



**AIRA**  
AMERICAN IMMUNIZATION  
REGISTRY ASSOCIATION

# Select AIRA 2020 National Meeting Presentations: Data Use

Tuesday, August 25, 2020  
3-4 PM ET

# AIRA Webinar Series

- Each Tuesday
- Now through September 22, 2020
- 3-4 PM ET
- Join Us!

## Webinar Series at a Glance

Week 1 CDC Panel Discussion: Advancing IIS Together

Week 2 The Immunization Gateway Portfolio

Week 3 Data Quality

Week 4 Data Use

Week 5 Working with End Users

Week 6 IIS Operations

Week 7 Global Perspectives

Week 8 Measurement and Improvement



# Today's Speakers

- **Hannah Peng, MPH**, Senior Statistician, University of Michigan
- **Heather Roth, MA**, Immunization Branch Chief, Colorado Department of Public Health and Environment
- **Jill Rosenthal**, Senior Program Director, The National Academy of State Health Policy
- **Kaitlyn Whiton, MHS**, Director, Discern Health
- **Courtney Barbera, MPH**, Project Manager, Discern Health



Press \*6 to unmute your line



# Identifying Exposed Persons for Recruitment into the Flint Registry

Hannah Peng, MPH  
AIRA Webinar Series  
August 25, 2020



# Background



Flint Water Crisis



Objective: Identify potentially exposed persons for Flint Registry



# Methods

- Identified persons with a Flint ZIP code during the Flint Water Crisis:
  - Michigan Care Improvement Registry (MCIR)
  - Michigan Childhood Lead Poisoning Surveillance System (MiCLPS)
  - Michigan Medicaid
- Most recent contact & demographic information



