2016 National Adult and Influenza Immunization (NAII) Summit

The Use of Electronic Medical Records (EMRs) and Immunization Information Systems (IIS) to Improve Adult Immunizations

CDC Update on IIS Initiatives at the Federal Level

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Wednesday, May 11, 2016 from 9:00-10:30 AM

IIS Immunization Information Systems Strategy Initiative

CDC Centers for Disease Control and Prevention

Agenda

IIS Immunization Information Systems Strategy Initiative

Session Agenda

- Overview
- Project Spotlights
  - IIS Sentinel Sites
  - Clinical Decision Support for Immunization (CDSi)
  - 2D Vaccine Barcodes
  - IIS Service Center – Provider Onboarding
- Conclusion

Overview

What are Immunization Information Systems (IIS)?

IIS are confidential, population-based, computerized databases that record all immunization doses administered by participating providers to persons residing within a given geopolitical area.

- Provide consolidated immunization histories for use by providers.
- Provide aggregate data to use in surveillance and program operations and guide public health action.

Pediatric vs. Adult Immunization in IIS

The community has had success in managing pediatric records in IIS with a *89% child participation rate in IIS*.

CDC aims to build on this experience to increase records in IIS, in regards to the adult population.

Big success with small people will lead to big success with big people.

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Overview (Continued)

Examples of challenges that contribute to low adult immunization documentation in IIS include:

- Adult provider identification, outreach, and onboarding
- Operational and technical changes in IIS needed for adult immunization tracking
- Additional resources needed to support IIS technical and operational activities for the adult population

CDC is supporting strategies to improve both pediatric and adult immunization documentation in IIS.

- **IIS Sentinel Sites**
- **Clinical Decision Support for Immunization (CDSi)**
- **2D Vaccine Barcodes**
- ***In the future…***
  IIS Service Center – Provider Onboarding

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IIS Sentinel Sites

Sentinel Sites are IIS that have achieved high data quality standards and receive competitive supplemental funding from CDC to track patterns in immunization practices and assess vaccination coverage in their regions.

- CDC expanded this project to cover adults during pandemic responses.
- Sentinel sites are paving the way to manage priorities and expectations for the future of adult immunization data completeness.

Sentinel Sites Participants

- Michigan
- Minnesota
- North Dakota
- New York City
- Oregon
- Wisconsin

Objectives of IIS Sentinel Sites Project

- Improve adult provider IIS enrollment and use.
- Modify IIS to support pandemic influenza.

Impact on Adult Immunization

- Promotes timely analyses of population-based provider-verified IIS data.
- Participate in IIS data quality improvement and evaluation activities.

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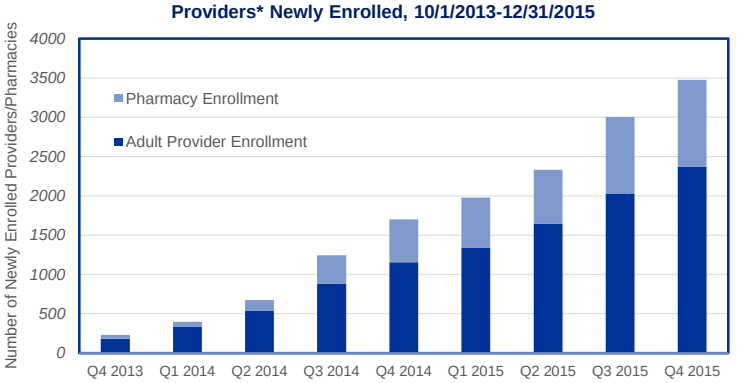
IIS Sentinel Sites (Continued)

Sentinel Site Progress in Total Provider Enrollment: Adult and Pharmacy Providers* Newly Enrolled, 10/1/2013-12/31/2015



*"Provider" can represent a single provider, a provider location, or a healthcare system. Value represents the total cumulative enrollment or reporting at the end of a given quarter.

