



## The Immunization Information System (IIS) Landscape

Stuart Myerburg & Eric Larson  
CDC NCIRD/ISD/IISB  
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### Agenda

- IIS, Provider Value, and “Meaningful Use”
- CDSi and Adults
- Questions and discussion

## IIS, Provider Value, and “Meaningful Use”

### IIS...

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

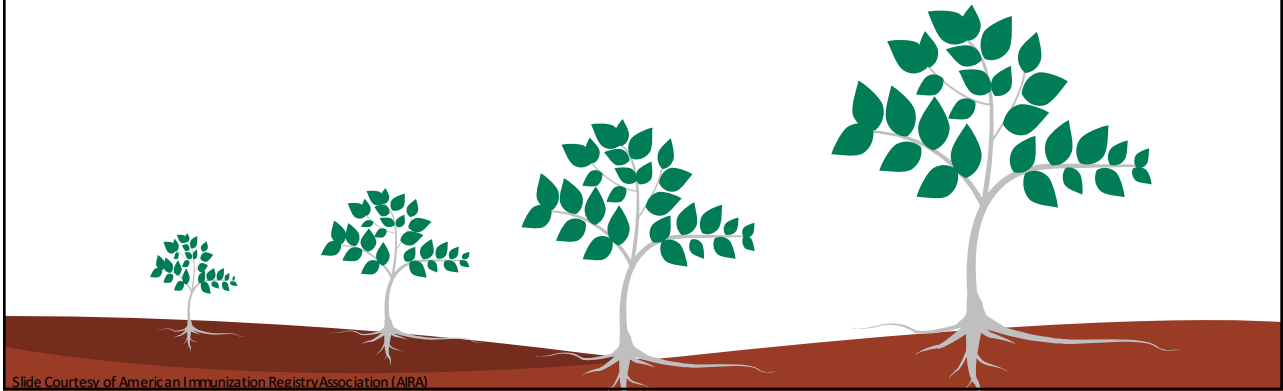
-  Confidential
-  Population-based
-  Identify pockets of need
-  Exchange data with multiple providers
-  Assist schools & child care providers
-  Help improve vaccination rates & Reduce vaccine-preventable disease

Slide Courtesy of American Immunization Registry Association (AIRA)



## Maturity

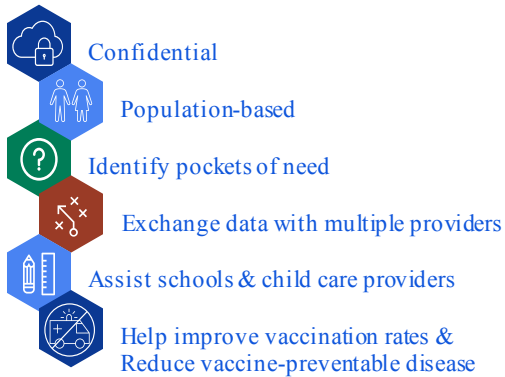
- Each system operates independently
- Newest IIS is planning to launch in late 2019
- Oldest have been in existence for 30+ years



Slide Courtesy of American Immunization Registry Association (AIRA)

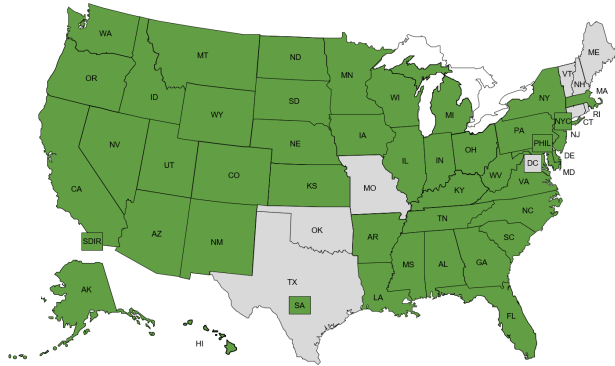
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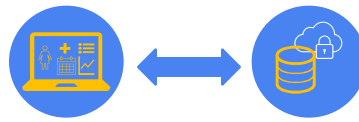


Slide Courtesy of American Immunization Registry Association (AIRA)

## EHR-IIS Query: Access at the Point of Care



- The vast majority of IIS have query/response capabilities
- In **New York City alone** (population 8.5 million):
  - 1,314 clinic sites querying
  - NYC Citywide Immunization Registry receives **>2.2 million queries/month**