# Methods



Linkage



# Methods



Linkage



Geocoding



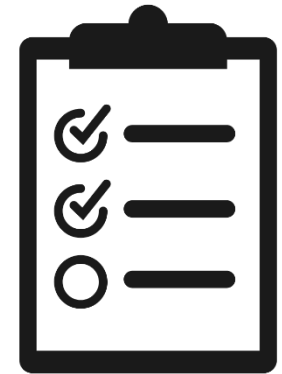
# Methods



Linkage

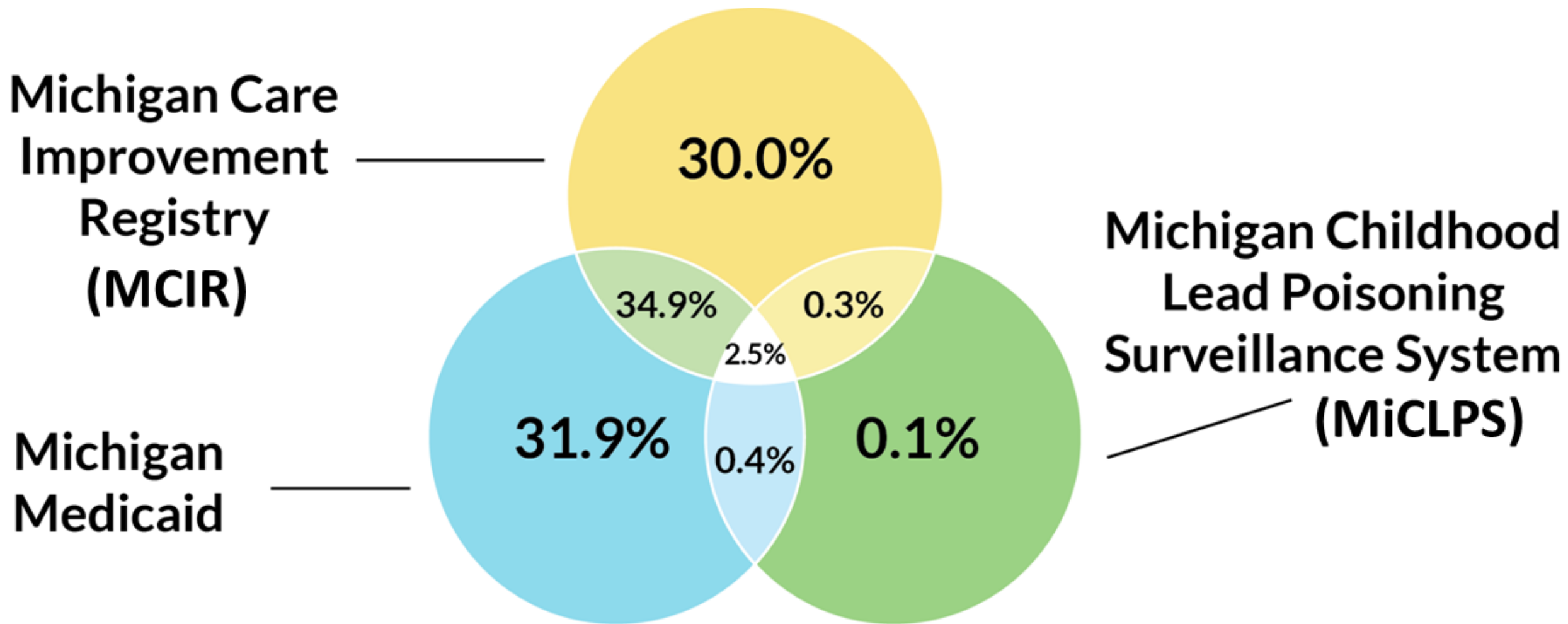


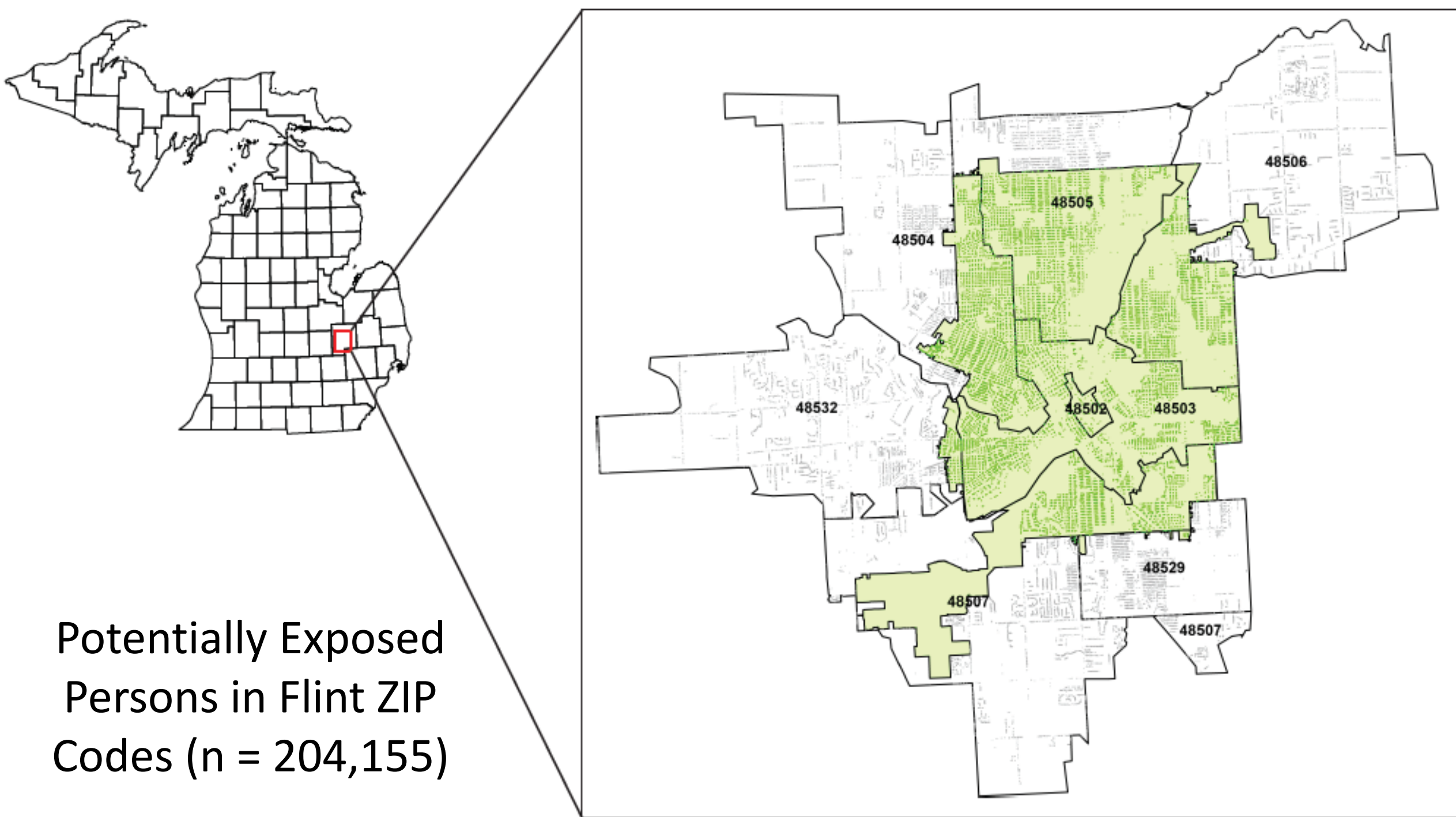
Geocoding



Prioritization