3,474 adult providers enrolled during September 2013-December 2015 (2373 Non-pharmacy providers; 1101 pharmacy providers)

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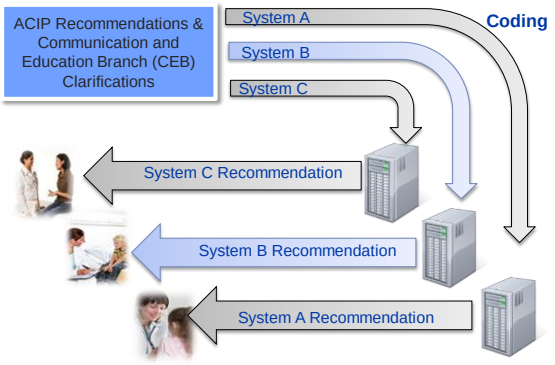
Clinical Decision Support for Immunization (CDSi): CDS Historical Context

What is CDS? What are the associated challenges?

- Immunization Clinical Decision Support (CDS) is an automated process that determines the right Advisory Committee on Immunization Practices (ACIP) recommendations for a patient and delivers them to the provider.
- Due to the challenge of interpreting clinically-written ACIP recommendations, CDS engine outputs often varied and did not always match expectations of clinicians.



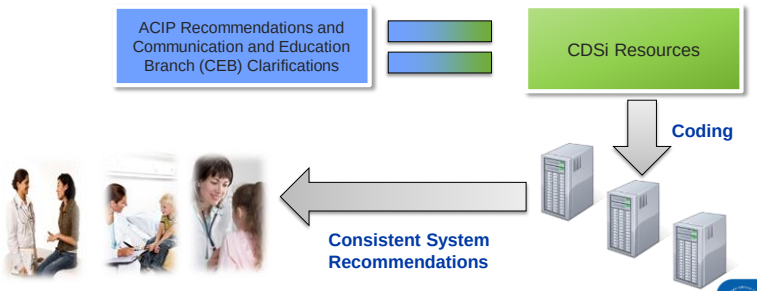
Clinical Decision Support for Immunization (CDSi) (Continued)

What is the Solution?

To harmonize outcomes of existing CDS tools, the **Clinical Decision Support for Immunization (CDSi)** Project developed new clinical decision aids for each vaccine preventable disease.

Project objectives included:

- Develop and maintain resources for evaluation and forecasting.
- Increase the accuracy and consistency of immunization evaluation and forecasting.
- Improve the timeliness of accommodating new and changed ACIP recommendations.
- Ensure patient's immunization status is current, accurate, consistent, and readily available.



Clinical Decision Support for Immunization (CDSi) (Continued)

CDC has been incorporating the ACIP recommendations into the **CDSi** resources in phases. The table below summarizes each of the three phases.

	Phase 1	Phase 2	Phase 3
Focus	Healthy children (birth to 18 years)	Healthy people (birth to death)	Birth to death, with: • Underlying Conditions which Indicate vaccination, Contraindicate vaccination or provide evidence of Immunity
Resources Created	• Logic Specification • Supporting Data • Test Cases	• Logic Specification • Supporting Data • Test Cases	• Logic Specification • Supporting Data • Test Cases • Documentation of Indications, Contraindications & Immunities
Publication Date	Nov. 2013 – May 2015 - Release 1.x	June 2015 - Current - Release 2.x	Estimated: first half of 2016 - Release 3.x

The current ACIP recommendations served as the foundation for all phases.

Two-Dimensional (2D) Vaccine Barcodes

Compared to traditional methods of data entry, capturing vaccine data by scanning a **two-dimensional (2D) vaccine barcode** could enable more rapid and accurate data collection in electronic systems.

2D barcodes contain more information than linear barcodes. Data includes: vaccine product identification, expiration date, and lot number.

