CDC's Immunization Program:

Moving Forward Post-Pandemic

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National Center for Immunization and Respiratory Diseases

Centers for Disease Control and Prevention

Agenda

- Update on ISD Structure

- Moving Forward: COVID-19 Vaccination

- Moving Forward: Routine Childhood Vaccinations

- Moving Forward: Vaccines for Adults

Immunization Services Division (ISD) Structure

Mission: *Protect individuals and communities from vaccine-preventable diseases*

Office of the Director: Senior leadership with expertise to advance the division's priorities, cross cutting issues, and support branches:

- Chief Medical Officer and Associate Directors for Policy, Communication, Health Equity and Adult Immunization, Science, Program Management

- Deputy Directors for Science Implementation and Program Implementation

8 Branches

- Health Education and Communication

- Partnership and Health Equity

- Immunization Operation Services

- Field Services

- Surveillance and Epidemiology

- Informatics and Data Analytics

- Applied Research, Implementation Science, and Evaluation

- Vaccine Supply and Assurance

Moving Forward:

COVID-19 Vaccination

Moving Forward: COVID-19 Vaccination
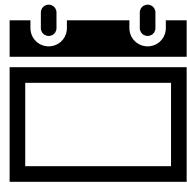
Communicating about the Public Health Emergency ending

Collaborating with partners on vaccine commercialization

**Continuing focus on vaccine equity**

Increasing vaccine confidence

End of the Public Health Emergency on May 11, 2023 and the COVID-19 Vaccination Program

- **What will <u>not</u> change**

  - CDC working with public and private partners to learn more about the short- and long-term health effects associated with COVID-19, who is affected, and why – and implementing vaccine recommendations to optimize protection

  - FDA's EUAs for COVID-19 products (including vaccines)

  - All vaccines purchased by the U.S. government will continue to be distributed and available for free

> **Public Health Emergency ending ≠ Commercialization**

Commercialization

Vaccination Equity

- **Vaccination equity**: when everyone has fair and just access to vaccination.

- Factors create challenges to vaccination access and acceptance, which often affect racial and ethnic minority groups (e.g., education, income, health care access, racism, medical mistrust).

- CDC works with national, state, tribal, territorial, healthcare, and community partners to ensure all people have fair and just access to vaccination.

- CDC uses a Social Vulnerability Index to support areas at increased risk.

HHS Bridge Access Program for COVID-19 Vaccines and Treatments

On April 18, HHS announced the "HHS Bridge Access Program For COVID-19 Vaccines and Treatments", to maintain broad access to COVID-19 vaccines for millions of uninsured Americans.

- The program will create a unique $1.1 billion public-private partnership to help maintain uninsured individuals' access to COVID-19 care

- The program:

  1. delivers necessary vaccine doses through LHDs and HRSA supported health centers, and

  2. delivers additional vaccine doses, as well as selected therapeutic doses, through a novel, funded partnership with pharmacy chains

Moving Forward:
# Routine Childhood Vaccinations

COVID-19 Pandemic Effects on Routine Vaccination

Problem Description

- The COVID-19 pandemic has caused disruption in vaccination

- Routine vaccinations have decreased in both children and adults

- Routine vaccine orders are rebounding but unevenly

- Rebound in coverage is insufficient to catch up everyone that missed a vaccine dose in 2020 and 2021

How We Got Here

Weekly changes in Vaccines for Children program provider orders for pediatric vaccines – United States, January 6-April 19, 2020

Source: https://www.cdc.gov/mmwr/volumes/69/wr/mm6919e2.htm
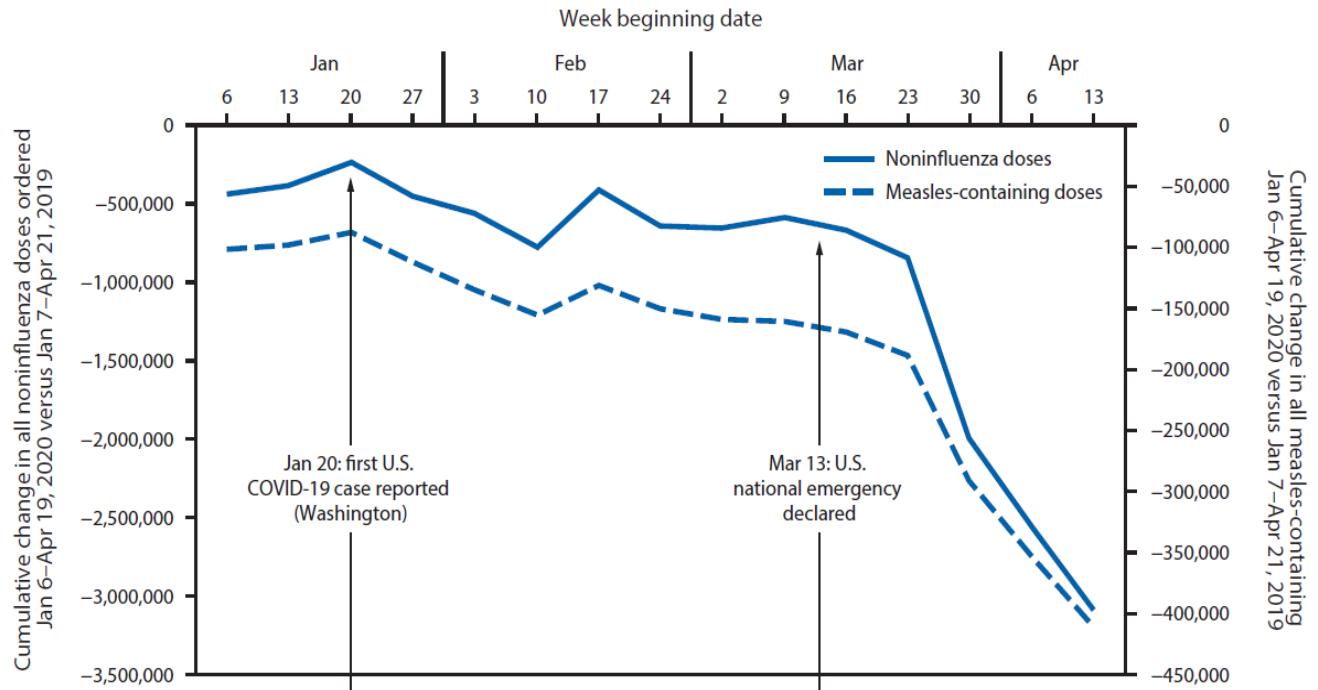
COVID-19 Pandemic Effects on Routine Vaccination