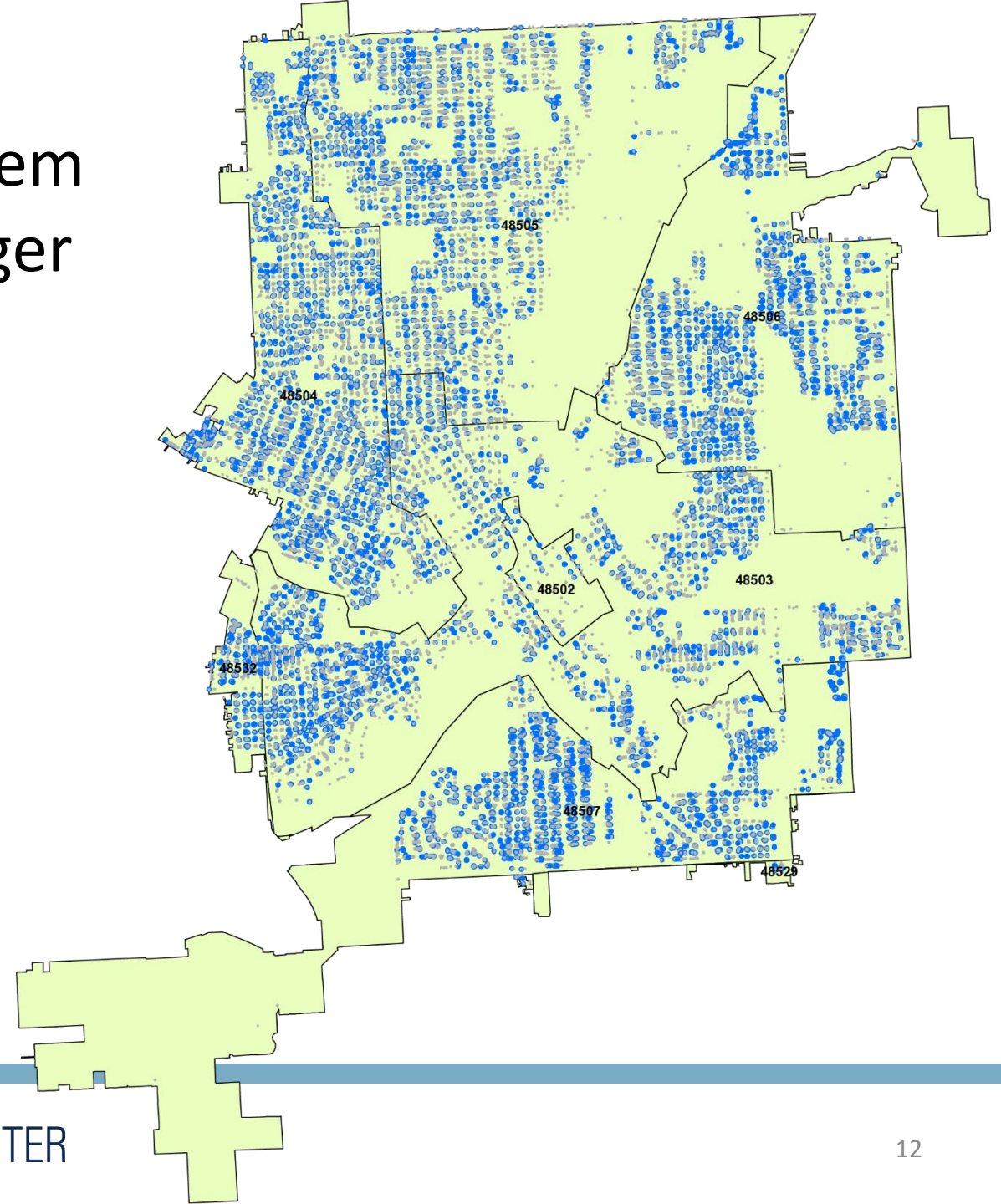
# Potentially Exposed Persons in Flint ZIP Codes by MDHHS Data Source (n = 204,155)





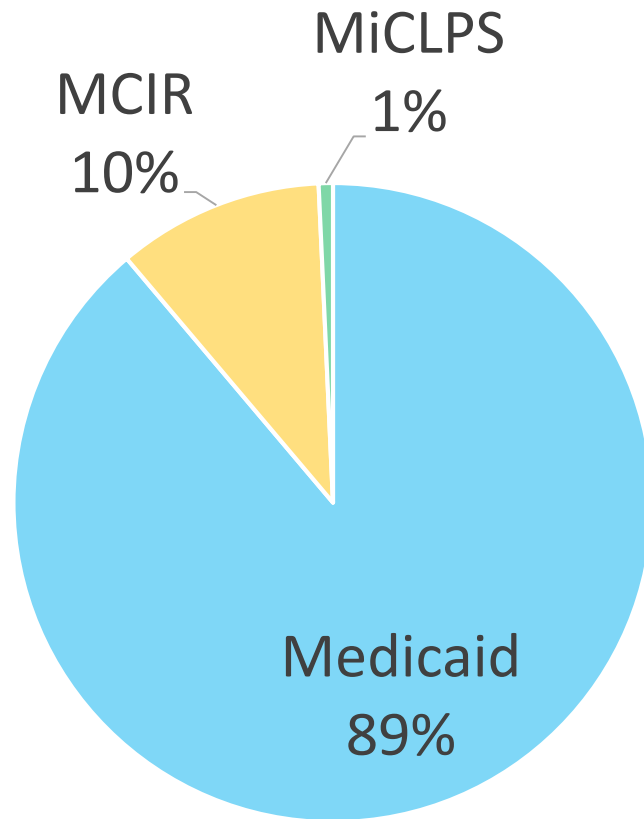
# Children Living in Flint Water System Service Area and Aged 6 or Younger during the Flint Water Crisis

- 14,159 Children
- 10,185 Households

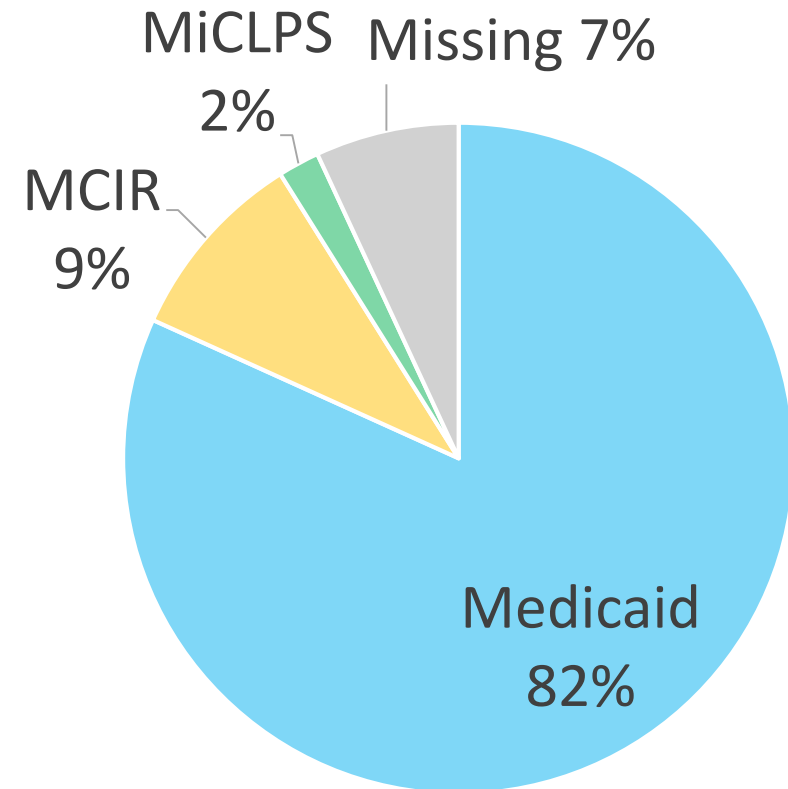


# Current Contact Information by MDHHS Data Source (n = 14,159)

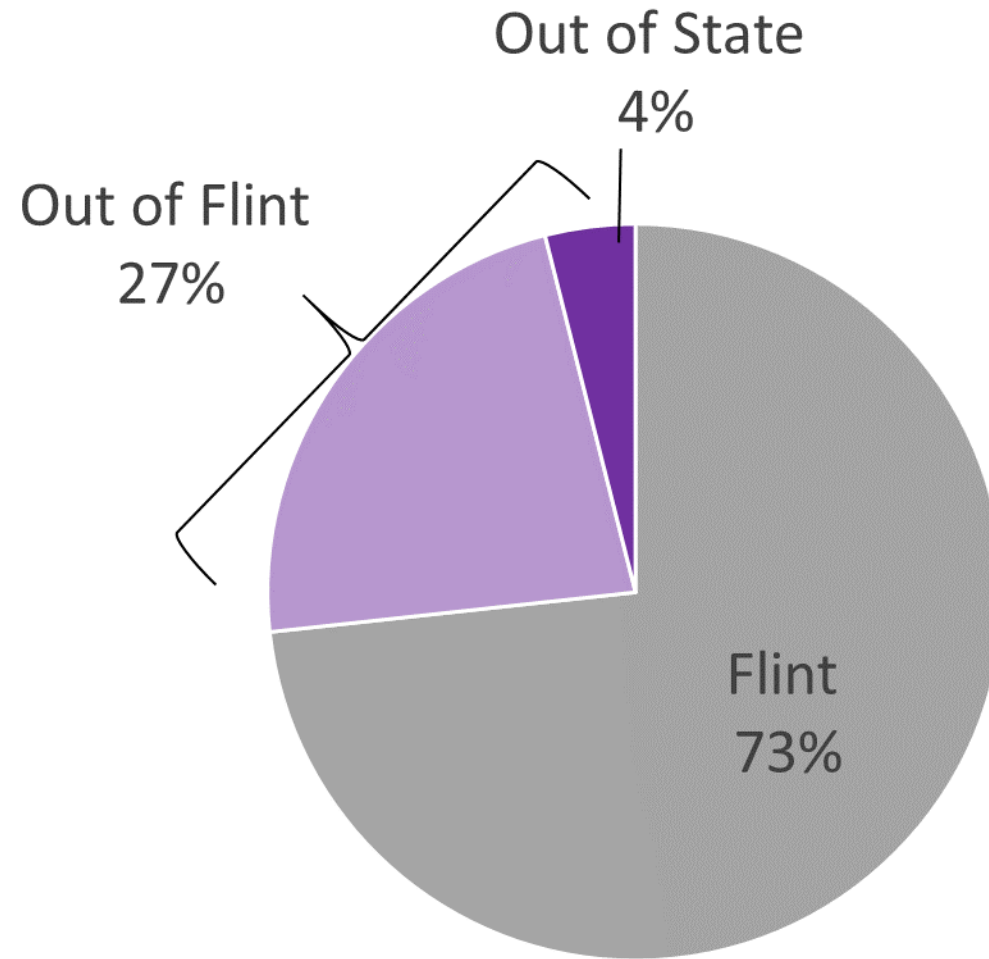
## Address



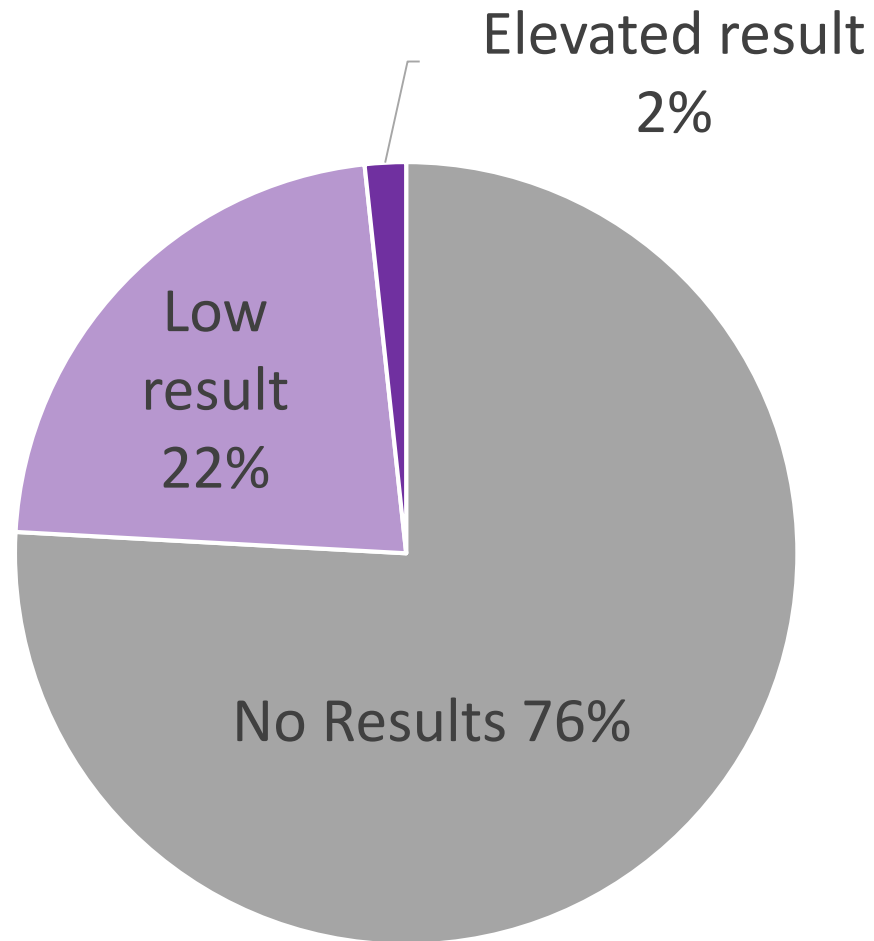
## Phone Number



# People who Moved Out of Exposure Area (n = 14,159)



# Blood Lead Test Results (n = 14,159)



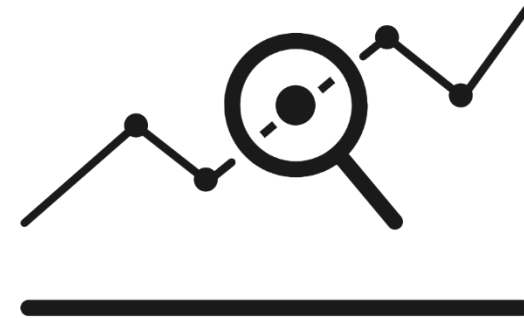


# Conclusions

IIS data can be used to:



Identify exposed people



Evaluate health outcomes



# Acknowledgements

- Collaborators
  - Marina Goulas, MHI
  - Kevin Dombkowski, DrPH, MS
- Funding
  - CDC, under subcontract to Michigan State University



# Hannah Peng, MPH

Senior Statistician

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SUSAN B. MEISTER

CHILD HEALTH EVALUATION AND RESEARCH CENTER  
MICHIGAN MEDICINE



# Enhancing IIS to Assess Refugee Vaccination Coverage

August 25, 2020

**Heather Roth, MA**  
Immunization Branch Chief



**COLORADO**  
Department of Public  
Health & Environment



# Outline

- IIS and Refugee Health collaboration
- Project successes
- Project challenges
- Future plans

# Project Objectives

- To better understand and improve vaccination coverage among Colorado's refugee population
- To improve the efficiency, effectiveness and quality of refugee immunization data practices
  - Incorporate A# as a unique identifier in the IIS
  - Enhance existing IIS reports to enable refugee-specific outputs
  - Eliminate duplicative data entry through automation