In 2013, CDC implemented the *Adoption Strategies for 2D Barcodes Project* to further understand the effects of introducing 2D barcode scanning on recording vaccine data. Findings are depicted below:

Time Savings	• 3.44 seconds faster, on average, than traditional methods.
Data Quality	• Lot number total correctness improved by 8% after 2D scanner installation. • Expiration date total correctness improved by 11% after 2D scanner installation.
User Experience	• 86% users/leaders agreed that 2D barcodes improved accuracy and completeness. • 60% of users/leaders agreed it was easy to integrate 2D barcode scanning into their usual process of recording data and was easy to use during vaccine administration.

Future projects are underway to explore the impact of barcodes in other settings, such as large health care systems.

Two-Dimensional (2D) Vaccine Barcodes (Continued)

2D Barcoded Vaccines

Brand	Vaccine
BOOSTRIX®	Tdap
CERVARIX®	HPV
ENGERIX-B Pediatric®	Hepatitis B
ENGERIX-B Adult®	Hepatitis B
FLUARIX®	Influenza
FLUARIX® QUADRIVALENT	Influenza
FLULAVAL®	Influenza
FLULAVAL® QUADRIVALENT	Influenza
HAVRIX Pediatric®	Hepatitis A
HAVRIX Adult®	Hepatitis A
HIBERIX®	Hib
INFANRIX®	DTaP
IXIARO®	Japanese Encephalitis
KINRIX®	DTaP-IPV
MENHIBRIX®	Meningococcal/Hib
PEDIARIX®	DTaP/HepB/IPV
RabAvert®	Rabies
ROTARIX®	Rotavirus
TWINRIX®	Hepatitis A/Hepatitis B
COMVAX®	Hib
GARDASIL®	HPV
GARDASIL® 9	HPV
M-M-R® II	MMR
PedvaxHIB®	Hib
PNEUMOVAX® 23	Pneumococcal

Brand	Vaccine
ProQuad®	MMR/Varicella
RECOMBIVAX HB® - Adult	Hepatitis B
RECOMBIVAX HB® - Dialysis	Hepatitis B
RECOMBIVAX HB® - Pediatric	Hepatitis B
RotaTeq®	Rotavirus
VAQTA® - Adult	Hepatitis A
VAQTA® - Pediatric	Hepatitis A
VARIVAX®	Varicella
ZOSTAVAX®	Varicella
ActHIB®	Hib
Adacel®	Tdap
DAPTACEL®	DTaP
Fluzone®	Influenza
Fluzone® Intradermal Quadrivalent	Influenza
Fluzone® Quadrivalent	Influenza
Imovax®	Rabies
IPOL®	Polio
Menactra®	Meningococcal
Menomune®	Meningococcal
Pediatric DT	Diphtheria-Tetanus
Pentacel®	DTaP-IPV/Hib
Quadracel®	Polio
Tenivac®	Tetanus
Typhim-Vi®	Typhoid
YF-VAX	Yellow Fever

IIS Service Center – Interoperability Configuration and Provider Onboarding Service

In the future…

CDC is establishing IIS Service Centers to facilitate shared services for IIS awardees. An example is the *Interoperability Configuration and Provider Onboarding Service.*

Problem Statement

What issue does this service address?

- Because provider onboarding is labor and resource intensive, and impacts IIS capacity to support essential programs, NCIRD identified this as an essential challenge to address.

Project Overview

What is the objective of this service?

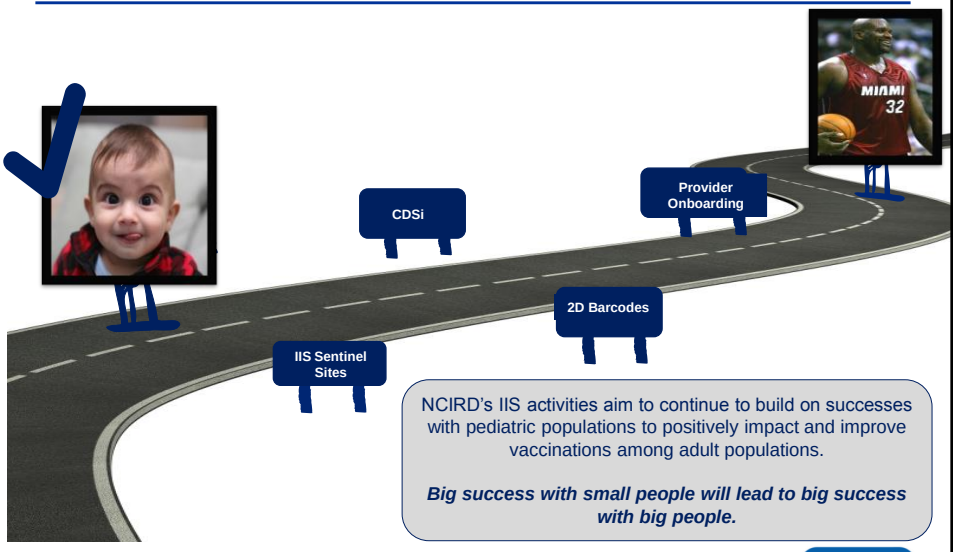
- Through a phased approach, this service will provide technical support (i.e. resources, staff, and technological tools) to build or enhance IIS functionalities supporting bi-directional data exchange with EHR's, HIE's, and IIS partners.

Project Impact

How does this effort impact adult immunization?

- Ensure timely immunizations, less onboarding wait time.
- Consolidates immunization records that may be scattered across many providers.
- Enables immunization providers to work more efficiently by having access to other functions.

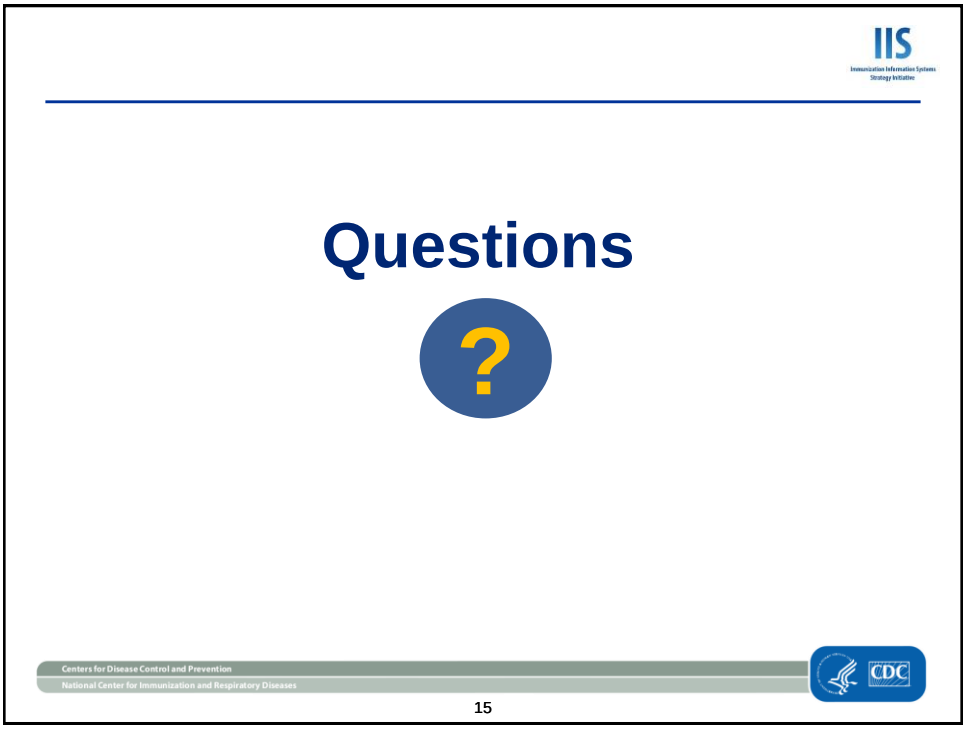
Conclusion



NCIRD's IIS activities aim to continue to build on successes with pediatric populations to positively impact and improve vaccinations among adult populations.

Big success with small people will lead to big success with big people.

A news splash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Questions
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