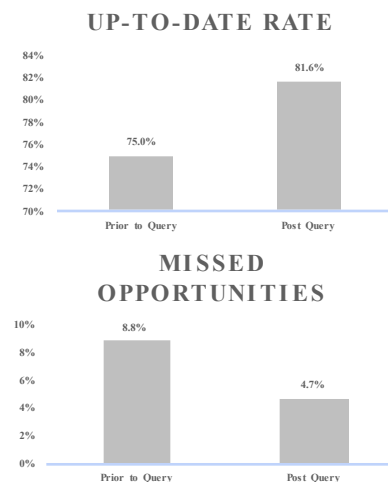


IIS Annual Report Data, 2017; NYC CIR Data, April, 2018

Slide Courtesy of American Immunization Registry Association (AIRA)

## Drilling Down on EHR-IIS Query – Why Is It Important?

A 2016 study in the journal *Pediatrics* demonstrated an **increase in up-to-date status** and a **decrease in missed opportunities** following implementation of query



Stockwell et al., *Pediatrics*, 2016

Slide Courtesy of American Immunization Registry Association (AIRA)



*"Our best defense against missed immunization opportunities is the ability to conduct an Immunization Query. Our bi-directional interface with our state immunization database has put accurate immunization history and the current CDC recommendations based on that history at our clinicians fingertips."*

Nurse, EHR Analyst | Las Vegas, Nevada

Slide Courtesy of American Immunization Registry Association (AIRA)

## Incentive Programs

### Major requirements of "Promoting Interoperability"

- **Submission**
  - EHR is able to submit immunizations to an IIS
- **Query/Response**
  - Query IIS for patient within EHR
  - IIS returns a patient, consolidated immunization history, and clinical decision support
  - EHR user is able to reconcile IIS response

**Meaningful Use**

**Advancing Care Information**

**Promoting Interoperability**

<https://www.texmed.org/BlogTemplate.aspx?id=47388&blogid=206048>

## IIS Background Takeaways



IIS are well populated and continue to grow with your help through well documented vaccination records



This has strengthened IISs as important analytic tools that support a wealth of population health needs



Providers can access these data through EHR query at the point of care, supporting clinical decisions, ensuring appropriate immunization, and lowering burden

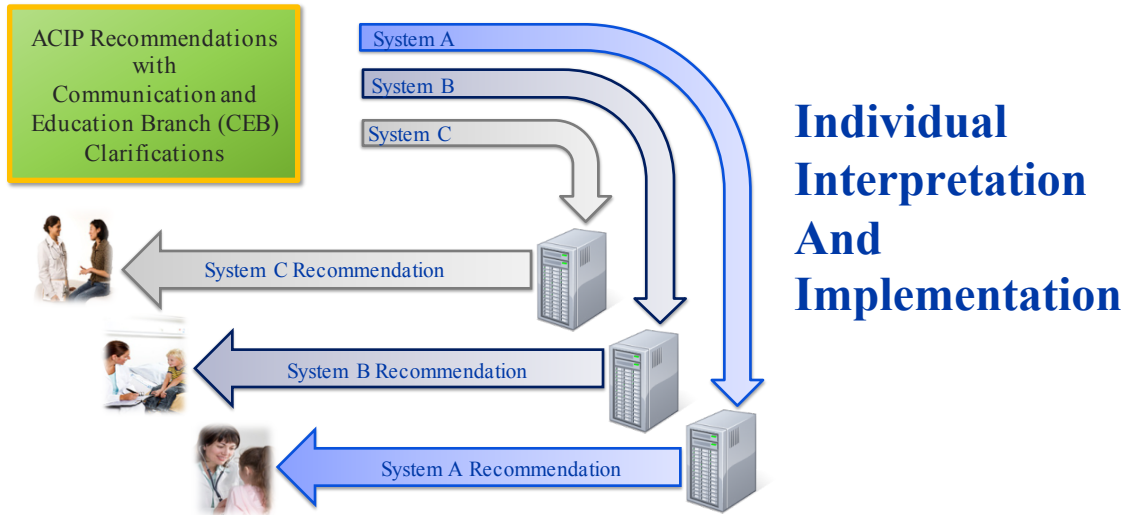


While progress to improve interoperability and data quality has been made, collaboration between the EHR and IIS communities is key for continued improvement

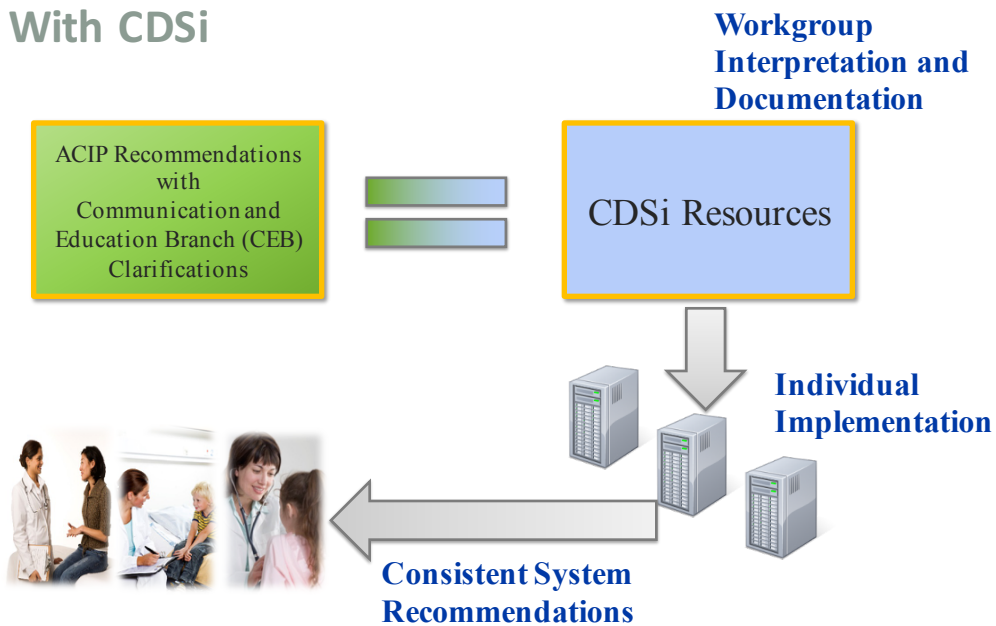
## CDSi and Adults

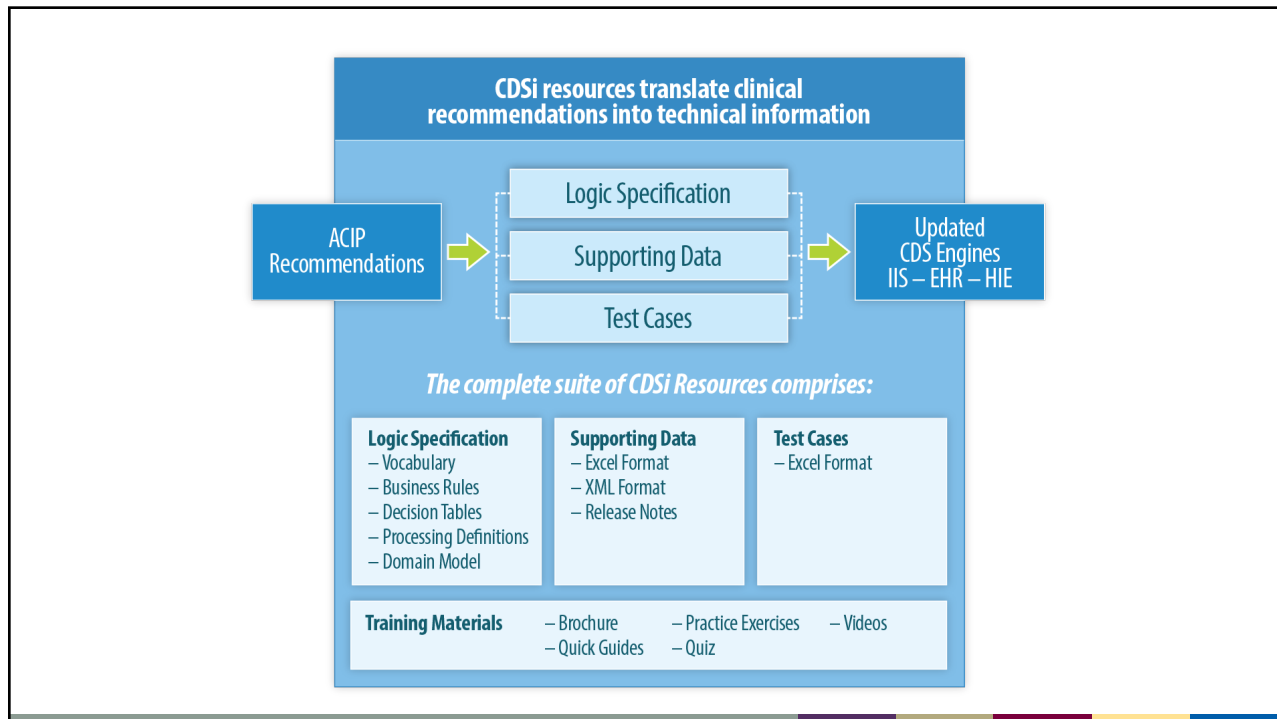
Clinical Decision Support for Immunization

## Before CDSi



## With CDSi





## CDSi and Adults

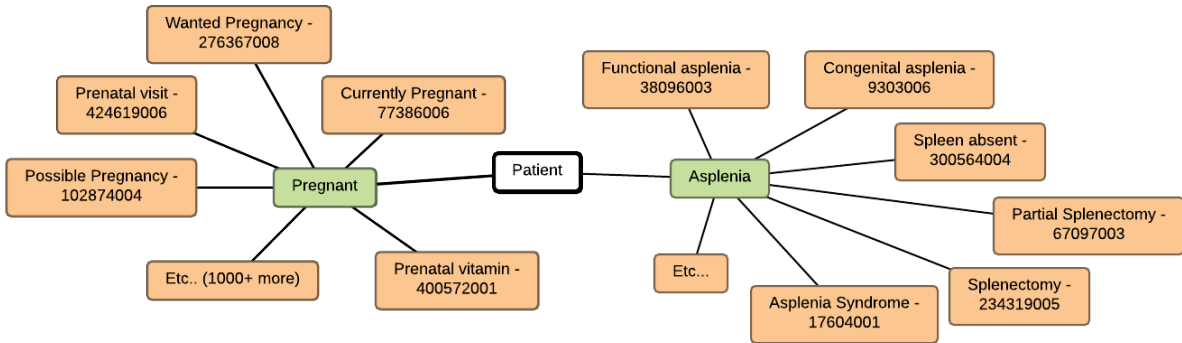
### The “Easy”

- **Routine Recommendations**
  - Flu
  - Zoster
  - Td(ap)
  - Pneumococcal
- **Increased Risk Schedules**

### The “Not-so-Easy”

- **Mapping ACIP Risks to IT Codes**
- **Varied Language across MMWRs**
- **Risks not captured in IT systems**
- **Vague Phrases**

## Mapping ACIP Risks to IT Codes (SNOMED, ICD)



## Varied MMWR Language

Vaccine	Recommendation Language
Pneumococcal	“Chronic renal failure”
HepB	“Persons with end-stage renal disease”
Influenza	“Renal disorder”

Vaccine	Recommendation Language
Pneumococcal	“Chronic liver disease (including cirrhosis)”
HepA and HepB	“Persons with chronic liver disease”
Influenza	“Hepatic disorder”

**Does this represent meaningful variation?  
Is cirrhosis included in HepA and HepB?**

## Concepts Not Known to EHR/IIS

- It may not be reasonable for a patient's record to include certain information
- Examples:
  - “Not in a long-term, mutually monogamous relationship”
  - “Close contact with an international adoptee during the first 60 days”
  - “Travel to country with a Yellow Fever vaccination entry requirement”
  - “Microbiologists routinely exposed to Neisseria meningitides”
  - “Household contact with a pregnant woman”

## What happens in Vagueness, stays in Vagueness

Vaccine	Recommendation Language
Various	“Health care personnel”
	Does this include anyone working in a health care facility? Clinicians only? Lab staff? Front end staff?
HepB	“Public safety worker exposed to blood or infectious body fluids”
	What is the definition of "public safety worker"? First responders? Police? Social workers?
Meningococcal	“Persons at risk during an outbreak”
	Does this refer to classes of people (e.g. first responders, clinicians) or activities or environmental conditions?

## Forward Movement

- Vocabulary Clarity
  - Beginning work with ACIP Work Group Leads at CDC on terminology definition
  - Will allow better mapping to SNOMED or ICD terminologies
  - End result will enable more computable ACIP recommendations related to indications and contraindications
  
- CDSi Pre-release
  - Develop and release CDSi material for flu prior to the publication of the MMWR
  - This will allow initial development by CDS engines to begin sooner than normal
  - End result enables new/changed ACIP recommendations to make it in front of providers quicker than today
  - First pilot will be the 2019-2020 Flu Season
  - Formal CDSi release per normal schedule following ACIP MMWR

## In Closing...



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CDSi provides all health IT environments a structured methodology to align with ACIP recommendations which ensures patients receive the right immunization at the right time.

# Thank You!

**Stuart Myerburg**

[jyz0@cdc.gov](mailto:jyz0@cdc.gov)

**Eric Larson**

[vev5@cdc.gov](mailto:vev5@cdc.gov)



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

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