- New data highlight that while impacts were observed early in the pandemic, overall childhood routine vaccination coverage has remained stable, and in some cases has increased.

Estimated vaccination coverage by age 24 months, by birth year National Immunization Survey-Child, United States, 2012–2021
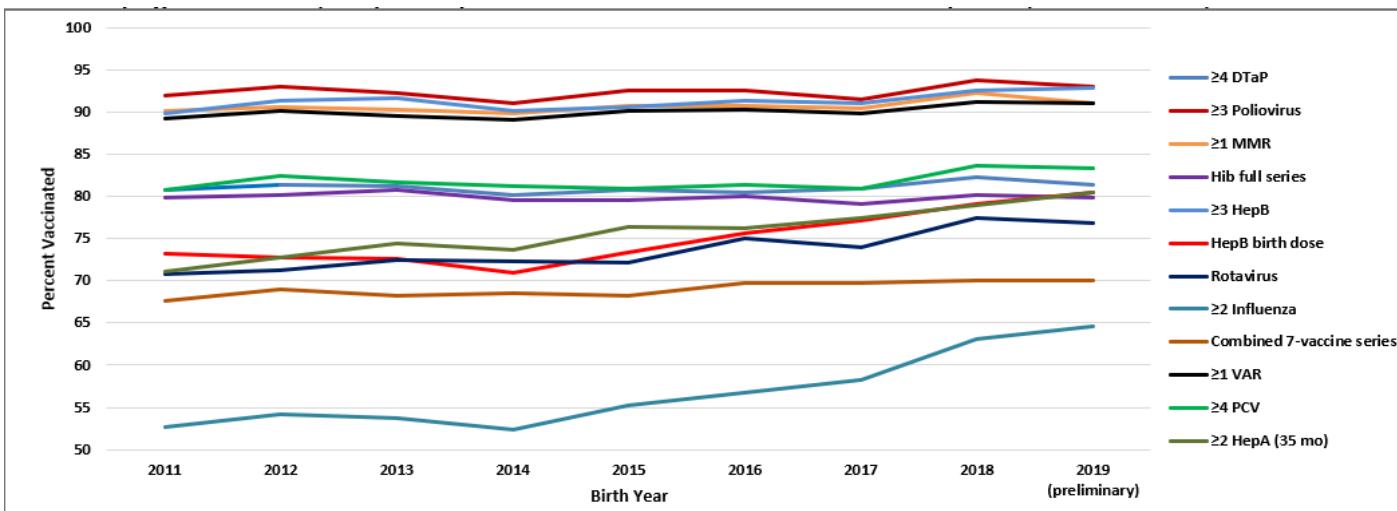
- However among certain groups of children and adults, vaccination coverage declined as a results of the pandemic and has not yet recovered.

Vaccination Coverage by Age 24 Months Among Children Born During 2018–2019 — National Immunization Survey–Child, United States, 2019–2021

Vaccination Coverage with Selected Vaccines and Exemption Rates Among Children in Kindergarten — United States, 2021–22 School Year | MMWR (cdc.gov)

Childhood Vaccination Coverage Before and During the COVID-19 Pandemic among Children Born January 2017-May 2020, National Immunization Survey-Child (NIS-Child), 2018-2021 | CDC

However, coverage declined among certain children 0-24 months of age and disparities in coverage continue

- **4-5% drop in the combined seven-vaccine series** among **young children living below poverty or in rural areas** since the start of the pandemic

- **In 2021, the combined seven-vaccine series** coverage by 24 months of age was:
  - 60% for children living in poverty
  - 64% for children living in rural areas
  - 70% average for all children

Nationally, more than 9 in 10 babies and young children are receiving recommended vaccines

The percentage of uninsured children not vaccinated by their 2nd birthday was **8x** that of privately insured children

Free vaccines are available for eligible children. Talk to your child's health care professional about what vaccines are needed.

CDC.gov

bit.ly/mm7202a3
JANUARY 13, 2023

MMWR

Vaccination Coverage by Age 24 Months Among Children Born During 2018–2019 — National Immunization Survey–Child, United States, 2019–2021 | MMWR (cdc.gov)

Steady decline in vaccination coverage among kindergartens during the pandemic

Estimated vaccination coverage among kindergartners by vaccine— United States,2019-20, 2020-21, and 2021–22 school years

Kindergarten Coverage	2019-20 (pre-pandemic)	2020-12 (pandemic)	2021-22 (pandemic)
MMR	95.2%	93.9%	93.5%
DTaP	94.9%	93.6%	93.1%
Polio	95.0%	93.9%	93.5%
Varicella (UTD)	94.8%	93.6%	92.6%

2% drop in Kindergarten vaccination coverage since the start of the pandemic

275,000 children, who entered kindergarten during the pandemic, **are susceptible to vaccine preventable disease**

https://www.cdc.gov/mmwr/volumes/71/wr/mm7116a1.htm;
Vaccination Coverage with Selected Vaccines and Exemption Rates Among Children in Kindergarten — United States, 2019–20 School Year - PMC (nih.gov)
Vaccination Coverage with Selected Vaccines and Exemption Rates Among Children in Kindergarten — United States, 2021–22 School Year *MMWR to be published January 13th*

Routine Immunizations on Schedule for Everyone (RISE)

Initiative to get all Americans back on-schedule with their routine immunizations

Understand the size, scope and cause of declines in routine vaccinations resulting from COVID-19 pandemic

Devise an evidence-based strategy and operational plan to better direct CDC routine vaccination catch-up activities

Equip partners with evidence-based strategies and resources to get vaccination back on schedule

Share data and insights on trends in routine vaccination rates to find and protect communities that have fallen behind on vaccinations

To learn more about Let's RISE, visit: https://www.cdc.gov/vaccines/partners/routine-immunizations-lets-rise.html

Moving Forward:
Vaccines for Adults

Section 317 Program

- Authorized in 1962, supports US immunization infrastructure

- Funds operations for 64 awardees and provides a limited amount of vaccines for adult vaccination efforts and outbreak response

- Supports national-level activities including the science-base for vaccine recommendations, vaccine safety monitoring, vaccine effectiveness, health communication support, and quality assurance activities

- Provides foundation for Vaccine For Children (VFC) program

Vaccines for Children (VFC) Program

The proposed Vaccines for Adults program would reduce the spread of vaccine-preventable diseases and pave the way to greater health equity

VACCINE PURCHASE
Purchase of recommended vaccines for all uninsured adults

PROVIDER FEES
Covering the cost of supplies, patient education, storage, and staffing

PROGRAM OPERATIONS
CDC staff and systems for scientific and policy support, program monitoring, and vaccine safety and distribution

VACCINES FOR ADULTS PROGRAM

PROVIDER FEE MANAGEMENT
Contracts to administer the provider reimbursement process

VACCINE CONFIDENCE AND EQUITY ACTIVITIES*
Support vaccine equity through partnerships, communications, and technical assistance

*These activities are funded in the FY24 CDC Budget with base immunization funding, not the newly proposed mandatory funding proposal that would support the rest of these activities.

FY24 President's Budget Request: Vaccines for Adults (VFA)

CDC's FY 2024 President's Budget request of $1.2B in mandatory funding for VFA would begin to expand access to all routine and outbreak vaccines to uninsured adults.

These funds would be used for:

- **Vaccine Purchase**
- **Program Operations**
- **Provider Administration**
- **Provider Fee Reimbursement**

■ **$12 billion over 10 years**
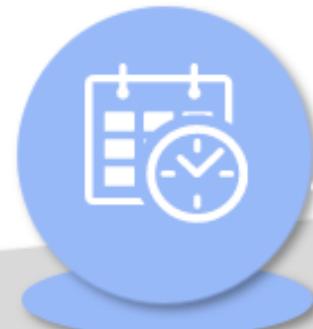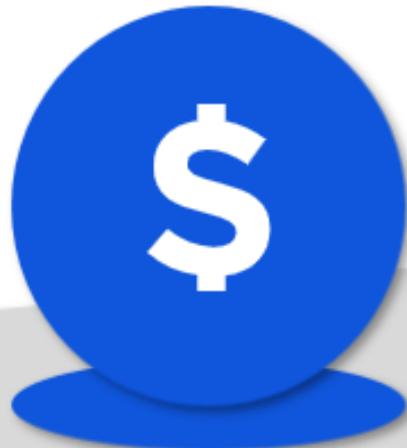
■ **$1.2 billion for VFA in FY 2024**

Comprehensive Immunization Program
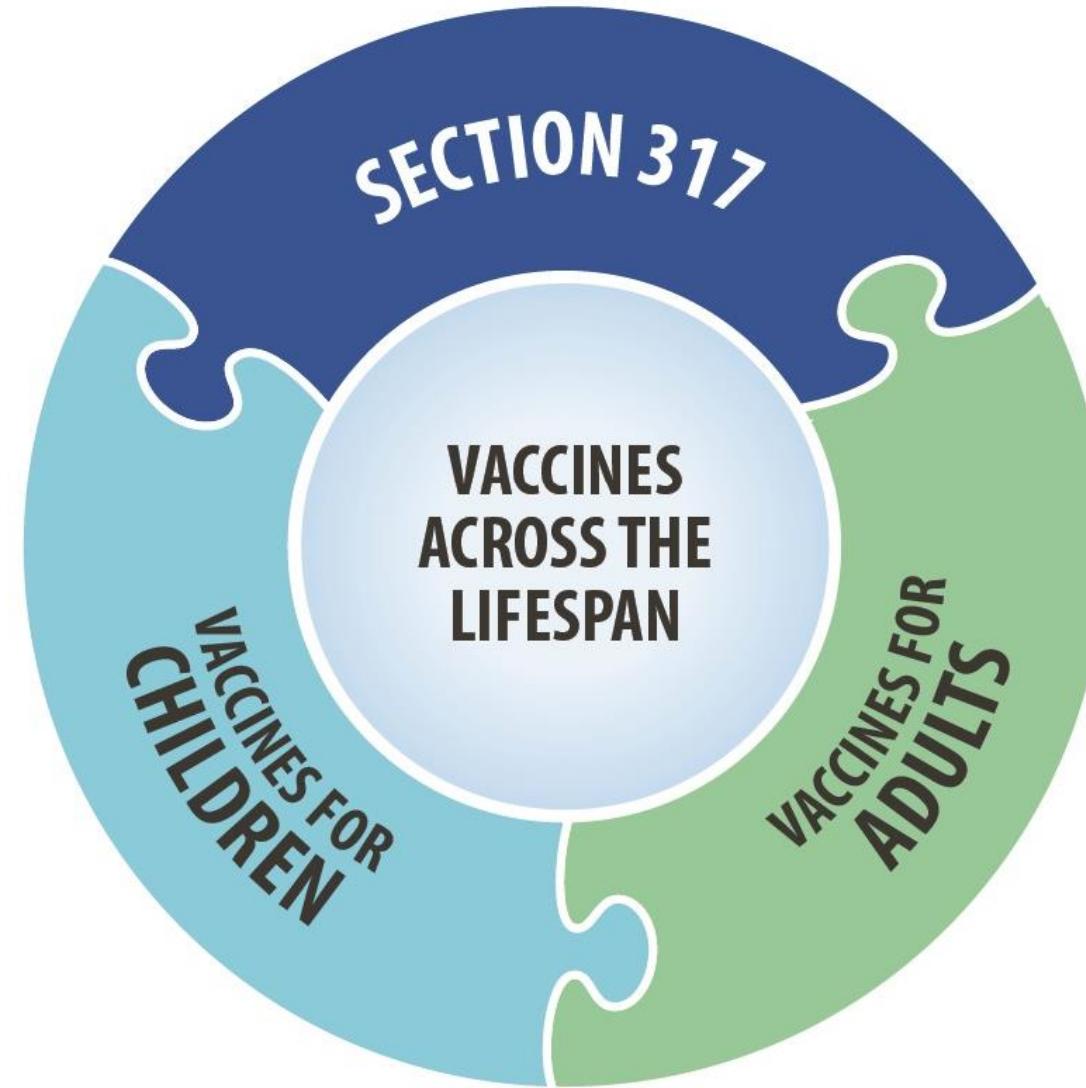
Thank You

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348   www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Advancing Immunization Data and Technology

CDC IIS Update

Lynn Gibbs Scharf, MPH

Branch Chief

Informatics and Data Analytics Branch

Overview

1 | Vision for the IIS

2 | Current State of Immunization Data

3 | Moving Forward: Select Initiative Updates

CDC's Vision for the IIS

CDC's Vision for IISs

IISs support the standardized capture and exchange of high-quality, individual-level immunization data for all doses of ACIP*-recommended vaccines

These data are linked across jurisdictions, providers, and partners, and to other individual-level data sources to inform public health action

* ACIP: Advisory Committee on Immunization Practices
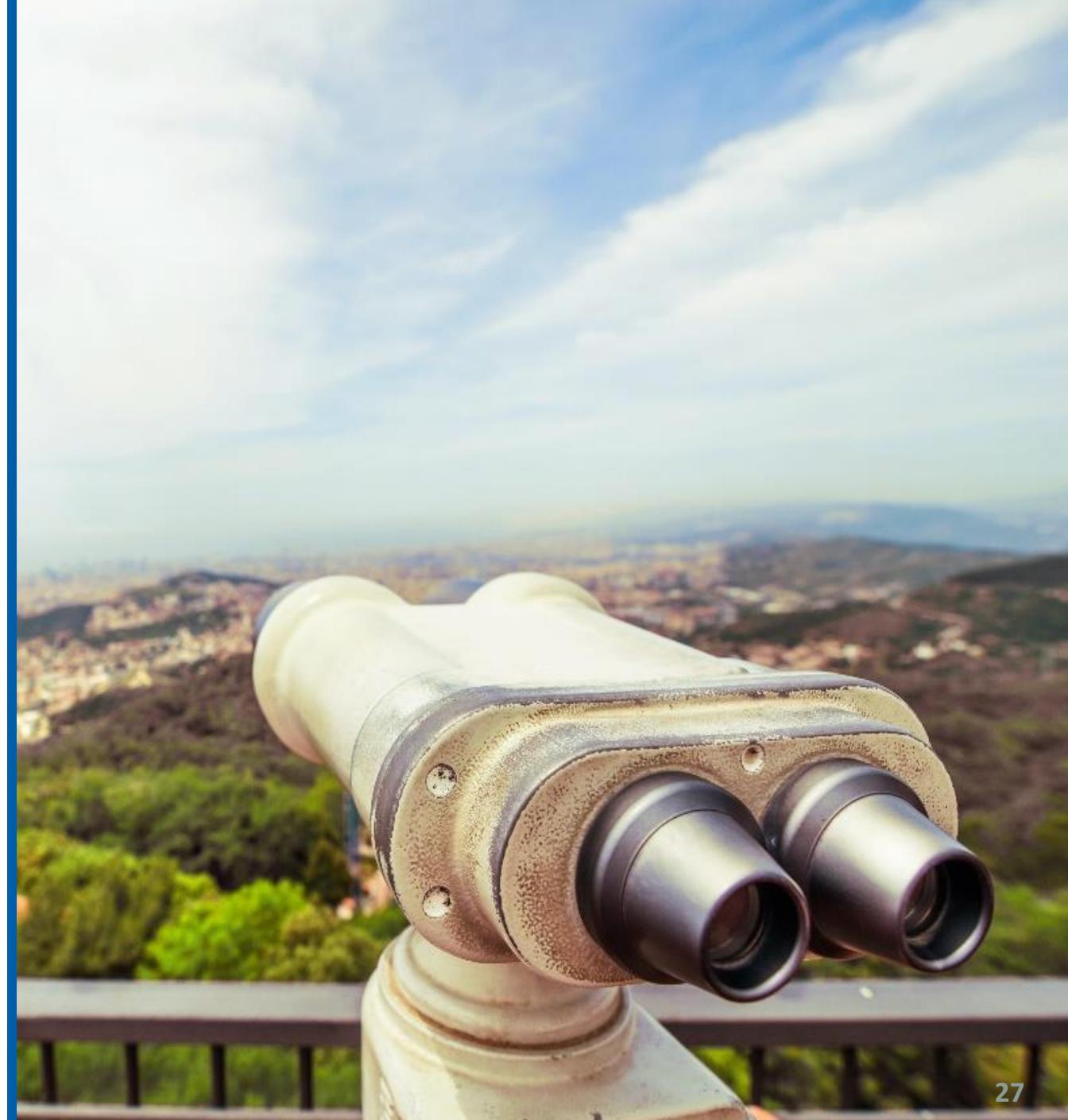
CDC's Immunization Data Evolution

Pre-COVID

- Longtime emphasis on system functionality; beginning to shift to emphasis on data quality
- A limited number of jurisdictions reported routine and seasonal influenza vaccination data to CDC through Vaccine Coverage Assessment Project (N=13).
- Use of data was limited by a restrictive data use agreement

Submission cadence:

- Routine data: <18 years quarterly; >18 years twice annually
- Seasonal influenza data: monthly

COVID-19 Response

- Significant emphasis on data sharing and data quality
- CDC received COVID-19 vaccination data from all 64 jurisdictions, as well as multiple federal health and pharmacy partners.
- Use of data limited by moderately restrictive data use agreement

Submission cadence:

- December 2020 – June 2022: daily
- June 2022 – Present: weekly

Limitations:

- Some jurisdictions permitted to share data only under emergency declaration or only in aggregate data

Present/Future

- New cooperative agreement requirements to improve data quality and data sharing
- New technology to facilitate data exchange and ensure security
- Increased emphasis on IIS platform-level improvements to benefit from economies of scale
- Initiated collection of routine vaccination data across the lifespan from all jurisdictions

Submission cadence:

- Routine data: all ages quarterly
- Seasonal influenza data: monthly

Limitations:

- Variations in reporting policies will impact data completeness

Initial set of routine data elements identified and collected → New technologies developed and CVRS dataset created → New DUA and submission methodology identified

28

Current State

IIS Data Quality Improvements*

Complete

Between 2020 and 2021, small decrease for all categories of providers (VFC, non-VFC, all providers) reporting to IIS, may be a result of a decrease in COVID-19 reporting.

- **75%** of all VFC providers report data, down from **79%** in 2021
- **54%** of all non-VFC providers report data, down from **60%** in 2021
- **58%** of all providers report data, down from **64%** in 2021
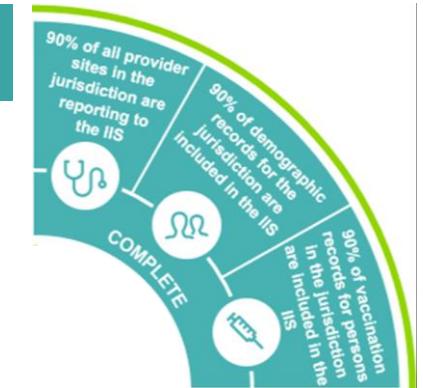
Timely

Small increase in timely posting of vaccines administered

- From 2021 to 2022, the percent of vaccine administration posted to production within 1 day increased from **73% to 76%**

High percentage of birth records established in a timely fashion

- **90%** of birth records established within 30 days of birth, consistent with 2021 data
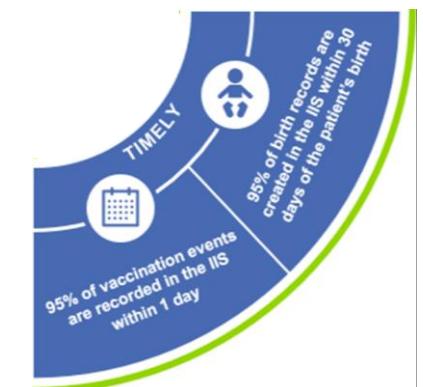
*2022 data assessments are preliminary.

IIS Data Quality Improvements

Available

IIS data are used to generate disseminated coverage reports

- **95% share population-based coverage assessment reports** with stakeholders in jurisdiction
  96% in 2021
- **70%** generated population-based coverage assessments for a **public facing website**
  73% in 2021

IIS staff <u>can and do</u> run ad-hoc reports of IIS data.

- **91%** of IIS produced provider level coverage assessments **based on user criteria**
  93% in 2021

Valid

Use of an external entity to validate addresses increased from 2021 to 2022

- **58%** of IIS used residential addresses standardized and validated as USPS addresses, compared to 52% in 2021

2022 data assessments are preliminary.

Current IIS Data Policy Landscape

Since 2020, **ten** jurisdictions made changes to consent policies and **17** changed reporting mandates.

Consent

14 jurisdictions do **not** allow guardians to opt out of their children's records reported to IIS.

12 do **not** allow adults to opt out.

43 include recipients under 18 unless guardian opts them out.

42 include adult recipients unless they opt out.

Reporting

20 jurisdictions **mandate reporting** by all providers and all vaccines to IIS.

16 mandate reporting for specific ages (e.g., under 18).

15 mandate reporting for specific provider types.

Sharing

Data sharing policies vary more widely across jurisdictions and are still evolving.

21 Require a data use agreement of memorandum of understanding

15 Allow only for specific use(s) (e.g., disease surveillance)

Current State of IZ Gateway Data Exchange

IIS-IIS Metrics

Number of Exchange Partners
1 — 11
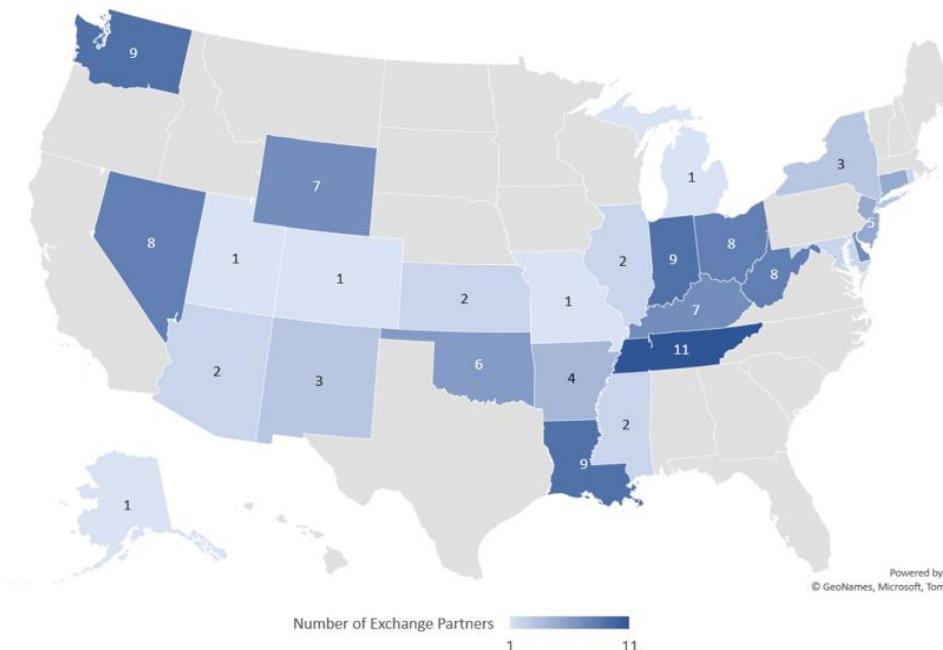
Active IIS-to-IIS Connections

- IIS: **28**
- Bidirectional connections: **148**
- Single-direction connections: **1**

IIS-to-IIS Data Exchange (*last 6 months*)

- Total Messages: **7,828,619**
- VXU Messages: **7,728,564**
- QBP Messages: **100,055**

Provider-IIS Metrics

Legend: DocStation, VistA | Fond du Lac, DocStation, VistA | VAMS, VistA | VAMS | VistA | VistA, AZOVA,VAMS | VistA, Cerner, DOD
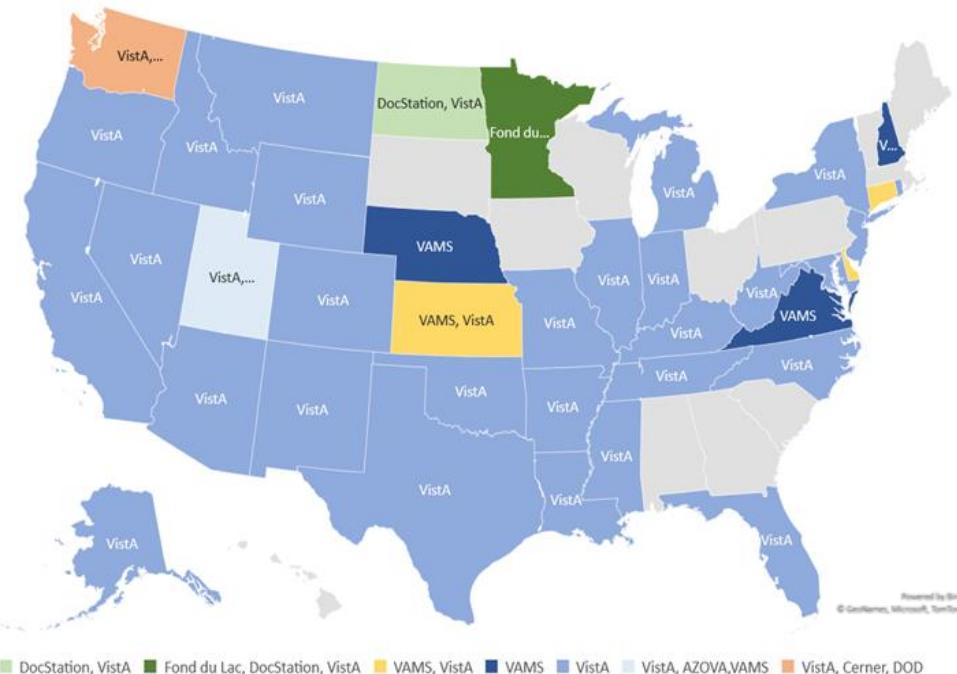
Connected to **7** Providers/EHRs

4,157 facilities in **42** jurisdictions

45,474 immunization messages exchanged in the past week

Moving Forward: Select Initiative Updates

CDC's Vision for IISs

IISs support the **standardized capture** and **exchange** of high-quality, individual-level immunization data for all doses of ACIP*-recommended vaccines

These data are **linked** across jurisdictions, providers, and partners, and to other individual-level data sources to **inform public health action**

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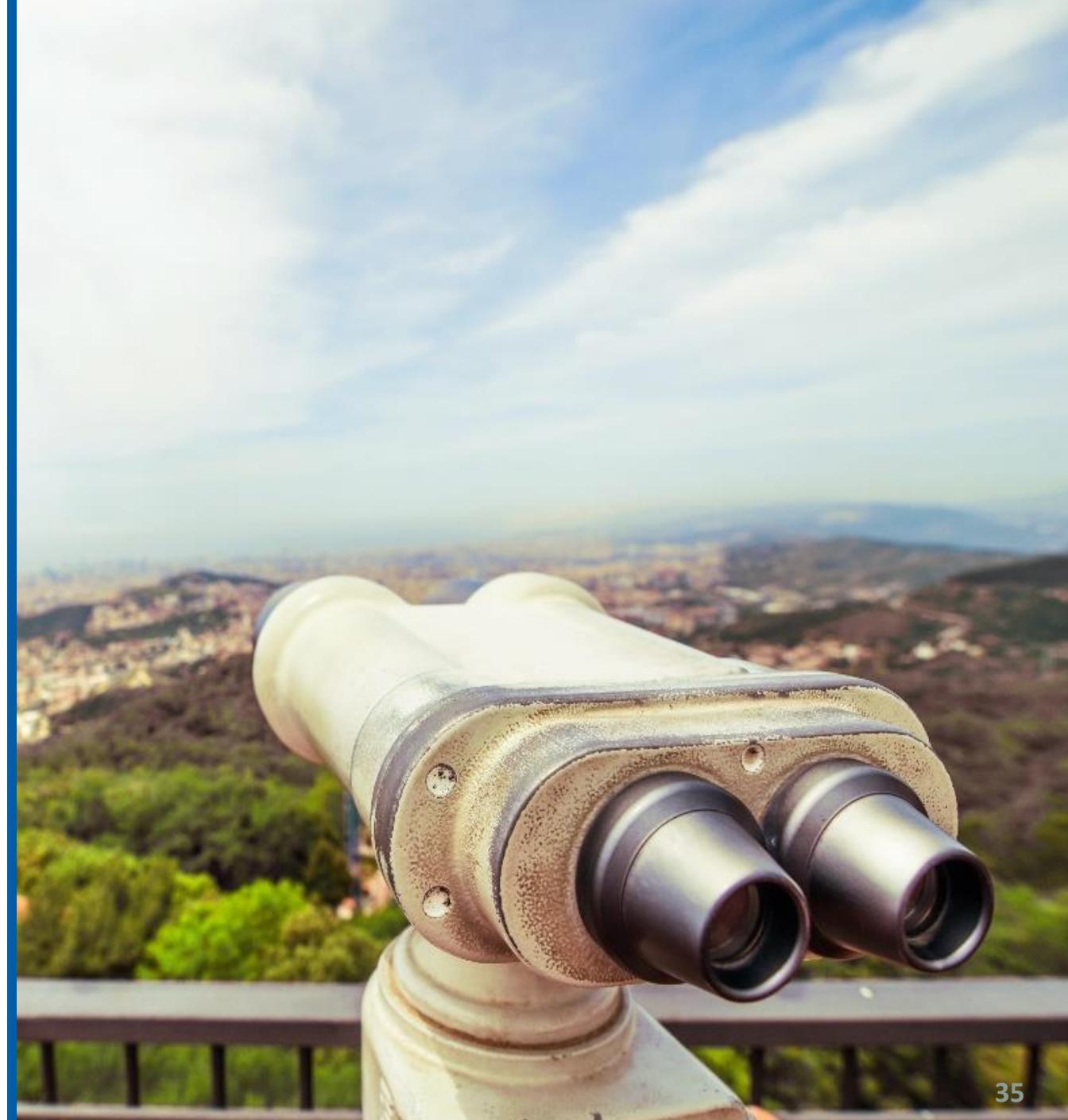
Understanding Immunization Data for Public Health

Building on advancements made during the COVID-19 pandemic, we seek *to understand* the following at the national level:

- Vaccination coverage at the national and jurisdiction level

- Areas of low vaccination coverage

- Populations at risk of vaccine preventable disease

- Characteristics of populations with high/low coverage

- Quality of IIS data (available, timely, complete, valid, accurate, consistent, unique)

Focus Areas and Initiatives

IDAB Focus Areas Defined

Data Collection & Management
Develop governance, policy and strategy, and data and quality standards in support of collecting, managing, and sharing national IIS data

Data Use
Assess, analyze, and use **high-quality data** to drive public health action across the IIS community, including jurisdictions, providers, and partners

Technology & Standards
Identify and develop new systems, tools, and standards, and support and modernize existing systems to improve performance, ensure consistency, and achieve mission goals

Community Engagement & Support
Accelerate the enhancement and performance of IIS through technical assistance and by convening key stakeholders to develop guidance, identify best practices, and collaboratively solve problems

Initiative Updates

- **National Immunization Surveillance System**

- **IIS Data Quality Evaluation and Certification**

- **Immunization Gateway**

- **Technical Assistance**
- **Resources and Partnerships**

National Immunization Surveillance System

CDC is establishing a National Immunization Surveillance System by collaborating with partners to build and maintain a national dataset with record-level, de-identified routine and influenza vaccine administration data that is analyzed and used for public health decision-making

We are here

FY 21 Q1 — COVID-19 PPRL Specification

Establish Routine Reporting

FY 23 Q1 — Generic PPRL Specification

Delta Processing — **FY 23 Q3**

FY 24 Q2 — Delta Reporting

MILESTONE

Roll out COVID-19 PPRL engine to awardees

Benefit

Address data quality and linkage issues for COVID-19 response

MILESTONE

Establish data use agreements and set up SFTP sites for data submission

Benefit

Enable submission of routine vaccination data

MILESTONE

Roll out PPRL generic engine to awardees

Benefit

Support multiple use cases without additional coding

Ready to handle routine & emerging needs

MILESTONE

Implement Delta processing for routine immunization data at CDC

Benefit

Reduces computation burden and improves reporting metrics

Shortens time from submission to feedback

MILESTONE

Implement Delta reporting by awardees (only new events since last quarter)

Benefit

Reduces awardee's reporting burden

Requires only new events to be reported

Legal Agreements for National Surveillance

Top Priorities

DUA for Routine and Seasonal Flu Vaccination Data

Establishes basic terms and conditions concerning access, sharing, protection, and use of routine and influenza vaccination data submitted by jurisdiction and received by ISD.

Administrator: CDC

48 jurisdictions have signed

PPRL Software License Agreement

Enables the jurisdiction or their technology partner to install PPRL software for use in submitting deidentified record-level routine vaccination data to CDC.

Administrator: HealthVerity, Inc.

23 jurisdictions have signed

> Using HealthVerity for PPRL service ensures data can be exchanged and matched across jurisdictions.

High Priorities

APHL IZ Gateway Data Use Agreement

Allows the jurisdiction to participate in the IZ Gateway.

Administrator: APHL

60 jurisdictions have signed

APHL IZ Gateway IIS to CDC Task Order

Allows the jurisdiction to use the IZ Gateway as the transport mechanism to automate submission of routine and influenza vaccination data to CDC.

Administrator: APHL

7 jurisdictions have signed

IZ Gateway for Routine Vaccination Data Submission

The IIS-CDC use case replaces the Routine Vaccination Data Submission (RVDS) manual upload of routine and flu files via SFTP with submission via the IZ Gateway. This use case is currently in the pilot phase.

- Leverages established IZ Gateway integration and certificates
- Routes a jurisdiction's routine quarterly and monthly flu files to CDC via the IZ Gateway

Pilot Participants

Seven jurisdictions with four technology partners are pilot testing data submission.

- AK, KY, NV, NM – Envision Technology
- NYC – HLN
- LA – STC
- CA – self supported

## Pilot Status

Technical development is complete.

Testing status

- One vendor successfully submitted files for 4 jurisdictions to National Data Lake Platform (NDLP) storage container
- One vendor successfully submitted files in test environment and is preparing for production testing in coming weeks
- 5 jurisdictions (3 vendors) are conducting onboarding testing

IIS Data Quality Evaluation and Certification

IDAB is developing and planning the implementation of a Jurisdiction IIS Program Data Quality Certification program to supplement ONC's planned public health systems certification program.

Program Components
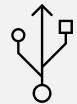
System Functionality Certification

Systems will be certified as part of ONC's public health surveillance system certification program. System vendors will be accountable for certification.

Data Quality Certification

CDC will focus on assessing and certifying data quality. Jurisdictions are responsible for IIS data quality.

The IIS Certification Program

Purpose

Improve jurisdictional IIS data quality and standardization

Action

Evaluate jurisdiction IIS data against established metrics and standards to determine quality

Outcome

High confidence in and increased usefulness of IIS data

IIS Data Quality Evaluation and Certification

IIS data Quality certification will validate that data stored (data at rest) in the IIS and reported by the jurisdiction to CDC meets defined criteria. The program leverages existing foundational work done through the National Center for Immunization and Respiratory Diseases (NCIRD) Immunization Integration Program (IIP) and the Measurement and Improvement Initiative (M&I).

Data quality certification will leverage standards defined in the **IIS Data Quality Blueprint**, the **components of M&I** that deal specifically with measuring data quality (e.g., Data at Rest (DAR) project) and the **IIS Annual Report** that aim to ensure the availability, completeness, timeliness, validity, consistency, and uniqueness of IIS data.

IIS Data Quality Blueprint

M&I Components

IIS Annual Report

The program will be jurisdiction-based and focused on improving immunization data quality and ensuring data is available for public health decision-making.

Resources & Partnerships to Support the IIS

CDC provides financial, technical, and staff support to immunization programs for their IIS activities aligned to priorities.

| **Dedicated, non-competitive IIS CoAg funding**	**Direct vendor contracts**	**Short-term staffing support & surge**	**Partner funding**
$114M dedicated IIS funding	**$12.2M** direct vendor funding	**43,206 staff hours** 25 jurisdictions	**$1.1M PHII funding** $6.1M AIRA funding

Technical Assistance

CDC provides assistance and resources to support the advancement of IIS data quality.

IIS Data Quality Blueprint

Defines a set of measures and corresponding activities to focus awardees' efforts on improving IIS data quality

IDAB Technical Assistance

Established TA collaborative and will use Blueprint measures to prioritize TA and support awardees in data quality improvement

Data Quality Report

Provides each awardee a snapshot of particular metrics, organized by data quality characteristics

Chapter D of the IPOM

Supports IIS along a continuum from system implementation with foundational capability through maintenance of an advanced system that provides high-quality data

Functional Standards and Operational Guidance Statements (OGS)

Describe the underlying operations, data quality, and technology needed by IISs to support immunization programs, vaccine providers, other stakeholders, and their immunization-related goals

Circle diagram center: **Advancing IIS Data Quality**

Surrounding circles: IIS Data Quality Blueprint · Chapter D of the IPOM · Functional Standards and Operational Guidance · Data Quality Report · IDAB Technical Assistance

Join us in these sessions for a closer look!

Tuesday, May 2

1:00 to 2:15	IIS-National Immunization Survey Integration Update
2:30 to 3:45	CDC Refugee Immunization Information Systems Exchange Project Updates

Thursday, May 4

9:15 - 10:30	For You, by You: Create the Building Blocks of Disease Control with CDC
9:15 - 10:30	Public Health Impact of Interjurisdictional Immunization Data Exchange
9:15 - 10:30	Leveraging IIS and School Vaccination Data to Identify MMR Coverage Gaps

Wednesday, May 3

9:15 to 10:30	Jump-Start Your IIS Staff Onboarding and Training
9:15 to 10:30	Coming Attraction: New Release of HL7 v2.5.1 IG for Immunization Messaging
1:15 to 2:30	Immunization Data Quality Certification Program
1:15 to 2:30	Changes to the IIS Policy Landscape
1:15 to 2:30	Blast Off! Relaunching IIP EHR Immunization Capabilities Testing
1:15 to 2:30	Lessons Learned from 2022 Polio Response on Immunization Data Exchange
3:00 to 4:15	Sprucing Up the Front Door: Enhancing Provider Onboarding Processes/Tools
3:00 to 4:15	Overview: Flu and Routine Vaccination Administration Reporting
4:30 to 5:30	CDC Consortium Sessions (By invitation only.)

Questions and Discussion

For more information, contact CDC
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TTY: 1-888-232-6348   www.cdc.gov

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AIRA 2023

NATIONAL
Meeting

Lunch

San Diego Ballroom & Garden Terrace (4th Floor)

MAY 2-4   SAN DIEGO