# A# as Unique Identifier

- Until recently, there was not an effective way to uniquely identify refugees within data sources outside the CO Refugee Health Surveillance (RHS) database
- Patient matching difficulties:
  - Naming conventions
  - Phonetic and unknown name spellings
  - Unknown dates of birth
- Gold standard is alien number (A#)
  - Inclusion in public health databases still in infancy

# IIS Enhancements

- Capture and store A# as unique identifier

CIIS COLORADO DEPT OF PUBLIC HEALTH AND ENVIRONMENT, COLORA... PATIENT SEARCH

TEST, HENRY JAMES ID: 2301274 DOB: 03/25/2007 AGE: 13Y 4M 25D GENDER: M Precautions / Contraindications ARE

Patient Demographics ? Learn More Cancel Links Update

**Last Name \*** TEST **First Name \*** HENRY **Middle Name** JAMES **Generation** ▼

**Gender \*** MALE ▼ **DOB \*** 03/25/2007

**Patient Eligibility \*** (5) NOT VFC ELIGIBLE ▼

**Legacy CIIS ID** **SSN (Last 4)** **Refugee Status Card**

**Language** ▼ **English Speaking?** ☐ **Interpreter Needed?** ☐

**HIPAA Notice Status** ▼ **Date Given** MM/DD/YYYY **Last Notice Given:** 03/18/2019

**Primary Contact**

**Relationship Type** MOTHER ▼ **Last Name** TEST **First Name** HEATHER **Middle Name** **Generation** ▼



# IIS Enhancements

- Capture and store refugee status

DO DEPT OF PUBLIC HEALTH AND ENVIRONMENT, COLORA... PATIENT SEARCH

TEST, HENRY JAMES ID: 2301274 DOB: 03/25/2007 AGE: 13Y 4M 25D GENDER: M Precautions / Contrai

Patient Demographics ? Learn More Cancel Links Settings U

**Medical Home Information**

Provider Name Provider Contact Info

**Birth Information**

Last Name First Name Middle Name Generation

Birth Order Birth Plurality Birth Facility Weight (grams)

City Out of State City County Out of State County

State Country

**Mother**

Maiden Name

Last Name First Name Middle Name

**Refugee**

Refugee Status

REFUGEE  
ASYLEE  
PAROLEE  
SPECIAL IMMIGRANT (SIV)  
VICTIM OF TRAFFICKING  
IMMIGRANT  
DIVERSITY  
ADOPTEE  
VISA92  
VISA 93  
K-VISA  
OTHER NIV  
V1 VISA



# IIS Enhancements

- Added refugee filter to canned IIS reports
  - Patient Detail with Services report
  - Patient Roster report
  - Immunization Rates report
  - County/Zip Code Level Immunization Rates report
- Added security function to limit access to refugee status



Home

Patients

Immunizations

Reports/Forms

Version 20.2.2005.0

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[Third Party Notices](#)

# Immunization Rates [Learn More](#)

Cancel

Run Report

## Report Selection Criteria

Provider \*

SUNRISE COMMUNITY HEALTH CENTER

Clinic \*

SUNRISE MONFORT CHILDREN'S CLINIC

Report Type

☒ Appropriate Statistics Summary

☐ Patients not Properly Immunized Detail

Doses By Vaccine Series

Vaccine Series Dose Presets

DTaP/Tdap \*

0

Hepatitis A \*

0

Hepatitis B \*

0

HIB \*

0

HPV \*

0

Influenza \*

0

Meningococcal \*

0

MMR \*

0

Pneumococcal \*

0

Polio \*

0

Rotavirus \*

0

Varicella \*

0

Tdap (Or Pertussis Containing) \*

0

Age Range \*

From: 19

Through: 35

UOM: MONTHS

As Of Date Range \*

From: MM/DD/YYYY



Through: MM/DD/YYYY



Gender

(ALL)

Refugee Status

REFUGEE

ASYLEE

PAROLEE

SPECIAL IMMIGRANT (SIV)

VICTIM OF TRAFFICKING



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Health & Environment



August 06, 2020

## Immunization Rates (County/Zip Code Level) Appropriate Immunizations

County List = DENVER, DTaP/Tdap Series Count = 5, HepB Series Count = 3, MMR Series Count = 2, Polio Series Count = 4, Exclude = Y, Count Valid And Invalid Doses = N, Age Range = 4 - 6 (YEARS) As Of 01/01/2020 - 03/01/2020, Refugee Status = Refugee, Asylee, Parolee, Special Immigrant (SIV), Victim of Trafficking

	Full Data Set	Compliance Criteria Subset
Total Patients	72	
Total INACTIVE Patients	2	
Adjusted Total Patients	70	
Patients GIVEN appropriate number of doses of all indicated antigens	41 ( 58.57 )	( )
Patients NOT GIVEN appropriate number of doses of all indicated antigens	29 ( 41.43 )	( )
<b>Patients Given the following vaccine combinations:</b>		
Patients with at least 5 valid doses in the Tetanus containing/Tdap vaccine series	44 ( 62.86 )	( )
Patients with at least 4 valid doses in the Polio vaccine series	49 ( 70.00 )	( )
Patients with at least 2 valid doses in the MMR/Measles vaccine series	65 ( 92.86 )	( )
Patients with at least 3 valid doses in the HEPB vaccine series	65 ( 92.86 )	( )



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August 06, 2020

## Patient Detail with Services

Provider - METROPOLITAN COMMUNITY PROVIDER NETWORK, Clinic - STRIDE CHC ELMIRA CLINIC, From Vaccination Date - 01/01/2019, Through Vaccination Date - 06/01/2020, Refugee Status -  
 Refugee, Asylee, Parolee, Special Immigrant (SIV), Victim of Trafficking

		Default Clinic:		STRIDE CHC NORTH AURORA FAMILY HEALTH					
DOB:		Gender: Male	Patient Eligibility:		VFC--Medicaid				
Date	Clinic	Type	Lot #	Fund Source	Eligibility	Historical?	Invalid?	Created By	Last Updated By
07/18/2019	MEC	Hep A, Ped/Adol	PA99T	VFC	VFC--Medicaid				IMPORT, CIIS
07/18/2019	MEC	Hep B, Ped/Adol	CP275	VFC	VFC--Medicaid				IMPORT, CIIS
07/18/2019	MEC	Polio-IPV	P1E70	VFC	VFC--Medicaid				IMPORT, CIIS
07/18/2019	MEC	Tdap	97NL3	VFC	VFC--Medicaid				IMPORT, CIIS
07/18/2019	MEC	VAR (Varivax)	S002394	VFC	VFC--Medicaid				IMPORT, CIIS
		Default Clinic:		STRIDE CHC ELMIRA CLINIC					
DOB:		Gender: Male	Patient Eligibility:		Not VFC Eligible				
Date	Clinic	Type	Lot #	Fund Source	Eligibility	Historical?	Invalid?	Created By	Last Updated By
02/14/2019	MEC	Influenza Quad Inj PF	ZA72G	Private	Not VFC Eligible			IMPORT, CIIS	IMPORT, CIIS
		Default Clinic:		ARDAS FAMILY MEDICINE					
DOB:		Gender: Male	Patient Eligibility:		Not VFC Eligible				
Date	Clinic	Type	Lot #	Fund Source	Eligibility	Historical?	Invalid?	Created By	Last Updated By
04/25/2019	MEC	Tdap	33CA7	Private	Not VFC Eligible				IMPORT, CIIS
06/07/2019	MEC	Hep B, Adult	P3ZF5	Private	Not VFC Eligible			IMPORT, CIIS	IMPORT, CIIS
06/07/2019	MEC	Td, P-Free	U6091AA	Private	Not VFC Eligible			IMPORT, CIIS	IMPORT, CIIS
		Default Clinic:		STRIDE CHC ELMIRA CLINIC					
DOB:		Gender: Male	Patient Eligibility:		VFC--Medicaid				
Date	Clinic	Type	Lot #	Fund Source	Eligibility	Historical?	Invalid?	Created By	Last Updated By
03/28/2019	MEC	Meningococcal B Reco	T66103	VFC	VFC--Medicaid			IMPORT, CIIS	IMPORT, CIIS
		Default Clinic:		STRIDE CHC ELMIRA CLINIC					
DOB:		Gender: Female	Patient Eligibility:		VFC--Medicaid				
Date	Clinic	Type	Lot #	Fund Source	Eligibility	Historical?	Invalid?	Created By	Last Updated By
03/28/2019	MEC	MCV4 (Menactra)	U6153AA	VFC	VFC--Medicaid			IMPORT, CIIS	IMPORT, CIIS
03/28/2019	MEC	Meningococcal B Reco	T66103	VFC	VFC--Medicaid			IMPORT, CIIS	IMPORT, CIIS



# Users

Cancel

 Links ▾

Update

**Modules** - Click on the checkboxes below to assign/revoke privileges for each available module.

	View	Add	Update	Delete	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Admin	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Billing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Campaigns	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CRA Quick Add	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Education	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunizations	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Inventory	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IZ Quick Add	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
NBS	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Patients	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Reports	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Treatments	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
VTrckS Interface	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Functions** - Assign the items below to assign/revoke application-specific privileges.

Available Items

ADD QUERIES TO QUERY MANAGER  
 ALLOW DUPLICATE VACCINATION OVE  
 ALLOW RUN NEW JOB OPTION  
 DELETE HISTORICAL PR IMMS

Selected Items

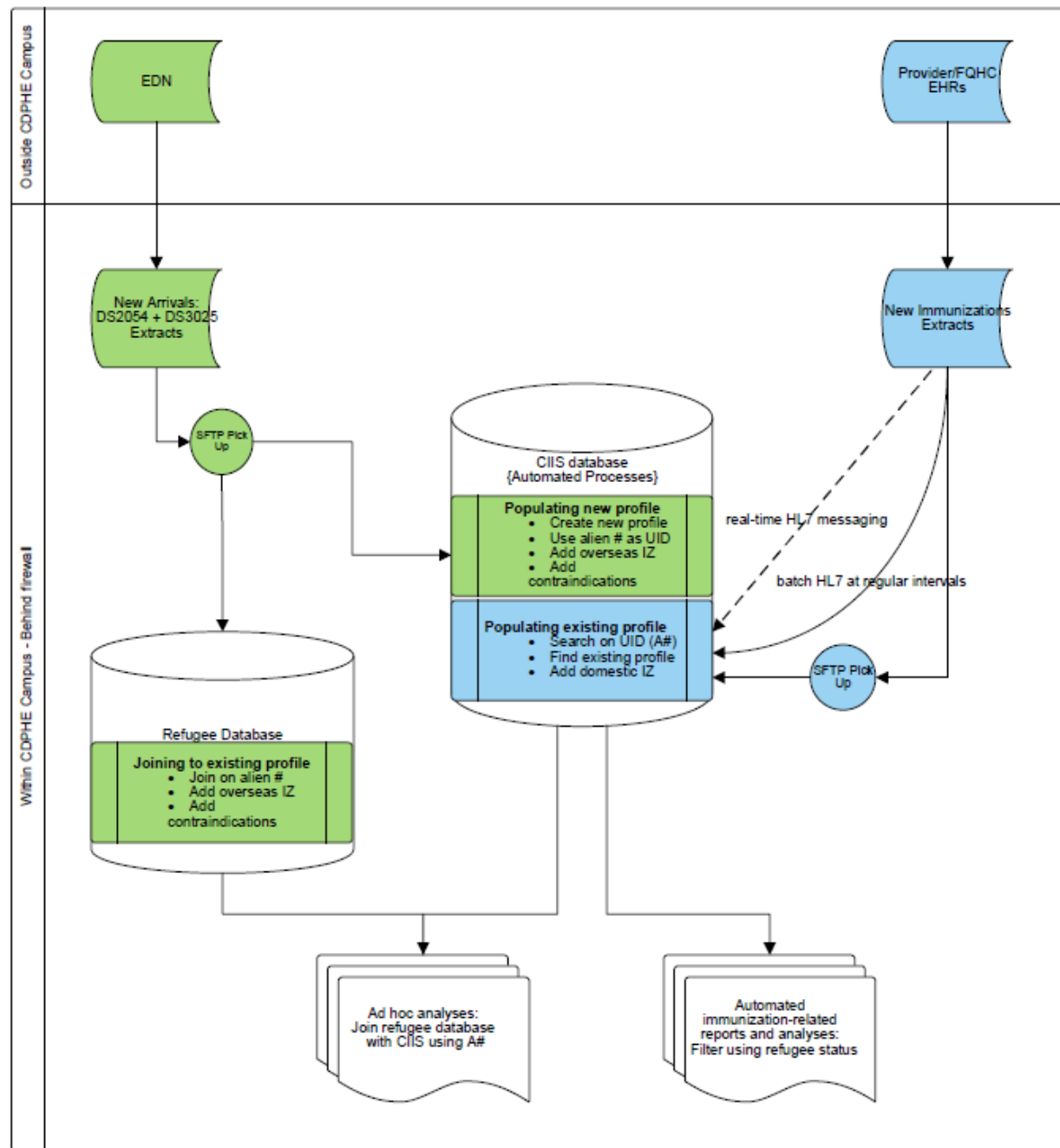
RECOMMENDER ADMINISTRATION  
 REOPEN CLOSED RECONCILIATIONS  
 SEE DECEASED  
 SEE OPT OUT PATIENTS  
 VIEW FULL SYSTEM ERRORS  
 VIEW PATIENT REFUGEE STATUS  
 VIEW SMARTY STREETS ADDRESS CO  
 VIEW USER SECURITY QUESTIONS  
 VTRCKS-EXTRACT PROVIDER ENDING  
 VTRCKS-EXTRACT PROVIDER FUND TY  
 VTRCKS-EXTRACT PROVIDER MASTER



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# Automation

- Joined data between:
  - CDC's Electronic Disease Notification system (overseas data);
  - CO Refugee Database (domestic medical exam); and
  - CIIS (domestic medical exam and post-DME immunizations)
- Automated creation of new patient records in CIIS
- Automated the addition of overseas immunization data into CIIS



COLOR KEY

  1st step in process (profile creation)

  2nd step in process (adding to existing profile)



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# Refugee Immunization Dashboards

- Compare refugee vaccination coverage at overseas, screening, and post-screening timeframes
- Use data to inform outreach and activities
  - Engage local public health and community partners
  - Understand where to focus scarce resources



Proportion of Refugees Up To Date for **Measles-Containing Vaccine** by Age Group and Timeframe  
Arrival Year(s): 2017



# Project Successes

- