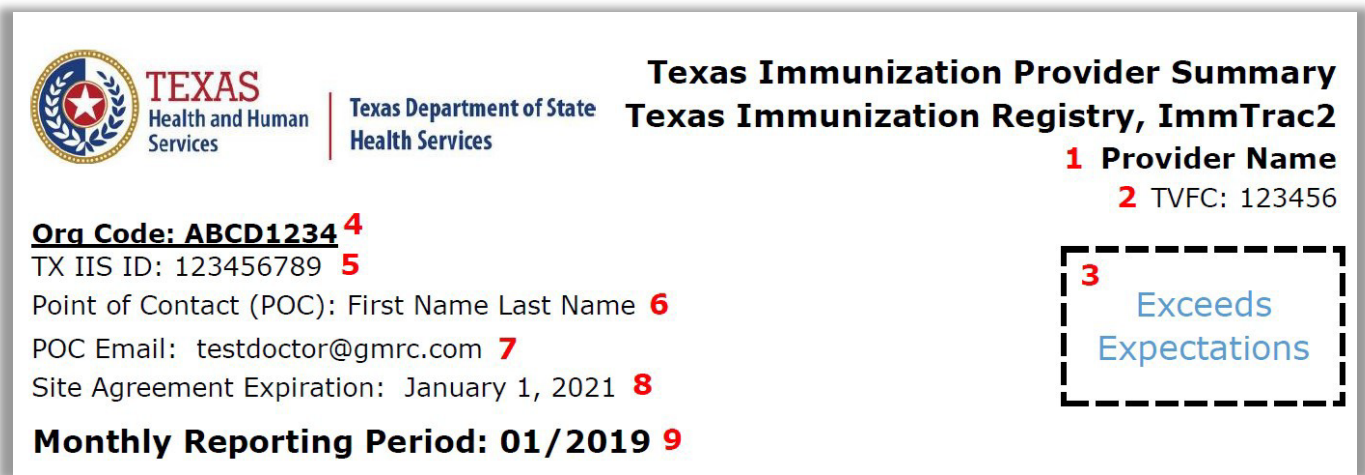
Texas Immunization Provider Summary (TIPS) Guide

Section 1: Description of the TIPS Report

The TIPS report provides each registered organization in ImmTrac2 an overall summary of the user activity, online activity, and data exchange activity for the previous month.

Organization Details

See *Figure 1: Organization Details*.

Texas Immunization Provider Summary
Texas Immunization Registry, ImmTrac2
1 Provider Name
2 TVFC: 123456

Org Code: ABCD1234 **4**
TX IIS ID: 123456789 **5**
Point of Contact (POC): First Name Last Name **6**
POC Email: testdoctor@gmrc.com **7**
Site Agreement Expiration: January 1, 2021 **8**

3
Exceeds Expectations

Monthly Reporting Period: 01/2019 **9**

Figure 1: Organization Details

1. Facility/Organization Name as displayed in ImmTrac2.

2. TVFC/ASN provider identification number (if applicable).

3. Each organization will be rated based on the user activity, online activity, and data exchange activity (if applicable) for the previous month. Organizations will receive one of the following ratings: Exceeds Expectations, Meets Expectations, or Not Rated.

4. Org Code – Unique identifier for each organization.

5. TX IIS ID – Unique identifier for each organization.

6. Name of the Organization Point of Contact.

7. Email address of the Organization Point of Contact.

8. Expiration date of the ImmTrac2 site agreement.

9. Reporting period for the previous month and displayed as MM/YYYY.

User Activity Details

See *Figure 2: User Activity Details*.

User Activity:

Displays the user activity for the reporting period and compares the total users versus the active users.

Total User Logins: **10** 1,012

Online Client Searches: **11** 2,401

Active Clients Served: **12** 898

13 50 Total Users

14 48 Active Users
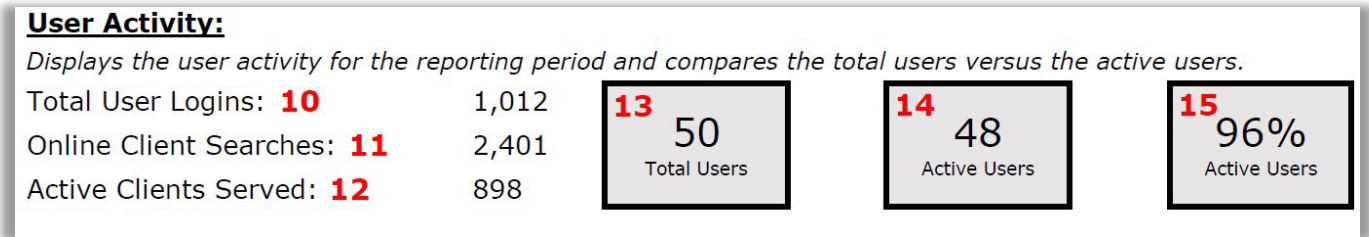
15 96% Active Users

Figure 2: User Activity Details

10. Number of logins during the reporting period by active users (14).

11. Number of online clients searched during the reporting period.

12. Number of active clients associated to the organization.

13. Total number of users associated to the organization.

14. Number of active users associated to the organization.

15. % of active users.

Online Activity Details

See *Figure 3: Online Activity Details*.

Online Activity:

Displays counts of clients consented, immunizations added, and reporting latency for online activity.

Clients Added: **16** 16

Immunizations Added: **17** 45

　Child: **18** 36

　Adult: **19** 9

20 4 Child Clients Added

21 12 Adult Clients Added

22 2* Average Entry Latency

* Average Entry Latency: In days, the amount of time taken to report an immunization online.
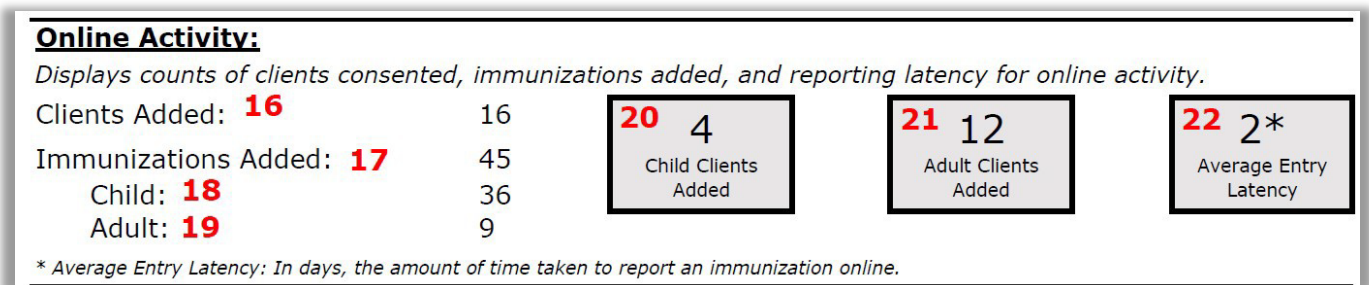
Figure 3: Online Activity Details

16. Total # of clients added online.

17. Total # of immunizations added online.

18. # of immunizations added online to minors.

19. # of immunizations added online to adults.

20. # of minor consents added online.

21. # of adult consents added online.

22. Average number of days between when an immunization was administered and added online in ImmTrac2.

Data Exchange Activity Details

See *Figure 4: Data Exchange Activity Details*.

Data Exchange Activity:

Displays counts of clients consented, immunizations added, and reporting latency for data exchange activity.

Total Files Submitted: **23**   15   **30**

Clients Submitted: **24**   74

     Clients Accepted: **25**   71

     Clients Rejected: **26**   3

Immunizations Submitted: **27**   115

     Immunizations Accepted: **28** 95

     Immunizations Rejected: **29** 20

30 96% Client Accept Rate   **31** 83% Immunizations Accept Rate   **32** 9** Average Entry Latency

** *Average Entry Latency: In days, the amount of time taken to report immunizations via Data Exchange.*

Data Exchange Details:

EHR Vendor: Angelius LTD   **33**

EHR Software: Andeliarama   **34**

Figure 4: Data Exchange Activity Details

23. # of data exchange files submitted during the reporting period.

24. # of client records submitted.

25. # of client records accepted.

26. # of client records rejected.

27. # of immunizations submitted.

28. # of immunizations accepted.

29. # of immunizations rejected.

30. % of client records accepted.

31. % of immunizations accepted.

32. Average # of days between when an immunization was administered and added through data exchange.

33. Electronic Health Record (EHR) Vendor as indicated on the Registration of Intent.

34. EHR Software as indicated on the Registration of Intent.

NOTE: Regarding items 24, 25, 26, and 30, if a patient's data is submitted multiple times within a file they will be counted as unique patients, not the same patient. Example: Patient John Smith is reported three times in a file, the system will count John Smith as three clients not as one.

Section 2: How to Generate the TIPS Report

To generate the TIPS report, follow these steps:

1. Log into the appropriate organization in ImmTrac2.

2. On the left side of the screen, on the menu panel look for "Reports" and click on "generate report". See *Figure 5: Generate Report.*
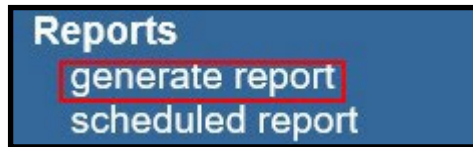
Figure 5: Generate Report

3. In the list of reports available, click on "Texas Immunization Provider Summary (TIPS)". See *Figure 6: Link for Texas Immunization Provider Summary (mockup).*

Figure 6: Link for Texas Immunization Provider Summary (mockup)

NOTE: The TIPS report is generated on the first day of each month and overwrites the previous month's report.

Section 3: Strategies to Optimize Your TIPS Rating

The following are focus areas to improve your organization's TIPS rating and to ensure that the data in ImmTrac2 is more complete, accurate, and reported in a timely manner. **Focus 1: Number of Active Users**

User Activity:
Displays the user activity for the reporting period and compares the total users versus the active users.

Total User Logins: **10**	1,012	**13** 50 — Total Users
Online Client Searches: **11**	2,401	**14** 48 — Active Users
Active Clients Served: **12**	898	**15** 96% — Active Users

Focus 1: Active Users
Target: At least 75% active users
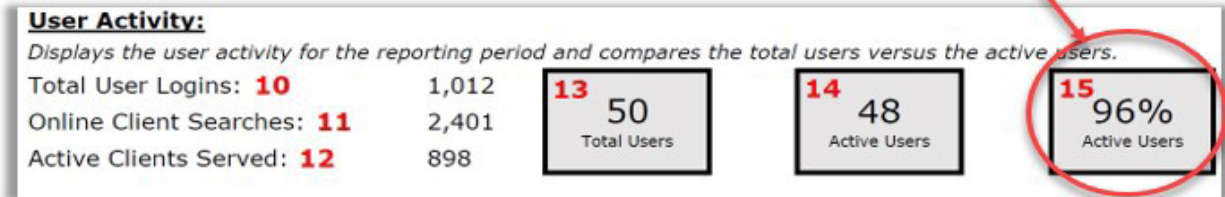
- **Calculation**: The number of Active Users divided by the number of Total Users. An active user is one who has logged into ImmTrac2 within the past 90 days.

- **Target**: Greater than 75% active users.

- **Suggestions**:

  o Disassociate inactive users in your organization. Refer to *Section 4: Instructions to Request Adding or Disassociating Users*.

  o If adding or disassociating more than five users, please complete a Renewal of your Site Agreement in ImmTrac2.

- **Note**: Having a high percentage of inactive users is a security risk and asks the question, "Why do these users need access to ImmTrac2?". The Number of Active Users is the starting point for the remaining focus points.

Focus 2: Number of Logins per Active User

Focus 2: # of Logins per Active User
Target: Each user logs in at least twice per month

User Activity:
Displays the user activity for the reporting period and compares the total users versus the active users.

Total User Logins: **10**	1,012	**13** 50 — Total Users
Online Client Searches: **11**	2,401	**14** 48 — Active Users
Active Clients Served: **12**	898	**15** 96% — Active Users
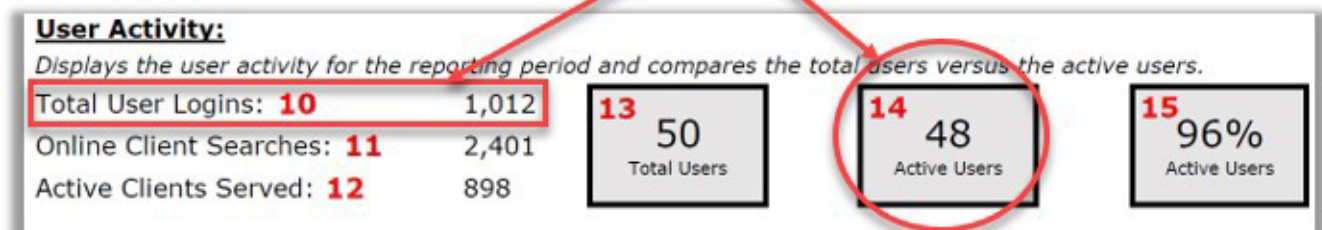
- **Calculation**: The number of Total User Logins divided by the number of Active Users.

- **Target**: Each active user should log into ImmTrac2 twice per month.

- **Suggestions**: Before each patient encounter, users should log into ImmTrac2 to ensure:

  o The client has previously consented and been added to ImmTrac2. If the client is not found after performing a "smart" search, educate the client on the benefits of the Texas Immunization Registry and give them an opportunity to complete the ImmTrac2 consent form. oThat client immunization records are up-to-date.

  o Which shots are coming due and/or are past due.

  o All ImmTrac2 users log in at least twice, including Data Exchange organizations.

Focus 3: Number of Online Client Searches per Active User

Focus 3: # Online Client Searches per Active User
Target: Minimum 50 client searches per active user per month

User Activity:

Displays the user activity for the reporting period and compares the total users versus the active users.

Total User Logins: **10**	1,012	
Online Client Searches: **11**	2,401	
Active Clients Served: **12**	898	

13 50 Total Users

14 48 Active Users

15 96% Active Users
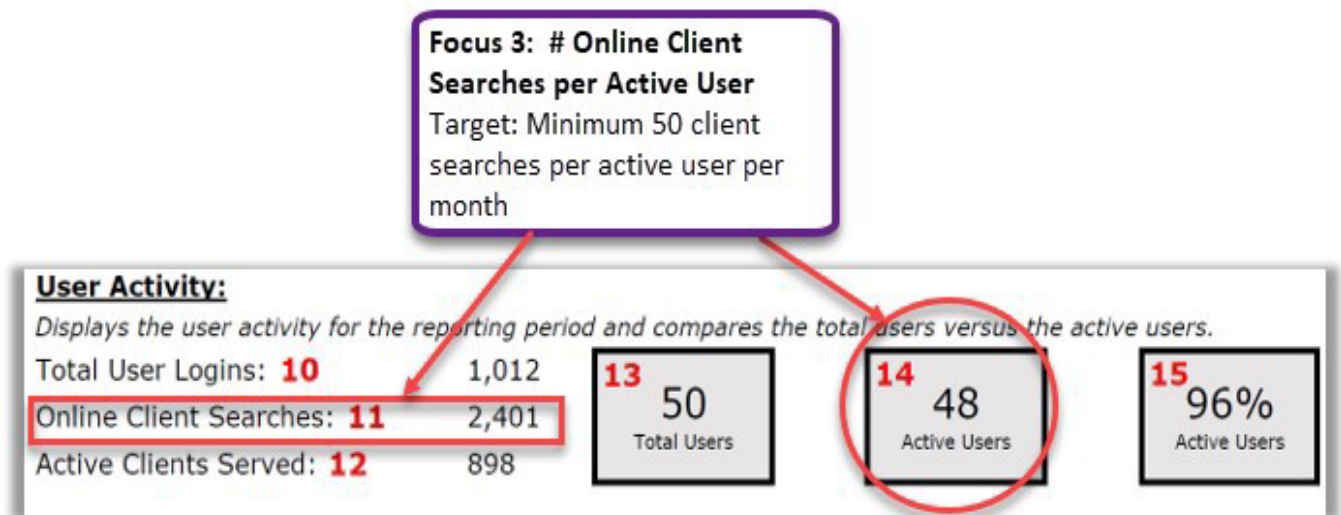
- **Calculation**: The number of Online Client Searches divided by the number of Active Clients Served.

- **Target**: Having a minimum of 50 client searches per active user per month.

- **Suggestions**:

  o Look up client immunization records before each visit. Client searches are preliminary to accessing a client's immunization record. Searches are also prerequisite to adding a new client online. oReview the "Benefits of Utilizing TIR Guide".

Focus 4: # of Immunizations Added per Active Client
Target: Maximize (Online Imms Added + Data Exchange Imms Accepted) / # of Active Clients

User Activity:
Displays the user activity for the reporting period and compares the total users versus the active users.

Total User Logins: **10** 1,012
Online Client Searches: **11** 2,401
Active Clients Served: **12** 898

13 50 Total Users
14 48 Active Users
15 96% Active Users

Online Activity:
Displays counts of clients consented, immunizations added, and reporting latency for online activity.

Clients Added: **16** 16
Immunizations Added: **17** 45
  Child: **18** 36
  Adult: **19** 9
* Average Entry Latency: In days, the amount of time taken to report an immunization online.

20 4 Child Clients Added
21 12 Adult Clients Added
22 2* Average Entry Latency

Data Exchange Activity:
Displays counts of clients consented, immunizations added, and reporting latency for data exchange activity.

Total Files Submitted: **23** 15
Clients Submitted: **24** 74
  Clients Accepted: **25** 71
  Clients Rejected: **26** 3
Immunizations Submitted: **27** 115
  Immunizations Accepted: **28** 95
  Immunizations Rejected: **29** 20

** Average Entry Latency: In days, the amount of time taken to report immunizations via Data Exchange.

30 96% Client Accept Rate
31 83% Immunizations Accept Rate
32 9** Average Entry Latency

- **Calculation**: The sum of Online Immunizations Added and Data Exchange Immunizations Accepted, divided by the number of Active Clients Served.

- **Target**: Maximize this number.

- **Suggestions**:
  - Use the *Creating a List of Active Clients with the Ad Hoc List Report* to generate a List of Active Clients.

- o Using the Active Client list to update clients who are no longer under your care:

✦ If clients have moved elsewhere or have not been seen for a long time, change their status to "inactive" in the Organization Information tab of the client record. See *Figure 7: Organization Information – Inactive Status.*

Figure 7: Organization Information – Inactive Status

Focus 5: Average Latency

Focus 5: Average Latency
Target: No more than 2 days on average between administering an immunization and reporting it, either online or electronically through data exchange.

Online Activity:
Displays counts of clients consented, immunizations added, and reporting latency for online activity.

Clients Added: **16** 16

Immunizations Added: **17** 45
  Child: **18** 36
  Adult: **19** 9

20 4 Child Clients Added

21 12 Adult Clients Added

22 2* Average Entry Latency

* Average Entry Latency: In days, the amount of time taken to report an immunization online.

Data Exchange Activity:
Displays counts of clients consented, immunizations added, and reporting latency for data exchange activity.

Total Files Submitted: **23** 15

Clients Submitted: **24** 74
  Clients Accepted: **25** 71
  Clients Rejected: **26** 3

Immunizations Submitted: **27** 115
  Immunizations Accepted: **28** 95
  Immunizations Rejected: **29** 20

30 96% Client Accept Rate

31 83% Immunizations Accept Rate

32 9** Average Entry Latency

** Average Entry Latency: In days, the amount of time taken to report immunizations via Data Exchange.

Data Exchange Details:
EHR Vendor: Angelius LTD **33**
EHR Software: Andeliarama **34**

- **Calculation**: The average of Online Average Entry Latency and Data Exchange Average Entry Latency.

- **Target**: No more than two days on average between administering an immunization and reporting it, either online through the user interface or electronically through data exchange.

- **Suggestions**:
  - Review your organizations procedures for entering immunizations to see what could help get immunizations entered more quickly after they are administered.

Focus 6: Acceptance Rate of Clients and Immunizations Submitted through Data Exchange

TEXAS Health and Human Services | Texas Department of State Health Services

Focus 6: Acceptance Rate of Clients and Immunizations Submitted through Data Exchange
Target: 90% or more of the client records and immunization records sent through data exchange are accepted.

Online Activity:
Displays counts of clients consented, immunizations added, and reporting latency for online activity.

Clients Added: **16**   16

Immunizations Added: **17**   45
    Child: **18**   36
    Adult: **19**   9

20 4   Child Clients Added

21 12   Adult Clients Added

22 2*   Average Entry Latency

* *Average Entry Latency: In days, the amount of time taken to report an immunization online.*

Data Exchange Activity:
Displays counts of clients consented, immunizations added, and reporting latency for data exchange activity.

Total Files Submitted: **23**   15

Clients Submitted: **24**   74
    Clients Accepted: **25**   71
    Clients Rejected: **26**   3

Immunizations Submitted: **27**   115
    Immunizations Accepted: **28** 95
    Immunizations Rejected: **29** 20

30 96%   Client Accept Rate

31 83%   Immunizations Accept Rate

32 9**   Average Entry Latency

** *Average Entry Latency: In days, the amount of time taken to report immunizations via Data Exchange.*

Data Exchange Details:
EHR Vendor: Angelius LTD **33**
EHR Software: Andeliarama **34**

- **Calculation**: The average of the Client Accept Rate and the Immunizations Accept Rate, both from data exchange.

- **Target**: Greater than 90% of client records and immunizations sent through data exchange are accepted.

- **Suggestions**:
  o Contact the Texas Immunization Registry's Interoperability Team at (800) 348-9158, option 3, to receive help with your data exchange.

  o Contact your EHR vendor to correct issues resulting in errors.

Section 4: Instructions to Request Adding or Disassociating Users

All requests to ADD a new user or DISASSOCIATE a user must be requested by one of the following at the registered organization:

- Organization Point of Contact (POC),

- Primary Registry Point of Contact,

- Primary Vaccine Coordinator (listed in ImmTrac2), or

- Secondary Vaccine Coordinator (listed in ImmTrac2).

If you aren't sure who these contacts are at your organization, then:

1. Log into the appropriate organization in ImmTrac2.

2. Click on the "registration/renewal" tab at the top of the ImmTrac2 screen.

3. Click on "Access previously approved Registration or Renewal". See *Figure 8: Access Previously Approved Registration or Renewal.*
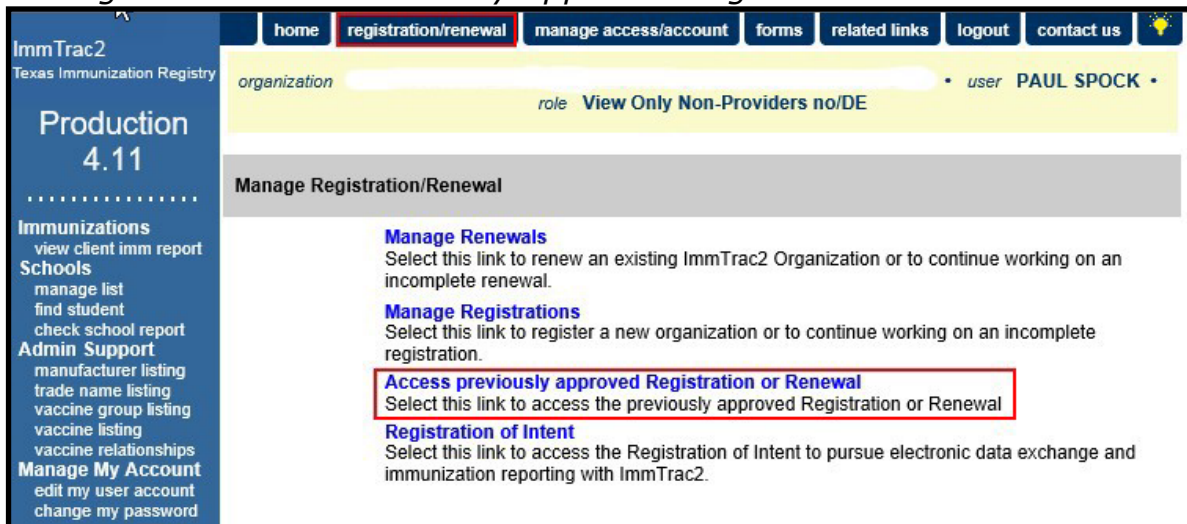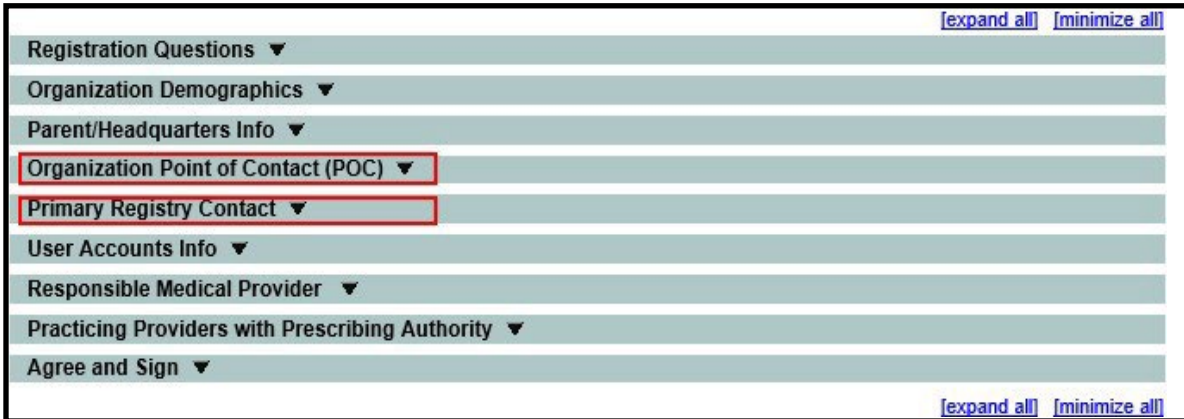
Figure 8: Access Previously Approved Registration or Renewal

4. Then click on the small black triangles to open the "Organization Point of Contact (POC)" tab and the "Primary Registry Contact" tab. This provides you the names of the individuals serving in

these roles. See *Figure 9: POC and Primary Registry Contact Tabs*.

Figure 9: POC and Primary Registry Contact Tabs

5. E-mail requests to **ImmTrac2@dshs.texas.gov** using the Email Request Instructions and Email Request Template provided below.

More Than Five Users

If you have more than five users to add or disassociate, please submit a renewal of your site agreement and make the updates to the users through the renewal process.

Security Notes

- ImmTrac2 login credentials are assigned to an individual person and must not be shared. Repeated violations may result in loss of access privileges for the individual and/or the organization.

- Each ImmTrac2 user account requires a unique e-mail address so that ImmTrac2 users can reset their own passwords when needed.

- Organization Point of Contacts should <u>carefully</u> consider who needs ImmTrac2 access. Access requests should only be for individuals on a need-to-know and a need-to-have basis. Please do not add more users than what is needed. The more users requested, the longer the user creation process may take.

- Please instruct users at your organization to login as soon as possible. If new user accounts are not accessed within 30 days of creation, the account will be locked. If new user accounts are never accessed within 120 days of creation, they will be deleted.

Email Request Instructions to Add or Disassociate Up to Five Users

- Copy and paste the Email Request Template into an email.

- Add the missing information; and

  o Organization and Point of Contact Information o

  List of users to be added or disassociated

    ✦ Put an "X" next to the Action Required of either adding or disassociating user.

- Add the subject line: Add-Disassociate Users for [Enter your Organization's Name].

- Send email to ImmTrac2@dshs.texas.gov.

Email Request Template

Organization and Point of Contact Information

ORGANIZATION NAME:
STREET ADDRESS:
POINT OF CONTACT (POC) FULL NAME:
PHONE NUMBER:
POINT OF CONTACT EMAIL ADDRESS:
ORGANIZATION'S ORG CODE, TX IIS ID# (aka PFS ID#): (if known)

List of Users to be Added or Disassociated

Disassociate This User ____

1st User   Action Required: Add This

User_____ USER FIRST NAME:
USER LAST NAME:
UNIQUE USER EMAIL
ADDRESS: USER JOB
TITLE:
CLINICIAN / NURSES
LICENSE #: PHONE
NUMBER:

2nd User   Action Required: Add This
User_____

USER FIRST NAME:
USER LAST NAME:

UNIQUE USER EMAIL
ADDRESS: USER JOB
TITLE:
CLINICIAN / NURSES

LICENSE #: PHONE
NUMBER:

Disassociate This User ___

3rd User   Action Required: Add This   Disassociate This User ___
User_____

USER FIRST NAME:
USER LAST NAME:
UNIQUE USER EMAIL ADDRESS:

USER JOB TITLE:
CLINICIAN / NURSES
LICENSE #: PHONE
NUMBER:

4th User   Action Required: Add This   Disassociate This User ___
User_____

USER FIRST NAME:
USER LAST NAME:
UNIQUE USER EMAIL
ADDRESS: USER JOB
TITLE:
CLINICIAN / NURSES
LICENSE #: PHONE
NUMBER:

5th User   Action Required: Add This   Disassociate This User ___
User_____

USER FIRST NAME:
USER LAST NAME:
UNIQUE USER EMAIL
ADDRESS: USER JOB
TITLE:
CLINICIAN / NURSES
LICENSE #: PHONE
NUMBER:

Section 5: Data Exchange Related Information

Focus 1: If Data Exchange Activity is blank

If the TIPS Report shows no data under the Data Exchange Activity, then the organization should review and complete the below qualifications to determine if they are ready to establish a data exchange connection with the registry (i.e., completing the registration of intent).

Registry Status Qualifications

1. Ensure the organization's information is up to date with the registry.

    a. The main headquarters or stand-alone facility is renewed with the registry.

        i. Renewal of location information is required every two (2) years.

b. All associated facilities are registered as sub-sites of the main organization (i.e., not as a separate or stand-alone facility) with the registry.

   i. If the organization has multiple facilities, each facility that administers immunizations must be registered with the registry. Additionally, they must be properly linked as a sub-site to the main organization.

c. Organization's staff have active ImmTrac2 user accounts to login to the registry.

   i. Each facility within the organization must have designated staff who have an ImmTrac2 user account.

2. Identify staff at the organization who will be the lead contacts and/or team for establishing and overseeing the data exchange connection with the registry.

   a. Identified staff will collaborate with the registry throughout and after the data exchange connection is established.

   b. Suggested staff include, but not limited to, staff who oversee other types of data exchange for the organization, senior or lead clinical staff, subject matter experts, trainers, or IT support staff.

For assistance with ImmTrac2 registrations, renewals or user accounts, contact the Texas Immunization Registry Customer Service at (800) 348-9158.

Data Exchange Qualifications

1. To engage in electronic data exchange, the organization must have an EHR system that meets the registry standards and requirements.

   a. The organization, through their EHR system, must submit patient and immunization information in Health Level Seven (HL7) 2.5.1 Release 1.5 files to the registry.

      i. Speak with the EHR vendor to confirm the organization's systems are upgraded to send data in this format.

   b. The organization, through their EHR system, must be able to submit batch immunization files to the registry.

      i. Batch files means data is combined into one file that is

submitted on a weekly basis. Speak with the EHR vendor to confirm batch HL7 files can be configured.

   c. The organization's patient and immunization data does not have data quality issues or errors. The organization must take and own responsibility of the patient and

immunization data it submits as part of establishing a data exchange connection with the registry.

i. To ensure the organization is submitting great data quality it must identify any data quality errors and correct them timely.

ii. Speak with the EHR vendor to confirm the organization's systems are configured to the federal and state requirements for data exchange to decrease the likelihood of data quality errors.

Note: The registry verifies that the pre-requisite qualifications have been completed prior to establishing a data exchange connection with the organization (i.e., completing the registration of intent).

Focus 2: Establishing a Data Exchange Connection with the Registry

The following are the steps that must be completed for establishing a data exchange connection with the registry. For data exchange support, contact the Texas Immunization Registry at (800) 348-9158, option 3 or email at ImmTracMU@dshs.texas.gov.

Step 1: ImmTrac2 Registration/Renewal Information

Organizations must:

*   Have up to date ImmTrac2 renewal agreements for all facilities registered with ImmTrac2 within their organization; and

*   Register all facilities not currently registered with ImmTrac2 by completing an ImmTrac2 Site Agreement.

    NOTE: Organizations with expired ImmTrac2 site agreements will not be able to proceed with Step 2: Registration of Intent until the agreements are renewed.

How to Register/Renew Information

Registrations

If the organization is not currently registered with ImmTrac2:

1. Go to the ImmTrac2 website https://immtrac.dshs.texas.gov.

2. Click the 'REGISTRATION' tab on the top menu of the site.

3. Click the 'Register' link in the middle of the site to register.

4. Fill in the initial information requested:

- Email address; and

- Texas Vaccines for Children (TVFC) Pin – if applicable.

5. Complete the registration form.

6. Sign & submit for approval.

Renewals

If the organization is currently registered with ImmTrac2 and the information on file is outdated or expired:

1. Login to ImmTrac2.

2. Click the 'registration/renewal' tab from the top menu.

3. Click the 'Manage Renewals' link on the page.

4. Complete the renewal form.

5. Sign & submit for approval.

Step 2: Registration of Intent (ROI)

The ROI:

- Allows health care entities to inform the registry of their readiness to begin to data exchange;

- Is accessible through ImmTrac2, once logged into the system;

- Can only be submitted by ImmTrac2 users associated to the main headquarters (aka parent organization) or stand-alone facility; and

- Is processed within 2-5 business days after it is submitted, the organization receives an *Invitation to Onboard* (via email) with instructions for establishing connectivity and testing requirements with the registry.

How to complete the ROI

1. Login to ImmTrac2.

2. Click the 'registration/renewal' tab from the top menu.

3. Click the 'Registration of Intent' link from the options listed under the Manage Registration/Renewal information.

4. Respond to the questions.

- Once the initial two questions have been responded to additional questions will appear.

- Select the method the organization will report data to the registry.

- Select the EHR vendor and software used by the organization.

- Add staff who will be the lead contacts and/or team for establishing and overseeing the data exchange connection with the registry.

- Select how often the organization will submit data to the registry.

- Review the organization information that is on file with the registry to ensure all the facilities are listed and accounted for.

5. Complete the registration of intent by clicking the 'Submit' button.

Step 3: Gaining Access to Data Exchange Methods

As part of establishing a data exchange connection with the registry, the organization is provided access (data exchange credentials) to the registry's data exchange methods which are used to send and receive data. The date exchange credentials are also known as File Transfer Protocol (FTP) credentials.

Overview

The organization's point of contact, as indicated in ImmTrac2:

- Receives the data exchange credentials in a secure email; and

- Is responsible for sharing the data exchange credentials with the organization's EHR vendor.

Data exchange credentials are:

- Completely different from the individual ImmTrac2 user accounts;

- Assigned to the organization, not an individual user; and

- To only be shared with persons responsible for establishing electronic connectivity between the organization and the registry.

FTP Information

The organization's point of contact receives a secure email containing the organization's assigned FTP information.

- FTP Username

- FTP Password

- Import Code

- Texas Immunization Information System (TX IIS) Identification (ID)

- FTP Specifications

Step 4: Testing

Testing Requirements

The registry requires all organizations to perform and pass testing to ensure the data exchange is configured to state standards.

- Organizations should use test patients while testing the data exchange connection.

- Any data submitted during testing is not imported to the registry.

  o If real patient data is sent it will not be imported and must be resubmitted once in production.

Organization's Responsibilities for Data Exchange

While in test, the organization must:

- Submit test files;

- Review the registry's generated data quality assurance reports on the submitted test files;

- Correct all data quality errors or issues;

- Submit subsequent test files and verify that data quality errors or issues were corrected; and

- Take and own responsibility of the patient and immunization data it submits as part of establishing a data exchange connection with the registry.

Testing Phase 1: Connecting to the Registry

- Connectivity test to ensure the organization properly uses the data exchange credentials to connect to the registry.

- Once successfully connected, the organization must perform user acceptance testing of the patient and immunization information.

Testing Phase 2: User Acceptance Testing

- Organizations must submit *at least one batch test HL7 file every 30 days* until they are promoted to production.

- The test files must depict the volume of data that the organization handles in real-life.

- Failure to submit files within the 30-day time frame may result in removal from the data exchange process.

- Files must be submitted using the required file naming convention: ImportCodeYYDDD.hl7 o Import Code – represents the provider and identifies the source of the file and is assigned by the registry.

  - o YY – identifies the two-digit calendar year.

  - o DDD – identifies the three-digit Ordinal Date of the date the file is submitted to the registry.

  - o .hl7 – is the file

extension. <u>Steps for Testing</u>

1. Submit batch HL7 file containing patient and vaccination information.

2. Receive an acknowledgement email from the Texas Immunization Registry indicating the file was received.

3. File is analyzed by the registry for any issues.

   a. Various stages of analysis are performed to identify any issues with the file.

   b. If there is a major issue with the file, it will not be processed, and an email notification of a fatal error will be sent.

      i. The fatal error(s) will need to be addressed by the organization and their EHR.

      ii. Once the fatal error(s) is addressed, start these steps over.

   c. The registry no longer sends email notifications about errors for the contents within the batch file.

   d. It is the responsibility of the organization to work with their EHR vendor on the review, correction and resubmission of the files to the registry.

4. File is processed.

   a. Files are typically processed within two business days of receipt.

5. Data quality reports are generated.

a. The registry produces reports for the organization to review to identify data quality issues and are found in the FTP account.

b. Data quality reports include error files and consent notification files.

6. Organization and EHR review the data quality reports.

7. Organization and EHR make corrections to data.

The organization and EHR:

- repeats these steps aiming for files returned with no errors;

- must achieve three to five (consecutive) error-free HL7 files to be considered for promotion to production.

Step 5: Production

Once the organization has successfully met testing requirements, they will receive an email notification of their promotion to production. The email contains instructions and requirements for ongoing data submission to the registry.

Important Information:

- All data submitted after promoted to production is processed as live.

- Organizations are required to submit data in accordance with their submission agreement during the registration of intent process (e.g., weekly, bi-weekly, monthly, annually, or realtime).

- Organizations changing vendors and/or desiring to test while in production must contact the Interoperability Team for guidance and support.

- No additional connectivity or delivery changes are required.

Step 6: Ongoing Submission of Data

Organizations must utilize the reports (dqa-reports and CNF) provided to them by the registry to meet the organization's responsibilities for data exchange.

Organization's Responsibilities for Data Exchange

An organization in production must:
- Submit patient and immunization data regularly;
- Regularly review the registry's generated data quality assurance

reports or responses for data;

- Correct any data quality errors or issues timely; and

- Take and own responsibility of the patient and immunization data it submits.

Contact Information

For assistance with the registry, please contact the Texas Immunization Registry - Customer Support Team, Toll Free (800) 348-9158 or e-mail **ImmTrac2@dshs.texas.gov**.

ImmTrac2 Guide to the Ad Hoc List Report

Contents

Getting Started

Purpose

The Ad Hoc List Report offers a user-defined report and lists results for Full-Access Provider users. You can select fields to be displayed in the report, define filters for which clients you wish to include, and choose the sort order for the report, which makes it a good choice for creating a list of active clients.

Recommended Browser

See *Figure 1: Icons for Browsers*. The recommended browser for ImmTrac2 is **Google Chrome**. ImmTrac2 does not support Windows 10 Edge. Users may experience issues using ImmTrac2 with Edge on drop-down menus or radio button selection and other functions.

Figure 1: Google Chrome Browser

Getting Started with the Ad Hoc List Report

- Log into the appropriate organization in ImmTrac2. On the left side of the screen, on the menu panel look for "Reports" and click on "generate report". See Figure 2: Generate Report.

Figure 2: Generate Report

- In the list of reports available, click on "Ad Hoc List Report". See Figure 3: Ad Hoc List Report.
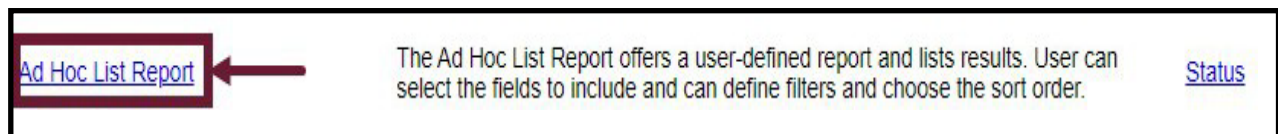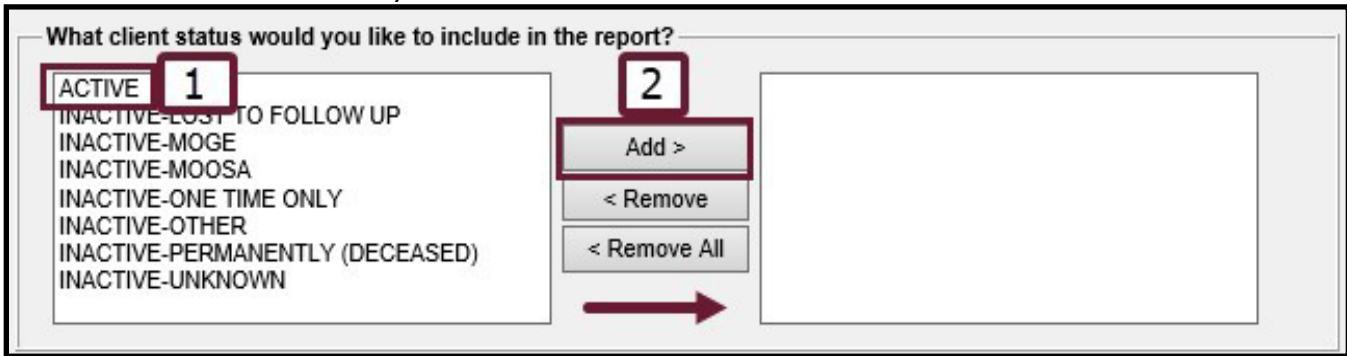
Figure 3: Ad Hoc List Report

Section 1: Choose Active Clients, Inactive Clients, or Both

The first choice to make is if you want to list active clients or inactive clients (see *Figure 4: Select Active or Inactive Clients*. To create a list of active clients, click on "Active" and then click the "Add" button, or double-click the "Active" link. The word Active will be

moved from the left box to the right box. In this example, do not click on any of the inactive statuses because you want to create a list of active clients.
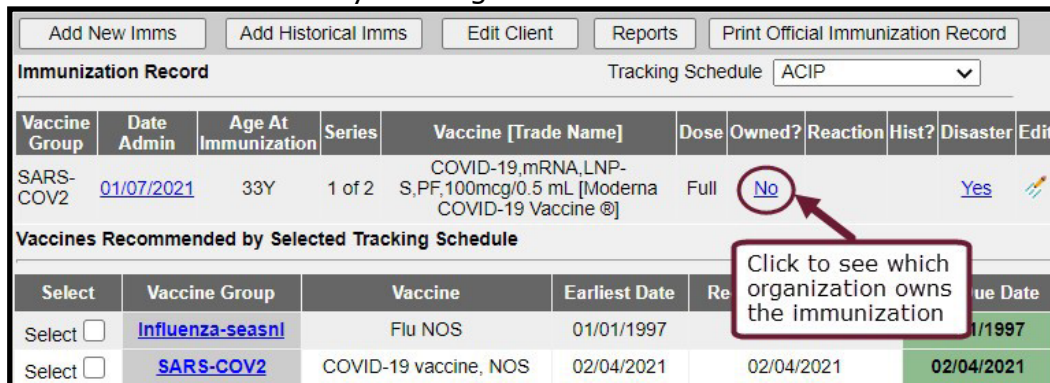
Figure 4: Select Active or Inactive Clients

Note that **clients can be active in more than one organization**. An example would be if a client in Austin has difficulty getting a COVID-19 immunization but drives to Round Rock or San Antonio and receives the immunization. In that case, the client would still be active in the original organization in Austin, but would also be active in the organization that administered the COVID-19 immunization and entered it into ImmTrac2.

When you search for clients who are active in your organization, you will get clients you gave immunizations to, including clients you normally do not see.

Likewise, if some of your clients went to another organization and received an immunization, the immunizations given by other organizations will be listed on the immunizations that your client received, even though they were not administered by you.

If you look in the client's record and see an immunization that has a "No" in the Owned column for that immunization, then another organization administered that immunization (see Figure 5: Not Owned By Your Organization). You can see which organization administered the immunization by clicking on the word "No".

Figure 5: Not Owned By Your Organization

Section 2: What Items Do You Want to Display?

The second choice to make is which items you want to display on the client listing. See *Figure 6: Items to be Displayed on the Report*. The window on the left side lists items you

can select to be displayed on the report, and the window on the right-side lists items that you have selected to be displayed.

To select an item to display, either double-click on an item in the left window, or click once on the item and then click the "Add" button. After an item has been selected it will be moved to the window on the right.
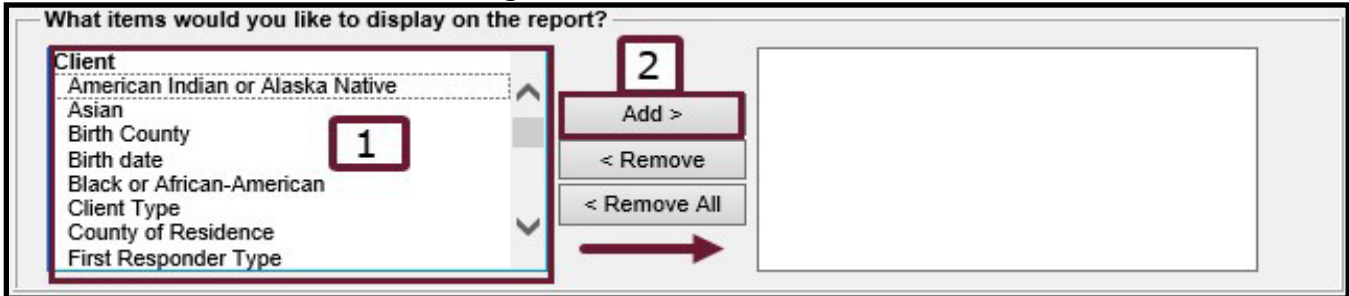
Figure 6: Items to be Displayed on the Report

Some items you might want to display would be First name, Last name, Birth date, Gender, Trade name, Vaccination date, Vaccine. See *Figure 7: Example of Selected Items*.
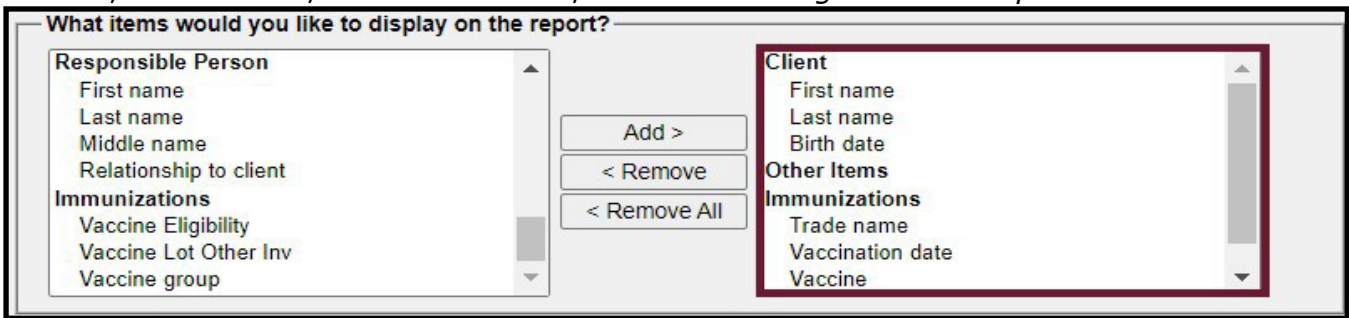
Figure 7: Example of Selected Items

To reverse the selection, either double-click on the item in the right window, or click once on the item and then click the "Remove" button. Clicking "Remove All" will remove all selections and allow you to start over. See *Figure 8: Removing Items to be Displayed*.
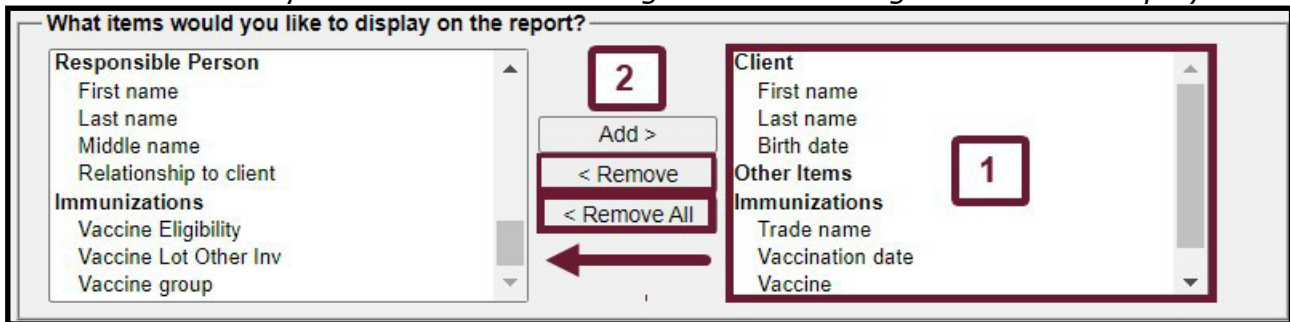
Figure 8: Removing Items to be Displayed

Section 3: "How would you like the report to be sorted?"

In the third section, choose which item you want the report to be sorted on, and if you want the sort order to be "First-to-Last" or "Last-to-First". See *Figure 9: Choosing How to Sort*.
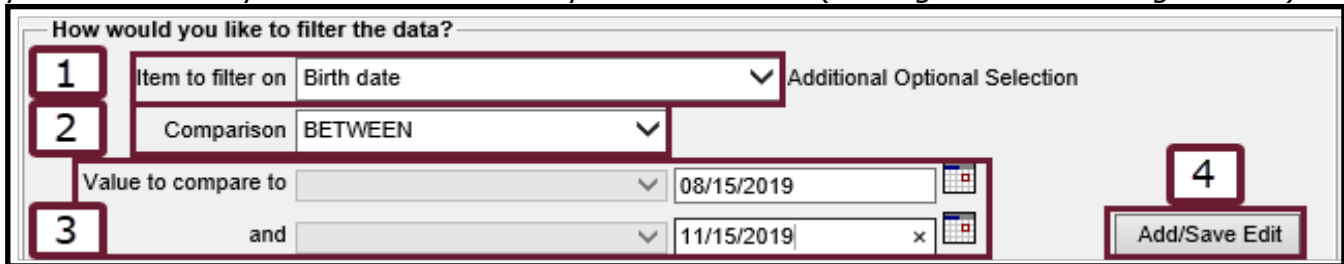
Figure 9: Choosing How to Sort

Note that the list of items to sort on will be the same list that you chose to display in the prior step. In other words, you can't sort on an item that you didn't already choose to display.
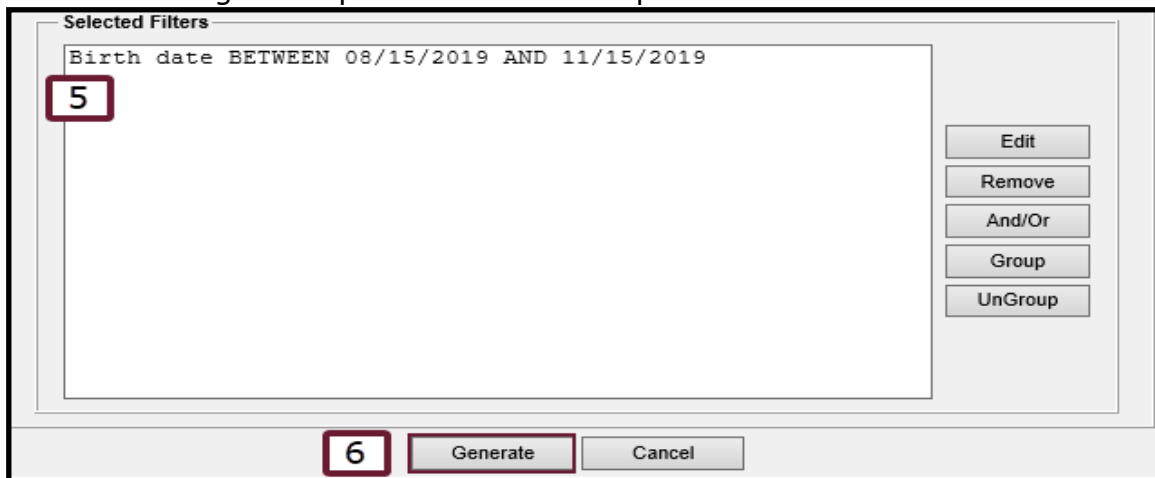
Section 4: "How would you like to filter the data?"

You don't have to enter anything in the third section if you do not want to filter the data you have already chosen. Here's how you build a filter (see *Figure 10: Building a Filter*):

Figure 10: Building a Filter

- **Step 1**: Choose an item to filter on from the drop-down list. In this example "Birth date" was chosen.

- **Step 2**: Choose a comparison. The options you have for comparisons depend on the item you chose in step 1. In this example, the comparison options are "before", "Equals", "Not equal to", "After", Between", "Is", and "Is Not".

- **Step 3**: Select values. In this example, the data is set to select clients whose birthday lies between 8/15/2019 and 11/15/2019.

- **Step 4**: Click the "Add/Save Edit" button to add this edit to the filter. See Figure 10: Generating the Report for the next steps:

Figure 10: Generating the Report

- **Step 5**: Note that the filters previously selected have been added to the "Selected Filters" box.

- **Step 6**: You can click the "Generate" button to generate the report, or you can continue to build more complex filters (see the section on Building Complex Filters later).

After you click the generate button, the Ad Hoc Report Status screen appears and will display "PROCESSING" in the status column. As the report generates it will display the status as a percentage. Click the "Refresh" button to get updates. See *Figure 11: Refresh Button*.

Figure 11: Refresh Button

Once the report has generated the status will change to "DONE" and can be accessed by clicking the "LIST" link to see the report. See *Figure 12: The LIST Link to the Report*.

Figure 12: The LIST Link to the Report

Please note that only one Ad Hoc List Report can be generated at a time. If the report is still being processed and you need to do other work in ImmTrac2, as long as you stay logged in to that organization you can go back to the generated reports and click the "Status" link of the Ad Hoc List Report to take you back to the Ad Hoc Report Status screen and see if the report is done. See *Figure 13: Status Link to the Report*.

Figure 13: Status Link to the Report

Section 5: Building Complex Filters

You can combine edits to create more complex filters. For example, if you want to restrict the data to clients who were born between 01/01/1970 and 01/01/2000, you could additionally filter on a group of vaccines and again click the "Add/Save Edit" button to add that to the selection criteria. See *Figure 14: Filter with a Group of Edits*.
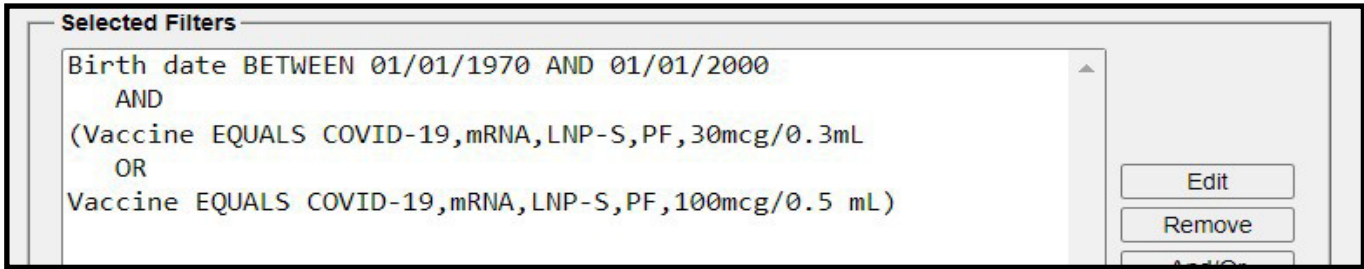
Figure 14: Filter with a Group of Edits

5A. Building Complex Filters: Edit Button

To change an edit line in the filter, click on the edit (in this case Birth date BETWEEN 01/01/1970 AND 01/01/2010) and then click the "Edit" button. You will be able to change that line. See *Figure 15: Edit Button*.
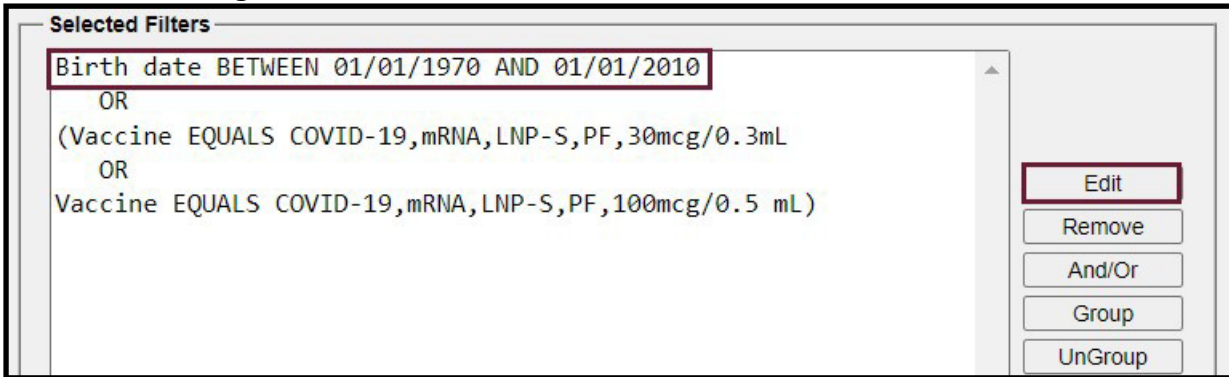
Figure 15: Edit Button

5B. Building Complex Filters: Remove Button

To remove an edit line from the filter (in this case Birth date BETWEEN 01/01/1970 AND 01/01/2010), click on the line and then click the "Remove" button. See *Figure 16: Remove Button*.
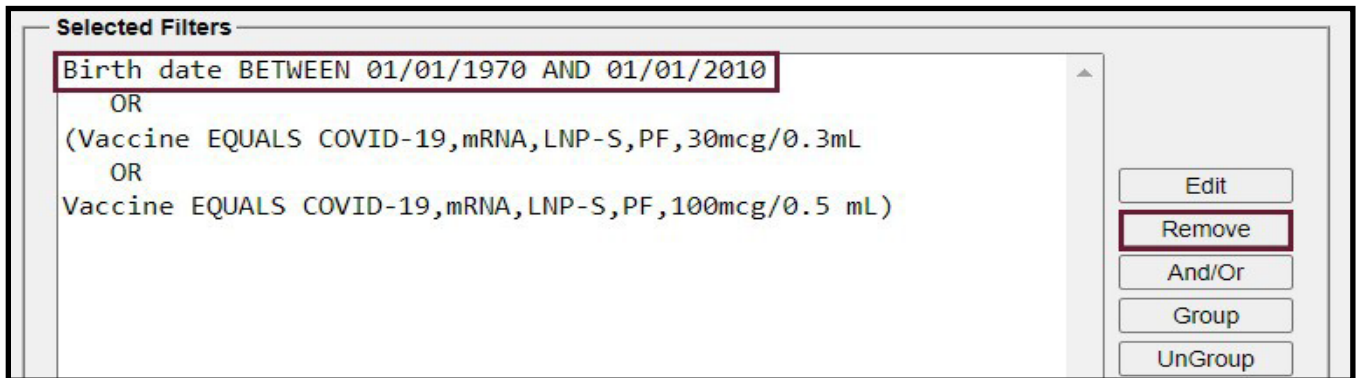
Figure 16: Remove Button

5C. Building Complex Filters: And/Or Button

If you have multiple lines and want to switch an "AND" to an "OR" or vice versa, click the "AND" or "OR" and then click the "And/Or" button. The button will toggle between "AND" and "OR". See *Figure 17: And/Or Button*.
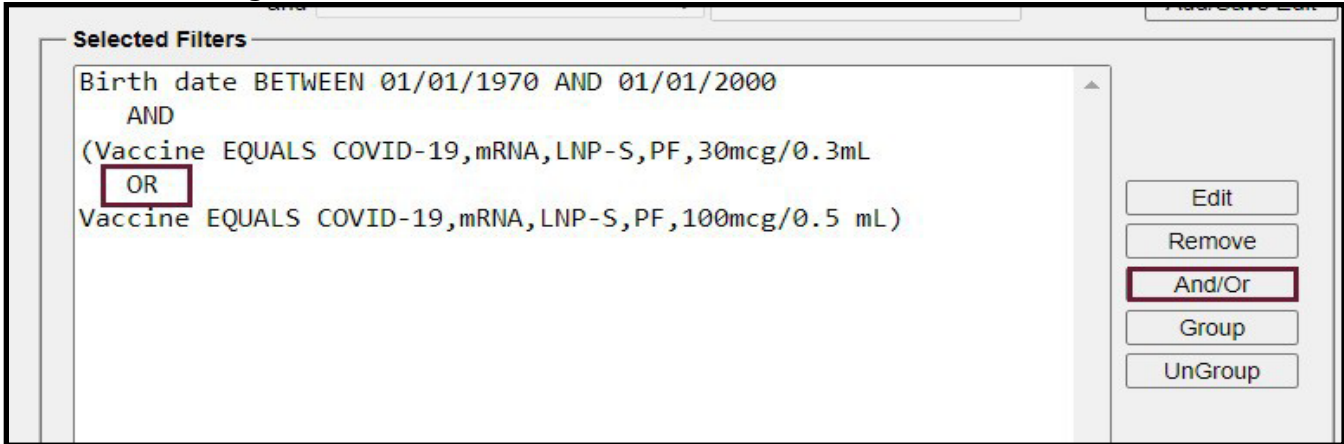
Figure 17: And/Or Button

5D. Building Complex Filters: Group Button

If you wish to group edits, such as this example that groups COVID-19 vaccines, after the edits have been entered, select the edit lines that you wish to group and then click the "Group" button. See *Figure 18: Group Button*. The group will be enclosed by parentheses.
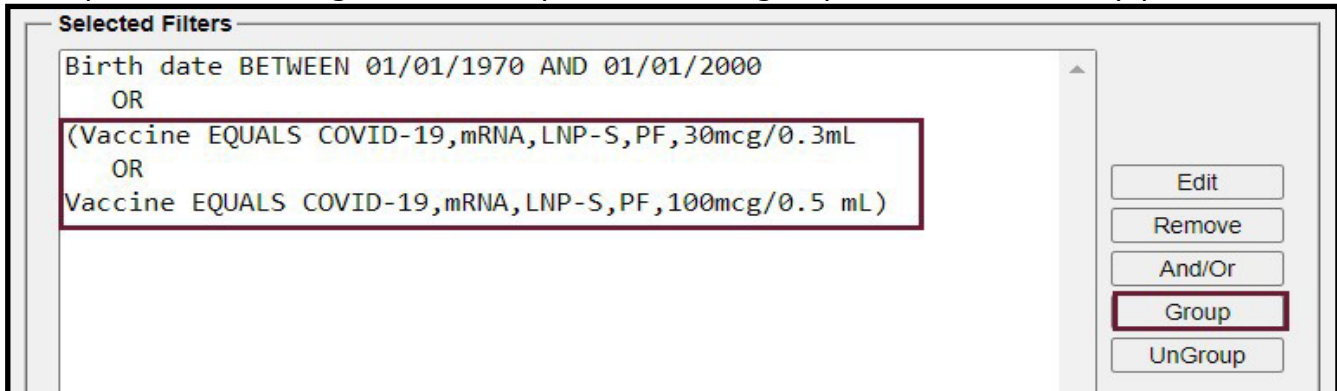
Figure 18: Group Button

5E. Building Complex Filters: UnGroup Button

The UnGroup button functions as the opposite of the Group button. Select a set of edit lines that you have grouped and wish to no longer group, then select the "UnGroup" button. See *Figure 19: UnGroup Button*. The parentheses surrounding the group will be removed.
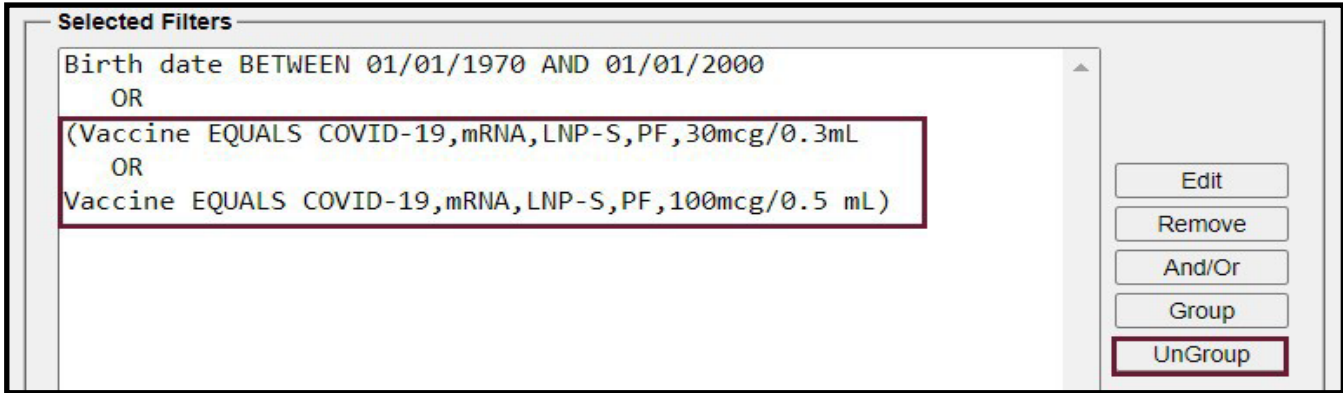
Figure 19: UnGroup Button

Section 6: How Clients Become Active

You might ask, "What makes a client active in an organization?" The status of a client will change from Inactive status to Active status if an organization:

- Creates a new client record,

- Adds an historical immunization to a client,

- Adds a new immunization to a client,

- Manually edits the Status field in the Organization Information tab of a client record to change it from inactive status (see *Figure 20 – Inactive Status*) to active status (see *Figure 21 – Active Status*), or

Figure 20 - Inactive Status

Figure 21: Active Status

- Uses the "manage client status criteria" feature in ImmTrac2 to change client status to or from active or inactive (see Figure 22 – Manage Client Status Criteria).
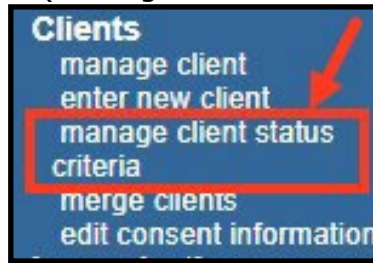
Figure 22 - Manage Client Status Criteria

For further information on how to use this feature, go to the [Forms and Documents](#) webpage and look for publication "11-15951 ImmTrac2 Manage Client Status Criteria".

Section 7: How to Inactivate Clients

If you have clients that you have not seen in what you consider to be a long time and wish to make them inactive, you can do that by either:

- Manually editing the Status field in the Organization Information tab of a client record to change it from inactive status (see *Figure 23 – Inactive Status*) to active status (see *Figure 24 – Active Status*), or

Figure 23: Active Status

Figure 24 - Inactive Status

- Using the "manage client status criteria" feature in ImmTrac2 to change client status to or from active or inactive (see Figure 25 – Manage Client Status Criteria). For further information on how to use this feature, go to the [Forms and Documents](#)

webpage and look for publication "11-15951 ImmTrac2 Manage Client Status Criteria".
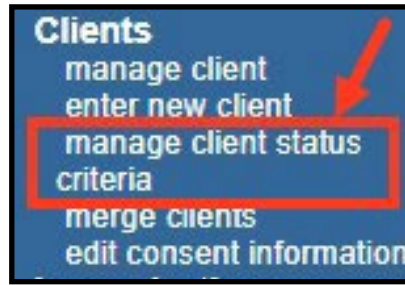
Figure 25 - Manage Client Status Criteria

Clients can also be flagged as 'Inactive' through data exchange. For additional information please contact your Electronic Health Records (EHR) vendor or the ImmTrac2 Interoperability Team toll free at (800) 348-9158 or email ImmTrac2@dshs.texas.gov.

The Texas Immunization Registry:

ImmTrac2 Manage Client Status Criteria

Table of Contents

Introduction

To use the Manage Client Status feature, select the "manage client status criteria" link in the menu bar on the left side of the screen (see *Figure 1 – Link to Manage Client Status Criteria*).
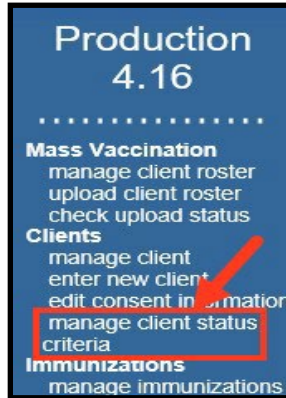
Figure 1 - Link to Manage Client Status Criteria

With the Manage Client Status Criteria feature, providers can retrieve a group of clients based on specific search criteria and perform bulk changes to the client status without having to go into each client record individually through the ImmTrac2 Manage Client screen. Exception: Clients with a status of "Deceased" will be updated individually through the "Manage Client" screen.

For example, providers who had clients that had moved away but were still listed as <u>their</u> clients now have an efficient way to change clients' status in their organization from "active" to "inactive". See *Figure 2 – Manage Client Status Criteria*.

Figure 2 - Manage Client Status Criteria

The four areas of the Manage Client Status Criteria are (see *Figure 3: The Filters and Display Table* below):

1. **Required Filters**. These filters by status and range of ages or birth dates must be used.

2. **Optional Filters**. These filters are not required and include selecting clients by the number of years since a specified date.

3. **Optional Real-Time Search Filter**. This filter works with the Display/Change Status Table below it. Any set of characters that you enter in the "Search" field will be used to search each row in the table below and if it finds a match, the client on that row is included in the selection.

4. **Display/Change Status Table**. This table lists the clients that have met **ALL** the criteria you enter in the filters above. Only clients that met the requirements of the Required Filters AND the Optional Filters AND the Option Real-Time Filter will be displayed I the Display/Change Status table. By selecting clients listed in the table and using the New Status Value field and the Save button, the status of all selected clients can be changed.

Clients with the Allow Reminder and Recall Contact flag set to "No" will be excluded from the search results.

Figure 3 - The Filters and Display Table

2

1. Required Filters

Select by Status

See *Figure 4 – Select by Status*.

Figure 4 - Select by Status

Description of this filter - The status options below allow you to select clients that have one of the following statuses for your organization:

- Active
- Inactive – unspecified
- Inactive – lost to follow-up
- Inactive – no longer a client
- Inactive – moge (moved or gone elsewhere)

Select by Age

See *Figure 5 – Select by Age*.
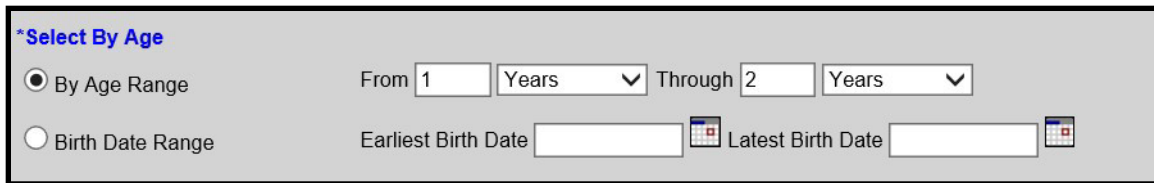
Figure 5 - Select by Age
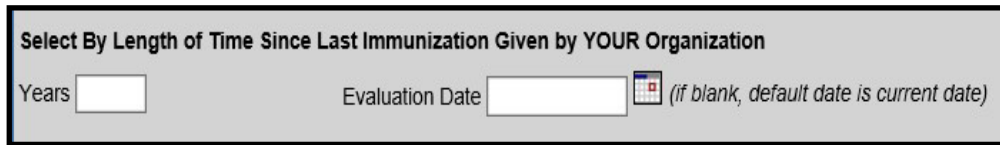
Description of this filter:

1. By Age Range – Select clients with an age range From (years or months) Through (years or months).
2. Birth Date Range – Select clients with an Earliest Birth Date (mm/dd/yyyy format, or use the calendar) to Latest Birth Date (mm/dd/yyyy format, or use the calendar).

2. Optional Filters

Select by Length of Time Since Last Immunization Given by YOUR Organization

3

This is an optional filter. See *Figure 6 – Select by Length of Time Since Last Immunization*.

Figure 6 - Select by Length of Time Since Last Immunization

Description of this filter:
- Evaluation Date is in mm/dd/yyyy format or use the calendar.

- If you do not enter anything in the "Years" field but enter an evaluation date, an error message will popup: "You must enter the number of years if the Evaluation Date is entered" (see *Figure 7 – Error Message for Evaluation Date but No Years*).
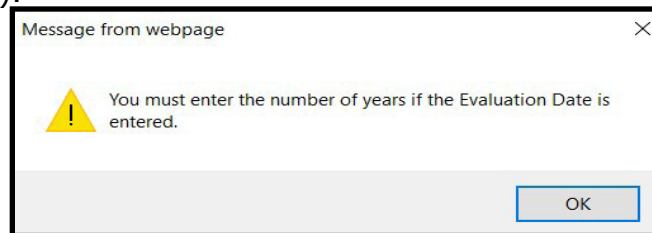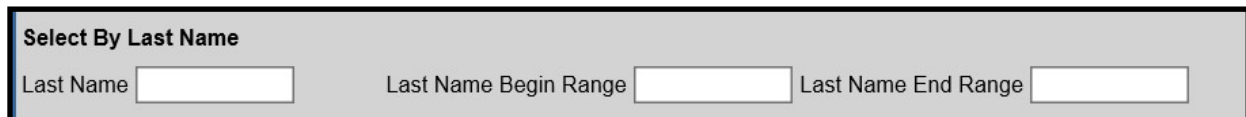
Figure 7 – Error Message for Evaluation Date but No Years

- If you do not enter anything in the Evaluation Date field, the current date is the default date.

- If you enter the number of "Years", and either enter an Evaluation Date or take the current date as the default, and then click "Find", clients who had immunizations administered **by your organization** between the Evaluation Date and going back for the number of years specified will NOT be displayed.

Select by Last Name

Select by Last Name is an optional filter. See *Figure 8 – Select by Last Name*.

Figure 8 - Select by Last Name

Description of this filter:
- If the Last Name is entered, at least the first two letters of the last name are required.

4

- If the Last Name Begin Range is entered, the first 2 characters of the last name are required, and you must also enter at least 2 characters in the Last Name End Range.

- If the Last Name End Range is entered, the first 2 characters of the last name are required, and you must enter at least 2 characters in the Last Name Begin Range.

- Last name has priority over the Last Name Begin Range and Last Name End Range. If anything is entered into the Last Name field, it will ignore anything entered in the Last Name Begin Range and Last Name End Range fields. It will use the Last Name field instead of the range fields.

- If nothing is entered into the Last Name field and data is entered in the Last Name Begin Range and Last Name End Range fields, it will search using the range data.

3. Optional Real-Time Search Filter

The optional real-time search filter is used in conjunction with the Display/Change table listed below it. This filter acts differently than the other filters in that you don't have to select the "Find" button in the upper right corner of the screen to make a change in clients displayed. Instead, any characters (numbers or letters) that you enter in the search field are used to search through each and every field in the display table to find a match. If a match is found on any row in the table, then the client on that row is included in the display table; otherwise the client is no longer displayed. See *Figure 9 – Real-Time Search Filter Match.*

Figure 9 - Real-Time Search Filter Match

4. Display/Change Status Table

The Display/Change Status table lists all the clients of your organization and their current status in relation to your organization. The table lists all clients related to your organization that match all the selection criteria listed in the required and optional filters.

Important Note: The "Date of Last Immunization" column in the table lists the date of the last immunization given by <u>any organization</u>. To the right of that field is the column "Immunization Entered By" that lists which organization gave the last immunization that the client received. If a different organization from yours gave the last immunization that the client received, that has no effect on the

5

filter "Select by length of time from last immunization given by YOUR organization". See *Figure 10 – Date of Last Immunization*.

Figure 10 - Date of Last Immunization

You can change the status of one or more clients in the table by

1. Clicking on the selection box on the left-most column of any rows, or
2. Clicking the left-most box in the heading to select all rows (clients).

Next, select the arrow on the drop-down box in the "New Status Value" field to list possible new statuses for the clients you have selected. See *Figure 11– Drop-Down Box of New Status Value*.

Figure 11 - Drop-Down Box of New Status Value

Select the new status for the select clients. In the above figure, Jessica Jones was selected. Then click the save button to save the new status for the selected client(s).

If you wish to select ALL the clients in the table to make a change in their status, click the box on the far left in the column header (see *Figure 12 – Select All Rows*).

6

☑	Last Name ▲	First Name ⇕	Birth Date	ImmTrac2 ID ⇕	Current Status ⇕	Date of Last Immunization	Immunization Entered By ⇕
☑	BADGER	BILLY	01/01/1990	219234341	Active		
☑	DISNEY	DAVID	01/01/2000	219233681	Active	01/01/2016	Texas DSHS
☑	JONES	JESSICA	01/01/2000	219233682	Active	08/01/2012	Pauls Pediatric Practice
☑	KLEIN	KEVIN	01/01/2010	219233683	Active	03/01/2010	Pauls Pediatric Practice
☑	NEWCLIENT	IMA	01/01/2000	219234040	Active		
☑	PURPLE	KEISHA	01/01/2006	219113360	Active	05/19/2020	Texas DSHS
☑	PURPLE	KEISHA	01/01/2019	219115360	Active		
☑	SMITH	BRANDY	01/01/2010	219233460	Active	07/30/2020	Pauls Pediatric Practice

Figure 12 - Select All Rows

Resources for Providers (Handouts) Index

These resources will aid the provider in implementing the selected strategies, including factsheets, checklists, patient handouts, education opportunities, and more. The documents are grouped by most relevant strategy, but consultants and providers are encouraged to use the documents for other strategies as needed.

General Immunization Resources		
Online IQIP Resources for Providers Source: Varied Last Updated: 03/2022	This document includes links to digital campaigns and training videos to help providers with improving their vaccine communications and recommendations.	1
Advisory Committee on Immunization Practices' (ACIP) Recommended Immunization Schedule 0-18yrs Source: Centers for Disease Control and Prevention Last Updated: 2/2022	Childhood and adolescent immunization schedule (birth through 18 years). Resources for Health Care Providers. Resources for parents- including parent-friendly schedule for infants and children birth-6 years.	4
Advisory Committee on Immunization Practices' (ACIP) Recommended Immunization Schedule 19+yrs Source: Centers for Disease Control and Prevention Last Updated: 2/2022	Childhood and adolescent immunization schedule (birth through 18 years). Resources for Health Care Providers. Resources for parents- including parent-friendly schedule for infants and children birth-6 years.	14
10 Steps to Implementing Standing Orders for Immunization in Your Practice Setting Source: Immunization Action Coalition (IAC) Last Updated: 5/2020	While this guide focuses on implementing standing orders for influenza vaccination, the basic principles included can be used to implement standing orders for other vaccines and for any age group desired.	22
Using Standing Orders for Administering Vaccines: What You Should Know Source: Immunization Action Coalition (IAC) Last Updated: 12/2018	The use of standing orders for vaccination facilitates the delivery of immunization services to patients in clinics, hospitals, and community settings. Standing orders have been shown to increase vaccination coverage rates.	28
You Must Provide Patients with Vaccine Information Statements (VISs) – It's Federal Law! Source: Immunization Action Coalition (IAC) Last Updated: 2/2021	Federal law (under the National Childhood Vaccine Injury Act) requires a healthcare professional to provide a copy of the current VIS to an adult patient or to a child's parent/legal representative before vaccinating an adult or child with a dose of the following vaccines: diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis A, hepatitis B, Hemophilus influenzae type b (Hib), influenza, pneumococcal conjugate, meningococcal, rotavirus, human papillomavirus (HPV), or varicella	29
Schedule the Next Immunization Appointment		
Best Practices for scheduling immunization Source: Texas DSHS Last Updated: 7/2020	One-page flyer for improving scheduling practices at provider offices.	31
Suggestions to Improve your Immunization Services Source: Immunization Action Coalition (IAC) Last Updated: 5/2017	Handy checklist for providers to understand what gaps and areas for improvement are in their clinic's immunization processes, including increasing efficiency, maintaining competency, avoiding missed opportunities, and communicating with patients and parents.	32
Leverage IIS Functionality		
Basics of Immunization Information Systems (IIS) Source: Centers for Disease Control and Prevention Last Updated: 6/2019	Getting Started with IIS. Resources include Fact sheet of Basic IIS information, links for IIS manager trainings, and general public information.	35
EHR and IIS – Their differences and How They Work Together Source: American Immunization Registry Association (AIRA) Last Updated: 9/2019	Infographic on how EHR and IIS are different and how they can work together.	36
Give a Strong Vaccine Recommendation		
Americans' Trust in Health Information Sources: Trends and Sociodemographic Predictors Source: Health Communications Science Digest (HCSD) Last Updated: 7/2019	Article discusses assessing the public's trust in health information sources (i.e., government health agencies, doctors, family/friends, charitable organizations, and religious leaders/organizations) from 2005 to 2015 and identify socio-demographics factors associated with high trust.	37
Common immunization myths and misconceptions	Talking points and resources for busy healthcare providers.	44

Source: Immunization Action Coalition (IAC) Last Updated: 7/2018		
Need Help Responding to Vaccine-Hesitant Parents? Source: Immunization Action Coalition (IAC) Last Updated: 5/2019	One-pager outlining sources for science-based materials are available from these respected organizations.	54

Preparing for Questions Parents May Ask About Source: Centers for Disease Control and Prevention Last Updated: 4/2018	Provider resources for vaccine conversations with parents. Preparing for questions parents may ask about vaccines. Resources include: Vaccine schedule and number of vaccines, vaccine safety, known side effects, unknown serious, long-term side effects, vaccine ingredients, vaccines and autism, and additional	55
Provider Resources for Vaccine conversations with Parents Source: Centers for Disease Control and Prevention Last Updated: 11/2015	These materials can help assist the provider in communicating with parents to best meet their needs and concerns about vaccines.	57
How Nurses and Medical Assistants Can Foster a Culture of Immunization in the Practice Source: Centers for Disease Control and Prevention Last Updated: 12/2019	This CE activity features practical strategies to improve vaccination rates in the practice, including how to deliver clear and concise vaccine recommendations and address parents' frequently asked questions. By highlighting key points before, during, and after a patient's visit to support vaccine conversations, this presentation will reinforce best practices for improving vaccination rates. Find out how to develop a	59
Talking with Parents about Vaccines for Infants Source: Centers for Disease Control and Prevention Last Updated: 4/2018	Information for health care professionals. Resource discusses points to consider when speaking with parents about vaccines for infants.	61
Information for Health Care Professionals about Adolescent Vaccines Source: Centers for Disease Control and Prevention Last Updated: 8/2019	Factsheet on CDC recommendations for Tdap, HPV, MCV4, and Flu.	63
Top 10 ways to Improve Adolescent Immunization Rates Source: Immunization Action Coalition (IAC) Last Updated: 7/2019	Resource on how to improve adolescent immunization coverage rates.	67
Screening Won't Protect Your Patients from Most HPV Cancers Source: Centers for Disease Control and Prevention Last Updated: 8/2021	This infographic provides information to educate the whole office staff on the various cancers that HPV causes and why on-time vaccination is so important.	69
Talking to Parents about HPV Vaccine Source: Centers for Disease Control and Prevention Last Updated: 7/2019	Recommend HPV vaccination in the same way and on the same day as all adolescent vaccines. You can say, "Now that your son is 11, he is due for vaccinations today to help protect him from meningitis, HPV cancers, and whooping cough. Do you have any questions?" Remind parents of the follow-up shots their child will need and ask them to make appointments before they leave.	70
Algorithm for MenACWY Immunization in Adolescents 11-18 Years of Age Source: Immunization Action Coalition (IAC) Last Updated: 7/2021	Algorithm for providers to use during the recommendation for routine administration of MenACWY.	71
Meningococcal B Vaccine: CDC Answers Your Questions Source: Immunization Action Coalition (IAC) Last Updated: 10/2020	Resource covers Meningococcal B Vaccine availability in the U.S., recommendations, age cohort, schedule	73
Recommending MenACWY Vaccine What to Say and How to Say It Source: Immunization Action Coalition (IAC) Last Updated: 7/2019	Resource on how to improve adolescent immunization coverage for MenACWY.	75
Strengthen Vaccine Communications		
New Toolkit Resources for IQIP Consultants- October Source: Centers for Disease Control and Prevention Last Updated: 10/2021	Handout including resources for social media campaigns, marketing, overcoming vaccine hesitancies, and HPV awareness.	77
Sample Vaccine Policy Statement Source: Immunization Action Coalition (IAC) Last Updated: 8/2016	Provides a sample that can be used to help form a vaccine policy that can be shared with parents/ patients and new hires	81
Communicating the Benefits of Influenza Vaccine during COVID-19 Source: Immunization Action Coalition (IAC) Last Updated: 7/2021	Resource for providers about the benefits of flu vaccine. The one-page handout notes communications strategies that healthcare providers can use when talking to patients about getting their annual flu shot - October 2019 Meeting Recommendations.	83
Sample Vaccine Policy Source: All Pediatrics	Sample vaccination policy for clinic admin staff to use to create their own policy for their clinical site	84

Last Updated: 7/2018		
Handouts for Parents		
After the Shots... What to do if your child has		85

Source: Immunization Action Coalition (IAC) Last Updated: 2/2019	Here are answers to questions many parents have after their children have been vaccinated, including common post-injection reactions and medication dosing to reduce pain and fever.	
All Kids Need Hepatitis B Shots! Source: Immunization Action Coalition (IAC) Last Updated: 11/2017	One-pager for parents on the importance of Hep B vaccination. Information includes description of Hep B; how children contract Hep B; why Hep B is needed; infection risk; and vaccine safety.	87
Brief introduction to hep B for parents of adopted children Source: Immunization Action Coalition (IAC) Last Updated: 4/2016	Handout for parents that discusses Hepatitis B. Families adopting children from areas where hepatitis B is common should have their children tested as soon as possible after arrival in this country.	88
Chickenpox is a serious disease...make sure your child is protected Source: Immunization Action Coalition (IAC) Last Updated: 2/2020	Handout for parents that discusses chickenpox and why they should have their child vaccinated.	89
Clear answers and smart advice about your baby's shots Source: Immunization Action Coalition (IAC) Last Updated: 8/2019	In response to the recent media attention given to vaccines, autism, and other controversies concerning vaccines, the Immunization Action Coalition (IAC) offers this special excerpt from Baby 411 that answers these questions and more.	90
Measles: Questions and Answers – Information about the disease and vaccines (Parent Handout) Source: Immunization Action Coalition (IAC) Last Updated: 11/2018	One-pager on Measles including Q&As.	98

Flu Vaccine for Preteens and Teens Source: Centers for Disease Control and Prevention Last Updated: 7/2019	One-page handout for teens that lists and explains the flu vaccine. This is a great resource for patients and parents.	10 2
HPV is a serious disease...Make sure your child is protected! Source: Immunization Action Coalition (IAC) Last Updated: 2/2020	One-pager for parents on HPV discussing what HPV is and how to protect your child.	10 3
HPV Vaccine for Preteens and Teens Source: Centers for Disease Control and Prevention Last Updated: 7/2019	One-page handout for teens that lists and explains the HPV vaccine recommended for their age group. This is a great resource for patients and parents.	10 4
Meningococcal Vaccines for Preteens and Teens Source: Centers for Disease Control and Prevention Last Updated: 7/2019	One-page handout for teens that lists and explains the meningococcal vaccine recommended for their age group. This is a great resource for patients and parents.	10 6
Tdap Vaccine for Preteens and Teens Source: Centers for Disease Control and Prevention Last Updated: 7/2019	One-page handout for teens that lists and explains the Tdap vaccine recommended for their age group. This is a great resource for patients and parents.	10 7
Vaccines for Preteens and Teens: What Parents Should Know Source: Centers for Disease Control and Prevention Last Updated: 7/2019	One-page handout for teens that lists and explains the various vaccines they should be getting. This is a great resource for patients and parents.	10 8
Flu: A Guide for Parents Source: Centers for Disease Control and Prevention Last Updated: 1/2020	Informational guide for parents with information on the flu, the flu vaccine, and caring for sick children with the flu.	10 9
Reliable Sources of Immunization Information: Where Parents Can go to Find Answers! Source: Immunization Action Coalition (IAC) Last Updated: 5/2019	One-pager outlining sources for parents to access including: websites, books for parents, apps for mobile devices, videos, and phone numbers.	11 1
Top Ten Reasons to Protect Your Child by Vaccinating Source: Immunization Action Coalition (IAC) Last Updated: 8/2020	One-page handout provider staff can give to parents while recommending vaccination.	11 2
If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities Source: Centers for Disease Control and Prevention Last Updated: 3/2012	Resource for providers to give to parents regarding the risks of delaying or rejecting vaccination	11 3

2022 Recommended Immunizations for Children from Birth through 6 Years Old Source: Centers for Disease Control and Prevention	Chart that can be used by provider's staff with guidance for vaccine scheduling for parents.	11 5

Last Updated: 2/2022		
Immunization Guide for Babies Source: Immunization Action Coalition (IAC) Last Updated: 8/2020	Chart that can be used by provider's staff with guidance for vaccine scheduling for parents.	11 7
When Do Children and Teens Need Vaccinations? Source: Immunization Action Coalition (IAC) Last Updated: 5/2020	Chart that can be used by provider's staff with guidance for vaccine scheduling for parents.	11 8

Give a Strong Vaccine Recommendation		
"How I Recommend" videos for clinicians Source: Centers for Disease Control and Prevention Audience: Providers Last Updated: 09/2020	https://www.cdc.gov/hpv/hcp/how-I-recommend.html	The #HowIRecommend video series highlights clinicians like you, who explain how they are achieving high vaccination rates and effectively addressing vaccination questions in their practices. These short, informative videos cover a range of topics related to HPV, flu, and other pediatric vaccinations, including making effective recommendations to increase vaccination rates, helping parents understand why vaccination is important for their child, addressing parents' questions about vaccine safety and involving everyone in
5 Ways to Boost Your HPV Vaccination Rates Source: Centers for Disease Control and Prevention Audience: Providers Last Updated: 03/2019	https://www.cdc.gov/hpv/hcp/ boosting-vacc-rates.html	Implement these practical and proven strategies and increase HPV vaccination rates. Strategies include: Bundling recommendation, ensuring consistent messages, using ever opportunity to vaccinate, providing personal examples, and effectively answering questions.
Materials for Your Office - HPV Source: Centers for Disease Control and Prevention Audience: Providers Last Updated: 03/2019	https://www.cdc.gov/hpv/hcp/educationalmaterials.html#office	Using CDC's educational resources is a great way to help educate yourself and your office staff on the latest information and guidance on HPV vaccination, best practices for communicating with parents, and tips for boosting your vaccination rates. Sharing these resources with office staff also helps ensure a consistent message to parents about the importance of HPV vaccination.
Coadministration - Flu Source: Immunization Action Coalition Audience: Providers Last Updated: 09/2021	https://www.immunize.org/ask experts/experts_inf.asp	Clinical considerations for co-administering flu and COVID-19 and other childhood vaccines.

| **Make a Strong Influenza Vaccine Recommendation** Source: Centers for Disease Control and Prevention Audience: Providers Last Updated: 09/2021 | https://www.cdc.gov/flu/professionals/vaccination/fluvaccine-recommendation.htm | A health care professional's strong recommendation is a critical factor that affects whether patients get an influenza vaccine. Most adults believe vaccines are important, but they need a reminder to get vaccinated. Follow up with each patient during subsequent appointments to ensure the patient received an influenza vaccine. |

Strengthen Vaccination Communications

Medscape commentary featuring Dr. Messonnier: Vaccine Communication with Parents Source: Medscape Audience: Providers Last Updated: 07/2017	https://www.medscape.com/vi ewarticle/882865	Training resources for providers.
Foster Support for Vaccination in Your Practice Source: Centers for Disease Control and Prevention Audience: Providers Last Updated: 11/2020	https://www.cdc.gov/vaccines/ hcp/conversations/yourpractice.html	Patients and parents can feel more confident about vaccinating when everyone in the practice shares the same message. From the front desk to the exam room to checkout, everyone plays an important role in supporting vaccination. Adopt these best practices to ensure you never miss an opportunity to vaccinate.
Immunization Flyers and Posters Source: Centers for Disease Control and Prevention Audience: Clinic Admin Staff Last Updated: 12/2016	https://www.cdc.gov/vaccines/ partners/childhood/print-adsposters.html	Various printable/downloadable flyers and posters promoting childhood vaccination
Materials to Give Parents Source: Centers for Disease Control and Prevention Audience: Parents Last Updated: 03/2019	https://www.cdc.gov/hpv/hcp/educationalmaterials.html#parents	Providing educational resources to parents will help them understand the importance of vaccinating their children, answer many of their questions about vaccination, and reinforce providers recommendation.
How Vaccines Work: **Videos for** **Parents** Source: Centers for Disease Control and Prevention Audience: Parents Last Updated: 10/2015	https://www.cdc.gov/vaccines/ partners/childhood/videos.html	The Parents' Guide to Childhood Immunizations helps parents and caregivers learn about the role vaccines play in helping keep children healthy. The color booklet includes a glossary and list of resources and is illustrated with children's artwork.

Repository of Resources for Maintaining Immunization During the COVID-19 Pandemic Source: Immunization Action Coalition Audience: Consultants & Providers	https://www.immunizationcoalitions.org/resource-repository/	This repository of resources is intended for use by healthcare settings, state and local health departments, professional societies, immunization coalitions, advocacy groups, and communities in their efforts to maintain immunization rates during the COVID-19 pandemic. The repository includes links to international, national, and statelevel policies and guidance and advocacy materials, including talking points, webinars, press releases, media articles, and social media posts, as well as telehealth resources. The materials listed below can be sorted and searched by date, title, geographic area, source, type, category, or setting.

#CallYourPedia trician Campaign Source: American Academy of Pediatrics Audience: Providers Last Updated: 04/2021	https://www.aap.org/enus/about- the-aap-aap-pressroom/campaigns/call-your-pediatrician/Pages/default.asp x	Using humor and real-world conversations, we have launched the #CallYourPediatrician campaign, which aims to reach parents with timely reminders that going to the pediatrician, even during COVID-19, is important and safe.

Catch Up on Well Child Visits and Recommended Vaccinations Source: Centers for Disease Control and Prevention Audience: Parents Last Updated: 06/2021	https://www.cdc.gov/vaccines/ parents/visit/v accinationduring-COVID-19.html#	Online article encouraging parents to return to their doctor's office for well child visits and routine vaccinations.
CDC Flu Social Media Toolkit Source: Centers for Disease Control and Prevention Audience: Awardees & Providers Last Updated: 06/2021	https://www.cdc.gov/flu/r esource-center/toolkit/socialmedia- toolkit.htm	CDC encourages partner organizations to use these messages on their social media platforms to encourage flu vaccination among English-speaking audiences. For these social media messages for Spanish-speaking audiences, visit: CDC Flu Social Media Toolkit (Spanish).
Influenza (Flu) Communica tion Resources Source: Centers for Disease Control and Prevention Audience: Providers Last Updated: 09/2021	https://www.cdc.gov/flu/resource- center/index.htm	These communication resources can be geared towards a wide audience- a health departments, hospitals, schools, community leaders, and parents.
General Immunization Resources		
Continuing Education: General Best Practice Guidelines for Immunization Source: Centers for Disease Control and Prevention Audience: Providers Last Updated: 05/2021	https://www.cdc.gov/ vacci nes/hcp/acip-recs/generalrecs/index .html	In order to receive continuing education (CE) for WB2900 General Best Practice Guidelines for Immunization, please visit TCEO at www.cdc.gov/getCE and follow the 9 Simple Steps by 4/20/2021.
Talking About Vaccines with Dr. Stanley Plotkin	https://www.youtube.co m/play list?list=PLUv9oht3hC6Tq M6ub m4UfosW0U_pZq0ak	Check out the latest videos in the Vaccine Education Center at Children's Hospital of Philadelphia's new video series, Talking about

		Vaccines with Dr. Stanley Plotkin. In each 1- to 2minute video, Dr. Plotkin answers a question about vaccine science.

CE Instructions for
WD4272R: How Nurses and Medical Assistants Can Foster a Culture of Immunization in the Practice
(Credit expires

12/4/2023) To receive continuing education

(CE)

In order to receive continuing education (CE) for WD4272R *How Nurses and Medical Assistants Can Foster a Culture of Immunization in the Practice*, please visit TCEO at www.cdc.gov/getCE and follow the 9 Simple Steps by 12/4/2023. Pass the posttest at 80%.

If you have any questions or problems, contact CDC/ATSDR Training and Continuing Education Online via email at ce@cdc.gov. You may also contact the CE Coordinator at NCIRD, Melissa Barnett at MBarnett2@cdc.gov

PROGRAM DESCRIPTION: Research shows that healthcare professionals are the most trusted source of information for parents when it comes to vaccines for their child. Nurses and medical assistants have a key role to play in improving vaccine acceptance and fostering a culture of immunization in the practice as they are in contact with parents throughout the office visit. This CE activity features practical strategies to improve vaccination rates in the practice, including how to deliver clear and concise vaccine recommendations and address parents' frequently asked questions. By highlighting key points before, during, and after a patient's visit to support vaccine conversations, this presentation will reinforce best practices for improving vaccination rates. Find out how to develop a culture of immunization in your practice.

OBJECTIVES: At the conclusion of the session, the participant will be able to:
Describe strategies nurses, medical assistants, pharmacists, and other healthcare professionals can utilize to foster a culture of immunization where all members of the practice work together to successfully communicate with parents and patients about childhood and adolescent vaccinations.
Describe the burden of vaccine-preventable diseases and the benefits of vaccination, including the role of vaccination in keeping children healthy. Describe how to deliver clear and concise vaccine recommendations for boys and girls ages 0-18, including flu vaccine during flu season.
Describe strategies to improve competence of healthcare professionals around addressing parental concerns regarding childhood and adolescent vaccinations, including how to handle conversations during outbreaks.
Increase awareness of resources to facilitate vaccine conversations with parents.

FACULTY/CREDENTIALS:
Virginia Chambers, CMA, Department Faculty Chair and Program Director, Medical Assisting Program at Portland Community College Andrea Polkinghorn, RN Enterprise Immunization Strategy Leader, Sanford Health

ORIGINATION DATE: 12/4/2019   **RENEWAL DATE:** 12/4/2021   **EXPIRATION DATE:** 12/4/2023

URL: https://www.cdc.gov/vaccines/ed/hpv/index.html
HARDWARE/SOFTWARE: Computer Hardware; Internet connection; Browser;   **MATERIALS:** None

TARGET AUDIENCE: Administrators, CHES certified health educators, Physicians, Epidemiologists, LPNs, LVNs, Medical assistants, medical students, NPs, nurse technicians, other health educators, Pharmacists, PAs, program managers RNs

PREREQUISITES: Participants should have a basic educational background in science including general knowledge in the subject areas of biology, immunization and vaccine-preventable diseases.

FORMAT: This course is Enduring material.

ACCREDITATION STATEMENTS:

In support of improving patient care, The Centers for Disease Control and Prevention is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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INTERPROFESSIONAL CONTINUING EDUCATION

CME: The Centers for Disease Control and Prevention designates this Enduring activity for a maximum of 0.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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CEU: The Centers for Disease Control and Prevention is authorized by IACET to offer 0.1 CEU's for this program.

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DISCLOSURE: In compliance with continuing education requirements, all presenters must disclose any financial or other associations with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters as well as any use of unlabeled product(s) or product(s) under investigational use.

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FEES: No fees are charged for CDC's CE activities.

![Immunize.org logo]

You Must Provide Patients with Vaccine Information Statements (VISs) – It's Federal Law!

According to CDC, the appropriate VIS must be given:
• Prior to the vaccination (and prior to each dose of a multi-dose series);
• Regardless of the age of the vaccinee;
• Regardless of whether the vaccine is given in a public or private healthcare setting.

What are Vaccine Information Statements (VISs)?

Vaccine Information Statements (VISs) are documents produced by the Centers for Disease Control and Prevention (CDC), in consultation with panels of experts and parents, to properly inform vaccinees (or their parents/legal representatives) about the risks and benefits of each vaccine. VISs are not meant to replace interactions with healthcare providers, who should address any questions or concerns that the vaccinee (or parent/legal representative) may have.

Using VISs is legally required!

Federal law (under the National Childhood Vaccine Injury Act) requires a healthcare professional to provide a copy of the current VIS to an adult patient or to a child's parent/legal representative before vaccinating an adult or child with a dose of the following vaccines: diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis A, hepatitis B, *Haemophilus influenzae* type b (Hib), influ enza, pneumococcal conjugate, meningococcal, rotavirus, human papillomavirus (HPV), or varicella (chicken pox).

Where to get VISs

All available VISs can be downloaded from the websites of Immunize.org at www.immunize.org/vis or CDC at www.cdc.gov/vaccines/hcp/vis/index.html. Ready-to-copy versions may also be available from your state or local health department.

Translations: You can find VISs in more than 40 languages on the Immunize.org website at www.immunize.org/vis.

Top 10 Facts About VISs

fact 1 **It's federal law! You must provide current* VISs to all your patients before vaccinating them.**

Federal law requires that VISs must be used for patients of **all ages** when administering these vaccines:

- DTaP (includes DT)
- MMR and MMRV
- Td and Tdap
- meningococcal (MenACWY, MenB)
- hepatitis A
- pneumococcal conjugate
- hepatitis B
- polio
- Hib
- rotavirus
- HPV
- varicella (chickenpox)
- influenza (inactivated and live, intranasal)

For the vaccines not covered under the National Childhood Vaccine Injury Act (i.e., adenovirus, anthrax, dengue, Japanese encephalitis, pneumococcal polysaccharide, rabies, typhoid, yellow fever, and zoster), providers are not required by federal law to use VISs unless they have been purchased under CDC contract. However, CDC recommends that VISs be used whenever these vaccines are given.

*Federal law allows up to 6 months for a new VIS to be used.

fact 2 **VISs can be given to patients in a variety of ways.**

In most medical settings, VISs are provided to patients (or their parents/legal representatives) in paper form. However, VISs also may be provided using electronic media. Regardless of the format used, the goal is to provide a current VIS just prior to vaccination.

To obtain translations of VIS in languages other than English, go to www.immunize.org/vis.

Immunize.org **for professionals** www.immunize.org / **for the public** www.vaccineinformation.org
www.immunize.org/catg.d/p2027.pdf •
Item #P2027 (2/22)

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(For information on special circumstances involving vaccination of a child when a parent/legal representative is not available at the time of vaccination, see CDC's *VIS Frequently Asked Questions* at www.cdc.gov/vaccines/hcp/vis/about/vis-faqs.html.)

Prior to vaccination, VIS may be:

- Provided as a paper copy
- Offered on a permanent, laminated office copy
- Downloaded by the vaccinee (parent/legal representative) to a smartphone or other electronic device (VISs have been specially formatted for this purpose)
- Made available to be read before the office visit, e.g., by giving the patient or parent a copy to take home during a prior visit, or telling them how to download or view a copy from the Internet. These patients must still be offered a copy in one of the formats described previously to read during the immunization visit, as a reminder.

Regardless of the way the patient is given the VIS to read, providers must still offer a copy (which can be an electronic copy) of each appropriate VIS to take home following the vaccination. However, the vaccinee may decline.

fact VISs are required in both public and private 3 sector healthcare settings.

Federal law requires the use of VISs in both public and private sector settings, regardless of the source of payment for the vaccine.

fact You must provide a current VIS *before* a vaccine 4is administered to the patient.

A VIS provides information about the disease and the vaccine and must be given to the patient **before** a vaccine is administered. It is also acceptable to hand out the VIS well before administering vaccines (e.g., at a prenatal visit or at birth for vaccines an infant will receive during infancy), as long as you still provide a current VIS right before administering vaccines.

fact You must provide a current VIS for *each* dose 5 of vaccine you administer.

The most current VIS must be provided before **each dose** of vaccine is given, including vaccines given as a series of doses. For example, if 5 doses of a single

vaccine are required (e.g., DTaP), the patient (parent/legal representative) must have the opportunity to read the information on the VIS before each dose is given.

fact You must provide VISs whenever you administer 6 combination vaccines.

If you administer a combination vaccine that does not have a stand- alone VIS (e.g., Kinrix, Quadracel, Pediarix, Pentacel, Twin rix) you

should provide the patient with individual VISs for the component vaccines, or use the Multi-Vaccine VIS (see below).

The Multi-Vaccine VIS may be used in place of the individual VISs for DTaP, Hib, hepatitis B, polio, and pneumococcal when two or more of these vaccines are administered during the same visit. It may be used for infants as well as children through 6 years of age. The Multi- Vaccine VIS should not be used for adolescents or adults.

fact VISs should be given in a language/format that
7 the recipient can understand, whenever possible.

For patients who don't read or speak English, the law requires that providers ensure all patients (parent/legal representatives) receive a VIS, regardless of their ability to read English. To obtain VISs in more than 40 languages, visit the Immunize.org website at www. immunize.org/vis. Providers can supplement VISs with visual presentations or oral explanations as needed.

fact Federal law does not require signed consent in 8
order for a person to be vaccinated.

Signed consent is not required by federal law for vaccination (although some states may require it).

fact To verify that a VIS was given, providers must

9 record in the patient's medical record (or permanent office log or file) the following information:

• The edition date of the VIS • The date the VIS is provided (found on the back at the (i.e., the date of the visit when right bottom corner) the vaccine is administered)

In addition, providers must record:

• The office address and name • The date the vaccine is and title of the person who administered administers the vaccine • The vaccine manufacturer and lot number

fact VISs should not be altered before giving them to 10
patients, but you can add some information.

Providers should not change a VIS or write their own VISs. However, it is permissible to add a practice's name, address, and contact information to an existing VIS.

Additional resources on VISs and their use are available from the following organizations:

Immunization Action Coalition
• *VIS general information and translations in more than 40 languages:* www.immunize.org/vis

16

Using Standing Orders for Administering
Vaccines: What You Should Know

10 Steps to Implementing Standing Orders for Immunization in Your Practice Setting
Introduction
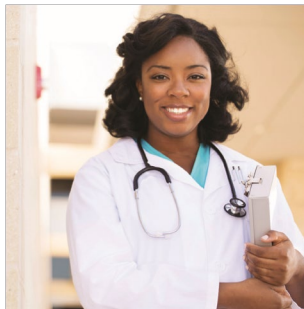
Standing orders are written protocols approved by a physician or other authorized practitioner that allow qualified health care professionals (who are eligible to do so under state law, such as registered nurses or pharmacists) to assess the need for and administer vaccine to patients meeting certain criteria, such as age or underlying medical condition. The qualified health care professionals must also be eligible by state law to administer certain medications, such as epinephrine, under standing orders should a medical emergency (rare event) occur.

While this guide focuses on implementing standing orders for influenza vaccination, the basic principles included can be used to implement standing orders for other vaccines and for any age group desired.

Having standing orders in place **streamlines your practice workflow** by eliminating the need to obtain an individual physician's order to vaccinate each patient. Standing orders carried out by nurses or other qualified health care professionals are the most consistently effective means for increasing vaccination rates and reducing missed opportunities for vaccination, which improves the quality of care for patients.

Standing orders are **straightforward to use**. The challenge is to integrate them into the practice setting so they can be used to their full potential. This process requires some preparation up front to assure everyone in the practice understands the reasons why standing orders are being implemented. Suggested steps to help you work through this process are shown below.

Phase 1: *Get Ready* – Build Support of Leadership

🔴 **step Discuss the benefits of implementing standing orders protocols with the leadership (medical director, clinicians, clinic manager, lead nurses) in your medical setting.**

Standing orders will:

• Facilitate efficient assessment for and administration of influenza vaccine in your

practice.

- Improve influenza vaccination rates in your practice.

- Protect more of your patients from influenza.

- Empower nurses and/or other eligible staff to use standing orders to protect more patients.

- Decrease opportunities for influenza transmission in your

health care setting. It is important to get buy-in from physician

and nurse leadership from the start.

Medical Director – This person is responsible for signing the standing orders protocols or supervises the clinician who signs them, so it is critical that he/she agrees with the need for standing orders and supports their use.

Clinician – Determine which clinician will review and sign the standing orders protocols for the practice. **Providers** – Identify issues that might lead to any resistance among other providers.

Nurse Leaders – Involve nurse leaders in the planning from the start. Nurses are the key players in implementing and carrying out standing orders programs.

If possible, determine the influenza vaccination rate in your practice *prior* to meeting with leadership.

Measured vaccination rates are inevitably lower (sometimes much lower) than perceived rates.

Lower-than-expected vaccination rates will help support the need for a standing orders program.

As appropriate for your medical setting, you also may want to discuss the standing orders protocols with your legal counsel to be sure they comply with all applicable state requirements.

step 2 **Identify the person who will take the lead and be in charge of your standing orders program.**

- In most practices, the lead person will be a nurse, nurse practitioner, or physician assistant.

- The lead person must be an influential leader who has medical knowledge, understands the standing orders protocols, and is able to answer questions about them from other staff members.

- The lead person must be **motivated** to protect patients by improving the adult vaccination levels in your practice – **a true immunization champion**.

step Reach agreement about which vaccine(s) your practice will administer using standing orders.

It may be best to start using standing orders only for influenza vaccine if you have not implemented standing orders previously. Later, when staff are trained and know how standing orders work, you can expand their use to additional vaccines. Standing orders work well for improving coverage for

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clinicians, buy-in from nurse leadership, have identified your **immunization champion** to

lead

the child, adolescent, and adult vaccines.
Completing Phase 1 means you are on your way. You have buy-in from

your medical director and effort, and have decided on the vaccines you

want to provide. Now you're ready to move to Phase 2.

Phase 2: *Get Set* – **Develop Materials and Strategies**

step 4 **Create standing orders protocols for the vaccine(s) you want to administer.**

- Don't reinvent the wheel! The Immunization Action Coalition (www.immunize.org) has standing orders templates for all routinely recommended vaccines available to download at www.immunize. org/standing-orders. IAC standing orders are reviewed by the Centers for Disease Control and Prevention (CDC) for technical accuracy. You may use IAC's standing orders templates as written, or you may modify them to meet your practice's needs.

page 3

- Have the standing order(s) reviewed and signed by the medical director or clinician responsible for the program.

note: Immunization Action Coalition (IAC) also has standing orders templates available for managing vaccine reactions, which include the administration of medication. These templates are available at www.immunize.org/catg.d/p3082.pdf for adults and at www.immunize.org/catg.d/p3082a.pdf for children.

step 5 Hold a meeting to explain your new standing orders program to all staff members.

- It is crucial that all staff understand the program because they will all be involved directly or indirectly.

- To get buy-in from staff, you will need to explain WHY you are starting this program. Some of the reasons are shown in the box below:

Why are we starting a standing orders program?

- Disease should be prevented whenever possible, and vaccines can do this.

- Our patients are counting on us to keep them healthy.

- Adult vaccination rates in the United States are low and significant racial and ethnic disparities exist.

- Vaccination levels among adults are inadequate in most practices.

- Standing orders have been demonstrated to streamline the assessment and delivery of immunizations in medical practices.

- The burden of disease as a result of vaccine-preventable diseases is seen not only in increased morbidity and mortality, but also in increased costs to the health care system.

- Review how standing orders work and the specific protocols and procedures with all staff members who will be involved.

step ● Determine the role various staff members will play in implementing/using standing orders.

Here are some general and specific questions that will help you plan:

WHO in your practice:

- is eligible under state law (RNs, pharmacists, others?) to assess a patient's vaccination needs and provide vaccinations using the standing orders protocols?

- can help determine the need for a patient to be vaccinated? (For example, the receptionist or the person who rooms patients can inquire if they have had their influenza vaccine yet this season.)

- will check the patient's chart to find out if they need vaccinations?

- will provide screening checklists for contraindications and precautions to patients, and who will review the patients' answers. (available at www.immunize.org/handouts/screening- vaccines.asp) Can these questions be added to your electronic medical record (EMR)?

page 4

(continued) **WHO** in your practice:

- will give Vaccine Information Statements (VISs) (legally required documents given before vaccination) to patients? (www.immunize.org/vis)

- will administer the vaccine?

- will ensure the patient's personal record is updated and given to the patient?

WHAT is the role of:

- the front desk staff? How can they
- the nurse?
- the medical assistant?

WHERE in your practice:

- will vaccine be administered?
- will vaccine administration information be recorded (e.g., EMR, paper document in medical chart, state/local immunization information system or "registry")? If you don't use an EMR and don't already have a medical record chart form for vaccination, you can use the Immunization Action Coalition's record forms for adults (www.immunize.org/catg.d/p2023.pdf) or children (www.immunize.org/catg.d/p2022.pdf).

step 7 Determine your standing orders operational strategy.

Review your existing vaccination services logistics. Are there ways to improve patient vaccination and flow and to maximize your office immunization rates?

Here are some proposed modifications to consider:

- Assess the influenza vaccination status of every patient who enters the office by asking the patient directly and checking the chart.
- Consider providing vaccinations in an easy-to-access site in your practice, separated from the normal traffic pattern through the office.
- Consider offering vaccinations under standing orders on a walk-in basis.
- Discuss expanding your vaccination services when using standing orders. For example, can you:
  - Hold vaccination clinics on evenings or weekends?
  - Have "nurse-only" visits for vaccination?
  - Offer "express" service for vaccination during regular office hours for both patients with appointments and those who are "walk-ins"?
- If you use an EMR, consider whether the standing orders protocols and screening questionnaires can be added as prompts within your existing system.
- If viable in your clinic setting, determine your current immunization rates so you will be able to measure your improvements after implementing standing orders.

step 8 Identify strategies and publicize your program to your patients.

Your enhanced vaccination program is of more value if your patients know the service is available.

- Review your current methods for contacting patients, e.g., appointment reminders, laboratory results, prescriptions, online communications, text messaging, etc. Can these methods also be used to tell patients about their need for vaccination and the availability of a convenient new program?

- Consider whether your existing communication systems are sufficient to inform patients about enhanced vaccine availability.

- Implement reminder/recall systems. (A reminder system notifies the patient of an upcoming appointment. A recall system contacts a patient who misses an appointment and encourages them to reschedule.) Your state/local health department often can help you with ideas on how to do this.

- Here are strategies for informing and identifying patients who need vaccines:

  - At each visit, inform all patients about when they should come for influenza vaccine.

  - Email or text the information.

  - Put a notice about the program on the practice's website, if applicable.

  - Use social media (such as Facebook or Twitter).

  - Place advertisements in local media.

  - Use promotional mailings.

  - Add promotional telephone messages or "on hold" messaging.

  - Place appropriate signs and posters in the office.

Materials You Will Need to Have on Hand

All these materials are FREE on the IAC website: • Adult and child vaccine administration record forms, if

www.immunize.org you don't use an electronic medical record (EMR) and don't already have a medical record chart

form (available • A copy of the signed standing orders protocol at your   at

www.immunize.org/catg.d/p2023.pdf and www.immunize.

fingertips for each vaccine you plan to use (templates

org/catg.d/p2022

.pdf) available at www.immunize.org/standing-orders)

• Information on how to report

vaccinations to your state/ • Adult and child contraindication screening checklists   local

immunization information system (registry) to help you determine if there is any reason not

to   if one is available. (See

www.cdc.gov/vaccines/programs/ vaccinate your patient (available at www.immunize.org/

iis/contacts-registry-staff.html)

catg.d/p4065.pdf and www.immunize.org/catg.d/

- To give to your patients: a personally-held

vaccination

p4060.pdf) record card (available for purchase at www.immunize.org/ • Vaccine Information Statements for all vaccines you plan shop/record-cards.asp) or a printed copy of the vaccine to administer (available in English and additional languages administered, including the date it was given. at www.immunize.org/vis)

✳

determined who will do what, and when they will do it. You have made your patients

aware of

Completing Phase 2 has helped you to get your standing orders logistics figured out. You have enhanced vaccine availability. Time to move to Phase 3.

page 6

Phase 3: *Go!* – **Make It Happen**

step ⑨ Start vaccinating!

Make sure the nursing and medical staff have all the tools they need to run a successful vaccination program. Listing all these materials is beyond the scope of this guide, but topics can include proper storage and handling of vaccines, vaccine administration techniques, strategies to avoid vaccine administration errors, documentation requirements for administering vaccines, and materials to help answer questions of vaccine-hesitant

patients. Visit www.immunize.org/clinic for many helpful resources.

step 1   **Review your progress.**

As with all quality improvement activities, it's wise to review your standing orders program shortly after it begins, check in with staff each week until it's running well, and then every few months until the end of influenza vaccination season. Compare the number of doses of vaccine you gave this season with a season before your standing orders program was put in place. Hold a staff meeting to get input from everyone involved in the program to find out what went right and how the program could be improved for next season. Consider whether you are ready to expand your use of standing orders to additional vaccines.

*

practice! Both you and your   patients

are
now benefitting **Congratulations** on implementing standing   orders
in your
from this proven method to streamline your
office practice while improving your
patients' quality of care.

Using Standing Orders for Administering Vaccines: What You Should Know

The use of standing orders for vaccination facilitates the delivery of immunization services to patients in clinics, hospitals, and community settings. Standing orders have been shown to increase vaccination coverage rates.

▼
Go to **www.immunize . org/standing-orders** for the most current versions of sample standing orders.

What are standing orders?

Standing orders authorize nurses, pharmacists, and other appropriately trained healthcare personnel, where allowed by state law, to assess a patient's immunization status and administer vaccinations according to a protocol approved by a medical director in a healthcare setting, a physician, or another authorized practitioner. Standing orders work by enabling assessment and vaccination of the patient without the need for clinician examination or direct order from the attending provider at the time of the interaction. Standing orders can be established for the administration of one or more specific vaccines to a broad or narrow set of patients in healthcare settings such as clinics, hospitals, pharmacies, and long-term care facilities.

Who recommends standing orders for vaccination?

The Community Preventive Services Task Force (Task Force): The Task Force[1] recommends standing orders for vaccinations based on strong evidence of effectiveness in improving vaccination rates:
1. in adults and children,
2. when used alone or when combined with additional interventions, and
3. across a range of settings and populations.

Read the full Task Force Finding and Rationale Statement at www.thecommunityguide.org/findings/vaccination-programs-standing-orders

The Centers for Disease Control and Prevention (CDC): CDC's Advisory Committee on Immunization Practices (ACIP) specifically recommends standing orders for influenza and pneumococcal vaccinations and several other vaccines (e.g., hepatitis B, varicella). See *Use of Standing Orders Programs to Increase Adult Vaccination Rates: Recommendations of the ACIP. MMWR* 2000;49 (No. RR-1) at www.cdc.gov/mmwr/preview/mmwrhtml/rr4901a2.htm

What are the elements of a standing order?

4. Provision of any federally required information (e.g., Vaccine Information Statement);
5. How to document vaccination in the patient record;
6. A protocol for the management of any medical emergency related to the administration of the vaccine; and
7. How to report possible adverse events occurring after vaccination.

Who is authorized to administer vaccines under standing orders?

Each of the 50 states separately regulates physicians, nurses, pharmacists, and other health-related practitioners. For further information about who can carry out standing orders in your state, contact your state immunization program or the appropriate state body (e.g., state board of medical/nursing/pharmacy practice).

Who is authorized to sign the standing orders?

In general, standing orders are approved by a medical director in a healthcare setting, a physician, or another authorized practitioner. State law or regulatory agency might authorize other healthcare professionals to sign standing orders.

What should be done with the standing orders after they have been signed?

Signed standing orders should be kept with all other signed medical procedures and protocols that are operational in one's clinic setting. A copy should also be readily available for clinic staff who operate under those standing orders.

Do standing orders need to be renewed (e.g., yearly)?

Generally, standing orders will include an implementation date as well as an expiration date. Periodic review of standing orders is important because vaccine recommendations may change over time.

Where can I find sample standing orders?

Immunize.org has developed templates of

Force produces recommendations (and identifies evidence gaps) to help inform the decision making of federal, state, and local health departments, other government agencies, communities, healthcare providers, employers, schools, and research organizations. For more infor-mation, see www.thecommunity guide.org/index.html.

A comprehensive standing order should include the following elements:
1. Who is targeted to receive the vaccine;
2. How to determine if a patient needs or should receive a particular vaccination (e.g., indications, contraindications, and precautions);
3. Procedures for administering the vaccine (e.g., vaccine name, schedule for vaccination, appropriate needle size, vaccine dosage, route of administration);

standing orders for vaccines that are routinely recommended to children and adults. They are updated as needed and reviewed for technical accuracy by immunization experts. The most current versions can be accessed by going to www.immunize.org/standing-orders.

- *Current Dates of Vaccine Information Statements:*
  www.immunize.org/catg.d/p2029.pdf

Centers for Disease Control and Prevention

- *VIS website:* www.cdc.gov/vaccines/hcp/vis
- *VIS Facts:*
  www.cdc.gov/vaccines/hcp/vis/about/facts- vis.html
- *VIS FAQs:*
  www.cdc.gov/vaccines/hcp/vis/about/vis-faqs.html

Most current versions of VISs (table) as of July 24, 2023

Routine

- Dengue (12/17/21)
- DTaP (Diphtheria, Tetanus, Pertussis) (8/6/21)
- Hepatitis A (10/15/21)
- Hepatitis B (5/12/23) interim
- Hib (*Haemophilus Influenzae* type b) (8/6/21)
- HPV (Human Papillomavirus) (8/6/21)
- Influenza - Live, Intranasal (8/6/21)
- Influenza - Inactivated (8/6/21)
- Measles/Mumps/Rubella (MMR) (8/6/21)
- Measles/Mumps/Rubella & Varicella (MMRV) (8/6/21)
- Meningococcal ACWY (8/6/21)

- Meningococcal B (8/6/21)
- Pneumococcal Conjugate (PCV) (5/12/23) interim
- Pneumococcal Polysaccharide (PPSV23) (10/30/19)
- Polio (8/6/21)
- Rotavirus (10/15/21)
- Respiratory Syncytial Virus (RSV) (7/24/23)
- Tdap (Tetanus, Diphtheria, Pertussis) (8/6/21)
- Td (Tetanus, Diphtheria) (8/6/21)
- Varicella (Chickenpox) (8/6/21)
- Zoster / Shingles (Recombinant) (2/4/22)

Non-routine

- Adenovirus (1/8/20)
  Note: Adenovirus vaccine is approved for use only among military personnel.
- Anthrax (1/8/20)
- Cholera (10/30/19)
- Ebola (6/30/22)
- Japanese Encephalitis (8/15/19)
- Rabies (6/2/22)

- Smallpox/Monkeypox (JYNNEOS™) (11/14/22)
- Smallpox (ACAM2000®) (12/1/15)
  Medical Guide for vaccination with ACAM2000 [6 pages] ⧉ This medication guide replaces the Smallpox VIS. It is to be used before one receives the vaccination. This guide is not available in other languages.
- Typhoid (10/30/19)
- Yellow Fever (4/1/20)

Immunize.org **for professionals** www.immunize.org / **for the public** www.vaccineinformation.org
www.immunize.org/catg.d/p2027.pdf •

Item #P2027 (2/22)

Best Practices for Scheduling

Immunization Appointments

✓
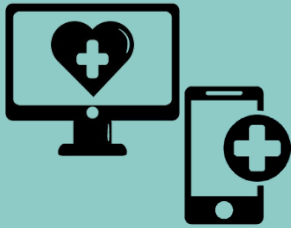
LET PATIENTS BOOK ONLINE, IN-PERSON OR OVER THE PHONE.

The ability to book appointments using multiple methods allows efficiency and flexibility for your patients.

✓**OFFER MULTIPLE TIME-SLOT OPTIONS TO PATIENTS.**

Give patients as many options as possible to choose the best time slot for
their schedule. This will reduce the chance of cancellations due to time conflicts.

RECORD PATIENT'S CONTACT INFORMATION.

Update/confirm patient's phone number, e-mail, and mailing
address at each visit. You'll need to be able to contact them for an upcoming appointment or to reschedule their next appointment.

✓**SEND PATIENT REMINDERS BEFORE THEIR APPOINTMENT.**

Using different methods of appointment reminders reduces the risk of patients missing or canceling appointments.

DESIGNATE AN APPOINTMENT SCHEDULER FOR YOUR OFFICE.

Designate an individual(s) to manage appointment scheduling and provide them with training on childhood/adolescent immunization schedules.

Basics of Immunization Information Systems (IISs)

These sources send vaccination records to state or city IIS

Hospital · OB/GYN · Workplace · Doctor's office · Public health department · Urgent care · Pharmacy

IISs provide records to patients and authorized professionals

Parents and general public use the information to enroll children in schools and day care and to determine if they need vaccinations.

Doctors and health care providers use IISs to determine which vaccinations are needed and to care for patients.

Public health uses the information to develop programs that increase vaccination coverage and decrease the harm caused by vaccine-preventable diseases.
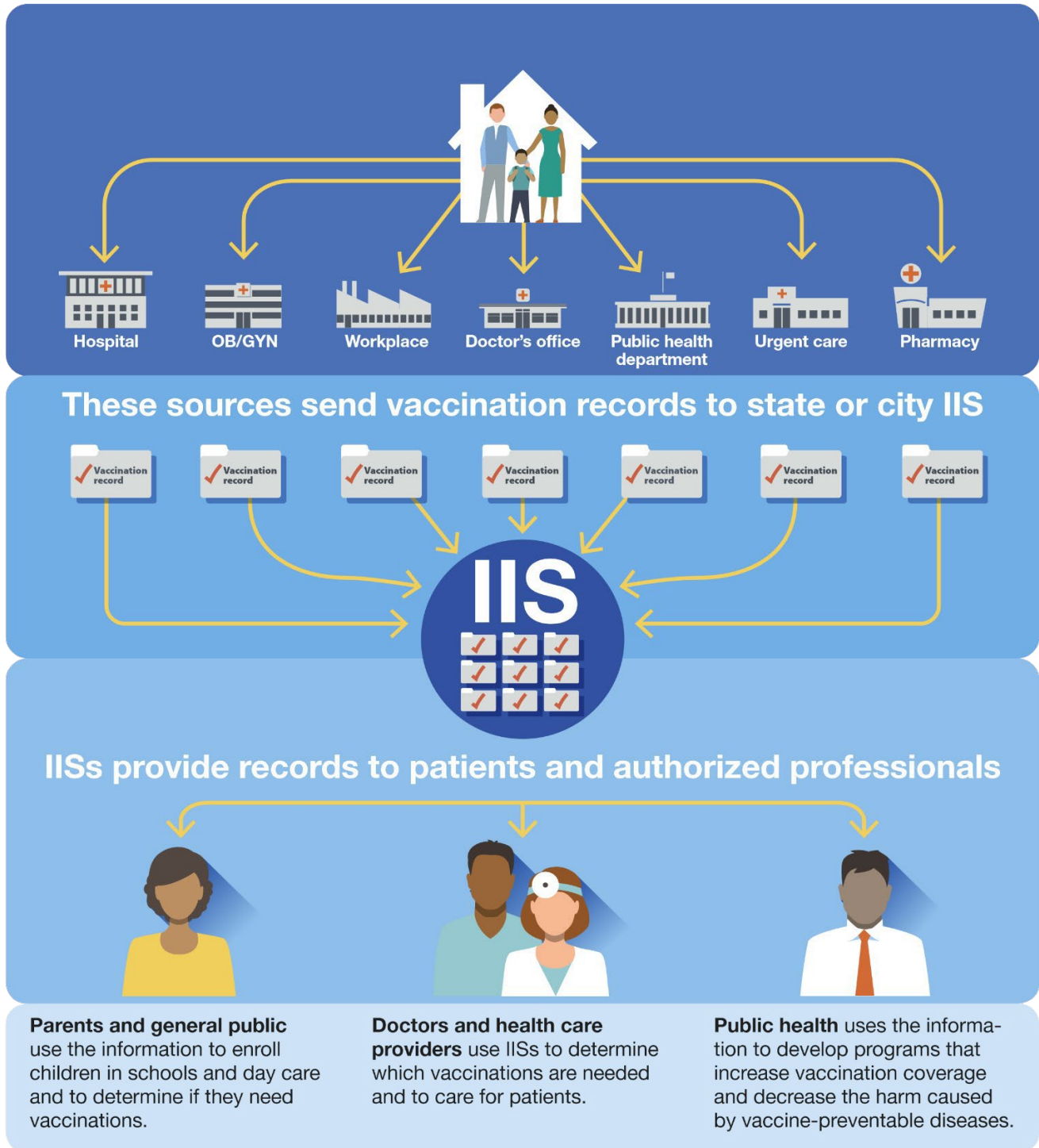
Distributed by:

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

EHR (and) IIS

Their Differences and How
They Work Together

Only captures patient health information within the same medical organization

Captures immunization information for a broad population

Replaces written health records of medical encounters

Consolidates immunization records by reaching across heath care providers and networks

Supports provider decisions about a patient's care

Provides clinical decision support and vaccine forecasting
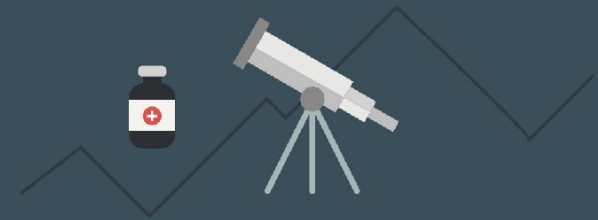
Automates and streamlines provider workflow

Identifies areas of need, where lower immunization rates exist

Can communicate bidirectionally with IIS

Can communicate bidirectionally with other IIS and EHRs
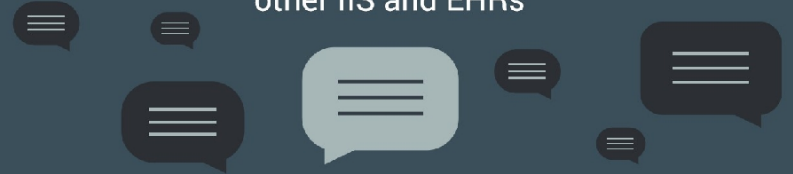
Better Together

Connectivity
IIS connect providers with a patient's full immunization history, regardless of prior networks or providers visited. When IIS are integrated into the EHR, access to this information becomes seamless. This connectivity eliminates the burden of retrieving and compiling fragmented information from past providers and pharmacies.

Collaboration
When IIS and EHR systems share data, patient immunization records become as complete and accurate as possible. A consolidated record that follows patients throughout their lifetime prevents the patient from receiving too many or too few vaccines in the future.

Visibility
Connecting providers to broader population data allows them visibility into the history and needs of the population they serve, ensuring the best outcomes in daily, clinical decision-making. Providers also gain visibility into future needs through immunization forecasting, helping organizations more strategically plan and communicate with patients through timely vaccination reminders.

Learn more about the
unique capabilities of IIS

Common Immunization Myths and Misconceptions

Talking Points and Resources for Busy Healthcare Professionals

Background

Parents, patients, and healthcare professionals all have misconceptions about vaccinations.

- More patients and parents are questioning the safety and effectiveness of vaccines. Your responses to them require knowledge, tact, and time.
- Healthcare providers can miss opportunities to vaccinate by believing false contraindications and following unnecessary rules.

2

Background (cont.)

This presentation will provide:

- information that addresses common concerns or misconceptions about vaccination. Concerns and misconceptions of patients, parents, and healthcare professionals will be reviewed.
- links to related evidence-based resources – some are intended as background information for healthcare professionals and others for patients/parents.

3

Patient and Parent Myths

MYTH: MMR causes autism

- Many large, well-designed studies have found no link between MMR and autism.
- Autism usually becomes apparent around the same time MMR is given – no evidence of causality.
- Autism probably has multiple components, including genetics (e.g., one study found that if one identical twin had autism, the chance that the second twin had autism was greater than 90%, but with fraternal twins the chance was less than 10%.)

5

MYTH: MMR causes autism (cont.)

- The 1998 study by Andrew Wakefield that started this concern was based on 12 children who were preselected for study.
- In 2004, 10 of the 13 authors of this study retracted the study's interpretation.

6

MYTH: MMR causes autism (cont.)

- On 2/2/2010, the editors of *The Lancet* retracted the paper following the ruling of the U.K.'s General Medical Council that stated the primary author's conduct regarding his research was "dishonest" and "irresponsible" and that he had shown a "callous disregard" for the suffering of children involved in his studies. Wakefield was subsequently removed from the U.K medical register and is no longer licensed to practice medicine.

- In January 2011, the BMJ published a series of articles showing Wakefield's work was not just bad science, but deliberate fraud.

7

References

- IAC's "MMR vaccine does not cause autism. Examine the evidence!" www.immunize.org/catg.d/p4026.pdf
- IAC's "Clear Answers & Smart Advice about Your Baby's Shots" by Ari Brown, MD, FAAP www.immunize.org/catg.d/p2068.pdf
- CDC's "Measles, Mumps, and Rubella (MMR) Vaccine Safety Studies" www.cdc.gov/vaccinesafety/vaccines/mmr/mmr-studies.html
- The Fraud Behind the MMR Scare *(IAC web section)* www.immunize.org/bmj-deer-mmr-wakefield
- IOM Report: "MMR Vaccine and Autism" www.nap.edu/read/10101/chapter/1

8

References (cont.)

- IAC's "Evidence Shows Vaccine Unrelated to Autism" www.immunize.org/catg.d/p4028.pdf
- IAC's "Decisions in the Omnibus Autism Proceeding" www.immunize.org/catg.d/p4029.pdf
- VEC's "Vaccines and Autism: What you should know" www.chop.edu/export/download/pdfs/articles/vaccine-educationcenter/autism.pdf
- CDC's "Understanding MMR Vaccine Safety" www.cdc.gov/vaccines/hcp/conversations/downloads/vacsafe-mmrcolor-office.pdf
- "Vaccines and Autism: A Tale of Shifting Hypotheses" by Paul Offit, MD and Jeffery Gerber, MD http://cid.oxfordjournals.org/content/48/4/456.full

9

References (cont.)

- "Fitness to Practice Panel Hearing" report from the U.K's General Medical Council regarding Dr. Andrew Wakefield www.neurodiversity.com/wakefield_gmc_ruling.pdf
- *The Lancet* retraction www.thelancet.com/journals/lancet/article/PIIS0140-6736(97)110960/abstract
- "How a zealot's word led us astray on autism" by Arthur Caplan, PhD www.msnbc.msn.com/id/35218819/ns/health-health_care
- AAP's "Vaccine Safety: Examine the Evidence" www.aap.org/en-us/Documents/immunization_vaccine_studies.pdf

10

MYTH: Giving an infant multiple vaccines can overwhelm the immune system

- Babies begin being exposed to immunological challenges immediately at the time of birth. As babies pass through the birth canal and breathe, they are immediately colonized with trillions of bacteria, which means that they carry the bacteria in their bodies but aren't infected by them. Healthy babies constantly make antibodies against these bacteria and viruses.

11

MYTH: Giving an infant multiple vaccines can overwhelm the immune system (cont)

- Vaccines use only a tiny proportion of a baby's immune system's ability to respond; though children receive more vaccines than in the past, today's vaccines contain fewer antigens (e.g., sugars and proteins) than previous vaccines. Smallpox vaccine alone contained 200 proteins; the 14 currently recommended routine vaccines contain fewer than 150 immunologic components.

12

2

References

- VEC's "Too Many Vaccines? What you should know" http://media.chop.edu/data/files/pdfs/vaccine-education-centertoo- many-vaccines.pdf
- FAQs about Multiple Vaccinations and the Immune System www.cdc.gov/vaccinesafety/Vaccines/multiplevaccines.html
- "Vaccines and Autism: A Tale of Shifting Hypotheses" by Paul Offit, MD and Jeffery Gerber, MD http://cid.oxfordjournals.org/content/48/4/456.full

13

MYTH: It's better to space out vaccines using an alternative schedule

- Delaying vaccines increases the time children will be susceptible to diseases
  - In 2014, there were 665 cases of measles reported in the U.S. The majority of people who got measles were unvaccinated. Measles is still common in many parts of the world, including some countries in Europe, Asia, the Pacific, and Africa, and can easily be transported.
  - In 2014, 32,971 cases of pertussis were reported to CDC, and many more cases were undiagnosed.
- Requiring many extra appointments for vaccination increases the stress for the child and may lead to a fear of visits to the clinic.
- There is no evidence that spreading out the schedule decreases the risk of adverse reactions.

14

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- "The Problem With Dr. Bob's Alternative Vaccine Schedule" by Paul Offit, MD and Charlotte Moser http://pediatrics.aappublications.org/content/pediatrics/123/1/e164. full.pdf
- AAP's "The Childhood Immunization Schedule: Why Is It Like That?" www.aap.org/en-us/advocacy-and-policy/Documents/ Vaccineschedule.pdf
- VEC's "Too Many Vaccines? What you should know" http://media.chop.edu/data/files/pdfs/vaccine-education-centertoo- many-vaccines.pdf
- IOM Report: "Multiple Immunizations and Immune Dysfunction" www.nap.edu/read/10306/chapter/1
- "Parental Refusal of Pertussis Vaccination is Associated with an Increased Risk of Pertussis Infection in Children" Gianz et al

    http://pediatrics.aappublications.org/content/123/6/1445.abstract

15

MYTH: Natural infection is better than immunization

- Natural infection usually does not cause better immunity than vaccination.
- However, the price paid for natural disease can include:
  - paralysis
  - permanent brain damage
  - liver failure
  - liver cancer
  - deafness
  - blindness
  - loss of limbs – death

16

References

- "Natural Infection vs. immunization" by Paul Offit, MD www.chop.edu/centers-programs/vaccine-education-center/vaccinesafety/immune-system-and-health
- Photos of people with vaccine-preventable diseases www.immunize.org/photos
- Real-life accounts of people who have suffered or died from vaccinepreventable diseases www.immunize.org/reports

17

MYTH: Thimerosal causes autism

- The form of mercury found in thimerosal is ethylmercury (EM), not methylmercury (MM). MM is the form that has been shown to damage the nervous system.
- Although no evidence of harm has ever been demonstrated, thimerosal was taken out of vaccines as a precaution, and "because it can be" (due to single dose vials).
- Since 2001, with the exception of a few influenza vaccine products, thimerosal has not been used as a preservative in any routinely recommended childhood vaccines.

18

3

Immunization Action Coalition • (651) 647-9009 • www.immunize.org (7/18)   **www.immunize.org/catg.d/s8035.pdf • Item #S8035**

24

MYTH: Thimerosal causes autism (cont)

- Multiple studies have shown that thimerosal in vaccines does not cause autism when comparing children who received thimerosal-containing vaccines and those who received vaccines not containing thimerosal.

- Studies of three countries compared the incidence of autism before and after thimerosal was removed from vaccines (in 1992 in Europe and 2001 in the U.S.). There was no decrease in autism with the switch to thimerosal-free vaccines.

19

References

- CDC's Vaccine Safety Concerns web page www.cdc.gov/vaccinesafety/concerns
- IAC's collection of thimerosal-related resources www.immunize.org/thimerosal
- Institute of Medicine reports on thimersal www.nap.edu/books/030909237X/html and www.nap.edu/read/10208/chapter/1
- CDC's "Understanding Thimerosal, Mercury, and Vaccine Safety" www.cdc.gov/vaccines/hcp/patient-ed/conversations/downloads/vacsafe-thimerosal-color-office.pdf

20

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- Vaccine Education Center's (VEC's) "Thimerosal: What you should know" http://media.chop.edu/data/files/pdfs/vaccine-education- centerthimerosal.pdf
- VEC's "Vaccines and Autism: What you should know" http://media.chop.edu/data/files/pdfs/vaccine-education- centerautism.pdf
- CDC's Studies on Thimerosal in Vaccines www.cdc.gov/vaccinesafety/pdf/cdcstudiesonvaccinesandautism.pdf
- "Vaccines and Autism: A Tale of Shifting Hypotheses" by Paul Offit, MD and Jeffery Gerber, MD http://cid.oxfordjournals.org/content/48/4/456.full

21

MYTH: Ingredients in vaccines are harmful

Aluminum

- Aluminum is used in some vaccines as an adjuvant – an ingredient that improve the immune response. Adjuvants can allow for use of less antigen. They have been used for this purpose for more than 70 years.
- Aluminum is the most common metal found in nature. It is in the air and in food and drink. Infants get more aluminum through breast milk or formula than vaccines.
- Most of the aluminum taken into the body is quickly eliminated.

22

MYTH: Ingredients in vaccines are harmful (cont.)

Formaldehyde

- Formaldehyde is used to detoxify diphtheria

MYTH: Ingredients in vaccines are harmful (cont.)

Miscellaneous

- Antibiotics are present in some vaccines to prevent bacterial contamination when the

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25

and tetanus toxins or to inactivate a virus.
- The tiny amount which may be left over from these steps in making vaccines is safe.
- Formaldehyde is also found in products like paper towels, mascara, and carpeting.
- Humans normally have formaldehyde in their blood streams at levels higher than is found in vaccines.

23

vaccine is made.

- Additives such as gelatin, albumin, sucrose, lactose, MSG, and glycine help the vaccine stay effective while being stored.
- Trying to make vaccines without adjuvants, additives, and preservatives is difficult – these ingredients keep vaccine safe and effective.

24

4

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26

References

- VEC's "Aluminum in Vaccines: What you should know" http://media.chop.edu/data/files/pdfs/vaccine-education- centeraluminum.pdf
- VEC's "Vaccine Ingredients: What you should know" http://media.chop.edu/data/files/pdfs/vaccine-education- centervaccine-ingredients.pdf
- IAC's "Adjuvants and Ingredients" web section www.immunize.org/concerns/adjuvants.asp
- AAP's "Questions and Answers about Vaccine Ingredients" https://www.healthychildren.org/English/safety- prevention/immunizations/Pages/Vaccine-Ingredients- FrequentlyAsked-Questions.aspx

25

References (cont.)

- CDC's "Vaccine Excipient & Media Summary, by Excipient" https://cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/ excipient-table-2.pdf
- CDC's "Ingredients of Vaccine – Fact Sheet" www.cdc.gov/vaccines/vac-gen/additives.htm
- IAC's Package Inserts web section www.immunize.org/fda

26

MYTH: Disease rates have dropped due to factors other than vaccination

- Better living conditions (less crowded housing, better nutrition, etc.) have had an impact on disease rates. BUT, the only real decrease in a VPD has occurred after the introduction of a vaccine to prevent it.
- This is also true for newer vaccines like Hib (1987) and varicella (1995), which were introduced during times of modern hygiene.

27

MYTH: Disease rates have dropped due to factors other than vaccination (cont.)

- When some developed countries (U.K., Sweden, Japan) stopped using DTP vaccine, their pertussis rates jumped dramatically.
- Several recent outbreaks of measles, pertussis, and varicella in the U.S. have been traced to pockets of unvaccinated children in states that allow personal belief exemptions. When vaccination rates go down, disease rates to up.

28

Example: Measles

Measles–United States, 1950-2001

Vaccine Licensed

29

Example: *Haemophilus influenzae type b*

Estimated Incidence* of Invasive Disease, 2000 — Hib 1987-

*Rate per 100,000 children <5 years of age

30

5
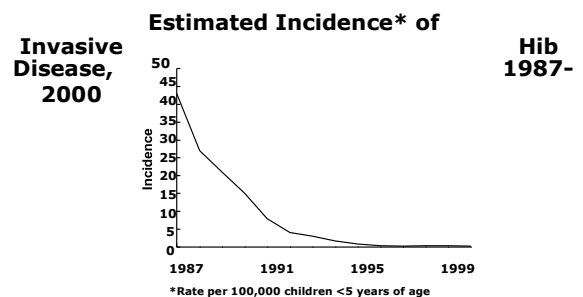
References

- HHS's "Vaccine Works"
  www.vaccines.gov/basics/work/index.html
- CDC's "What Would Happen if We Stopped Vaccinations?" www.cdc.gov/vaccines/vac-gen/whatifstop.htm
- IAC's "Personal belief exemptions for vaccination put people at risk. Examine the evidence for yourself." www.immunize.org/catg.d/p2069.pdf

31

References

- IAC's "What if you don't immunize your child?"
  www.immunize.org/catg.d/p4017.pdf
- IAC's "Decision to Not Vaccinate My Child" *(declination form)*
  www.immunize.org/catg.d/p4059.pdf
- "Personal belief exemptions for vaccination put people at risk"
  www.immunize.org/catg.d/p2069.pdf
- "Sample Vaccine Policy Statement"
  www.immunize.org/catg.d/p2067.pdf
- IAC's Mandates and Exemptions web page
  www.immunize.org/laws/exemptions.asp

33

References

- IAC's web page about ethical and religious objections to vaccination
  www.immunize.org/concerns/religious.asp
- Why Were Fetal Cells Used to Make Certain Vaccines? www.chop.edu/news/news-views-why-wer-fetal-cells-used- makecertain-vaccines?utm_term=new+view&utm_content=vaccine+hesitancy&utm_campaign=vecupdatesApr2017

35

MYTH: Mandatory vaccination violates civil rights

- Massachusetts enacted the first mandatory vaccination law in the U.S. in 1809.
- Vaccination laws have been found to be constitutional in U.S. courts. Seminal case was *Jacobson v. Massachusetts* in 1905.
- All states offer medical exemptions.
- Parents need to be aware that if they don't vaccinate their children, they are putting them, and their contacts, at risk of serious disease.
- Unvaccinated children often have to stay home from school or daycare during outbreaks.

32

MYTH: Abortions are required to produce vaccines

- It's true that production of varicella, rubella, rabies, and hepatitis A vaccines involves growing viruses in human cell culture.
- Two human cell lines provide these cultures; they were developed from two legally aborted fetuses in the 1960s.
- The donor fetuses were not aborted for the purpose of obtaining these cells.
- The same cell lines have been used for more than 40 years – no new fetal tissue is required.

34

MYTH: VAERS data prove that vaccines are dangerous

VAERS data cannot "prove" anything.

- Anyone can report anything…not proof of causality is required.
- Only reports of special interest (e.g., hospitalizations) are verified. When checked, many reports are not accurate.
- Reports include many non-serious reactions.
- The number of reported adverse events is influenced by publicity.
- VAERS is properly used to detect early warning signals and generate hypotheses.

36

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(7/18)

28

References

- Vaccine Adverse Events Reporting Systems (VAERS) www.vaers.hhs.gov
- CDC's Vaccine Safety Monitoring web page www.cdc.gov/vaccinesafety/Vaccine_Monitoring/Index.html
- CDC's "Ensuring the Safety of Vaccines in the United States" www.cdc.gov/vaccines/hcp/patient-ed/conversations/downloads/ vacsafe-ensuring-color-office.pdf
- CDC's "Understanding the Vaccine Adverse Event Reporting System (VAERS)" www.cdc.gov/vaccines/hcp/patient-ed/conversations/downloads/ vacsafe-vaers-color-office.pdf
- WHO's "Causality assessment of adverse events following immunization" www.who.int/vaccine_safety/causality/en

37

Good resources FOR PROVIDERS talking to parents and patients

- IAC's Talking about Vaccines web section www.immunize.org/talking- about-vaccines
- IAC's Responding to Parents web section www.immunize.org/talking- about-vaccines/responding-to-parents.asp
- CDC's Provider Resources for Vaccine Conversations with Parents web section www.cdc.gov/vaccines/hcp/conversations
- Vaccine Education Center www.chop.edu/centers-programs/vaccine- education-center
- AAP's immunization website www.aap.org/immunization
- National Adult and Influenza Immunization Summit www.izsummitpartners.org

38

Good resources FOR PARENTS

- IAC's handouts for communicating with parents www.immunize.org/handouts/discussing-vaccines-parents.asp
- IAC's website for the public www.vaccineinformation.org
- CDC's fact sheets on vaccine-preventable diseases for parents www.cdc.gov/vaccines/hcp/conversations/preventdiseases/index.html
- CDC's "Parents Guide to Childhood Immunization" www.cdc.gov/vaccines/pubs/parents-guide
- Vaccine Education Center's handouts for parents and patients www.chop.edu/centers-programs/vaccine-education-center/resources/vaccine-and-vaccine-safety-related-qa-sheets
- Every Child By Two's websites www.ecbt.org and www.vaccinateyourfamily.org

39

Good resources FOR ADULT PATIENTS

- IAC's handouts related to adult immunization www.immunize.org/handouts/adult-vaccination.asp
- IAC's website for the public www.vaccineinformation.org
- VEC's handouts on hepatitis A, meningococcal, HPV, influenza, shingles, and Tdap www.chop.edu/center-programs/vaccine- education-center/resources/vaccine-and-vaccine-safety-related-qa-sheets
- VEC's "Vaccines and Adults" booklet http://media.chop.edu/data/files/pdfs/vaccine-education- centervaccines-adults.pdf
- National Foundation for Infectious Diseases www.adultvaccination.org
- CDC's Vaccine Information for Adults web section www.cdc.gov/vaccines/adults

40

Don't worry about every possible question

- Be able to recommend good websites and handouts for patients/parents.
- Be aware of major vaccine-critical groups and individuals and become familiar with their websites. For example, the name National Vaccine Information Center sounds official and positive about vaccines, but it is not.
- Be ready to answer the most common questions – many concerns haven't changed in over 200 years!
- Remember, it's acceptable to say you'll look into a question and get back to the patient with more information.
- It's worth your time – people respect the opinion of their healthcare providers.

41

Provider Myths

7

Background

- Vaccination contraindications and precautions are complicated, and the many vaccines and their recommendations can cause confusion that leads to misconceptions.
- Providers who are concerned about vaccinating properly frequently err on the side of caution.
- Unfortunately, misconceptions can lead to missed opportunities to vaccinate.

43

Provider Myths

MYTH
Vaccines can't be given to people who are sick.

FACT
Mild acute illness with or without fever is not a contraindication to vaccination. Neither is antibiotic treatment, recent exposure to an infectious disease, or convalescing from an illness.

44

Provider Myths

MYTH
Providers need to check vital signs before vaccinating.

FACT
ACIP does not recommend routinely checking temperature or other vital signs before vaccination. Mild illness is not a reason to withhold vaccination, and requiring extra steps can be a barrier to immunization.

45

Provider Myths

MYTH
There is a limit to the number of vaccines that can be given at the same visit.

FACT
No upper limit has been established regarding the number of vaccines that can be administered in one visit. ACIP recommends administration of all recommended vaccines at the same visit.

46

Provider Myths

MYTH
Figuring out which vaccine can be given at a single visit is complicated.

FACT
- Almost all* routine vaccines can be given simultaneously (at the same visit, not in the same syringe).
- If two live virus vaccines are *not* given at the same visit, then they need to be separated by at least 4 weeks.
- Inactivated vaccines can be given at the same time, or any time before or after, another inactivated or live vaccine.

   next slide

47

Provider Myths (cont.)

There are two exceptions to these general rules:

1) If both PCV13 and PPSV23 are indicated, these vaccines should not be given at the same visit. For adults age 19–64 who are receiving both vaccines due to a high-risk condition, the PCV13 should be given first followed by PSV23 at least 8 weeks later. If PPSV23 has already been given, wait 8 weeks (for a child) or 1 year (for an adult age 19 years or older) before giving PCV13 to avoid interference between the 2 vaccines. For adults age 65 and older who are receiving both PCV13 and PPSV23 as part of the routine recommendation, PCV13 should be given first and PPSV23 a year later. This will ensure that Medicare will cover both.

2) A person with anatomic or functional asplenia should receive both pneumococcal conjugate vaccine (PCV13) and meningococcal conjugate vaccines (MenACWY). If *Menactra* brand MenACWY is used, the person should first receive all recommended doses of PCV13, then *Menactra* at least 4 weeks later. *Menveo* brand MenACWY can be given at the same time or at any time before or after PCV13.

48

8

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29

Provider Myths

MYTH

Vaccines can't be given to women who are breastfeeding.

FACT

All vaccines can be given to women who are breastfeeding (yes, even live vaccines!), with the exception of smallpox vaccine.

49

Provider Myths

MYTH

Pregnant women should never get vaccines.

FACT

Although pregnant women should not receive LIVE vaccines, influenza and Tdap are recommended during pregnancy.
Other inactivated vaccines may or may not be administered, depending on the mother's risk factors and vaccination status. HPV vaccine has not been sufficiently studied, so it should not be administered during pregnancy at this time.

51

Provider Myths

MYTH

Tdap can't be administered if a person has received Td in the last 5 years.

FACT

There is no "minimum interval" one needs to wait between receiving Td and Tdap.

53

Provider Myths

MYTH

Live virus vaccines (live zoster, varicella, MMR, and LAIV) should not be given to contacts of pregnant women or to contacts of immunocompromised people.

FACT

False. The only concern would be in the rare instance when a person develops a varicella-like rash after receiving varicella or live zoster vaccine. Then the vaccinee should avoid close contact with the unvaccinated infant or immunocompromised person until the rash resolves.

50

Provider Myths

MYTH

Pregnant women and infants need to get thimerosal-free influenza vaccines.

FACT

There is no scientific evidence that thimerosal in vaccines, including influenza vaccines, is a cause of adverse events, unless the patient has a systemic allergy to thimerosal.
However, there are a few states that have banned the use of influenza vaccines containing thimerosal when given to people of certain age groups.

52

Background Resources for Providers

- IAC's ACIP Recommendations web section
  www.immunize.org/acip

- IAC's *Ask the Experts* web section
  www.immunize.org/askexperts

- IAC's Vaccine Information Statement (VIS)
  web section www.immunize.org/vis

- IAC's educational materials web section
  www.immunize.org/handouts

- IAC's "Summary of Recommendations for Adult Immunization"
  www.immunize.org/catg.d/p2011.pdf

- IAC's "Summary of Recommendations for Child/Teen Immunization" www.immunize.org/catg.d/p2010.pdf

54

9

Background Resources for Providers

- ACIP's "General Best Practice Guidelines for Immunization"
  www.cdc.gov/vaccines/hcp/acip-recs/general-recs/ downloads/general-recs.pdf
- CDC's "Pink Book" (*Epidemiology and Prevention of VaccinePreventable Diseases*)
  www.cdc.gov/vaccines/pubs/pinkbook/index.html
- CDC's "Contraindications and Precautions"
  www.cdc.gov/vaccines/hcp/acip-recs/general-recs/ contraindications.htm.
- NVAC's "Standard for Adult Immunization Practice"
  www.cdc.gov/vaccines/hcp/adults/for-practice/standards/index.html

55

Questions

- Write the CDC experts at nipinfo@cdc.gov
- Write IAC at admin@immunize.org
- Read archived *Ask the Experts Q&As* at www.immunize.org/askexperts
- Subscribe to *IAC Express* for weekly updates on vaccine recommendations, licensures, and resources at www.immunize.org/subscribe

56

Provider Resources for Vaccine Conversations with Parents

These materials can help assist you in communicating with parents to best meet their needs and concerns about vaccines.

Talking with Parents about Vaccines

Many parents have questions about their child's vaccines. Providing appropriate responses to their questions can help parents feel confident in choosing to vaccinate their child according to the recommended immunization schedule. Materials to assist you in conversations with parents include:

- Talking with Parents about Vaccines for Infants (https://www.cdc.gov/vaccines/hcp/conversations/talking-with-parents.html)
  Learn conversational techniques and find resources for discussing vaccines with parents.

- Preparing for Questions Parents May Ask About Vaccines (https://www.cdc.gov/vaccines/hcp/conversations/preparing-for-parent-vaccine-questions.html) Prepare for common parent questions and learn techniques for your immunization conversations.

- HPV Vaccine Information for Clinicians (https://www.cdc.gov/hpv/hcp/index.html)
  Find information on HPV vaccine recommendations, tips for talking to parents, and strategies for improving vaccination rates in your practice.

- Video on Vaccine Communication with Parents: Best Practices (https://www.medscape.com/viewarticle/882865?src=par_cdc_stm_mscpedt&faf=1)
  A video explaining 5 research-based strategies to improve vaccine conversations with parents.

- Answering Parents' Questions about HPV Vaccine (https://www.cdc.gov/hpv/hcp/answering-questions.html)

Most parents will accept HPV vaccination when you effectively recommend the vaccine and address their questions. Information on answering questions and making an effective recommendation.

- Video Series to Get Advice from Your Peers on How to Address Parents' Questions on HPV (https://www.cdc.gov/hpv/hcp/how-I-recommend.html)
  The #HowIRecommend video series highlights clinicians explaining how they are achieving high vaccination rates and effectively addressing parents' most common vaccination questions.

- 10 Ways to Create a Culture of Immunization Within Our Pediatric Practice

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33

(https://www.cdc.gov/vaccines/partners/childhood/professionals.html#presentation-10-ways)
All staff in pediatric practices, including non-clinical staff, play an important role in supporting parents in their vaccine decisions. This slide deck presents concrete ways your practice can create a culture of immunization during all steps of a well child visit, from check-in to check-out. It is intended for use by physicians or vaccine coordinators during staff meetings or lunch-and-learn presentations.

08/05/2019

Sharing Information with Parents

Share these materials with parents to help them understand their child's vaccines. The materials can supplement your conversations with them.

- If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities (https://www.cdc.gov/vaccines/hcp/conversations/downloads/not-vacc-risks-color-office.pdf) This information outlines possible risks for parents who choose to delay or decline a vaccine; offers steps for parents to take to protect their child, family and others. Share with parents, or use it to train staff on key messages for parents who delay or refuse vaccines.

- Vaccine-preventable Disease Fact Sheets (https://www.cdc.gov/vaccines/hcp/conversations/prevent-diseases/index.html) These sheets provide facts and information about the diseases that childhood and preteen vaccines help prevent.

- Parent-friendly Immunization Schedules and Related Information (https://www.cdc.gov/vaccines/schedules/easy-to-read/child-easyread.html) Information for parents on which vaccines their child needs and when they should receive them.

- Vaccine Information for Parents (https://www.cdc.gov/vaccines/parents/index.html) General information for parents about vaccines for children.

- HPV Vaccine Information for Parents (https://www.cdc.gov/hpv/parents/index.html) Information for parents related to HPV vaccine, cancer prevention and vaccine safety.

- Videos to Answer Most Common Questions about the HPV Vaccine (https://www.cdc.gov/hpv/parents/can-i-ask-you-a-question/index.html) The "Can I ask you a question?" video series features pediatricians answering some of parents' most common questions about the HPV vaccine. 08/05/2019

Talking with Parents about Vaccines for Infants

Doctors, nurses, physician assistants, and office staff all play a key role in establishing and maintaining a practice- wide commitment to communicating effectively about vaccines and maintaining high vaccination rates. You can all answer parents' questions, provide educational materials, and ensure that families

helping parents choose vaccines for their child.

With all you do, you may feel that long vaccine conversations are stressful when you also need to check physical and cognitive milestones and have a full schedule of

1 Assume parents will vaccinate — Parents consent with no further questions? → **Administer recommended vaccine doses**

Parents not ready to vaccinate? ↓

2 Give your strong recommendation — Parents accept your recommendation? → **Administer recommended vaccine doses**

Parents have specific questions or concerns? ↓

3 Listen to and respond to parent's questions — Parents respond positively to your answers? → **Administer recommended vaccine doses**

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

appointments.

Parents consider their child's health care professionals to be their most trusted source of information when it comes to vaccines. This is true even for parents who are vaccinehesitant or who have considered delaying one or more vaccines. Therefore, you have a critical role in

patients. Because of this, we designed this resource to guide you with conversational techniques and resources for discussing vaccines with parents.

Assume parents will vaccinate

State which vaccines the child needs to receive. When

discussing vaccines for children, it is best to remember most parents are planning to accept vaccines and to introduce the topic with that in mind. State the child will receive vaccines as though you presume that parents are ready to accept recommended vaccines for their child during that visit. For example:

Instead of saying "What do you want to do about shots?," say "Your child needs three shots today."

Instead of saying "Have you thought about the shots your child needs today?," say "Your child needs DTaP, Hib, and Hepatits B shots today."

A research study looking at health care professionals' (HCPs) and parents' interactions during vaccine visits showed that parents were more likely to express concerns when providers used language that asked parents about their vaccination plans. In this study, the presumptive approach resulted in significantly more parents accepting vaccines for their child, especially at first-time visits1. However, if parents still hesitate or express concerns, move to the next step and give your strong recommendation.

Give your strong recommendation

If parents express concerns, then share your strong vaccine recommendation. Although parents frequently consult family members, friends, and webpages for information on vaccines, parents consistently rank their child's doctor as their most trusted source for vaccine information. With this unique position, your strong recommendation is critical for vaccine acceptance.

Clearly state your strong recommendation. If appropriate, you can add a brief supporting statement that uses a mix of science and anecdote, depending on what you think will be most effective with that parent. Share the importance of vaccines to protect children from potentially life- threatening diseases or talk about your personal experiences with vaccination. For example:

"I recommend your child get these vaccines today…"

" …These shots are very important to protect him from
serious diseases."

" …I believe in vaccines so strongly that I vaccinated my own children on schedule."

"…This office has given thousands of doses of vaccines and we have never seen a serious reaction."

Listen to and respond to parents' questions

Seek to understand parents' concerns and provide requested information.
Although research shows most parents in the U.S. **_support_** **_vaccines_**, you will encounter parents with questions. If a parent has concerns, resists following the recommended vaccine schedule, or questions your strong recommendation, this doesn't necessarily mean they won't accept vaccines. Sometimes parents simply want *your* answers to their questions. Your willingness to listen to their concerns will play a major role in building trust in you and your recommendation.

When listening, seek to understand the concerns behind parents' questions before responding with information the parent may not be asking about. If you encounter questions, you do not know the answer to, or information from sources you are unfamiliar with, it is best to acknowledge the parent's concerns and share what you *do know*. Offer to review the information they have found and, if necessary, schedule another appointment to discuss it further.

What if parents refuse to vaccinate?

If parents decline immunizations after your strong recommendation and conversation, use the following strategies: Continue the conversation about vaccines during the next visit and restate your strong recommendation.

☐ Inform parents about clinical presentations of vaccine preventable diseases, including early symptoms.

☐ Remind parents to call before bringing their child into the office, clinic, or emergency department when the child is ill so health care professionals can take precautions to protect others. Explain that when scheduling an office visit for an ill child who has not received vaccines, you will need take all possible precautions to prevent contact with other patients, especially those too young to be fully vaccinated and those who have weakened immune systems.

☐ Share ***If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities*** with parents. Tis fact sheet explains the risks involved with their decision, including risks to other members of their community, and additional precautionary responsibilities for parents.

☐ You may wish to have parents sign **AAP's *Refusal to Vaccinate* form** each time a vaccine is refused so that you have a record of their refusal in their child's medical file.

Wrapping up the conversation

Remember that success comes in many forms. It may mean that parents accept all vaccines when you recommend them, or that they schedule some vaccines for another day. For very vaccine-hesitant parents, success may simply mean agreeing to leave the door open for future conversations.

Work with parents to agree on at least one action, such as:

☐ Scheduling another appointment or

☐ Encouraging the parent to read additional information you provide them.

If a parent declines vaccines once, it does not guarantee they always will. Continue to remind parents about the importance of keeping their child up to date on vaccines during future visits and work with them to get their child caught up if they fall behind.

Find resources for specific parent questions:
Preparing For Vaccine Questions Parents May Ask

For information on vaccines, vaccine safety, and vaccine preventable diseases:
www.cdc.gov/vaccines/conversations

Vaccines for Your Children

Vaccines for Your Children Home

Make Shots Less Stressful

9 Things You Can Do for You and Your Baby

Learn about simple ways you can support your child before, during and after shots.

1

Do your research

Take a moment to read about how you can prepare before your visit, and review any vaccine information provided by your child's doctor. If you want to do additional research, use CDC's vaccines for parents web site.

read about
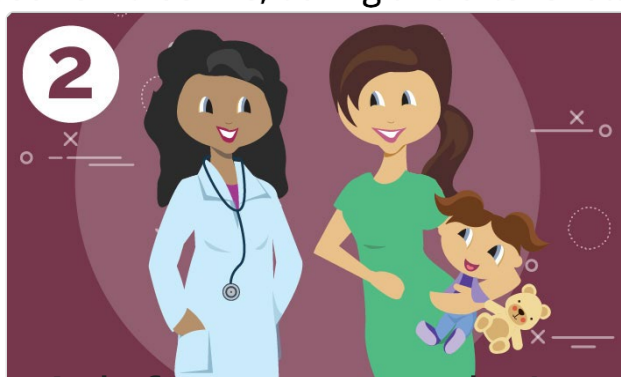
2

Ask for a sweet solution

Tasting something sweet can help reduce your little one's pain response. If your child is two years of age or younger, ask your child's doctor to give your child a sweet solution of sucrose or glucose one to two minutes before the shot.
Even a very small amount can help reduce pain during shots.

Tasting something sweet can help reduce your little one's pain response.
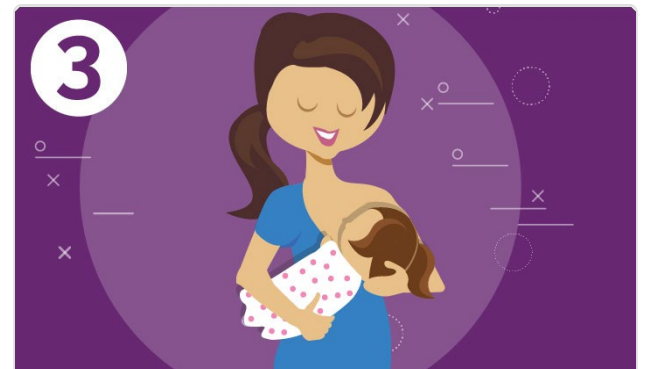
3

If you can, breastfeed

Breastfeeding can be a great way to calm and relax your baby, as it can help distract him or her and provide comforting close contact.

Additionally, breastmilk has a slight sweetness, which can help reduce your child's pain during shots.

4

Ask for a pain-relieving ointment or spray

Ask your child's doctor for a pain-relieving ointment, which blocks pain signals from the skin.

Because the ointment takes time to work, ask about it before your next well-child visit. Or, request a cooling spray (vapocoolant), which is applied on your child's arm or leg right before the shot. Using an

5

This might pinch a little

Be honest and calm

Kids are smart, so take time to explain in simple terms what to expect. Explain that your child may feel a little pinch and it will go away very fast. Use words like "pressure" or "poke" rather than "pain" or "shot." Even if your baby can't understand your words, your calm voice will be reassuring.

6

Bring your child's favorite things

Bring anything your **child finds comforting, like a favorite toy, blanket, or book, to help** them focus on something pleasant. Make sure to check with your doctor before bringing items into the room with you.

ointment or cooling spray may reduce your and your child's stress during a well-check visit.

Remain upbeat and relaxed before, during, and especially after shots.
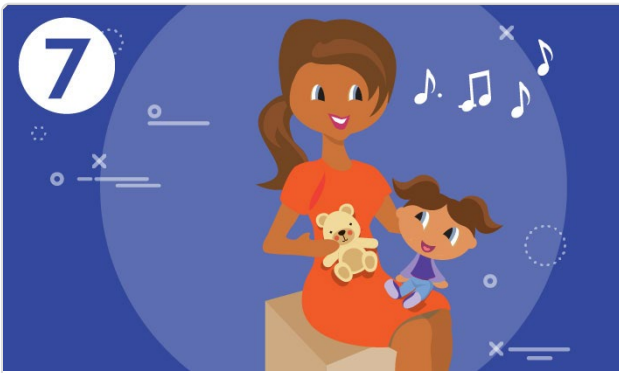
Distract your child
Right before the shot, call your child's name, sing your child's favorite song, tell a story, or just act plain silly to **pull your child's attention away from the shot giver**. Keep the distraction going after the vaccine is given.

Big kids need support too
If your child is older, you can take deep breaths with them to help "blow out" the pain. Have them imagine the pain is leaving their mouth as they breathe out. Tell a story or point out interesting things in the room to help **create distractions**.

Care after the shot
Calm young infants by swaddling them. Hugs, cuddles and soft whispers can help soothe older babies after a shot. Your child may have mild reactions, such as pain and swelling where the shot was given or a fever; these are common and will soon go away. Contact your child's doctor if anything concerns you.

☐ Watch the video, [what you should expect](#) when your child is vaccinated.

Related pages

 How to Hold Your Child During a Vaccination

 Vaccines When Your Child is Sick

See also

- [Before, During, and After Shots](#)

Last Reviewed: July 27, 2020

Suggestions to Improve Your Immunization Services

Looking for clear-cut ways to improve your practice's efficiency in administering vaccines and increase your vaccination coverage rates?

Here are the basics:

- Keep staff up to date with current recommendations.
- Maintain complete, up-to-date patient records.
- Maintain and protect your vaccine supply.

- Help your patients anticipate their own vaccine needs, and those of their family members as well.
- Avoid "missed opportunities" to vaccinate.
- Maintain administration best practices.
- Improve access to your vaccination services.

- Communicate with patients and parents.
- Evaluate and improve your practice's performance.

Use the handy checklist that follows to help you implement or reinforce these suggestions. Mark areas that "need attention" or are "satisfactory"... and congratulate yourself for those items that are ready!

   Yes = We already do this.

   yes no ✓ ☐ partly ☐

   No = We don't like this idea, or it couldn't work in our practice setting.

Partly = We do some of this (or do it sometimes); we will consider it.

Keep staff up to date with current recommendations

1. We post the current, official CDC U.S. immunization schedules (or the official schedule of our medical association or state health department) in each exam room.

2. We use the official "catch-up" schedule for bringing children and adolescents up to date on their vaccinations when they have fallen behind.

3. We understand and implement the routine vaccination schedule, as well as special vaccination recommendations for high-risk patients (e.g., certain groups who need hepatitis A, meningococcal, pneumococcal vaccines).

4. We routinely receive, read, and share updates on vaccines and other immunization issues from government agencies (e.g., CDC), our state or local health department, Immunize.org, or other trusted organizations.

Maintain complete, up-to-date patient records

1. We participate in our local/regional/state immunization registry (Immunization Information System or "IIS").

2. When scheduling appointments, we remind patients/parents to bring along their (or their child's) record of immunizations, and we confirm the address and phone number in case we need to contact them.

3. We maintain a comprehensive immunization record in a highly visible location in each patient's chart or electronic medical record.

4. EACH TIME a patient comes in, we ask if they have been vaccinated elsewhere. If yes, we check the IIS (registry) or request written documentation. We record confirmed vaccination dates and places in the medical record. If we have no vaccinations recorded and we cannot obtain records via phone or IIS, we give the vaccinations we determine are indicated, based on the history provided by the patient/parent. We have the patient/parent sign a release so we can obtain vaccination records from other providers. If no other records can be found, we treat the patient as

5. if unvaccinated. During each patient visit, we document in the patient's sch

art that the vaccination status was reviewed. If a recommended vaccine was not administered, we document the reason why.

yes no partly
☐   ☐   ☐

☐   ☐   ☐

☐   ☐   ☐

☐   ☐   ☐

yes no partly
☐   ☐   ☐

☐   ☐   ☐

    ☐   ☐

    ☐   ☐

☐   ☐   ☐

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Maintain and protect your vaccine supply

1 We designate a vaccine coordinator and backup coordinator to oversee vaccine storage and handling activities.

2 We provide vaccine storage and handling training to each new staff member, as well as updates to *all*
staff whenever recommendations are changed or a new vaccine product is introduced.

3 We follow the guidance provided in CDC's "Vaccine Storage and Handling Toolkit."

Help your patients anticipate their need for vaccinations

1 We train all nursing and office staff (e.g., receptionists, schedulers) on the minimum ages and intervals permissible between vaccinations and how to determine valid and invalid contraindications to vaccinations. We post this information in places available to all staff.

2 Before seeing the clinician (e.g., while in the waiting room), we ask patients/parents to complete
a simple screening checklist for vaccine contraindications to check if the vaccinations they need can be given safely on the day of their visit.

3 We have a staff member complete a vaccination assessment and give the appropriate Vaccine Information Statements (VISs) to the patient/parent in a language they can read, when a translation is needed and available.

Avoid "missed opportunities" to vaccinate

1 We have a designated vaccination "champion" to keep all clinic staff current on recommendations and effective strategies to avoid missed opportunities to vaccinate.

2 We train our staff to administer multiple vaccinations to patients who are due for multiple vaccinations.

3 Before patient visits, we review the vaccination record for each patient and flag charts of those who are due or overdue for vaccination(s).

4 When feasible, we check the vaccination status of other family members (siblings, etc.) who have accompanied the patient. If they are behind on their vaccinations, we vaccinate them as well.

Maintain administration best practices

1 We adhere to the "Rights" of medication administration by ensuring we have the:
Right patient; **Right** vaccine and diluent (when applicable); **Right** time (including the correct age and interval, as well as before the product expiration/time/date); **Right** route (including the correct needle gauge and length and technique); **Right** administration site; and **Right** documentation.

2 We screen for contraindications and precautions prior to administering any vaccine(s).

3 We discuss vaccine benefits and risks (and vaccine-preventable disease risks) using VISs and other reliable resources.

4 We follow best practices with respect to patient positioning, including comforting restraint for children and sitting for adults.

5 We follow the manufacturer's vaccine-specific guidelines for vaccine preparation and administration.

6 We maintain proper hand hygiene before vaccine preparation, between patients, and any other time hands need to be cleaned. Although gloves are not required when administering vaccines, if gloves are worn, we change them and follow proper hand hygiene between patients.

7 We incorporate strategies to prevent administration errors as described in CDC's *Pink Book.*

8 We put a system in place to ensure vaccines are reordered in a timely manner and are consistently available. We rotate the inventory so package

s with shortest expiry dates are in front.

yes   no   partly

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yes   no   partly

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☐   ☐   ☐

yes   no   partly

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Improve access to your vaccination services

yes   no   partly

1 We provide vaccination services during some evening and/or weekend hours. ☐ ☐ ☐

2 We implement standing orders to allow appropriate professional staff to independently screen patients and administer recommended vaccines. ☐ ☐ ☐

3 We allow patients to walk in during office hours for a "nurse only" visit and get vaccinated. ☐ ☐ ☐

4 If patients miss visits and can't be rescheduled quickly, we reschedule them in one to two weeks for a "shots only" visit. ☐ ☐ ☐

Communicating with patients and parents

yes   no   partly

1 We provide patients/parents a simple schedule of recommended vaccinations in a language they can read. ☐ ☐ ☐

2 We have a policy for our practice that states the importance we place on their child's vaccinations, and we give a copy of it to all new patients. (Note: You can find a policy statement template on Immunize.org's website at www.immunize.org/catg.d/p2067.pdf.) ☐ ☐ ☐

3 We provide the patient with documentation (e.g., record card, print-out) of the vaccinations received at our office each time we administer a vaccine. ☐ ☐ ☐

4 We give patients/parents an information sheet about how to treat pain and fever after vaccinations (e.g., www.immunize.org/catg.d/P4015.pdf). ☐ ☐ ☐

5 We provide reliable educational resources (in a language they can read) to patients/parents who have questions or concerns about vaccine safety or who want more vaccine information. ☐ ☐ ☐

6 If patients/parents refuse a vaccine, we request that they sign a declination form (e.g., www.immunize.org/catg.d/p4059.pdf) and we discuss the value of vaccination at future visits. ☐ ☐ ☐

7 When giving vaccinations, we inform the patient/parent when the next appointment for vaccinations is due. We try to schedule the visit before they leave the office. We put this information in an electronic recall system or manual tickler. ☐ ☐ ☐

8 We send a reminder (e.g., by phone call, postcard, email, or text) when vaccinations are due, and we recall patients (e.g., using computerized tracking or a simple tickler system) who are overdue. ☐ ☐ ☐

Evaluate and improve your practice's performance

yes   no   partly

1 We routinely assess vaccination rates of our patient population. We know that we can contact our state or local health department for assistance in performing the assessment. We share the results with all staff, and we use this information to develop strategies to improve vaccination rates. ☐ ☐ ☐

2 Because we provide services to children/adolescents (if applicable), we enroll in the Vaccines for Children (VFC) program so that we can provide free vaccine to uninsured and other eligible children age birth through 18 years. ☐ ☐ ☐

references

Clinic Tools: Administering Vaccines: Clinic Resources (www.immunize.org/clinic/administering-vaccines.asp)

Epidemiology and Prevention of Vaccine-Preventable Diseases (www.cdc.gov/vaccines/pubs/pinkbook/index.html)

Injection Safety: Information for Providers (www.cdc. gov/injectionsafety/providers.html)

National Vaccine Injury Compensation Program (www.hrsa.gov/vaccinecompensation/index.html)

Vaccine Recommendations and Guidelines of ACIP: Vaccine Administration (www.cdc.gov/vaccines/hcp/ acip-recs/general-recs/administration.html)

Vaccine Adverse Event Reporting System (vaers.hhs. gov/index)

Vaccine Storage and Handling Toolkit (www.cdc.gov/ vaccines/hcp/admin/storage/toolkit/index.html)

Vaccines and Immunizations (www.cdc.gov/vaccines/ index.html)

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Understand the Risks and Responsibilities.

Reviewed March 2012

If you choose to delay some vaccines or reject some vaccines entirely, there can be risks. Please follow these steps to protect your child, your family, and others.

With the decision to delay or reject vaccines comes an

Telling health care professionals your child's vaccination status is essential for two reasons:

- When your child is being evaluated, the doctor will need to consider the possibility that your child has a vaccine-preventable disease. Many of these diseases are now uncommon, but they still occur.

- The people who help your child can take precautions, such as isolating your child, so that the disease does not spread to others. One group at high risk for contracting disease is infants who are too young to be fully vaccinated. For example, the measles vaccine is not usually recommended for babies younger than 12 months. Very young babies who get measles are likely to be seriously ill, often requiring hospitalization. Other people at high risk for contracting disease are those with weaker immune systems, such as some people with cancer and transplant recipients.

- visit your child's doctor or any clinic you must tell the medical staff that your child has not received all the vaccines recommended for his or her age.

important responsibility that could save your child's life, or the life of someone else.

Any time that your child is ill and you:

- call 911;
- ride in an ambulance;
- visit a hospital emergency room; or

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Keep a vaccination record easily accessible
so that you
can report exactly which
vaccines your child has received,
even when you are under stress.

Before an outbreak of a vaccine-preventable disease occurs in your community:

- Talk to your child's doctor or nurse to be sure your child's medical record is up to date regarding vaccination status. Ask for a copy of the updated record.

- Inform your child's school, childcare facility, and other caregivers about your child's vaccination status. -

- Be aware that your child can catch diseases from people who don't have any symptoms. For example, Hib meningitis can be spread from people who have the bacteria in their body but are not ill. You can't tell who is contagious.

When there is vaccine-preventable disease in your community:

- It may not be too late to get protection by getting vaccinated. Ask your child's doctor.

- If there are cases (or, in some circumstances, a single case) of a vaccine-preventable disease in your community, you may be asked to take your child out of school, childcare, or organized activities (for example, playgroups or sports).

- Your school, childcare facility, or other institution will tell you when it is safe for an unvaccinated child to return. Be prepared to keep your child home for several days up to several weeks.

- Learn about the disease and how it is spread. It may not be possible to avoid exposure. For example, measles is so contagious that hours after an infected person has left the room, an unvaccinated person can get measles just by entering that room. -

- Each disease is different, and the time between when your child might have been exposed to a disease and when he or she may get sick will vary. Talk with your child's doctor or the health department to get their guidelines for determining when your child is no longer at risk of coming down with the disease.

Be aware.

4 Any vaccine-preventable disease can strike at any time in the U.S. because all of these diseases still circulate either in the U.S. or elsewhere in the world.

4 Sometimes vaccine-preventable diseases cause outbreaks, that is, clusters of cases in a given area.

4 Some of the vaccine-preventable diseases that still circulate in the U.S. include whooping cough, chickenpox, Hib (a cause of meningitis), and influenza. These diseases, as well as the other vaccine-preventable diseases, can range from mild to severe and life-threatening. In most cases, there is no way to know beforehand if a child will get a mild or serious case.

4 For some diseases, one case is enough to cause concern in a community. An example is measles, which is one of the most contagious diseases known. This disease spreads quickly among people who are not immune.

If you know your child is exposed to a vaccine-preventable disease for which he or she has not been vaccinated:

- Learn the early signs and symptoms of the disease.

- Seek immediate medical help if your child or any family members develop early signs or symptoms of the disease.
  -

  IMPORTANT: Notify the doctor's office, urgent care facility, ambulance personnel, or emergency room staff that your child has not been fully vaccinated before medical staff have contact with your child or your family members. They need to know that your child may have a vaccinepreventable disease so that they can treat your child correctly as quickly as possible. Medical staff also can take simple precautions to prevent diseases from spreading to others if they know ahead of time

that their patient may have a contagious disease.

- Follow recommendations to isolate your child from others, including family members, and especially infants and people with weakened immune systems. Most vaccine-preventable diseases can be very dangerous to infants who are too young to be fully vaccinated, or children who are not vaccinated due to certain medical conditions.

- Be aware that for some vaccine-preventable diseases, there are medicines to treat infected people and medicines to keep people they come in contact with from getting the disease.

- Ask your health care professional about other ways to protect your family members and anyone else who may come into contact with your child.

- Your family may be contacted by the state or local health department who track infectious disease outbreaks in the community. -

If you travel with your child:

- Review the CDC travelers' information website *(http://www.cdc.gov/travel)* before traveling to learn about possible disease risks and vaccines that will protect your family. Diseases that vaccines prevent remain common throughout the world, including Europe. -

- Don't spread disease to others. If an unimmunized person develops a vaccine-preventable disease while traveling, to prevent transmission to others, he or she should not travel by a plane, train, or bus until a doctor determines the person is no longer contagious.

For more information on vaccines, ask your child's health care professional, visit
www.cdc.gov/vaccines or call **800-CDC-INFO** (800-232-4636)

After the Shots...

Your child may need extra love and care after getting vaccinated. Some vaccinations that protect children from serious diseases also can cause discomfort for a while. Here are answers to questions many parents have after their children have been vaccinated. If this sheet doesn't answer your questions, call your healthcare provider.

Vaccinations may hurt a little... but disease can hurt a lot!

Call your healthcare **provider right away if you answer "yes" to any of the following questions:**

☐ Does your child have a temper-ature that your healthcare provider has told you to be concerned about?

☐ Is your child pale or limp?

☐ Has your child been crying for more than 3 hours and just won't quit?

☐ Is your child's body shaking, twitching, or jerking?

☐ Is your child very noticeably less active or responsive?

▶ *Please see page 2 for information on the proper amount of medicine to give* actio coalitio *your child to reduce pain or fever.*

What to do if your child has discomfort

I think my child has a fever. What should I do?

Check your child's temperature to find out if there is a fever. An easy way to do this is by taking a temperature in the armpit using an electronic thermometer (or by using the method of temperature-taking your healthcare provider recommends). If your child has a temperature that your healthcare provider has told you to be concerned about or if you have questions, call your healthcare provider.

Here are some things you can do to help reduce fever:

- Give your child plenty to drink.
- Dress your child lightly. Do not cover or wrap your child tightly.
- Give your child a fever- or pain-reducing medicine such as acetaminophen (e.g., Tylenol) or ibuprofen (e.g., Advil, Motrin). The dose you give your child should be based on your child's weight and your healthcare

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provider's instructions. See the dose chart on page 2. *Do not give aspirin.* Recheck your child's temperature after 1 hour. Call your healthcare provider if you have questions.

My child has been fussy since getting vaccinated. What should I do?

After vaccination, children may be fussy because of pain or fever. To reduce discomfort, you may want to give your child a medicine such as acetami nophen or ibuprofen. See the dose chart on page 2. *Do not give aspirin.*
If your child is fussy for more than 24 hours, call your healthcare provider.

My child's leg or arm is swollen, hot, and red. What should I do?

- Apply a clean, cool, wet washcloth over the sore area for comfort.
- For pain, give a medicine such as acetaminophen or ibuprofen. See the dose chart on page 2. *Do not give aspirin.*
- If the redness or tenderness increases after 24 hours, call your healthcare provider.

My child seems really sick. Should I call my healthcare provider?

If you are worried **at all** about how your child looks or

feels, call your healthcare provider! **healthcare**

provider: please fill in the information below.

6

If your child's temperature is _____ °F or _____ °C or higher, or if you have questions, call your healthcare provider.

Healthcare provider phone number _____

C Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org •

after the shots: what to do if your child has discomfort – page 2

Clear Answers and Smart Advice About Your Baby's Shots

By Ari Brown, md, faap

Dr. Brown received her medical degree from Baylor College of Medicine in Houston, Texas; she did her concerning pediatric residency at Harvard Medical School/Boston Coalition (IAC) Children's Hospital. In private practice since 1995, that answers Dr. Brown is perhaps best known as the coauthor of Brown the 411 parenting book series – *Expecting 411: Clear* mostly we *Answers and Smart Advice for Your Pregnancy*, *Baby*

In response to the recent media attention given to vaccines, autism, and other controversies vaccines, the Immunization Action offers this **special excerpt from** *Baby 411* these questions and more. IAC thanks Dr. for this clearly written information, but are grateful for her continued advocacy

▶ **For more information, visit www.vaccineinformation.org**

for safe and *411*, and *Toddler 411* (Windsor Peak Press). effective vaccines.

It's time to jump right into a hot topic you'll find in parent circles – vaccines. Nothing seems to stir the blood these days more than a good ol' fashion debate on vaccinating your child. And after a recordbreaking

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surge in measles cases in 2019, of which the vast majority of cases were unvaccinated children due to parental opposition to measles vaccination, the silent majority of parents who believe in vaccinations are far from silent.

A head's up: since there is so much misinformation out there on vaccines, you need to be armed with detailed, accurate information. And like the rest of this book, that is what you will get in this chapter. The information we provide is based on scientific evidence and solid peerreviewed research. Remember our mantra: show us the science! Your child is too precious to make such important decisions on anything less. This chapter is not based on personal anecdotes, conspiracy theories, "research" done in people's basements (we are not kidding), or the crusades of B-list celebrities.

However, before we get to our take on this debate, let's go back in time a bit. Well, more than a bit. How did the human race survive when other early humans didn't? Yes, making tools and finding food most efficiently played a big role. But here's another key element: we built civilizations. And we developed a sense of responsibility – to ourselves and to our society. Every time we respond to a tragedy in our nation – whether it be 9/11, Hurricane Sandy, or the Boston Marathon bombing – we are reminded of how we are not just individuals living in our own little worlds. It's part of our civic duty to lend a hand and take care of our neighbors.

So, what's this pontificating have to do with vaccines?

Again, it is our responsibility to work together as a community...this time, the subject isn't terrorism or storms, but something that can be just as terrifying: infectious diseases. Consider a bit of history: in the 1890s, people would have seven or eight children in their families and only half of them would survive childhood. Just go to an old graveyard sometime and look at the ages listed on the headstones. Many of the diseases that killed those children are now prevented by vaccination. It's a fact:

vaccinations have increased the life expectancy of our nation's children. That's why our grandparents and parents embraced vaccines.

Here's a crucial point: the key to a vaccine's success is that everyone in the community gets vaccinated. Vaccines won't work if a large number of folks just choose to opt out of the system and their responsibility. Please keep this in mind as you read about vaccinations. Your decision (and every other parent's decision) affects your child. And society as a whole. Germs are rather simple creatures...they just look for a new person to infect. They don't play politics.

■ reality check

The concept of "public health" has been around since antiquity. Obviously, rulers had a vested interest in keeping their subjects healthy so they had a society to rule. Through the years, governments have been responsible for managing numerous programs. The most important advances in public health have been vaccination programs, water purification, and waste disposal/sanitation systems. The only way for public health to work, though, is for all members of the community to follow the same rules.

Who came up with the idea of vaccinations in the first place?

It took centuries of observation as well as trial and error. (And sometimes, error meant death.) The first real step was describing the disease, in this case, smallpox. Smallpox was a deadly disease

that, historically, wiped out entire civilizations. The earliest descriptions can be found as far back as the ninth and tenth centuries among Turks. In fact, "inoculation," or the infecting of a person with the disease in hopes of introducing a mild form and then creating immunity, was practiced first in Asia. In the 1700s an English aristocrat, Lady Mary Wortly Montagu, was living in Constantinople and learned of the practice of inoculation (known then as variolation). She had her son inoculated and subsequently, brought the practice back to England.

At about the same time, an English country doctor, Edward Jenner, made an interesting connection: milkmaids who had been exposed to cowpox (a common disease in cattle at the time) never seemed to get smallpox infections during epidemics. He began to study the idea that vaccinating humans with cowpox virus would make them immune to

People were inoculated with a small amount of cowpox virus on their arm. It caused a localized infection at that site (hence, the scar that we forty-somethings and above bear). And true to Dr. Jenner's hypothesis, it provided protection against smallpox disease. In 1972, the United States stopped vaccinating against smallpox because it was no longer a threat to the population. In 1977, the last case of smallpox occurred in Somalia. In 1980, the World Health Organization declared the world free of smallpox, thanks to a global effort to immunize all children.

The success of the smallpox vaccine and other scientific discoveries led to the evolution of many vaccines. These new, safer vaccines are extremely effective in preventing diseases and epidemics that our grandparents and parents can still remember.

Q Why do you care whether I vaccinate my child or not?

For starters, I want your baby to be protected. But I also want you to realize that the decision to vaccinate your child impacts the health of other children in the community. Choosing NOT to vaccinate your child is choosing to put your child AND your community's children at risk. As a parent, you want to make the right choices for your child to protect them. I want you to ask questions. I want you to be informed. And I want you to get your child vaccinated. YOUR decision impacts ALL children. Why? There are two critical points for vaccination to work:

1. You need to be vaccinated.
2. Your neighbor needs to be vaccinated.

This concept is called herd immunity. And yes, you are a member of a herd. When 90–95% of "the herd" is protected, it is nearly impossible for a germ to cause an epidemic. Think of germs as rain. Vaccination is a raincoat. Even with a raincoat on, you can still get wet. You need an umbrella, too. The umbrella is "herd immunity." Those who don't vaccinate expect someone to share their umbrella when it rains. But society can only buy umbrellas TOGETHER. And raincoats aren't made for newborns – they need umbrellas!

As comedian Jon Stewart once put it, herd immunity is like a zombie movie. You are in an isolated farmhouse and the occupants rely on each other to board up their windows to keep the zombies (germs) out. The zombies get in when some lady from Marin County decides not to board up her windows because she read an article on a wellness blog about the potential health risks of boarding up windows. You can guess what happens!

Some parenting decisions have little or no impact on the community at large. Deciding whether or not your child eats organic baby food, goes to preschool, or sleeps in a family bed is entirely up to you – your decision only affects your child.

However, your decision whether or not to vaccinate your child affects all our kids. If you are a parent who is considering delaying or skipping vaccinations altogether, please realize the impact of your decision.

If more than 10% of American parents choose to "opt out" of vaccines, there's no question that our entire country will see these horrible diseases of bygone days return. Fortunately, very few parents decide to do this.

What is most concerning today is that there are pockets of under- vaccinated children. Birds of a feather flock together. Like-minded parents who don't vaccinate their kids tend to live in the same community and send their kids to the same schools. With lower immunization rates, there is no herd immunity. We have these "Ground Zero" areas to thank for recent measles and whooping cough outbreaks.[2]

■ reality check

The Good News – While parents are asking more questions, they are still choosing to vaccinate their kids. The most recent Centers for Disease Control and Prevention (CDC) survey (2017) showed 98.9% of U.S. children aged 19 to 35 months had received 1 or more vaccinations. Yes, 98.9%. Despite all the media stories on vaccine "controversy," only a tiny fraction of parents – about 1% – are choosing to forgo vaccinations.

Some Common Vaccine Questions

Q What are vaccines?

Vaccines are materials that are given to a person to protect them from disease (that is, provide immunity). The word vaccine is derived from "vaccinia" (cowpox virus), which was used to create the first vaccine in history (smallpox). Modern medicine has created many vaccines. Vaccines PREVENT viral and bacteria infections that used to cause serious illness and death.

Q How do vaccines work?

Here is your microbiology lesson for today. Your immune system is your body's defense against foreign invaders (viruses, bacteria, parasites). Vaccines prepare your body to recognize foreigners without getting infected. A vaccine revs up your immune system to make antibodies (smart bombs with memory) for the signature of a particular germ. So, if your body sees the real germ, voila! You already know how to fight it off. There are three types of vaccinations: inactivated, live attenuated, and inactivated bacterial toxins.

• Inactivated vaccines do not contain any living germs. An immune response forms against either a dead germ, part of the germ (recombinant DNA), or a protein or sugar marker that sits on the outer layer of the germ (its signature). Very cool. These vaccines are safe to give to immune-compromised people. The only down side is that several doses of the vaccine are needed to provide full, lifelong protection against disease. Some of these types of vaccines include: influenza, hepatitis A & B, *Haemophilus influenzae* type B (Hib), pertussis (whooping cough), inactivated polio, pneumococcal.

• Live attenuated vaccines are weak forms of the germs that cause infection. An immune response occurs just as if your body had the infection. So one or two doses of vaccine gives you lifelong protection. These vaccines are not given to immune-compromised

people because they can make them sick. Examples include: measles, mumps, and rubella, oral polio, smallpox, tuberculosis, varicella (chickenpox), rotavirus.

• Toxoids (inactivated bacterial toxins) are vaccines that create a defense against the toxin (poison) that a bacteria germ makes. Examples of toxoid vaccines include diphtheria and tetanus.

Q What are the diseases we are protected against with vaccination?

Good question. You are probably unfamiliar with most of these diseases since we don't see them much anymore in the U.S. After you hear about the many successes we've had in eradicating disease with vaccination, thank your parents for immunizing you. As you read

through the vaccination schedule, note that some diseases are viruses. Antibiotics kill bacteria only. Doctors have no medications to cure the viral infections. Doubt the effectiveness of vaccines? Just take a look at the sharp decline of illness and death rates from these diseases since 1950. Here is the link if you want to check it out: www.cdc.gov/vaccines/ pubs/pinkbook/downloads/appendices/E/reported-cases.pdf. Rather amazing, no? Diseases that used to kill thousands (if not hundreds of thousands) now only harm a handful of people – thanks to vaccines.

Q How are vaccines tested to make sure they're safe?

Vaccines are researched extensively for an average of 15 years before being approved for use. A pharmaceutical company conducts medical research trials in a series of stages. Once safety is proven, the vaccine is tested in several thousand volunteers to make sure the vaccine actually works. These volunteers are followed for at least one year to be sure that no serious side effects occur.

Nothing in this world is 100% foolproof, including vaccine science. But the research trials that occur before licensing are very rigid. If you think there are a lot of vaccines on the market, imagine how many didn't make it through the research phase of development.

The Food and Drug Administration (FDA) governs this whole process. The FDA is the watchdog for any medication that is sold over-the-counter or by prescription. There are extremely high standards that must be met before any product is allowed for human use.

After a vaccine is approved for use, long-term follow-up studies are done to assess for side effects, adverse reactions, and potency over a lifetime.

■ reality check

Given the FDA's mixed track record, you may be skeptical about trusting the government when it comes to vaccine safety. But in truth, the system is in place to protect consumers. Although conspiracy theorists might disagree, the FDA really is on our side.

To improve drug and vaccine safety, the National Academy of Medicine (formerly Institute of Medicine) called for an overhaul of how the FDA works – in the future, the FDA will do more ongoing safety reviews of medicines and make all clinical study results public. This should help boost public confidence in the FDA and vaccine safety.

Why is my child getting more shots than I did?

Simple answer: we've been successful inventing vaccines to fight more diseases. It's one of the important advances in modern medicine – vaccines prevent disease, injury, and death. More vaccines are a good thing!

An important point: many of the vaccine-preventable diseases are viruses. These viral infections cannot be treated with medicine once an infection occurs (for example, Hepatitis B).

Vaccines that protect against bacterial diseases are often serious ones, and resistant to many antibiotics (for example, Prevnar).

And even though the number of shots has gone up, the total load on the immune system has gone down. Today's vaccines are smarter and better engineered than the shots from a few decades ago. In fact, the total number of immunologic agents in the entire childhood vaccination series today is less than what was in just two vaccines in 1980!

Our children are getting smarter, safer vaccines today and better protection than we ever got as kids.

page 3 of 8

idea – more on that in the controversies section of this handout).

Q Can't you just give one big shot that has all the vaccines in it?

Medical science is working on it!

There have been a few combination vaccines licensed for use. The largest combination vaccines are Pediarix (DTaP, IPV, Hepatitis B) and Pentacel (DTaP, IPV, Hib). The reason there isn't just one big shot is that some vaccines are ineffective when they are sitting together in a solution. Your baby may still need more than one shot, but if your

Q Are we giving too many shots, too soon?

This is a false mantra of the anti-vaccine crowd: they say babies are receiving too many shots (compared to say, 1980) and too soon (infants can't handle all these shots, they say).

So, let's look at this scientifically. On any given day, your baby is exposed to literally thousands of germs (it doesn't matter how spotless your house is). Exposing your child to five to eight different germs in the form of vaccines is a spit in the bucket.

Young children have better immune responses to vaccines than adults and older children. So they will form adequate immune responses to various vaccines simultaneously. (This is studied extensively before a vaccine is licensed.) Even if your baby got 11 shots at the same time, he would only need to use about 0.1% of his immune system to respond to them.[3]

Giving several vaccines at once does not damage, weaken, or overload the immune system. Vaccines boost the immune system. Also, the diseases that the vaccines protect against are the most severe in infants and young children. Your doctor wants to get those vaccinations in as safely and effectively as possible. That's why the timing is so important (and why a staggered or delayed vaccination schedule is a bad

doctor uses a combo vaccine, at least it will be fewer shots than if they are all administered separately.

More combination vaccines are on the horizon.

Q What groups make decisions about vaccinations for children?

There are four governing panels of experts in infectious diseases that make recommendations for vaccinations. These smart folks include: American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), Advisory Committee on Immunization Practices (ACIP), and the Centers for Disease Control and Prevention (CDC).
Because there are several groups involved in this effort, there is some variability in vaccination schedule recommendations.

Q My baby has a cold. Should I hold off on vaccinations?

No! This is a common misconception of parents. Even if your baby has a minor illness, he can still get his shots. We cannot stress how important it is to get your child vaccinated in a timely manner. So don't let a sniffle or two make you reschedule an office visit for shots. Your child can also get his shots even if he is on antibiotics.

Q Can I choose not to vaccinate my child?

Yes, but we wouldn't advise it. Choosing not to vaccinate is not a riskfree choice. It's choosing to expose your child to potentially serious infection. It's also choosing to expose other children in your community to serious, preventable diseases. And if you think your child will be safe because everyone else vaccinates his or her kids, you'd be wrong (and very selfish, we might add). You can also choose not to stop at a stop sign, but we wouldn't advise it!

■ reality check

Vaccine requirements for school entry vary by state. There is no one consistent policy. As of mid-2019, all 50 states allow vaccine exemptions for medical reasons, 45 states allow exemptions for religious reasons, and 17 states allow exemptions for philosophical reasons.[4] After the 2019 measles outbreaks, several state legislatures reconsidered their existing laws for vaccine exemptions. Limiting the exemptions improves vaccination rates and thus protects more children.

Q I've heard that getting a disease provides immunity forever and vaccinations might not provide lifelong protection. Wouldn't it be better to get the disease? Isn't that a more "natural" way of creating immunity?

No. The diseases we prevent by vaccination are not minor illnesses (this includes chickenpox). For instance, would you rather have your child get meningitis and die or get the vaccine? Getting chickenpox or any other disease the "natural way" is a much greater health risk without any significant benefit. And just think of the discomfort, pain and perhaps serious injury that come with getting any of these diseases.

It is true that some vaccinations require a booster dose to keep antibody levels high. That is why we need a tetanus booster every ten years.

vaccination?

Fever, fussiness, redness, or lump at the site of the injection.

Inactivated vaccines cause an immediate immune response. The body mounts a response to the foreign invader as if it were being infected. The result, typically, is a fever within 24 hours of vaccination. Babies sometimes feel like they are coming down with a cold or flu (body aches, pains). Some babies prefer to sleep through the experience; some choose to tell you how they feel (fussiness, crying). All of these symptoms resolve within 24 to 48 hours of vaccination.

Q What would happen if we stopped using vaccinations?

That's an easy one. The diseases would come back.

Vaccinations keep us from getting sick from these infections. But all of the infections we protect against are alive and well in our world. As of today, the only disease we have completely eliminated is smallpox. And when it was eliminated, we stopped vaccinating for it.

Anyway, it's a simple fact: when immunization rates drop, epidemics occur. Just look at states with lower immunization rates – their rates of pertussis (whooping cough) are twice the number seen in states with higher percentages of immunization rates. Children whose parents opt out of vaccines face a 23 times greater risk of getting whooping cough.[5] In the 2019 measles outbreak, most cases occurred in communities with dangerously low measles immunization rates.

■ reality check

In 1990, low immunization rates led to a measles epidemic of 55,000 cases and over 100 preventable deaths in the U.S. The U.S. saw a measles epidemic again in 2008 – over 90% of these cases were unvaccinated children, two-thirds of which were by parental choice. But a few of the cases were infants who were too young to be vaccinated (and exposed to an infected child in the doctor's waiting room). You would think we would have learned our lesson, but 2019 was another banner year for measles, with more cases than in the previous 30+ years. This serves as a reminder that vaccine- preventable diseases have not disappeared.

page 4 of 8

Q What are the typical side effects of

Live attenuated vaccines (MMR, Varicella) cause a delayed immune response. This occurs one to four weeks after the vaccination is given. Long after the doctor's visit, your child may wake up one morning and have a fever.

This may be accompanied by a rash that looks like measles (pimples) or chickenpox (clear, fluid-filled pimples). The rash can sometimes be dramatic. Both the fever and the rash tell you that your baby is forming an immune response to the vaccination. Babies are not contagious and aren't too bothered by the rash. You don't need to call your doctor.
This reaction is expected.

Redness at the injection site is common. In particular, the fifth booster dose of the DTaP (at age five years) can cause a pretty dramatic area of redness. No worries. We do get quite a few phone calls about it, though!

A firm lump may develop at the injection site if some of the fat in the arm/leg gets nicked as the needle goes into the muscle. This is called fat necrosis. It usually goes away within six to eight weeks. It doesn't hurt.

Red flag! If your baby has a fever more than 72 hours after being vaccinated, it's not from the vaccination. You need to call your doctor. The only exceptions are the MMR and chickenpox vaccines, which typically cause a fever one to four weeks afterwards.

■ reality check

To help reduce fever and discomfort from shots, it's okay to give your baby acetaminophen (Tylenol) as long as you wait at least four hours after vaccinations are given. The dose is not listed on the package. It says to "consult a doctor." That's because doctors don't want you giving this medicine to a baby three months or younger with a fever without checking in first. Other than with shots, you need to call your doctor about fevers in this age group.

Q What are the worst reactions to vaccination?

These are called adverse reactions. This is the equivalent of an allergic reaction to a medication – and fortunately, they are all quite rare. With each generation of newer vaccinations, the risk of serious reactions is almost eliminated.

Adverse reactions include:
1. Death.
2. Anaphylactic reaction.
3. Encephalitis.
4. Fever-related seizure (convulsions).

Both the CDC and FDA keep close tabs on adverse reactions to vaccines via a Vaccine Adverse Event Reporting System (VAERS). Both doctors and patient families may submit a VAERS form if any adverse reaction occurs.

Keep in mind that medical illness reports do not prove an association of a particular illness with a specific vaccination. The job of both the CDC and FDA is to review each report that occurs and see if there is a pattern of subsequent illness after vaccination. VAERS data is publicly available at vaers.hhs.gov. To report a possible reaction, you can download a form at the same site. There is also a Clinical Immunization Safety Assessment Project comprised of six U.S. academic medical centers that evaluates adverse reactions to vaccines.

While we would be remiss if we didn't tell you that vaccinations have some risks associated with them, we want you to remember that the risk of adverse reaction is significantly lower than leaving your baby unprotected. Serious side effects, such as a severe allergic reaction, are known to occur, although very rarely.[6] It is estimated that, for every 1 million doses of vaccine, 1 to 2 people will have a severe allergic reaction. That is why you need to watch your child carefully for a few days after their shots and, if you see something that concerns you, call your doctor right away.

We agree that a serious adverse reaction only has to happen to one child for it to be heartbreaking. But if we look at the big picture, we can point to the millions of children who might have experienced illness, chronic disability, and death if diseases like smallpox or polio were not controlled by vaccinations.

Q Are there any reasons I should not vaccinate my child?

There are several very specific medical reasons to discontinue or hold off on certain vaccinations. These include:

1. Patient or family member is immune-compromised.
2. Patient had disease (for example, if you've had chickenpox, you don't need the vaccine).
3. Patient has encephalitis or degenerative brain disorder.
4. Patient has allergy to vaccine or to an additive in the vaccine.

If your baby has a food allergy to eggs or gelatin, or an allergy to antibiotics (such as neomycin, streptomycin, polymyxin B), notify your doctor before any vaccinations are given. Several vaccines are grown in chick embryo cells and therefore contain a small amount of egg protein: flu vaccine, MMR, rabies, and yellow fever vaccine. The MMR vaccine also includes gelatin.

Rabies, MMR, chickenpox, and polio vaccines include several different kinds of antibiotics to prevent contamination of the vaccine itself. Check with your doctor if your child is allergic to any antibiotics.

While there is a scant amount of egg protein in the MMR vaccine, it is still safe to give to a person with an egg allergy in your pediatrician's office. And, although the flu vaccine contains trace amounts of egg protein, beginning with the 2016–17 vaccination season, it is recommended that patients with an egg allergy of any severity can safely be vaccinated with any influenza vaccine product.

Q Who keeps a record of my child's vaccinations?

You and your doctor. Your doctor keeps a record of vaccinations in your child's records. All states but one have an immunization registry that also keeps records of vaccinations.

But ultimately, YOU need to have a copy of these in your personal medical record file. You will need proof of vaccinations for many things.

page 5 of 8

Any childcare or school program requires this information. Summer camps and athletic programs want the records, too. If your child becomes a healthcare professional, joins the military, or is a food handler, he will also need this information.

helpful hint

It's a good idea to have a medical passport for your child. This should include an immunization record, growth chart, list of medical problems, list of surgeries, drug allergies, and name and dosage of any medications that are used regularly (such as asthma medicine). Some medical practices now offer a patient portal that allows you to keep track of your own records. If so, we encourage you to take advantage of it!

How do I know when my child needs booster shots?

Your doctor will remind you at each well child visit. We wish pediatricians were more like dentists or veterinarians, who long ago figured out how to send out reminders of needed visits. Sadly, only a minority of pediatric practices have electronic reminder or recall systems. Most do not usually send out reminders to let you know your child is due for shots. What most practices do is provide the schedule in an information packet at your child's first visit. Your doctor will tell you at each well check when to return. This system works pretty well unless you start missing well-child visits. Then your child gets behind on his vaccination series. You can try to catch your child up on shots when he is in for a sick visit if this happens.

■ reality check

Wanted: A National Immunization Registry – There is no uniform system of tracking immunization status and sending reminder cards to patients' families. One solution: a national immunization registry. Advocates of this plan feel it will improve our country's immunization rates. Those opposed to the plan think it invades personal privacy and creates a government health care tracking system.
So, like most governmental decisions, it may take years to resolve.

What vaccines are required and which ones are optional?

The answer varies state to state. It also varies depending on the frequency of disease in particular counties within a state. A table
of the most

recent requirements in the U.S. can
be found at www.immunize.org/laws.

Can I take my baby out before she gets her first set of shots?

Yes, just be smart about it. Pediatricians usually recommend limiting human contact with babies under four weeks of life. Why? Because if your newborn gets any fever (of 100.4° or greater), that is an automatic ticket to the hospital for two days. Even if your baby has the cold that the rest of the household has, we still need to rule out a serious infection.

That said, you aren't quarantined, but use discretion when planning your outings. In cold and flu season, avoid crowded places for the first three months of life.

With respect to an unvaccinated baby, the biggest threat these days is whooping cough. Whooping cough is spread by cough and sneeze

droplets of an infected person. Babies get a series of four shots over the first two years of life to protect them from whooping cough. To keep everyone inside that long is crazy! But being cautious until she gets her first shot at two months isn't a bad idea.

I have a friend who does not vaccinate her child. Is it okay for our babies to play together?

Awkward, right? Well, the most politically correct thing to do would be cancel a playdate when either child is ill. This is not a foolproof solution, however. A person with measles, for instance, is contagious for three to four days before the rash erupts.

If you want to make a statement (and potentially lose the friendship), be honest and explain to her that you feel uncomfortable with your kids being together – it may give her pause to consider her choices.

Controversies

Let's face it, controversy drives TV ratings and web traffic. No one is interested in hearing about things that work as they should – and vaccines are a good example. Vaccines have been a hot topic for the last decade or so. Unfortunately, rare adverse events and theoretical concerns tend to make more headlines than the remarkable success story of vaccinations. These problems are then seized on by vaccine opponents and spread online through the web like a, well, virus.

So, let's address this head on. Here are the controversies you might hear about with vaccines:

Q**I've heard that the MMR vaccine might cause autism. Is this true?**

No. Parents also hear that vaccinations cause multiple sclerosis, diabetes, asthma, and SIDS. None of these are caused by vaccination. The government operates a safety monitoring system (VAERS, FDA, CDC) – watching for any possible adverse effects from vaccines. No one wants to increase autism rates.

One small case report of only eight patients in 1998 led a research group to feel that the combination MMR vaccine might cause autism.[7] But don't try to find the article online because the journal that published the article later retracted it when a former member of the research lab revealed that the data reported in the study was fabricated! Twelve years later, the lead author lost his license to practice medicine in England and was accused of fraud. The whole thing was a hoax.

Q

Before this came to light, several reputable scientists tried to replicate the findings of this now discredited researcher. No one ever could – and now we know why!

Unfortunately, frightened parents chose to skip the MMR vaccine and measles epidemics occurred both in England and the U.S. as a result of these unfounded claims.

Bottom line: Don't base health decisions for your child on one research study or what the media reports! Talk to your child's doctor about any vaccine safety concerns.

Q If the MMR vaccine doesn't cause autism, why is the diagnosis made around the same time as the vaccination?

One of the criteria used to make a diagnosis of autism is a language delay. Because children do not have significant expressive language under a year of age, doctors have to wait until 15 to 18 months to confirm a language delay and make the diagnosis. That's about the same time as the MMR vaccination, which leads some parents to wonder about autism and vaccination.

Q I've heard there is mercury preservative in the vaccines. Is this true?

Not anymore. It was removed from all required childhood vaccines by 2001. This deserves repeating: YOUR baby will not be getting required vaccines that contain mercury (thimerosal) as a preservative.

Despite the fact that vaccines have been mercury preservative-free for over a decade now, speculation persists about vaccines previously containing mercury and links to autism. This speculation continues even after the Institute of Medicine (IOM), now known as the National Academy of Medicine, published a conclusive report in 2004 negating any association between vaccines and autism.[8] (The IOM spent four years studying both the mercury question and the MMR combo vaccine question and published a series of eight reports on the subject.)

Bottom line: Thimerosal will remain on blogs and anti-vaccine websites forever, but the preservative does not remain in any of the required childhood vaccines that YOUR baby will get.

Because of some remaining concerns, the next two Q&As should provide you with more than you ever wanted to know about thimerosal.

Q I heard that I should still ask my doctor if the vaccines for my baby are thimerosal-free. What do you suggest?

We think you should ask as many questions as you need

to feel comfortable. Remember that since 2001, the entire childhood vaccine series went thimerosal (mercury) preservative-free. If your doctor has a 2001 vintage vaccine vial sitting on the shelf (which would be long expired by now), I'd have bigger concerns about your doc than his vaccine supply.

Here is the specific rule regarding thimerosal use in vaccines: the FDA requires manufacturers of routine childhood immunizations to no longer use thimerosal as a preservative. This rule does NOT apply to flu vaccine

because (technically) this vaccination is optional (except in New Jersey) and not "routine."

Why does flu vaccine need thimerosal or any other preservative? First, understand the flu vaccine is reformulated every year to reflect the anticipated flu strains. Since millions of doses of flu vaccine are needed every year, the most efficient way to produce the shot is in multi-dose vials, which require a preservative.

Hence, some flu shots (not the flu nasal spray) contain the preservative thimerosal. However, there are single-dose preparations of flu vaccine that are mercury preservative-free. These can be given to young children and pregnant women. Ask your doctor for a thimerosal-free flu vaccine if you are concerned.

What about other vaccines? Do they contain thimerosal? There are two vaccines that use thimerosal in the production process – but neither of these vaccines is used in babies. The thimerosal is extracted before the final product is bottled. As such, these vaccines must list that TRACE amounts of thimerosal (less than 0.003mg) may exist in the vaccine.

There is probably little or no thimerosal in the finished product, but the manufacturer must declare it. FYI: many vaccines such as the combination measles, mumps, and rubella vaccine (MMR) never used thimerosal in the production process or as a preservative.

If you want to learn more about thimerosal and vaccines, go to www.fda.gov/vaccines-blood-biologics/safety-availability-biologics/ thimerosal-and-vaccines.

Q Does thimerosal cause autism?

No. The National Academy of Medicine (formerly Institute of Medicine) reached this conclusion in 2004. What proof do we have?

Thimerosal has been removed from vaccines since 2001, but the rates of autism are still skyrocketing. A 2008 survey of autism rates in California confirms that mercury is essentially out of vaccines and autism rates are still going up. If thimerosal was the cause and it was removed from vaccines seven years ago, autism rates would be going down by now. Why? Because autism spectrum disorders are usually diagnosed by three years of age. By now, any reduction in autism should have been obvious if thimerosal caused the disorder.[9]

Q Are there other additives in the vaccines?

Yes. And you should know about them.

As we have already discussed, vaccines contain the active ingredients that provide immunity. But there are inactive ingredients that improve potency and prevent contamination. Below is a list of additives and why they are there. These products are present in trace amounts and none have been proven harmful in animals or humans.[10]

Q

- *Preservatives:* Prevent vaccine contamination with germs (bacteria, fungus). Example: 2-phenoxyethanol, phenol, (thimerosal, prior to 2001).

- *Adjuvants:* Improve potency/immune response. Example: aluminum salts.

- *Additives:* Prevent vaccine deterioration and sticking to the side of the vial. Examples: gelatin, albumin, sucrose, lactose, MSG, glycine.

- *Residuals:* Remains of vaccine production process. Examples: formaldehyde, antibiotics (neomycin), egg protein, yeast protein.

See our website (Baby411.com, click on "Bonus Material") for a list of ingredients for the routine childhood vaccination series.

■ **reality check**

If vaccines contain ingredients like aluminum or formaldehyde, wouldn't it be better if vaccine makers got rid of these additives?

Shouldn't vaccines be "greener"?

This is a red herring argument against vaccines – current vaccines are safe, even with tiny/trace amounts of preservatives or additives like aluminum.

And your baby is exposed to many of these ingredients every day... simply by eating or breathing.

page 7 of 8

Is it safer to delay vaccines or use an alternative vaccination schedule?

Easy answer: no. The CDC publishes a recommended vaccine schedule for American children. Many, many doctors, scientists, and researchers work together with the CDC to decide what is the best timing to give

Q **Why is formaldehyde in vaccines?**

Small amounts of formaldehyde are used to sterilize the vaccine fluid so your child doesn't get something like flesh-eating strep bacteria when he gets his shots.

We know when you think of formaldehyde, that ever-present smell wafting from the anatomy lab in high school comes to mind. But what you probably don't know is that formaldehyde is also a naturally occurring substance in your body. And if you use baby shampoo, paper towels, or mascara, or have carpeting in your home, you've been exposed to formaldehyde. The small amount used in vaccines is not a health concern.

Q **Is it true that anti-freeze is used in vaccines?**

No. There is a chemical used in some vaccines (called polyethylene glycol) that is also found in antifreeze, as well as toothpaste, lubricant eyedrops, and various skin care creams. Polyethylene glycol is used in the production process to purify vaccines.

shots. The goal: protect babies as soon as it is safe and effective to do so. This schedule was not created out of thin air.

Between anti-vaccine activists shouting "too many shots, too soon" and Dr. Bob Sears hawking his book, new parents wonder if it would somehow be safer to wait on shots altogether or stagger them out on "Dr. Bob's schedule."

Here's a nasty little truth about alternative vaccination schedules: they are all fantasy. There is absolutely no research that says delaying certain shots is safer. Dr. Bob is making up "Dr. Bob's Schedule" all by himself. He even admits that. In an interview with iVillage, he commented, "My schedule doesn't have any research behind it. No one has ever studied a big group of kids using my schedule to determine if it's safe or if it has any benefits."

A 2010 study actually did study children whose vaccinations were delayed and found there was absolutely no difference in their development to children who'd received their shots on time (Smith). A 2013 study showed further evidence that giving numerous shots at the same time and giving the recommended vaccination schedule has no impact on a child's risk of autism.[11]

I'd much rather follow a schedule that has been extensively researched for both safety and effectiveness by experts in the field of infectious diseases.

What we do know about alternative vaccination schedules is that delaying shots is playing Russian Roulette with your child. The simple truth is that you are leaving your child unprotected, at a time when she is the most vulnerable.

We realize that parents who choose to delay or opt out on vaccines are not bad parents. They are scared parents. What we are trying to help you realize is that the fear you should have is for the diseases that vaccines prevent.

If I want to do a staggered vaccination schedule, how should I do it?

I suggest setting up a consultation with your own pediatrician to discuss what both of you feel comfortable with doing. Remember, the ultimate goal is to have your child vaccinated in a timely manner.

With the 2019 measles outbreaks on everyone's minds, more pediatricians are increasingly adamant about protecting their littlest patients. Many refuse to deviate from the recommended schedule just to appease a nervous parent. It may be difficult to find a board-certified pediatrician willing to modify or delay shots. It's our job to protect kids.

Following the recommended schedule is the best way to do that.

How do I know that the CDC and FDA are on "our" side?

Ah, the government conspiracy theory – the belief by some that the government is part of a vast conspiracy to hurt children with bad vaccines...and enrich pharmaceutical makers who make vaccines.

Yes, years ago, some members of vaccine advisory committees had ties with vaccine producers. These people were invited to the table because they brought a wealth of knowledge with them (example: vaccine research scientists).

Chickenpox is a serious disease... Make sure your child is protected!

What is chickenpox?

Chickenpox (varicella) is a disease caused by a virus.

Most people with chickenpox get very itchy blisters and sores all over their body.

How do you catch chickenpox?

Chickenpox is spread person-to-person through the air. It is very contagious.

Is chickenpox serious?

Yes, it can be a serious disease for people of all ages. The disease can cause serious skin infections, pneumonia, brain damage, and even death. Chickenpox is especially dangerous for people whose immune systems are weak because of illness or medications.

Is my child at risk?

Yes. Chickenpox is still infecting people in the U.S. and the rest of the world. It is extremely contagious and can be spread by an infected person before they even know they're sick.

Ask your child's healthcare provider if your child is up to date for all **vaccines!**

How can I protect my child from chickenpox? You can protect your child from chicken-pox with vaccination. All children should get 2 doses of chickenpox vaccine starting at 1 year of age.

Some teens and adults may also need this vaccine if they didn't get 2 doses of the vaccine or chickenpox disease when they were younger.

immunization action coalition

IAC

immunize.org

smallpox. In 1798 he published a paper on his idea and called it "Vaccination." Not to say, by the way, that Dr. Jenner's idea was accepted with completely open arms. In the nineteenth century there did emerge a group opposed to vaccination led by Mary C. Hume. See, even the anti-vaccination lobby has been around a long time! Of course, in those days, you could be prosecuted for refusing to vaccinate.[1]

Information for Health Care Professionals about Adolescent Vaccines

The Centers for Disease Control and Prevention (CDC) recommends these four vaccines for adolescents to prevent:

- Tetanus, Diphtheria, Pertussis
- Meningococcal disease
- Human papillomavirus
- Influenza

Update: Recommendations for catch-up and minimum interval

Updated: Recommendations for a booster that year item

Updated: Additional indications for *Gardasil;* ACIP recommendation for boys

Universal recommendation for patients age 6 months and older as of 2010

These recommendations are supported by the American Academy of Pediatrics, the American Academy of Family Physicians, and the Society for Adolescent Health and Medicine.

What can you do to ensure your patients are fully vaccinated?

- *Strongly* recommend adolescent vaccines to parents of your 11 through 18 year old patients. Parents trust your opinion more than anyone else's when it comes to immunizations. Studies consistently show that a provider recommendation is the strongest predictor of vaccination.

- Use every opportunity to vaccinate your adolescent patients. Ask about vaccination status when they come in for sick visits and sports physicals.

- Patient reminder and recall systems such as automated postcards, phone calls and text messaging are effective tools for increasing office visits.

- Educate parents about the diseases that can be prevented by adolescent vaccines. Parents may know vaccines by the illness they prevent, like pertussis, meningococcal disease, or HPV.

- Implement standing order policies so that patients can receive vaccines without a physician examination or individual physician order.

Direct parents who want more information on vaccines and vaccine preventable diseases to visit the CDC Website at http://www.cdc.gov/vaccines/ or to call 800-CDC-INFO

⬤ **Note about syringe:** For all vaccines given during adolescence, syringes have been reported for both boys and girls. To avoid serious injury related to a syncopal fainting, adolescents should always be sitting or lying down to receive vaccines, remain so for 15 minutes AND be observed closely afterward.

Overview of Adolescent Vaccination Recommendations		

Overview of Adolescent Vaccination Recommendations

- All 11 or 12 year olds should receive a single dose of Tdap vaccine if they have completed the recommended childhood DTP/DTaP vaccination series and have not already received Tdap

- All 11 or 12 year olds should receive a single dose of meningococcal vaccine, with a booster dose at age 16 years

- All girls 11 or 12 years old should get 3 doses of either HPV vaccine to protect against cervical cancer; All boys 11 or 12 years old should get 3 doses of quadrivalent HPV vaccine to protect against genital warts and anal cancer

Age ▶ 7–10 Years   :n –ill Years   :U –i18 years

- vaccine

Tdap *Recommended* Catch-Up

- All adolescents should receive a single dose of influenza vaccine every year

HPV

Recommended

Catch-Up

MCV4   _Recommended_   _Recommended_

Flu   _Recommended_

U.S ,. Dep:artm4!nt of
Hea tih and Human Ser
vices
Cerrters for
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Control
and
Prevent io̶ll

CDC

Tdap (tetanus toxoid - reduced diphtheria toxoid - acellular pertussis) Vaccine

Because immunity from childhood DTaP vaccines wanes by adolescence, a booster dose is recommended. **Of the nearly 17,000 cases of pertussis reported in the United States in 2009, 4265 occurred among 10- through 19-year-olds.** Increasing immunization rates among adolescents is an important strategy for reducing disease among both adolescents and infants too young to be fully immunized. According to the 2010 National Immunization Survey-Teen (NIS-Teen), about 69% of 13- through 17-year-olds received Tdap.

Recommendations:
- **All 11- through 18-year-olds should receive a single dose of Tdap vaccine (preferably at age 11 or 12 years) if they have completed the recommended childhood DTP/DTaP vaccination series and have not received Tdap.**

- Children aged 7 through 10 years and adolescents aged 11 through 18 years who did not complete the childhood DTaP series or with unknown vaccine history should be given one dose of Tdap as part of the catch-up regimen. Td should be used for any other doses needed.

- Tdap should be administered regardless of interval since the last tetanus or diphtheria toxoid-containing vaccine. While longer intervals between Td and Tdap vaccination could decrease the occurrence of local reactions, the benefits of protection against pertussis outweigh the potential risk for adverse events.

- Tdap vaccine can be administered at the same time as other adolescent vaccines. **Vaccines licensed in the United States:**

- Boostrix® (GlaxoSmithKline) is indicated for active booster immunization for the prevention of tetanus, diphtheria and pertussis as a single dose in persons 10 through 64 years of age.

- Adacel® (sanofi pasteur) is indicated for active booster immunization for the prevention of tetanus, diphtheria and pertussis as a single dose in persons 11 through 64 years of age.

Possible side effects:
Pain, redness, swelling at the injection site; mild fever; headache; fatigue; nausea, vomiting, diarrhea, or stomach ache.

Contraindications and precautions:
- Tdap is contraindicated for persons with a history of serious allergic reaction (e.g., anaphylaxis) to any component of the vaccine.

- Tdap is contraindicated for adolescents with a history of encephalopathy (e.g., coma or prolonged seizures) not attributable to an identifiable cause within 7 days of administration of a vaccine with pertussis components. This contraindication is for the pertussis components and these adolescents should receive Td instead of Tdap.

Meningococcal Conjugate Vaccine (MCV4)

Although rates of meningococcal disease are the lowest they have ever been in the United States, about 1000 cases are reported each year in this country. Each case is alarming and potentially deadly. **The incidence of meningococcal disease increases in adolescence and early adulthood.** About 10-15% of adolescents who contract the disease will die, and about 20% will suffer from a long-term disability. According to the 2010 National Immunization Survey-Teen (NIS-Teen), about 63% of 13- through 17-year-olds received MCV4. **Recommendations:**

- **All 11- or 12-year-olds should receive a single dose of meningococcal vaccine, with a booster dose at age 16 years.**

- For adolescents who receive the first dose at age 13 through 15 years, a one-time booster dose should be administered, preferably at age 16 through 18 years. Persons who receive their f0irst dose of meningococcal conjugate vaccine at or after age 16 years do not need a booster dose.

- Adolescents with persistent complement component deficiencies (e.g., C5-C9, properidin, factor H, or factor D) and asplenia should receive a 2-dose primary series administered 2 months apart and then receive a booster dose every 5 years.

- Adolescents aged 11–18 years with HIV infection should be routinely vaccinated with a 2-dose primary series.

- Vaccination is also recommended for unvaccinated college freshmen who live in dormitories, and also for unvaccinated military recruits. Older adolescents, including college students, who wish to decrease their risk for meningococcal disease, may elect to receive meningococcal vaccine.

- Meningococcal vaccine can be administered at the same time as other adolescent vaccines.

  Vaccines licensed in the United States:

- Menactra® (sanofi pasteur) is indicated for active immunization of persons 9 months through 55 years of age for the prevention of invasive meningococcal disease caused by *N. meningitidis* serogroups A, C, Y and W-135.

- Menveo® (Novartis) is indicated for active immunization of persons 2 through 55 years of age to prevent invasive meningococcal disease caused by *N. meningitidis* serogroups A, C, Y, and W-135.

Possible side effects:

The most commonly reported side effects are redness or pain at the injection site. A small percentage of recipients reported fever. *Contraindications and precautions:*

- Meningococcal vaccine is contraindicated among persons known to have a severe allergic reaction to any component of the vaccine, including diphtheria toxoid, or to dry natural rubber latex.

Human Papillomavirus (HPV) Vaccine

Cervical cancer, caused by HPV, is one of the most common cancers in women—every year in the United States, about 12,000 women are diagnosed with cervical cancer, and about 4,000 women die from this disease. HPV types 16 and 18 are the most common high-risk types associated with cervical cancer, while HPV 6 and 11 are the most common low-risk types associated with genital and respiratory tract warts (recurrent respiratory papillomatosis or RRP). High-risk HPV types have also been associated with other, less common cancers and precancers in women, such as vulvar, vaginal, anal, opharyngeal carcinomas and dysplasia. HPV- associated cancers in males include certain anal, penile, and oropharyngeal carcinomas and dysplasia.

According to the 2010 NIS-Teen, about 49% of 13- through 17-year-old girls have started an HPV vaccine series. However, only about 32% received all 3 doses. **Completing the 3-dose HPV vaccine series is very important to ensure protection against cervical cancer and other HPV-related disease.**

Vaccines licensed in the United States:

- Cervarix® is indicated for the prevention of cervical cancer and precancers caused by HPV types 16 and 18.

- Gardasil® is indicated for the prevention of cervical, vulvar, vaginal and anal cancers and precancers, as well as genital warts, caused by HPV types 6, 11, 16 and 18.

Recommendations:

- **All 11 or 12 year olds should receive 3 doses of HPV vaccine to protect against HPV-related disease.**

- **All girls 11 or 12 years old should get 3 doses of HPV vaccine to protect against cervical cancer.** Girls and young women ages 13 through 26 should get all 3 doses of an HPV vaccine if they have not yet received all doses. Both brands of vaccine are highly effective for preventing cervical cancer and precancer caused by HPV types 16 and 18. Gardasil also protects against anal cancer and genital warts.

- **All boys 11 or 12 years old should get 3 doses of quadrivalent HPV vaccine (Gardasil) to protect against genital warts and anal cancer.** Boys and young men 13 through 21 years, who did not get any or all of the three recommended doses when they were younger, should also get the HPV vaccine series. MSM and immunocompromised males should receive the vaccine through age 26 years, if they did not start or complete the vaccine series when they were younger.

- HPV vaccines are administered in a 3-dose schedule. The second dose should be administered 1 to 2 months after the first dose, and the third dose should be administered 6 months after the first dose. There is no maximum interval between doses. If the HPV vaccine schedule is interrupted, the vaccine series does not need to be restarted.

- Whenever feasible, the same brand of HPV vaccine should be used for the entire vaccination series. However, if the vaccine provider does not know which brand of vaccine was previously administered or have it available, either brand of HPV vaccine can be used to complete the series.

- Individuals will get the greatest benefit from the vaccine if it is administered before they have initiated *any* type of sexual activity with another person.

- Studies demonstrate that the risk for HPV infection is high immediately following sexual debut. It is

also important to note that 1 in 5 women who have only had one lifetime sex partner have been infected with a high-risk HPV type.

- Vaccination is recommended for patients with HPV-related disease and/or apparent HPV infection because the vaccine can offer protection against infection with HPV vaccine types not already acquired. However, vaccination will not have a therapeutic effect on existing HPV infection or HPV-related disease.
- HPV vaccine can be administered at the same time as other adolescent vaccines.

Possible side effects:
Pain, headache, redness or swelling at the injection site are the most commonly reported side effects.

Contraindications and precautions:
- HPV vaccines are not recommended for use in pregnancy. If a patient is found to be pregnant after initiating the vaccination series, the remainder of the 3-dose series should be delayed until completion of pregnancy. However, if a vaccine dose has been administered during pregnancy, no intervention is needed. Clinicians should report exposure to Gardasil during pregnancy to Merck at 800-986-8999, and exposure to Cervarix during pregnancy to GlaxoSmithKline at 888-4529622.
- HPV vaccines are contraindicated for persons with a history of immediate hypersensitivity to any vaccine component. Gardasil is contraindicated for persons with a history of immediate hypersensitivity to yeast. Prefilled syringes of Cervarix have latex in the rubber stopper and should not be used in persons with anaphylactic latex allergy. Cervarix single-dose vials contain no latex.

Influenza Vaccine
CDC recommends universal annual flu vaccination for everyone aged 6 months and older. Flu can be serious, and even fatal, for healthy adolescents, but pre-teens and teens with certain medical conditions are more likely to suffer from serious flu complications. Conditions that place people at high risk include chronic lung disease (such as asthma); heart disease; endocrine disorders (such as diabetes); blood disorders; neurological and neurodevelopmental conditions; kidney, liver, and metabolic disorders; and weakened immune systems due to disease or medication. Flu seasons are unpredictable and can be severe. Each year in the United States, more than 200,000 people are hospitalized from flu-related complications.

Annual influenza vaccination is the most effective method for preventing influenza virus infection and its complications since flu viruses are constantly changing. Protective immunity generally develops in 2 weeks after being vaccinated.

Vaccines Licensed in the United States:
- Trivalent Inactivated Influenza Vaccine (TIV) is given as an injection. It can be used for people 6 months of age or older, including healthy people, those with chronic medical conditions, and pregnant women. Brands licensed in the United States include Fluarix®, Fluvirin®, Fluzone®, FluLaval®, and Afluria®.
- Live, Intranasal Influenza Vaccine (LAIV) is given as a nasal spray. It can be used for healthy people 2 through 49 years of age who are not pregnant. FluMist® is the only brand licensed in the United States.

Recommendations:
- **Adolescents should receive a single dose of influenza vaccine *every year*.**
- Influenza vaccine can be administered at the same time as other adolescent vaccines.

Possible side effects:
TIV (injection): Soreness, redness, or swelling at the injection site; hoarseness; sore, red or itchy eyes, cough; fever, aches. If these problems occur, they begin soon after the shot and usually last 1 to 2 days. TIV contains noninfectious killed viruses and cannot cause influenza.

LAIV (nasal spray): Runny nose, nasal congestion, or cough; fever; headache and muscle aches; wheezing; abdominal pain or occasional vomiting or diarrhea. LAIV contains weakened influenza viruses that cannot replicate outside the nasal passages and cannot cause influenza.

Contraindications and precautions:
- Influenza vaccines should not be administered to people who have anaphylactic hypersensitivity to

eggs, unless the recipient has been desensitized.

- Moderate or severe acute illness with or without fever is a precaution for vaccination. People who are moderately or severely ill should not be vaccinated until they recover.
- GBS within 6 weeks following a previous dose of influenza vaccine is a precaution for use of influenza vaccines.

- LAIV (nasal spray) should not be administered to pregnant adolescents, adolescents with chronic medical conditions (including asthma, metabolic disease, or hemoglobinopathy) as well as adolescents receiving aspirin or other salicylates.

Catch-Up Vaccines for Adolescents

Pre-teens and teens should receive doses of these vaccines as indicated to complete each series:
- Hepatitis B vaccine (HepB): Complete the 3-dose series if not previously completed. Note: A 2-dose series (separated by at least 4 months) of Recombivax HB® is licensed for children aged 11 through 15 years.
- Varicella vaccine: Complete the 2-dose series if not previously completed, with at least 3 months between doses for persons aged 12 months through 12 years. (If the second dose was administered at least 28 days after the first dose, it can be accepted as valid.) For persons aged 13 years and older, the minimum interval between doses is 28 days.
- Inactivated poliovirus vaccine (IPV): The childhood series is 4 doses. However, only 3 doses are needed for pre-teens and teens who received their third dose after 4 years of age, as well as pre-teens and teens in your care who have not received any doses. In all cases, a minimum interval of 6 months is needed between the last two doses.
- Measles-mumps-rubella vaccine (MMR): Complete the 2-dose series if not previously completed, with at least 28 days between doses.

A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Refer to the CDC CatchUp Immunization Schedule for more information.

Vaccine Information Statements

Vaccine Information Statements (VIS) are an excellent source of information for patients about the risks, benefits, and side effects of vaccines. **Federal law requires that VIS be given out *before* vaccines are administered.** To download any VIS, visit http://www.cdc.gov/vaccines/pubs/vis/default.htm

Vaccine Adverse Events Reporting System

Doctors and other health care professionals are encouraged to report any adverse events following administration of vaccines to the Vaccine Adverse Event Reporting System (VAERS), which is jointly administered by CDC and the U.S. Food and Drug Administration. Visit http://vaers.hhs.gov for more information or to file a report.

Vaccines for Children

The Vaccines for Children (VFC) program provides vaccines at no cost to professionals who serve eligible children. Children younger than 19 years of age are eligible for VFC vaccines if they are Medicaid-eligible, American Indian or Alaska Native or have no health insurance. Children who have health insurance that does not cover vaccination can receive VFC vaccines through Federally Qualified Health Centers or Rural Health Centers. VFC vaccines cannot be denied to an eligible child if a family can't afford the administration fee. For more information about participating in VFC, visit http://www.cdc.gov/vaccines/programs/vfc/

Top 10 Ways to Improve Adolescent Immunization Rates

1

Immunize at every opportunity.

Adolescents do make office visits, but opportunities are often missed to provide age-appropriate vaccines that are due at that time. Consider every patient encounter a potential vaccination visit, starting with well visits and annual physicals. Immunization opportunities also arise during sports and camp physicals; acute care and follow-up visits; visits for care of chronic illness; and visits for COVID- 19 or annual influenza immunization.

2

Use reminder and recall systems.

The Centers for Disease Control and Prevention (CDC) recommends these systems, which typically include computer-generated reminders to you and your staff that a patient is due for one or more vaccines.

Messages can be delivered to patients and parents via telephone calls, letters, postcards, e-mail, or text messages, noting that vaccines are either due (reminder) or past due (recall).

3

Implement standing orders.

Standing orders authorize nurses, pharmacists, and other appropriately trained healthcare personnel, where allowed by state law, to assess a patient's immunization status and administer vaccinations according to a protocol approved by an institution, physician, or other authorized practitioner. Standing orders work by enabling assessment and vaccination of the patient without the need for clinician examination or direct order from the attending provider at the time of the interaction.

4

Take part in an immunization registry.

A population-based immunization registry provides ready access to a comprehensive immunization record for every patient, even one who has been vaccinated by a number of different providers. These Immunization Information Systems (IIS) may be state or local.

5

Review your patients' vaccination histories

Prior to visits, review your patient's immunization record (both your medical record and information available in the immunization registry) and flag the chart if your patient is due or overdue for vaccines. At all visits, review your patient's immunization status, regardless of the reason for the visit. Maintain a comprehensive immunization record in your patient's chart and update it regularly, as well as send the information to the immunization registry.

6

Follow the U.S. recommended immunization schedule.

CDC recommends that adolescents receive several vaccines starting at 11 or 12 years of age, including tetanus-diphtheria-acellular pertussis (Tdap), meningococcal

ACWY (MenACWY), and the human papillomavirus (HPV) series. Depending on the age at the first dose, 2–3 doses of HPV are recommended over a 6-month period. The second dose of MenACWY is given at 16 years of age, along with a dose of meningococcal B vaccine when it is appropriate. Influenza vaccine is recommended annually. If your patient falls behind, vaccinate at the next opportunity or recall him or her for over-

due vaccines.

For additional resources on how to improve adolescent immunization coverage for MenACWY and other recommended vaccines, see **www.give2menacwy.org**.

MenACWY YOU'RE NOT DONE IF YOU GIVE JUST ONE
GIVE **2** DOSES to Strengthen Protection

Top 10 Ways to Improve Adolescent Immunization Rates (continued)   page 2 of 2

7 ## Schedule vaccination-only quick visits.

The National Vaccine Advisory Committee suggests vaccination-only visits, with staff members who are permitted under state law to assess the need for and provide vaccination services using standing orders. Offering such opportunities during regular office hours, or providing flexible hours in the evenings or on weekends, will help increase access to vaccines and help your practice run more efficiently.

8 ## Make vaccination education a priority, for parents as well as patients.

Many parents are not aware that adolescents need a number of vaccinations. Others may question whether their children will benefit from the recommended immunizations. In addition to sharing information from trustworthy sources, providers can make themselves or designated staff members available to address individual concerns about vaccines and provide counseling and reassurance as needed.

9 ## Establish rapport with your adolescent patients

A nonjudgmental approach, a readiness to listen and answer questions, and an assurance of confidentiality can help adolescents feel comfortable discussing a wide range of issues, including vaccinations. In many cases, vaccinations will be part of broader conversations about common clinical and psychosocial concerns of adolescents.

10 ## Create a culture that values well-adolescent care.

Young children are expected to have regular health assessments that include immunization. The next logical step is to create the same set of high expectations for well-adolescent care. Every member of your staff should emphasize the importance of adolescent vaccination and help assure that all doses of recommended vaccines for adolescents are administered. You also can reinforce this message by displaying posters or other appropriate educational materials in your waiting area or exam rooms.

Algorithm for MenACWY[a] Immunization in Adolescents 11 through 18 Years of Age[b]

Recommendation for routine administration of MenACWY:

Give dose #1 at 11 or 12 years of age and dose #2 at 16 years of age.

For patients at increased risk for meningococcal ACWY disease, see *Additional Information* on page 2.

Previously received dose #1?

NO / UNKNOWN[c]

Is patient 11 through 15 years of age?

- YES → Give dose #1 unless contraindications or precautions preclude (see page 2). Ask patient to return at 16 years of age for dose #2 (which should be separated from dose #1 by at least 8 weeks).
- NO → Is patient 16 through 18 years of age?
  - YES → Give dose (first and final) unless contraindications or precautions preclude (see page 2).

YES

Dose given at 11 or 12 years of age?

- YES → Is patient now 11 through 15 years of age?
  - YES → Ask patient to return at 16 years of age for dose #2 (which should be separated from dose #1 by at least 8 weeks).
  - NO →
- NO → Dose given at 13 through 15 years of age?
  - YES → Is patient now 16 through 18 years of age?
    - YES → Have at least 8 weeks elapsed since dose #1 given?
      - YES → Give dose #2 unless contraindications or precautions preclude (see page 2).
      - NO → Ask patient to return for dose #2 after at least 8 weeks have elapsed since dose #1.
    - NO →
  - NO → Dose given at 16 years of age or older?
    - YES → Dose #2 not recommended.

FOOTNOTES

a MenACWY is a vaccine that helps protect against meningococcal disease resulting from infection with serogroups A, C, W, or Y.

b For more detailed information on the use of MenACWY vaccines, go to www.cdc.gov/mmwr/volumes/69/rr/pdfs/rr6909a1-H.pdf.

c If immunization records cannot be located within a reasonable time, the patient should be considered susceptible and started on the age-appropriate vaccination schedule. (Reference: Centers for Disease Control and Prevention [CDC]. General Best Practice Guidelines for Immunization, available at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/timing.html)

5

Additional Information

Administration of MenACWY

- MenACWY may be given through 21 years of age as catch-up vaccination for those who have not received a dose after their 16th birthday.

- Routine MenACWY vaccination of healthy people not at increased risk for exposure to *Neisseria meningitidis* is not recommended for those older than 21 years of age.

Persons living with human immunodeficiency virus (HIV)

- MenACWY vaccination is recommended for all children 2 months of age or older with HIV infection.

- Adolescents age 11 through 18 with HIV infection being vaccinated for the first time should receive a 2-dose primary series, with at least 8 weeks between doses. They should receive a booster dose every five years throughout life. (See www.cdc.gov/mmwr/volumes/69/rr/pdfs/ rr6909a1-H.pdf for details.)

Persons at increased risk for meningococcal disease for whom MenACWY immunization is recommended

- First year college students living in a residential hall who have not had a dose of MenACWY since turning 16 or who received a dose after turning 16 but the dose was given 5 years or more before enrollment.

- People with a persistent complement component deficiency caused by an immune system disorder or by taking a complement inhibitor (eculizumab {Soliris} or ravulizumab {Ultomiris})

- People with anatomic or functional asplenia

- Microbiologists routinely exposed to *Neisseria meningitidis* isolates

- Travelers to or residents of countries where meningococcal disease is hyperendemic or epidemic

- United States military recruits

For dosing recommendations, refer to the CDC guidelines (www.cdc.gov/mmwr/volumes/69/rr/ pdfs/rr6909a1-H.pdf) or go to www.immunize. org/catg.d/p2018.pdf.

Contraindications and precautions

- **Contraindications:** history of a serious allergic reaction (e.g., anaphylaxis) after a previous dose of meningococcal vaccine or to a meningococcal vaccine component. For information on vaccine components, refer to the manufacturer's package insert (www.immunize.org/packageinserts) or go to www.cdc.gov/vaccines/pubs/pinkbook/ downloads/appendices/B/excipient-table-2.pdf.

- **Precautions:** moderate or severe acute illness with or without fever. (Refer to manufacturer's package insert for additional precautions, e.g., potential for diminished immune response in persons with altered immunocompetence.)

For complete information on CDC's recommendations for the use of meningococcal vaccine, go to

www.immunize.org/acip

Meningococcal B Vaccine: IAC
Answers Your Questions

Experts from the Immunization Action Coalition (IAC) answer your questions about meningococcal serogroup B (MenB) vaccine. You'll find additional Q&As about meningococcal B vaccine on the "Ask the Experts" section of immunize.org at www.immunize.org/ *askexperts/experts_meningococcal_b.asp*

Which meningococcal vaccines are available in the United States?

There are 2 types of meningococcal vaccine available in the United States. One type of vaccine (MenACWY) contains the surface polysaccharides of meningococcal serogroups A, C, W and Y chemically bonded (conjugated) to a protein. This vaccine is recommended for all adolescents at 11–12 years and a second dose at 16 years. A second type are vaccines for meningococcal serogroup B (MenB), which are composed of proteins also found in the surface of the bacteria. No type of vaccine contains live or intact meningococcal bacteria.

MenACWY vaccines provide no protection against serogroup B disease and MenB vaccines provide no protection against serogroup A, C, W or Y disease. For protection against all 5 serogroups of meningococcus it is necessary to receive a MenACWY and a MenB vaccine.

Which individuals in risk groups are recommended to be vaccinated against meningococcal serogroup B disease?

CDC's Advisory Committee on Immunization Practices (ACIP) recommends routine MenB vaccination of the following individuals in certain risk groups:

- People age 10 years and older who have a damaged or missing spleen

- People age 10 years and older who have persistent complement component deficiency (an immune system disorder) or taking a complement inhibitor (Soliris [eculizumab] or Ultomiris [revulizumab])

- People age 10 years and older who are at risk during a serogroup B meningococcal outbreak

- Microbiologists who work with menin- gococcus bacteria in a laboratory

5

Which individuals are recommended to be vaccinated against meningococcal serogroup B disease who are not in risk groups?

ACIP recommends that a MenB vaccine series may be administered to people 16 through 23 years of age with a preferred age of vaccination of 16 through 18 years, subject to shared clinical decision-making (SCDM). SCDM gives clinicians an opportunity to discuss the value of MenB vaccination with their patients to make a decision together about the individual's need or desire for the vaccine based on risks, benefits, and wish for protection from the disease.

What information should healthy people age 16 through 23 years and their healthcare provider consider when deciding on the use of MenB vaccine?

Considerations for shared clinical decisionmaking for vaccination against meningococcal B disease include:

- MenB disease is serious, with high rates of death and disability.
- MenB disease is rare (about 34 cases per year in people age 16 through 23 years in the U.S.).
- Risk of MenB disease is higher among college students, especially those who are freshmen, attend a 4-year university, live on campus, or participate in fraternities or sororities.
- MenB vaccines protect against most serogroup B strains.
- MenB vaccines provide short-term protection, with protective antibody levels declining within 1–2 years.
- MenB vaccines may prevent illness but a vaccinated person may still carry the serogroup B bacteria in their nose.

Should college students be vaccinated against meningococcal B disease?

With widespread use of MenACWY vaccines, the risk for meningococcal disease among college students is greatest for serogroup B, although serogroup B disease in this group is still rare. College students ages 16 through 23 may choose to receive MenB vaccine to reduce their risk of MenB disease.

Should international travelers receive both meningococcal conjugate vaccine and meningococcal serogroup B vaccine?

Travelers are not considered to be a group at increased risk for serogroup B meningococcal disease and are not recommended to receive serogroup B vaccine. Meningococcal conjugate vaccine

(MenACWY) continues to be recommended for certain international travelers.

What is the schedule for administering the primary series of MenB vaccine?

Bexsero is a 2-dose series with dose #2 given at least 1 month after dose #1. Trumenba is either a 2-dose series with doses administered at least 6 months apart or a 3-dose series with dose #2 administered at 0, 1–2 months, and 6 months. The ACIP recommends that persons at increased risk of meningococcal serogroup B disease (complement

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Can the MenB series be completed with a different MenB brand from the one the series was begun with?

No. MenB vaccines are not interchangeable. All doses must be of the same brand. If a person who has received one or more doses of MenB vaccine in the past needs vaccination but the brand of previous doses is unknown or unavailable, restart the primary series with the available brand.

Can meningococcal conjugate (MenACWY) and MenB vaccines be given at the same visit?

Yes. MenACWY and MenB vaccines can be given at the same visit or at any time before or after the other.

Which groups of patients should receive a booster dose of MenB vaccine after completion of the series?

People age 10 years and older with a damaged or missing spleen, persistent complement component deficiency (an immune system disorder) or who use a complement inhibitor (Soliris [eculizumab] or Ultomiris [revulizumab]), and microbiologists who handle meningococcal isolates should receive booster doses after their primary series as long as they remain at increased risk. The first

booster dose is recommended 1 year after completion of the primary

every 2-3 years thereafter, as long as increased risk remains. Because MenB brands are not interchangeable, the booster doses must be of the same brand as the primary series. If the primary series brand is unknown or unavailable, restart the primary series with the available brand.

component deficiency, complement inhibitor use (taking Soliris [eculizumab] or Ultomiris [ravulizumab]), functional or anatomic asplenia, at risk during an outbreak of meningococcal B disease and microbiologists who handle meningococcal isolates) receive either the 2-dose Bexsero series or the 3-dose Trumenba series. Persons not at increased risk (such as healthy adolescents and young adults) can receive either the 2-dose Bexsero series or the 2-dose Trumenba series. If the second dose of Trumenba is administered earlier than 6 months after dose #1, a third dose should be administered at least 4 months after dose #2.

Previously vaccinated people who are determined by public health officials to be at risk due to a serogroup B outbreak should receive a

booster dose if it has been 1 or more years since completion of their primary series. Depending upon the outbreak conditions, public health authorities may recommend a booster dose as little as 6 months after completion of the primary series. Do not delay vaccination during an outbreak if the primary series brand is unknown. However, if the primary series brand is unknown or is not the same as the outbreak dose, to ensure optimal protection, the recipient should return at least 4 weeks later to receive a booster dose of the primary series brand or to proceed with completing the primary series of the brand used in the outbreak response.

What are the contraindications and precautions to MenB vaccine?

The only contraindication is a severe allergic reaction (such as anaphylaxis) to a previous dose or to a vaccine component. Precautions include moderate to severe acute illness (defer until resolved) and pregnancy.

What adverse reactions have been reported after MenB vaccine?

For both MenB vaccines, the most common adverse reactions observed in clinical trials were local reactions, including pain at the injection site (83%–85%), redness, and swelling.

series, followed by a booster dose

reference

Meningococcal Vaccination: Recommendations of the Advisory Committee on Immunization Practices. *MMWR*, 2020;69(No. RR-9):1-41. Available at www.cdc.gov/mmwr/volumes/69/rr/pdfs/ rr6909a1-H.pdf.

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Recommending MenACWY*: What to Say and How to Say It

The National Vaccine Advisory Committee (NVAC) calls on all healthcare providers to[1]

- Assess the immunization status of all patients during every clinical encounter.
- Strongly recommend all immunizations that patients need.
- Administer vaccines in your healthcare setting, or, if you can't, refer the patient to a provider who immunizes.
- Document the vaccination given.

A clinician's strong recommendation for a vaccine is known to be powerful and persuasive in building vaccine confidence and acceptance among patients and parents.

From October 2019–January 2020 in the United States, for example, a clinician's recommendation was a key factor in determining whether pregnant women were vaccinated against influenza. When the clinician made a recommendation and offered vaccination, 75.2% of pregnant women were vaccinated. If the clinician made a recommendation but did not offer vaccination, the immunization rate was 50.2%. Furthermore, if the clinician neither recommended nor offered vaccine, the rate was only 20.6%.[2]

Meningococcal disease: Recognizing risk

When it comes to discussing MenACWY* with patients and parents, focus can be placed on:

- The life-threatening nature of the disease
- A well-documented period of increased risk for adolescents and young adults
- The importance of being vaccinated with both the first and second doses of meningococcal ACWY vaccine

The first MenACWY dose is recommended at 11 or 12 years of age and a second (booster) dose at 16 years of age.[3] Dose #1 has been recommended since 2005, and the second dose was recommended in 2010. Unfortunately, immunization rates for dose #2 are lagging. The Centers for Disease Control and Prevention notes that "A MenACWY booster dose helps protect adolescents during the ages they are at highest risk."[4]

Having the Conversation

Be sure to include meningococcal disease prevention as part of the anticipatory guidance for your teenage and young adult patients.

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* MenACWY is a vaccine that helps protect against meningococcal disease resulting from infection with serogroups A, C, W, or Y.

For additional resources on how to improve adolescent immunization coverage for MenACWY and other recommended vaccines, see **www.give2menacwy.org**

MenACWY **YOU'RE NOT DONE** IF YOU GIVE JUST ONE

GIVE 2 **DOSES** to Strengthen Protection

Talking points

When it comes to discussing MenACWY with patients and parents, focus can be placed on:

- Meningococcal disease is rare but can be deadly for young people your age.

- You are at increased risk from your mid-to-late teens into your early 20s.

- Meningococcal disease can come on suddenly, without warning, and can cause shock, coma, and death within hours of the first symptom.

- About 15% of people who develop meningococcal disease will die, even with appropriate antibiotic treatment.

- Up to 20% of people who survive meningococcal disease will suffer lifelong disability, such as loss of limbs, loss of hearing, or brain damage.

- Meningococcal vaccines are safe, effective, and recommended for adolescents.

- 2 doses of MenACWY are recommended for adolescents, the first dose at 11 or 12 years of age and a second dose at 16 years of age.

Close the conversation with a strong recommendation for the vaccine. It will make a difference.

General Tips for Talking with Adolescent Patients

Adolescents are at a time in life when they are trying to develop a personal identity, test boundaries, and seek independence. The following tips may help facilitate conversations:

- In educating adolescents and their parents about the importance of timely immunizations, take care to emphasize the potential severity of, and the patient's susceptibility to, specific vaccine-preventable diseases.

- Listen carefully and respond to the patient honestly, directly, and factually, in a caring and nonjudg-mental manner.

- Be attuned to the patient's developmental stage, taking into account age, gender, and cognitive and psychosocial development.

- Assure the patient that you will keep confidential whatever he or she tells you (subject to whatever legal limitations may apply); this will encourage candid discussion of sensitive concerns. **References**

1. Centers for Disease Control and Prevention (CDC). Standards for Adult Immunization Practice. www.cdc.gov/vaccines/hcp/ adults/for-practice/standards/ index.html

2. Centers for Disease Control and Prevention (CDC). Influenza and Tdap Coverage Among Pregnant Women– United States. April 2020. *MMWR.* 2020;69 (39); 1391-1397.

3. Centers for Disease Control and Prevention. Meningococcal Vaccination: Recommendations of the Advisory Committee on Immunization Practices, United States, 2020. *MMWR* 2020;69 (No. RR-9);1-41. https://www. cdc.gov/mmwr/volumes/

4. CDC. Meningococcal Vaccination for Adolescents: Information for Healthcare Professionals. Available at https://www.cdc.gov/vaccines/ vpd/mening/hcp/adolescentvaccine.html

69/rr/ pdfs/rr6909a1-
H.pdf

NEW RESOURCES	
Resource Name:	**Meningitis B Action Project launches back-to-school resources to encourage vaccination; new social media series titled "Be a Team Player"**
Source:	Immunization Action Coalition (IAC) / Meningitis B Action Project
Link(s):	[Social media graphics](#)
Topic:	Core Strategy: Strengthen Vaccination Communications
Audience:	Providers
Description:	The Meningitis B Action Project has launched a variety of back-to-school resources to encourage vaccination against meningococcal disease. Resources include: [Social media graphics](#) to encourage adolescent vaccination, including the new "Be a Team Player" and "It Takes Two" series
Last Updated:	08/2021

Resource Name:	**Handouts for Patients & Staff**
Source:	Immunization Action Coalition (IAC)
Link:	[Vaccination handouts and educational materials for patients and healthcare professionals](#) (immunize.org)
Topic:	General Vaccination Resources
Audience:	Providers – Parents
Description:	Top resources for IQIP include: [Handouts: Adolescent Vaccination (immunize.org)](#) [Handouts about Children's Vaccines for Parents (immunize.org)](#) [Easy-to-Read Q&As – Handouts about Vaccines for Healthcare Settings (immunize.org)](#) [Strategies and Policies for Healthcare Settings: Educational Materials for Healthcare Professionals (immunize.org)](#) [Vaccine Standing Orders for Healthcare Providers (immunize.org)](#) [Handouts for Healthcare Professionals to Help Address Vaccine Hesitancy of Patients or Parents (immunize.org)](#) [Vaccine Recommendations: Educational Materials for Healthcare Professionals (immunize.org)](#) [Promotional Materials and Flyers from the Immunization Action Coalition (immunize.org)](#)
Last Updated:	09/2021

Resource Name:	**Pediatric Practice Marketing and Communications**
Source:	American Academy of Pediatrics (AAP)
Link:	[Pediatric Practice Marketing and Communications (aap.org)](#)
Topic:	Core Strategy: Strengthen Vaccination Communications
Audience:	Providers

Description:	Patient engagement processes in health care have undergone dramatic change using electronic communications. To remain relevant as trusted sources of information, pediatric practices should stay up to date with current communication methods to meet patients and families where they are. This resource includes effective methods for marketing the pediatric practice to new patients as well as effectively communicating with established ones. It also includes useful tips and strategies for using social media to market the practice and to share information with patients/families, resources on creating and maintaining an informative practice website and disseminating important information to patients/families through on-hold messaging.
Last Updated:	08/2021
Resource Name:	**Team Huddles and Meetings**

Source:	American Academy of Pediatrics (AAP)
Link:	[Team Huddles and Meetings](#)

Topic:	General Vaccination Resources
Audience:	Providers
Description:	Policy and procedure on team huddles and staff meetings.

Resource Name:	**EQIPP: Immunizations - Strategies for Success**
Source:	American Academy of Pediatrics (AAP)
Link:	[EQIPP: Immunizations - Strategies for Success - AAP](#)
Topic:	Training and Education
Audience:	Providers
Description:	EQIPP: Immunizations - Strategies for Success **–** MOC **AVAILABLE:** **12/18/2020 - 12/17/2023** *This course is eligible for a total of 50 ABP MOC 4 points. Points can be claimed based on the number of tracks completed (25 MOC 4 points for completion of the 19-23 months track; 25 MOC 4 points for completion of the Adolescent track).* **Course Goals** This EQIPP course is designed to identify immunization rates in your practice, uncover barriers to immunization delivery systems, and provide techniques to overcome those barriers through the use of clear aims that reflect expert principles and proven quality improvement methods and tools. The course features two tracks; the 19-23 months old track and the Adolescent track with data collection activities specific to each population.
Last Updated:	12/2020

Resource Name:	**Challenging Cases: Vaccine Hesitancy**
Source:	American Academy of Pediatrics (AAP)
Link:	[Challenging Cases: Vaccine Hesitancy - AAP](#)
Topic:	Training and Education
Audience:	Providers
Description:	Challenging Cases: Vaccine Hesitancy **AVAILABLE:** **11/04/2019 - 11/03/2022** *This course offers no CME or certificate* Parents often have questions and concerns about vaccines and they look to pediatricians and other medical professionals for answers. Yet 87% of physicians have encountered parents who have refused a vaccine for their child. How can you better understand and address common parental concerns? This course provides strategies to promote vaccine confidence in vaccine-hesitant parents in a time efficient but effective manner, including case studies on infant vaccination and MMR vaccination.
Last Updated:	11/2019

Resource Name:	**HPV Vaccine: When, Why, and How**

Source:	American Academy of Pediatrics (AAP)
Link:	[HPV Vaccine: When, Why, and How - AAP](#)
Topic:	Training and Education
Audience:	Providers

Description:	HPV Vaccine: When, Why, and How – MOC
	AVAILABLE: **01/07/2020 - 01/06/2023**

	The main goals of this course are to motivate clinicians to protect more patients against HPV infection and its outcomes, and to provide clinicians with tools to support their efforts. This course will cover the following 3 topics: • HPV Vaccine and Cancer Prevention • Recommending HPV Vaccine • Increasing HPV Vaccine Rates
Last Updated:	01/2020

Resource Name:	**Where We Stand: Immunizations**
Source:	HealthyChildren.org
Link:	Where We Stand: Immunizations - HealthyChildren.org
Topic:	Core Strategy: Give a Strong Vaccine Recommendation
Audience:	Providers
Description:	The American Academy of Pediatrics (AAP) believes that immunizations are the safest and most cost- effective way of preventing disease, disability, and death. We urge parents to make sure that their children are immunized against dangerous childhood diseases since it is always better to prevent a disease than to have to treat it or live with the consequences of having it.
Last Updated:	04/2021

Resource Name:	**Communicating with Families and Promoting Vaccine Confidence**
Source:	American Academy of Pediatrics (AAP)
Link:	Communicating with Families and Promoting Vaccine Confidence (aap.org)
Topic:	Core Strategy: Give a Strong Vaccine Recommendation
Audience:	Providers
Description:	You are families' most trusted source of immunization information. Use these resources to communicate effectively. AAP Immunization Campaign Toolkit: This Immunization Campaign Toolkit offers infographics, memes, images, articles and videos, optimized for sharing on social media, that you can use to help provide accurate information about vaccines to parents in your networks Communicating Effectively About Immunizations: The AAP offers communication aids, such as childhood and adolescent flipcharts, and risk communication videos to guide your vaccine conversations with parents. Responding to Common Parental Concerns: You may hear some concerns or questions from parents about vaccines. Use this tool to access clear facts about common concerns parents may have. Vaccine Hesitant Parents: Learn more about the types of parental attitudes toward immunizations and simple strategies for speaking to parents about vaccines. Challenging Cases: Vaccine Hesitancy
Last Updated:	07/2021

Resource Name:	Human Papillomavirus and Other Vaccines Recommended for Adolescents
Source:	American Academy of Pediatrics (AAP)
Link:	[Human Papillomavirus and Other Vaccines Recommended for Adolescents (aap.org)](aap.org)
Topic:	Core Strategy: Give a Strong Vaccine Recommendation
Audience:	Providers

Description:	Pediatricians play an important role in immunizing adolescents with HPV and other age-appropriate vaccines. Why AAP Recommends Initiating HPV Vaccine as Early As Age 9 Learn why the AAP recommends starting the HPV vaccine series as early as age 9. HPV Vaccine: Same Way Same Day™, is a brief, interactive role-play simulation designed to enhance
	healthcare providers' ability to introduce the HPV vaccine and to address HPV vaccine hesitant parents' concerns. This application was developed by immunization experts, the AAP, the Academic Pediatric Association, and Kognito (a health simulation company).
Last Updated:	08/2021
Resource Name:	**I Get It! CDC Digital Media Toolkit: 2021-22 Flu Season**
Source:	Centers for Disease Control and Prevention (CDC)
Link:	I Get It! | CDC - Main Page CDC Digital Media Toolkit: 2021-22 Flu Season | CDC
Topic:	Seasonal Flu Vaccination / Core Strategy: Give a Strong Vaccine Recommendation
Audience:	Providers
Description:	CDC's seasonal flu vaccination campaign materials are available to assist partners in communicating about the importance of vaccination. This digital toolkit includes details on events/activities, sample social media and newsletter content, graphics, web assets, and media prep material. This material is downloadable, shareable, and some of the material is customizable. This social media toolkit includes customizable graphic frames for you to add your picture, sample social media messages, and social media graphics to encourage members of your community share the reason they get their flu vaccine with the hashtag #IGetIt.
Last Updated:	09/2021

Sample Vaccine Policy Statement for your practice

*Use the vaccine policy statement below as is, or modify it
to reflect your practice's own strong statement of support for the vital role vaccination plays in safeguarding the health of children. Your practice's clearly expressed commitment to immunization can be powerfully persuasive with parents who are hesitant to have their child vaccinated because of scientifically invalid information they have encountered on the Internet or through the news media. This policy statement, originally developed by clinicians at All Star Pediatrics in Lionville, Pennsylvania, has been modified by the Immunization*

*Action Coalition. All Star Pediatrics posts their policy in
every exam room and gives it to parents at prenatal "meet and greet" and newborn clinic visits. As a result, parents new to All Star Pediatrics know exactly where their doctors stand on immunization, and the families of established patients feel supported in the choice they've made to immunize their children. All Star Pediatrics' policy statement was originally published as a letter to the editor in* AAP News*, May 2008, by Bradley J. Dyer, MD, FAAP, and his colleagues at All Star Pediatrics.*

[Your Practice Name] Vaccine Policy Statement

We firmly believe in the effectiveness of vaccines to prevent serious illness and to save lives.

We firmly believe in the safety of our vaccines.

We firmly believe that all children and young adults should receive all of the recommended vaccines according to the schedule published by the Centers for Disease Control and Prevention and the American Academy of Pediatrics.

We firmly believe, based on all available literature, evidence, and current studies, that vaccines do not cause autism or other developmental disabilities. We firmly believe that thimerosal, a preservative that has been in vaccines for decades and remains in some vaccines, does not cause autism or other developmental disabilities.

We firmly believe that vaccinating children and young adults may be the single most important

health-promoting intervention we perform as healthcare providers, and that you can perform as parents/caregivers. The recommended vaccines and the vaccine schedule are the results of years and years of scientific study and data gathering on millions of children by thousands of our brightest scientists and physicians.

This said, we recognize that there has always been and will likely always be controversy surrounding vaccination. Indeed, Benjamin Franklin, persuaded by his brother, was opposed to smallpox vaccine until scientific data convinced him other-

wise. Tragically, he had delayed inoculating his favorite son Franky. The boy contracted smallpox and died at the age of 4, leaving Franklin with a lifetime of guilt and remorse. In his autobiography, Franklin wrote:

> "*In 1736, I lost one of my sons, a fine boy of four years old, by the smallpox...I long regretted bitterly, and still regret that I had not given it to him by inoculation. This I mention for the sake of parents who omit that operation, on the supposition that they should never forgive themselves if a child died under it, my example showing that the regret may be the same either way, and that, therefore, the safer should be chosen.*"

The vaccine campaign is truly a victim of its own success. It is precisely because vaccines are so effective at preventing illness that we are even discussing whether or not they should be given. Because of vaccines, many of you have never seen a child with polio, tetanus, whooping cough, bacterial meningitis, or even chickenpox, or known a friend or family member whose child died of one of these diseases. Such success can make us complacent or even lazy about vaccinating.

But such an attitude, if it becomes widespread, can only lead to tragic results. After publication of an unfounded accusation (later retracted) that MMR vaccine caused autism in 1998, many Europeans chose not to vaccinate their children. As a result of under immunization, Europe experienced large outbreaks of measles, with several deaths

from disease complications. In 2012, there were more than 48,000 cases of pertussis (whooping cough) in the United States, resulting in 22 deaths. Most victims were infants younger than six months of age. Many children who contracted the illness had parents

who made a conscious decision not to vaccinate. In 2015, there was a measles outbreak in Disneyland, California (probably started by an infected park visitor who had traveled from the Philippines). The outbreak eventually spread to 147 people and, again, many were too young to have been vaccinated.

When you don't vaccinate, you take a significant risk with your child's health and the health of others around them. By not vaccinating, you also take selfish advantage of thousands of others who do vaccinate their children, thereby decreasing the likelihood that your child will contract a vaccine- preventable disease. We feel that refusing to vaccinate is self- centered and unacceptable.

We are making you aware of these facts not to scare you or coerce you, but to emphasize the importance of vaccinating your child. We recognize that the choice may be a very emotional one for some parents. We will do everything we can to convince you that vaccinating according to the schedule is the right thing to do. However, **should you have doubts, please discuss these with your healthcare provider in advance of your visit**. In some cases, we may alter the schedule to accommodate parental concerns or reservations. **Please be advised, however, that delaying or "breaking up the vaccines" to give one or two at a time over two or more visits goes against expert recommendations, and can put your child at risk for serious illness (or even death) and goes against our medical advice as providers at [Your practice name here].** Such additional visits will require additional co- pays on your part. Please realize that you will also be required to sign a

All the healthcare providers of [Your practice name]
List names and signatures of healthcare providers, if desired. "Refusal to Vaccinate" acknowledgement in the event of lengthy delays.

Because we are committed to protecting the health of your children through vaccination, we require all of our patients to be vaccinated. Infants will receive all age-appropriate recommended vaccines by three months of age, with additional recommended vaccines as well as booster doses by two years of age. Children will receive additional recommended booster doses by the time they are seven years old, and will be given recommended 11–12-year preteen vaccinations by the time they are 13 years old. We will complete 16-year teen vaccinations before each child's 17th birthday. And, we will also give your child/teen an annual influenza vaccination unless they receive it at a school clinic or pharmacy.

Finally, if you should absolutely refuse to vaccinate your child despite all our efforts, we will ask you to find another healthcare provider who shares your views. We do not keep a list of such providers, nor would we recommend any such physician. Please recognize that by not vaccinating, you are putting your child at unnecessary risk for life-threatening illness and disability, and even death.

As medical professionals, we feel very strongly that vaccinating your child on schedule with currently available vaccines is absolutely the right thing to do to protect all children and young adults. Thank you for taking the time to read this policy. Please feel free to discuss any questions or concerns you may have about vaccines with any one of us.

5

ALL Pediatrics Vaccine Policy Statement

We firmly believe in the effectiveness of vaccines to prevent serious

illness and to save lives. We firmly believe in the safety of our vaccines.

We firmly believe that all children and young adults should receive all of the recommended vaccines according to the schedule published by the Centers for Disease Control and the American Academy of Pediatrics.

We firmly believe, based on all available literature, evidence and current studies, that vaccines do not cause autism or other developmental disabilities.

We firmly believe that vaccinations may be the single most important intervention we perform as health care providers and the most important health intervention that you choose for your children. The recommended vaccines and the published schedule are the results of years of scientific study and accumulation of data on millions of children by the brightest scientist and physicians in our country.

Unfortunately, the vaccine campaign is truly a victim of its own success. It is precisely because vaccines are so effective at preventing illness that parents are discussing whether or not they should be given. Because of vaccines, most parents have never seen a child with polio, tetanus, whooping cough, bacterial meningitis or even chickenpox; most people have never heard of a friend or family member who died from one of these diseases. Such successes can make us complacent about the need for vaccination. However, as such opinions have become more widespread, we are witnessing the resurgence of many of these diseases. Unfortunately, this will likely lead to tragic results.

We present these facts not to scare or coerce you, but to emphasize the importance of vaccinating your child. We recognize that the choice may be an emotional one, and we will try our best to address your concerns and help explain that vaccinations are in the best interest of your child and the community as a whole.

In some cases, we will consider altering the schedule to accomodate parental reservations. However, please be advised that modifying the schedule to give only one or two vaccines at a time goes against expert recommendation and can put your child at risk for serious illness or even death. If your child is not fully vaccinated, be aware that your child may require more invasive testing in the event of illness. Also, your child will be at risk if you travel internationally, because many other countries have higher incidences of vaccinepreventable disease.

In the event that you wish to request an altered vaccination schedule, we will charge an additional $30 fee for all additional nursing visits for vaccine administration.

Additionally, as of 1/1/2017, ALL Pediatrics will no longer accept patient families who have no intention of vaccinating their infants. If you are requesting an altered

vaccination schedule, we require initiation of vaccinations by the age of 6 months with a plan to complete the primary vaccination series by age two years.

We also will not accept transfers of unvaccinated children over the age of 6 months into our practice. Children who transfer to ALL Pediatrics will be given 30 days in which to provide confirmation of all childhood vaccines that are currently due per the AAP's vaccine schedule, or will need to initiate vaccinations within those 30 days.

We will gladly address any additional items you would like to discuss on an individual basis.

Medicines and Doses to Reduce Pain and Fever

Choose the proper medicine, and measure the dose accurately.

1. Ask your healthcare provider or pharmacist which medicine is best for your child.

2. Give the dose based on your child's weight. If you don't know your child's weight, give the dose based on your child's age. Do not give more medicine than is recommended.

3. If you have questions about dosage amounts or any other concerns, call your healthcare provider.

4. **Always use a proper measuring device when giving acetaminophen liquid (e.g., Tylenol) or ibuprofen liquid (e.g., Advil, Motrin):**
   - **Use the device enclosed in the package.**
   - **If you misplace the device**, consult your healthcare provider or pharmacist for advice.

- **Meal-time spoons are not accurate measures.**
  Never use a meal-time spoon for giving medication.

Take these two steps to avoid causing a serious medication overdose in your child.

1. Don't give your child a larger amount of acetaminophen (e.g., Tylenol) or ibuprofen (e.g., Motrin, Advil) than is shown in the table below. Too much of any of these medicines can be extremely dangerous.

2. When you give your child acetaminophen or ibuprofen, don't also give them over-the-counter cough or cold medicines. This can cause a medication overdose because cough and cold medicines often contain acetaminophen or ibuprofen. In fact, to be safe, don't ever give over- thecounter cough and cold medicines to your child unless you talk to your child's healthcare provider first.

ACETAMINOPHEN (Tylenol or another brand): How much to give?

Give every 4 to 6 hours, as needed, no more than 5 times in 24 hours (unless directed to do otherwise by your healthcare provider).

Child's weight	Child's age	Infants' or children's liquid 160 mg in each 5 mL	Children's chewables – current product 160 mg in each tablet	Infants' drops 80 mg in each 0.8 mL	Children's chewables 80 mg in each 0.8 mL
6–11 lbs (2.7–5 kg)	0–3 mos	Advised dose*_____		**old product** Throw away this product. It is out of date and should not be used.	**old product** Throw away this product. It is out of date and should not be used.
12–17 lbs (5.5–7.7 kg)	4–11 mos	**2.5 mL**			
18–23 lbs (8.2–10.5 kg)	12–23 mos	**3.75 mL**			
24–35 lbs (10.9–15.9 kg)	2–3 yrs	**5 mL**	**1 tablet**		
36–47 lbs (16.4–21.4 kg)	4–5 yrs	**7.5 mL**	**1½ tablets**		
48–59 lbs (21.8–26.8 kg)	6–8 yrs	**10 mL**	**2 tablets**		
60–71 lbs (27.3–32.3 kg)	9–10 yrs	**12.5 mL**	**2½ tablets**		
72–95 lbs (32.7–43.2 kg)	11 yrs	**15 mL**	**3 tablets**		

IBUPROFEN (Advil, Motrin, or another brand): How much to give?

Give every 6 to 8 hours, as needed, no more than 4 times in 24 hours (unless directed to do otherwise by your healthcare provider).

Child's weight	Child's age	Infants' drops 50 mg in each 1.25 mL	Children's liquid 100 mg in each 5 mL	Children's chewables o r junior tablets 100 mg in each tablet	Children's chewables 50 mg in each tablet
less than 11 lbs (5 kg)	0–5 mos				
12–17 lbs (5.5–7.7 kg)	6–11 mos	**1.25 mL**	Advised dose* _____		**old product**
18–23 lbs (8.2–10.5 kg)	12–23 mos	**1.875 mL**	Advised dose*		**Throw away this product.**
24–35 lbs (10.9–15.9 kg)	2–3 yrs		**5 mL**	**1 tablet**	**It is out of date and should not**
36–47 lbs (16.4–21.4 kg)	4–5 yrs		**7.5 mL**	**1$\frac{1}{2}$ tablets**	**be used.**
48–59 lbs (21.8–26.8 kg)	6–8 yrs		**10 mL**	**2 tablets**	

| 60–71 lbs (27.3–32.3 kg) | 9–10 yrs | | 12.5 mL | 2$\frac{1}{2}$ tablets | |
| 72–95 lbs (32.7–43.2 kg) | 11 yrs | | 15 mL | 3 tablets | |

* **healthcare provider:** Please fill in the advised dose. #P4015 (2/19)

Immunization Action Coalition • www.immunize.org/catg.d/p4015.pdf • Item

2023 Recommended Immunizations for Children 7–18 Years Old

	7 YEARS	8 YEARS	9 YEARS	10 YEARS	11 YEARS	12 YEARS	13 YEARS	14 YEARS	15 YEARS	16 YEARS	17 YEARS	18 YEARS
RECOMMENDED VACCINES												
COVID-19* Coronavirus disease 2019	COVID-19*											
Flu** Influenza	Flu (One or Two Doses Yearly)**		Flu (One Dose Yearly)									
Tdap Tetanus, Diphtheria, & Pertussis					Tdap							
HPV⁺ Human papillomavirus			*(can begin)*		HPV⁺							
MenACWY Meningococcal disease					MenACWY					MenACWY		
MenB Meningococcal disease										MenB		
CATCHING UP ON MISSED CHILDHOOD VACCINATION‡												
MMR Measles, Mumps, & Rubella	MMR											
Varicella Chickenpox	Varicella											
HepA Hepatitis A	HepA											
HepB Hepatitis B	HepB											
IPV Polio	IPV											
ONLY IN PLACES WHERE DENGUE IS COMMON — MUST have a laboratory test confirming past dengue infection												
Dengue			Dengue									

KEY

Indicates when the vaccine is recommended for all children unless your doctor tells you that your child cannot safely receive the vaccine.

Indicates the vaccine series can begin at this age.

Indicates the vaccine **should** be given if a child is catching up on missed vaccines. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses.

Indicates children not at increased risk **may** get the vaccine if they wish after speaking to a provider.

ADDITIONAL INFORMATION

1. If your child misses a shot recommended for their age, talk to your child's doctor as soon as possible to see when the missed shot can be given.

2. If your child has any medical conditions that put them at risk for infection or is traveling outside the United States, talk to your child's doctor about additional vaccines that they may need.

Talk with your child's doctor if you have questions about any shot recommended for your child.

FOOTNOTES

COVID-19* Number of doses recommended depends on your child's age and type of COVID-19 vaccine used.

Flu** Two doses given at least 4 weeks apart are recommended for children age 6 months through 8 years of age who are getting an influenza (flu) vaccine for the first time and for some other children in this age group.

HPV⁺ Ages 11 through 12 years old should get a 2-shot series separated by 6 to 12 months. The series can begin at 9 years old. A 3-shot series is recommended for those with weakened immune systems and those who start the series after their 15th birthday.

‡Originally recommended age ranges for missed childhood vaccinations: 2-dose series of **MMR** at 12–15 months and 4–6 years; 2-dose series of **Varicella** at 12–15 months and 4–6 years; 2-dose series of **HepA** (minimum interval: 6 months) at age 12–23 months; 3-dose series of **HepB** at birth, 1–2 months, and 6–18 months; and 4-dose series of **Polio** at 2 months, 4 months, 6–18 months, and 4–6 years.

Diseases and the Vaccines that Prevent Them

7–18 YEARS OLD

DISEASE	VACCINE		DISEASE SPREAD BY	DISEASE SYMPTOMS	DISEASE COMPLICATIONS
Coronavirus disease 2019 (COVID 19)	COVID-19	vaccine protects against severe complications from coronavirus disease 2019.	Air, direct contact	May be no symptoms, fever, muscle aches, sore throat, cough, runny nose, diarrhea, vomiting, new loss of taste or smell	Pneumonia (infection in the lungs), respiratory failure, blood clots, bleeding disorder, injury to liver, heart or kidney, multi-system inflammatory syndrome, post-COVID syndrome, death
Influenza (Flu)	Flu	vaccine protects against influenza.	Air, direct contact	Fever, muscle pain, sore throat, cough, extreme fatigue	Pneumonia (infection in the lungs), bronchitis, sinus infections, ear infections, death
Tetanus	Tdap*	and Td** vaccines protect against tetanus.	Exposure through cuts in skin	Stiffness in neck and abdominal muscles, difficulty swallowing, muscle spasms, fever	Broken bones, breathing difficulty, death
Diphtheria	Tdap*	and Td** vaccines protects against diphtheria.	Air, direct contact	Sore throat, mild fever, weakness, swollen glands in neck	Swelling of the heart muscle, heart failure, coma, paralysis, death
Pertussis (whooping cough)	Tdap*	vaccine protects against pertussis (whooping cough).	Air, direct contact	Severe cough, runny nose, apnea (a pause in breathing in infants)	Pneumonia (infection in the lungs), death
Human papillomavirus	HPV	vaccine protects against human papillomavirus.	Direct skin contact	May be no symptoms, genital warts	Cervical, vaginal, vulvar, penile, anal, oropharyngeal cancers
Meningococcal disease	MenACWY MenB	vaccines protect against meningococcal disease.	Air, direct contact	Sudden onset of fever, headache, and stiff neck, dark purple rash	Loss of limb, deafness, nervous system disorders, developmental disabilities, seizure disorder, stroke, death
Measles	MMR⁺	vaccine protects against measles.	Air, direct contact	Rash, fever, cough, runny nose, pink eye	Encephalitis (brain swelling), pneumonia (infection in the lungs), death
Mumps	MMR⁺	vaccine protects against mumps.	Air, direct contact	Swollen salivary glands (under the jaw), fever, headache, tiredness, muscle pain	Meningitis (infection of the covering around the brain and spinal cord), encephalitis (brain swelling), inflammation of testicles or ovaries, deafness, death
Rubella	MMR⁺	vaccine protects against rubella.	Air, direct contact	Sometimes rash, fever, swollen lymph nodes	Very serious in pregnant women—can lead to miscarriage, stillbirth, premature delivery, birth defects
Chickenpox	Varicella	vaccine protects against chickenpox.	Air, direct contact	Rash, tiredness, headache, fever	Infected blisters, bleeding disorders, encephalitis (brain swelling), pneumonia (infection in the lungs), death
Hepatitis A	HepA	vaccine protects against hepatitis A.	Direct contact, contaminated food or water	May be no symptoms, fever, stomach pain, loss of appetite, fatigue, vomiting, jaundice (yellowing of skin and eyes), dark urine	Liver failure, arthralgia (joint pain), kidney, pancreatic and blood disorders, death
Hepatitis B	HepB	vaccine protects against hepatitis B.	Contact with blood or body fluids	May be no symptoms, fever, headache, weakness, vomiting, jaundice (yellowing of skin and eyes), joint pain	Chronic liver infection, liver failure, liver cancer, death
Polio	IPV	vaccine protects against polio.	Air, direct contact, through the mouth	May be no symptoms, sore throat, fever, nausea, headache	Paralysis, death
Dengue	Dengue⁺	vaccine protects against dengue.	Bite from infected mosquito	May be no symptoms, fever, headache, pain behind the eyes, rash, joint pain, body ache, nausea, loss of appetite, feeling tired, abdominal pain	Severe bleeding, seizures, shock, damage to the liver, heart, and lungs, death

Tdap* — Tdap combines protection against diphtheria, tetanus, and pertussis.

Td** — Td combines protection against diphtheria and tetanus.

MMR⁺ — MMR combines protection against measles, mumps, and rubella.

Dengue⁺ — Recommended where dengue is common.

Last updated December 2022
CS322257-B

2023 Recommended Immunizations for Children from Birth Through 6 Years Old

VACCINE	Birth	1 MONTH	2 MONTHS	4 MONTHS	6 MONTHS	12 MONTHS	15 MONTHS	18 MONTHS	19–23 MONTHS	2–3 YEARS	4–6 YEARS
HepB Hepatitis B	HepB	HepB			HepB						
RV* Rotavirus			RV	RV	RV*						
DTaP Diphtheria, Pertussis, & Tetanus			DTaP	DTaP	DTaP		DTaP				DTaP
Hib* *Haemophilus influenzae type b*			Hib	Hib	Hib*	Hib					
PCV13, PCV15 Pneumococcal disease			PCV	PCV	PCV	PCV					
IPV Polio			IPV	IPV	IPV						IPV
COVID-19** Coronavirus disease 2019					COVID-19**						
Flu⁺ Influenza					Flu (One or Two Doses Yearly)⁺						
MMR Measles, Mumps, & Rubella						MMR					MMR
Varicella Chickenpox						Varicella					Varicella
HepA‡ Hepatitis A						HepA‡		HepA‡			

FOOTNOTES

RV* **Hib*** Administering a third dose at age 6 months depends on the brand of Hib or rotavirus vaccine used for previous dose.

COVID-19** Number of doses recommended depends on your child's age and type of COVID-19 vaccine used.

Flu⁺ Two doses given at least 4 weeks apart are recommended for children age 6 months through 8 years of age who are getting an influenza (flu) vaccine for the first time and for some other children in this age group.

HepA‡ Two doses of Hep A vaccine are needed for lasting protection. The 2 doses should be given between age 12 and 23 months. Both doses should be separated by at least 6 months. Children 2 years and older who have not received 2 doses of Hep A should complete the series.

ADDITIONAL INFORMATION

1. If your child misses a shot recommended for their age, talk to your child's doctor as soon as possible to see when the missed shot can be given.

2. If your child has any medical conditions that put them at risk for infection (e.g., sickle cell, HIV infection, cochlear implants) or is traveling outside the United States, talk to your child's doctor about additional vaccines that they may need.

Talk with your child's doctor if you have questions about any shot recommended for your child.

Diseases and the Vaccines that Prevent Them

BIRTH–6 YEARS OLD

DISEASE	VACCINE		DISEASE SPREAD BY	DISEASE SYMPTOMS	DISEASE COMPLICATIONS
Hepatitis B	HepB	vaccine protects against hepatitis B.	Contact with blood or body fluids	May be no symptoms, fever, headache, weakness, vomiting, jaundice (yellowing of skin and eyes), joint pain	Chronic liver infection, liver failure, liver cancer, death
Rotavirus	RV	vaccine protects against rotavirus.	Through the mouth	Diarrhea, fever, vomiting	Severe diarrhea, dehydration, death
Diphtheria	DTaP*	vaccine protects against diphtheria.	Air, direct contact	Sore throat, mild fever, weakness, swollen glands in neck	Swelling of the heart muscle, heart failure, coma, paralysis, death
Pertussis (whooping cough)	DTaP*	vaccine protects against pertussis (whooping cough).	Air, direct contact	Severe cough, runny nose, apnea (a pause in breathing in infants)	Pneumonia (infection in the lungs), death
Tetanus	DTaP*	vaccine protects against tetanus.	Exposure through cuts in skin	Stiffness in neck and abdominal muscles, difficulty swallowing, muscle spasms, fever	Broken bones, breathing difficulty, death
Haemophilus influenzae type b (Hib)	Hib	vaccine protects against *Haemophilus influenzae* type b.	Air, direct contact	May be no symptoms unless bacteria enter the blood	Meningitis (infection of the covering around the brain and spinal cord), intellectual disability, epiglottitis (life-threatening infection that can block the windpipe and lead to serious breathing problems), pneumonia (infection in the lungs), death
Pneumococcal disease (PCV13, PCV15)	PCV	vaccine protects against pneumococcal disease.	Air, direct contact	May be no symptoms, pneumonia (infection in the lungs)	Bacteremia (blood infection), meningitis (infection of the covering around the brain and spinal cord), death
Polio	IPV	vaccine protects against polio.	Air, direct contact, through the mouth	May be no symptoms, sore throat, fever, nausea, headache	Paralysis, death
Coronavirus disease 2019 (COVID-19)	COVID-19	vaccine protects against severe complications from coronavirus disease 2019.	Air, direct contact	May be no symptoms, fever, muscle aches, sore throat, cough, runny nose, diarrhea, vomiting, new loss of taste or smell	Pneumonia (infection in the lungs), respiratory failure, blood clots, bleeding disorder, injury to liver, heart or kidney, multi-system inflammatory syndrome, post-COVID syndrome, death
Influenza (Flu)	Flu	vaccine protects against influenza.	Air, direct contact	Fever, muscle pain, sore throat, cough, extreme fatigue	Pneumonia (infection in the lungs), bronchitis, sinus infections, ear infections, death
Measles	MMR**	vaccine protects against measles.	Air, direct contact	Rash, fever, cough, runny nose, pink eye	Encephalitis (brain swelling), pneumonia (infection in the lungs), death
Mumps	MMR**	vaccine protects against mumps.	Air, direct contact	Swollen salivary glands (under the jaw), fever, headache, tiredness, muscle pain	Meningitis (infection of the covering around the brain and spinal cord), encephalitis (brain swelling), inflammation of testicles or ovaries, deafness, death
Rubella	MMR**	vaccine protects against rubella.	Air, direct contact	Sometimes rash, fever, swollen lymph nodes	Very serious in pregnant women—can lead to miscarriage, stillbirth, premature delivery, birth defects
Chickenpox	Varicella	vaccine protects against chickenpox.	Air, direct contact	Rash, tiredness, headache, fever	Infected blisters, bleeding disorders, encephalitis (brain swelling), pneumonia (infection in the lungs), death
Hepatitis A	HepA	vaccine protects against hepatitis A.	Direct contact, contaminated food or water	May be no symptoms, fever, stomach pain, loss of appetite, fatigue, vomiting, jaundice (yellowing of skin and eyes), dark urine	Liver failure, arthralgia (joint pain), kidney, pancreatic and blood disorders, death

DTaP* DTaP combines protection against diphtheria, tetanus, and pertussis.　　**MMR**** MMR combines protection against measles, mumps, and rubella.

Last updated December 2022 • CS322257-A

Recommended Child and Adolescent Immunization Schedule for ages 18 years or younger

UNITED STATES 2024

Vaccines and Other Immunizing Agents in the Child and Adolescent Immunization Schedule*

Monoclonal antibody	Abbreviation(s)	Trade name(s)
Respiratory syncytial virus monoclonal antibody (Nirsevimab)	RSV-mAb	Beyfortus™

Vaccine	Abbreviation(s)	Trade name(s)
COVID-19	1vCOV-mRNA	Comirnaty®/Pfizer-BioNTech COVID-19 Vaccine
		Spikevax®/Moderna COVID-19 Vaccine
	1vCOV-aPS	Novavax COVID-19 Vaccine
Dengue vaccine	DEN4CYD	Dengvaxia®
Diphtheria, tetanus, and acellular pertussis vaccine	DTaP	Daptacel®
		Infanrix®
Haemophilus influenzae type b vaccine	Hib (PRP-T)	ActHIB®
		Hiberix®
	Hib (PRP-OMP)	PedvaxHIB®
Hepatitis A vaccine	HepA	Havrix®
		Vaqta®
Hepatitis B vaccine	HepB	Engerix-B®
		Recombivax HB®
Human papillomavirus vaccine	HPV	Gardasil 9®
Influenza vaccine (inactivated)	IIV4	Multiple
Influenza vaccine (live, attenuated)	LAIV4	FluMist® Quadrivalent
Measles, mumps, and rubella vaccine	MMR	M-M-R II®
		Priorix®
Meningococcal serogroups A, C, W, Y vaccine	MenACWY-CRM	Menveo®
	MenACWY-TT	MenQuadfi®
Meningococcal serogroup B vaccine	MenB-4C	Bexsero®
	MenB-FHbp	Trumenba®
Meningococcal serogroup A, B, C, W, Y vaccine	MenACWY-TT/MenB-FHbp	Penbraya™
Mpox vaccine	Mpox	Jynneos®
Pneumococcal conjugate vaccine	PCV15	Vaxneuvance™
	PCV20	Prevnar 20®
Pneumococcal polysaccharide vaccine	PPSV23	Pneumovax 23®
Poliovirus vaccine (inactivated)	IPV	Ipol®
Respiratory syncytial virus vaccine	RSV	Abrysvo™
Rotavirus vaccine	RV1	Rotarix®
	RV5	RotaTeq®
Tetanus, diphtheria, and acellular pertussis vaccine	Tdap	Adacel®
		Boostrix®
Tetanus and diphtheria vaccine	Td	Tenivac®
		Tdvax™
Varicella vaccine	VAR	Varivax®

Combination vaccines *(use combination vaccines instead of separate injections when appropriate)*		
DTaP, hepatitis B, and inactivated poliovirus vaccine	DTaP-HepB-IPV	Pediarix®
DTaP, inactivated poliovirus, and *Haemophilus influenzae* type b vaccine	DTaP-IPV/Hib	Pentacel®
DTaP and inactivated poliovirus vaccine	DTaP-IPV	Kinrix®
		Quadracel®
DTaP, inactivated poliovirus, *Haemophilus influenzae* type b, and hepatitis B vaccine	DTaP-IPV-Hib-HepB	Vaxelis®
Measles, mumps, rubella, and varicella vaccine	MMRV	ProQuad®

*Administer recommended vaccines if immunization history is incomplete or unknown. Do not restart or add doses to vaccine series for extended intervals between doses. When a vaccine is not administered at the recommended age, administer at a subsequent visit. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

11/16/2023

How to use the child and adolescent immunization schedule

1 Determine recommended vaccine by age (**Table 1**)

2 Determine recommended interval for catch-up vaccination (**Table 2**)

3 Assess need for additional recommended vaccines by medical condition or other indication (**Table 3**)

4 Review vaccine types, frequencies, intervals, and considerations for special situations (**Notes**)

5 Review contraindications and precautions for vaccine types (**Appendix**)

6 Review new or updated ACIP guidance (**Addendum**)

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American Academy of Pediatrics (www.aap.org), American Academy of Family Physicians (www.aafp.org), American College of Obstetricians and Gynecologists (www.acog.org), American College of Nurse-Midwives (www.midwife.org), American Academy of Physician Associates (www.aapa.org), and National Association of Pediatric Nurse Practitioners (www.napnap.org).

Report
- Suspected cases of reportable vaccine-preventable diseases or outbreaks to your state or local health department
- Clinically significant adverse events to the Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov or 800-822-7967

Questions or comments
Contact www.cdc.gov/cdc-info or 800-CDC-INFO (800-232-4636), in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays

Download the CDC Vaccine Schedules app for providers at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html

Helpful information
- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- ACIP Shared Clinical Decision-Making Recommendations: www.cdc.gov/vaccines/acip/acip-scdm-faqs.html
- *General Best Practice Guidelines for Immunization* (including contraindications and precautions): www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases (including case identification and outbreak response): www.cdc.gov/vaccines/pubs/surv-manual

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Scan QR code for access to online schedule

CS310020-D

Table 1 Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024

These recommendations must be read with the notes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars.
To determine minimum intervals between doses, see the catch-up schedule (Table 2).

Vaccine and other immunizing agents	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2–3 yrs	4–6 yrs	7–10 yrs	11–12 yrs	13–15 yrs	16 yrs	17–18 yrs
Respiratory syncytial virus (RSV-mAb [Nirsevimab])		1 dose depending on maternal RSV vaccination status, See Notes			1 dose (8 through 19 months), See Notes												
Hepatitis B (HepB)	1st dose	◄----- 2nd dose -----►			◄------------------------ 3rd dose ------------------------►												
Rotavirus (RV): RV1 (2-dose series), RV5 (3-dose series)			1st dose	2nd dose	See Notes												
Diphtheria, tetanus, acellular pertussis (DTaP <7 yrs)			1st dose	2nd dose	3rd dose			◄----- 4th dose -----►				5th dose					
Haemophilus influenzae type b (Hib)			1st dose	2nd dose	See Notes		◄--- 3rd or 4th dose, See Notes ---►										
Pneumococcal conjugate (PCV15, PCV20)			1st dose	2nd dose	3rd dose		◄----- 4th dose -----►										
Inactivated poliovirus (IPV <18 yrs)			1st dose	2nd dose	◄------------------------ 3rd dose ------------------------►							4th dose					See Notes
COVID-19 (1vCOV-mRNA, 1vCOV-aPS)					1 or more doses of updated (2023–2024 Formula) vaccine (See Notes)												
Influenza (IIV4)					Annual vaccination 1 or 2 doses									Annual vaccination 1 dose only			
Influenza (LAIV4)											Annual vaccination 1 or 2 doses			Annual vaccination 1 dose only			
Measles, mumps, rubella (MMR)					See Notes		◄----- 1st dose -----►					2nd dose					
Varicella (VAR)							◄----- 1st dose -----►					2nd dose					
Hepatitis A (HepA)					See Notes		2-dose series, See Notes										
Tetanus, diphtheria, acellular pertussis (Tdap ≥7 yrs)														1 dose			
Human papillomavirus (HPV)														See Notes			
Meningococcal (MenACWY-CRM ≥2 mos, MenACWY-TT ≥2years)			See Notes											1st dose		2nd dose	
Meningococcal B (MenB-4C, MenB-FHbp)															See Notes		
Respiratory syncytial virus vaccine (RSV [Abrysvo])															Seasonal administration during pregnancy, See Notes		
Dengue (DEN4CYD; 9-16 yrs)														Seropositive in endemic dengue areas (See Notes)			
Mpox																	

Legend:
- Range of recommended ages for all children
- Range of recommended ages for catch-up vaccination
- Range of recommended ages for certain high-risk groups
- Recommended vaccination can begin in this age group
- Recommended vaccination based on shared clinical decision-making
- No recommendation/ not applicable

Table 2 — Recommended Catch-up Immunization Schedule for Children and Adolescents Who Start Late or Who Are More than 1 Month Behind, United States, 2024

The table below provides catch-up schedules and minimum intervals between doses for children whose vaccinations have been delayed. A vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Use the section appropriate for the child's age. **Always use this table in conjunction with Table 1 and the Notes that follow.**

Children age 4 months through 6 years

Vaccine	Minimum Age for Dose 1	Minimum Interval Between Doses			
		Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Hepatitis B	Birth	**4 weeks**	**8 weeks** *and* **at least 16 weeks after first dose** minimum age for the final dose is 24 weeks		
Rotavirus	6 weeks. Maximum age for first dose is 14 weeks, 6 days.	**4 weeks**	**4 weeks** maximum age for final dose is 8 months, 0 days		
Diphtheria, tetanus, and acellular pertussis	6 weeks	**4 weeks**	**4 weeks**	**6 months**	**6 months** A fifth dose is not necessary if the fourth dose was administered at age 4 years or older *and* at least 6 months after dose 3
Haemophilus influenzae type b	6 weeks	**No further doses needed** if first dose was administered at age 15 months or older. **4 weeks** if first dose was administered before the 1st birthday. **8 weeks (as final dose)** if first dose was administered at age 12 through 14 months.	**No further doses needed** if previous dose was administered at age 15 months or older. **4 weeks** if current age is younger than 12 months *and* first dose was administered at younger than age 7 months *and* at least 1 previous dose was PRP-T (ActHib®, Pentacel®, Hiberix®), Vaxelis® or unknown. **8 weeks *and* age 12 through 59 months (as final dose)** if current age is younger than 12 months *and* first dose was administered at age 7 through 11 months; **OR** if current age is 12 through 59 months *and* first dose was administered before the 1st birthday *and* second dose was administered at younger than 15 months; **OR** if both doses were PedvaxHIB® and were administered before the 1st birthday	**8 weeks (as final dose)** This dose only necessary for children age 12 through 59 months who received 3 doses before the 1st birthday.	
Pneumococcal conjugate	6 weeks	**No further doses needed** for healthy children if first dose was administered at age 24 months or older. **4 weeks** if first dose was administered before the 1st birthday. **8 weeks (as final dose for healthy children)** if first dose was administered at the 1st birthday or after	**No further doses needed** for healthy children if previous dose was administered at age 24 months or older. **4 weeks** if current age is younger than 12 months *and* previous dose was administered at <7 months old. **8 weeks (as final dose for healthy children)** if previous dose was administered between 7–11 months (wait until at least 12 months old); **OR** if current age is 12 months or older *and* at least 1 dose was administered before age 12 months	**8 weeks (as final dose)** This dose is only necessary for children age 12 through 59 months regardless of risk, or age 60 through 71 months with any risk, who received 3 doses before age 12 months.	
Inactivated poliovirus	6 weeks	**4 weeks**	**4 weeks** if current age is <4 years. **6 months (as final dose)** if current age is 4 years or older	**6 months (minimum age 4 years for final dose)**	
Measles, mumps, rubella	12 months	**4 weeks**			
Varicella	12 months	**3 months**			
Hepatitis A	12 months	**6 months**			
Meningococcal ACWY	2 months MenACWY-CRM 2 years MenACWY-TT	**8 weeks**	See Notes	See Notes	

Children and adolescents age 7 through 18 years

Vaccine	Minimum Age for Dose 1	Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4	Dose 4 to Dose 5
Meningococcal ACWY	Not applicable (N/A)	**8 weeks**			
Tetanus, diphtheria; tetanus, diphtheria, and acellular pertussis	7 years	**4 weeks**	**4 weeks** if first dose of DTaP/DT was administered before the 1st birthday. **6 months (as final dose)** if first dose of DTaP/DT or Tdap/Td was administered at or after the 1st birthday	**6 months** if first dose of DTaP/DT was administered before the 1st birthday	
Human papillomavirus	9 years	**Routine dosing intervals are recommended.**			
Hepatitis A	N/A	**6 months**			
Hepatitis B	N/A	**4 weeks**	**8 weeks** *and* **at least 16 weeks after first dose**		
Inactivated poliovirus	N/A	**4 weeks**	**6 months** A fourth dose is not necessary if the third dose was administered at age 4 years or older *and* at least 6 months after the previous dose.	A fourth dose of IPV is indicated if all previous doses were administered at <4 years **OR** if the third dose was administered <6 months after the second dose.	
Measles, mumps, rubella	N/A	**4 weeks**			
Varicella	N/A	**3 months** if younger than age 13 years. **4 weeks** if age 13 years or older			
Dengue	9 years	**6 months**	6 months		

Table 3 Recommended Child and Adolescent Immunization Schedule by Medical Indication, United States, 2024

Always use this table in conjunction with Table 1 and the Notes that follow. Medical conditions are often not mutually exclusive. If multiple conditions are present, refer to guidance in all relevant columns. See Notes for medical conditions not listed.

Vaccine and other immunizing agents	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count[a] <15% or <200mm	HIV infection CD4 percentage and count[a] ≥15% and ≥200mm	CSF leak or cochlear implant	Asplenia or persistent complement component deficiencies	Heart disease or chronic lung disease	Kidney failure, End-stage renal disease or on Dialysis	Chronic liver disease	Diabetes
RSV-mAb (nirsevimab)		2nd RSV season			1 dose depending on maternal RSV vaccination status, See Notes	1 dose depending on maternal RSV vaccination status, See Notes	2nd RSV season for chronic lung disease (See Notes)	1 dose depending on maternal RSV vaccination status, See Notes	1 dose depending on maternal RSV vaccination status, See Notes	1 dose depending on maternal RSV vaccination status, See Notes
Hepatitis B										
Rotavirus		SCID[b]	SCID[b]							
DTaP/Tdap	DTaP / Tdap: 1 dose each pregnancy									
Hib		HSCT: 3 doses	See Notes	See Notes		See Notes				
Pneumococcal										
IPV										
COVID-19		See Notes								
IIV4										
LAIV4							Asthma, wheezing: 2–4 years[c]			
MMR	*									
VAR	*									
Hepatitis A										
HPV	*	3 dose series. See Notes	3 dose series. See Notes							
MenACWY										
MenB										
RSV (Abrysvo)	Seasonal administration, See Notes									
Dengue										
Mpox	See Notes									

Legend:
- **Yellow:** Recommended for all age-eligible children who lack documentation of a complete vaccination series
- **Purple:** Not recommended for all children, but is recommended for some children based on increased risk for or severe outcomes from disease
- **Brown:** Recommended for all age-eligible children, and additional doses may be necessary based on medical condition or other indications. See Notes.
- **Orange:** Precaution: Might be indicated if benefit of protection outweighs risk of adverse reaction
- **Red:** Contraindicated or not recommended *Vaccinate after pregnancy, if indicated
- **Gray:** No Guidance/Not Applicable

a. For additional information regarding HIV laboratory parameters and use of live vaccines, see the General Best Practice Guidelines for Immunization, "Altered Immunocompetence," at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/immunocompetence.html and Table 4-1 (footnote J) at www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html.

b. Severe Combined Immunodeficiency

c. LAIV4 contraindicated for children 2–4 years of age with asthma or wheezing during the preceding 12 months

Appendix — Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger, United States, 2024

Guide to Contraindications and Precautions to Commonly Used Vaccines

Adapted from Table 4-1 in Advisory Committee on Immunization Practices (ACIP) General Best Practice Guidelines for Immunization: Contraindication and Precautions, Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices—United States, 2023–24 Influenza Season | MMWR (cdc.gov), Contraindications and Precautions for COVID-19 Vaccination, and Contraindications and Precautions for JYNNEOS Vaccination

Vaccines and other Immunizing Agents	Contraindicated or Not Recommended[1]	Precautions[2]
COVID-19 mRNA vaccines [Pfizer-BioNTech, Moderna]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of an mRNA COVID-19 vaccine[4]	• Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of an mRNA COVID-19 vaccine[4]; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of an mRNA COVID-19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine • Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A) • Moderate or severe acute illness, with or without fever
COVID-19 protein subunit vaccine [Novavax]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a component of a Novavax COVID-19 vaccine[4]	• Diagnosed non-severe allergy (e.g., urticaria beyond the injection site) to a component of Novavax COVID-19 vaccine[4]; or non-severe, immediate (onset less than 4 hours) allergic reaction after administration of a previous dose of a Novavax COVID-19 vaccine • Myocarditis or pericarditis within 3 weeks after a dose of any COVID-19 vaccine • Multisystem inflammatory syndrome in children (MIS-C) or multisystem inflammatory syndrome in adults (MIS-A) • Moderate or severe acute illness, with or without fever
Influenza, egg-based, inactivated injectable (IIV4)	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[3] (excluding egg)	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Moderate or severe acute illness with or without fever
Influenza, cell culture-based inactivated injectable (ccIIV4) [Flucelvax Quadrivalent]	• Severe allergic reaction (e.g., anaphylaxis) to any ccIIV of any valency, or to any component[3] of ccIIV4	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, RIV, or LAIV of any valency. If using ccIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, recombinant injectable (RIV4) [Flublok Quadrivalent]	• Severe allergic reaction (e.g., anaphylaxis) to any RIV of any valency, or to any component[3] of RIV4	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Persons with a history of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any egg-based IIV, ccIIV, or LAIV of any valency. If using RIV4, administer in medical setting under supervision of health care provider who can recognize and manage severe allergic reactions. May consult an allergist. • Moderate or severe acute illness with or without fever
Influenza, live attenuated (LAIV4) [Flumist Quadrivalent]	• Severe allergic reaction (e.g., anaphylaxis) after previous dose of any influenza vaccine (i.e., any egg-based IIV, ccIIV, RIV, or LAIV of any valency) • Severe allergic reaction (e.g., anaphylaxis) to any vaccine component[3] (excluding egg) • Children age 2–4 years with a history of asthma or wheezing • Anatomic or functional asplenia • Immunocompromised due to any cause including, but not limited to, medications and HIV infection • Close contacts or caregivers of severely immunosuppressed persons who require a protected environment • Pregnancy • Cochlear implant • Active communication between the cerebrospinal fluid (CSF) and the oropharynx, nasopharynx, nose, ear or any other cranial CSF leak • Children and adolescents receiving aspirin or salicylate-containing medications • Received influenza antiviral medications oseltamivir or zanamivir within the previous 48 hours, peramivir within the previous 5 days, or baloxavir within the previous 17 days	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of any type of influenza vaccine • Asthma in persons age 5 years old or older • Persons with underlying medical conditions other than those listed under contraindications that might predispose to complications after wild-type influenza virus infection, e.g., chronic pulmonary, cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus) • Moderate or severe acute illness with or without fever

1. When a contraindication is present, a vaccine should **NOT** be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization.
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. See Package inserts for U.S.-licensed vaccines.
4. See package inserts and FDA EUA fact sheets for a full list of vaccine ingredients. mRNA COVID-19 vaccines contain polyethylene glycol (PEG).

Vaccines and other Immunizing Agents	Contraindicated or Not Recommended[1]	Precautions[2]
Dengue (DEN4CYD)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Lack of laboratory confirmation of a previous Dengue infection	• Pregnancy • HIV infection without evidence of severe immunosuppression • Moderate or severe acute illness with or without fever
Diphtheria, tetanus, pertussis (DTaP)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For DTaP only: Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause within 7 days of administration of previous dose of DTP or DTaP	• Guillain-Barré syndrome (GBS) within 6 weeks after previous dose of tetanus-toxoid–containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid-containing vaccine • For DTaP only: Progressive neurologic disorder, including infantile spasms, uncontrolled epilepsy, progressive encephalopathy; defer DTaP until neurologic status clarified and stabilized • Moderate or severe acute illness with or without fever
Haemophilus influenzae type b (Hib)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Less than age 6 weeks	• Moderate or severe acute illness with or without fever
Hepatitis A (HepA)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including neomycin	• Moderate or severe acute illness with or without fever
Hepatitis B (HepB)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including yeast • *Pregnancy: Heplisav-B and PreHevbrio are not recommended due to lack of safety data in pregnant persons. Use other hepatitis B vaccines if HepB is indicated[4].*	• Moderate or severe acute illness with or without fever
Hepatitis A-Hepatitis B vaccine (HepA-HepB) [Twinrix]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] including neomycin and yeast	• Moderate or severe acute illness with or without fever
Human papillomavirus (HPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • *Pregnancy: HPV vaccination not recommended.*	• Moderate or severe acute illness with or without fever
Measles, mumps, rubella (MMR) Measles, mumps, rubella, and varicella (MMRV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent	• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product) • History of thrombocytopenia or thrombocytopenic purpura • Need for tuberculin skin testing or interferon-gamma release assay (IGRA) testing • Moderate or severe acute illness with or without fever • For MMRV only: Personal or family (i.e., sibling or parent) history of seizures of any etiology
Meningococcal ACWY (MenACWY) MenACWY-CRM [Menveo] MenACWY-TT [MenQuadfi]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For Men ACWY-CRM only: severe allergic reaction to any diphtheria toxoid—or CRM197—containing vaccine • For MenACWY-TT only: severe allergic reaction to a tetanus toxoid-containing vaccine	• For MenACWY-CRM only: Preterm birth if less than age 9 months • Moderate or severe acute illness with or without fever
Meningococcal B (MenB) MenB-4C [Bexsero] MenB-FHbp [Trumenba]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Pregnancy • For MenB-4C only: Latex sensitivity • Moderate or severe acute illness with or without fever
Meningococcal ABCWY (MenACWY-TT/MenB-FHbp) [Penbraya]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction to a tetanus toxoid-containing vaccine	• Moderate or severe acute illness, with or without fever
Mpox [Jynneos]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness, with or without fever
Pneumococcal conjugate (PCV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe allergic reaction (e.g., anaphylaxis) to any diphtheria-toxoid-containing vaccine or its component[3]	• Moderate or severe acute illness with or without fever
Pneumococcal polysaccharide (PPSV23)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever
Poliovirus vaccine, inactivated (IPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Pregnancy • Moderate or severe acute illness with or without fever
RSV monoclonal antibody (RSV-mAb)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[5]	• Moderate or severe acute illness with or without fever
Respiratory syncytial virus vaccine (RSV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3]	• Moderate or severe acute illness with or without fever
Rotavirus (RV) RV1 [Rotarix] RV5 [RotaTeq]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe combined immunodeficiency (SCID) • History of intussusception	• Altered immunocompetence other than SCID • Chronic gastrointestinal disease • RV1 only: Spina bifida or bladder exstrophy • Moderate or severe acute illness with or without fever
Tetanus, diphtheria, and acellular pertussis (Tdap) Tetanus, diphtheria (Td)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • For Tdap only: Encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause within 7 days of administration of previous dose of DTP, DTaP, or Tdap	• Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of tetanus-toxoid–containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid–containing or tetanus-toxoid–containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid–containing vaccine • For Tdap only: Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized • Moderate or severe acute illness with or without fever
Varicella (VAR)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component[3] • Severe immunodeficiency (e.g., hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, long-term immunosuppressive therapy or patients with HIV infection who are severely immunocompromised) • Pregnancy • Family history of altered immunocompetence, unless verified clinically or by laboratory testing as immunocompetent	• Recent (≤11 months) receipt of antibody-containing blood product (specific interval depends on product) • Receipt of specific antiviral drugs (acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination (avoid use of these antiviral drugs for 14 days after vaccination) • Use of aspirin or aspirin-containing products • Moderate or severe acute illness with or without fever • If using MMRV, see MMR/MMRV for additional precautions

1. When a contraindication is present, a vaccine should NOT be administered. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
2. When a precaution is present, vaccination should generally be deferred but might be indicated if the benefit of protection from the vaccine outweighs the risk for an adverse reaction. Kroger A, Bahta L, Hunter P. ACIP General Best Practice Guidelines for Immunization. www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html
3. Vaccination providers should check FDA-approved prescribing information for the most complete and updated information, including contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at www.fda.gov/vaccines-blood-biologics/approved-products/vaccines-licensed-use-united-states.
4. For information on the pregnancy exposure registries for persons who were inadvertently vaccinated with Heplisav-B or PreHevbrio while pregnant, please visit heplisavbpregnancyregistry.com or www.prehevbrio.com/#safety.
5. Full prescribing information for BEYFORTUS (nirsevimab-alip) www.accessdata.fda.gov/drugsatfda_docs/label/2023/761328s000lbl.pdf

In addition to the recommendations presented in the previous sections of this immunization schedule, ACIP has approved the following recommendations by majority vote since October 26, 2023. The following recommendations have been adopted by the CDC Director and are now official. Links are provided if these recommendations have been published in *Morbidity and Mortality Weekly Report (MMWR)*.

Vaccines	Recommendations	Effective Date of Recommendation*
No new vaccines or vaccine recommendations to report		

*The effective date is the date when the CDC director adopted the recommendation and when the ACIP recommendation became official.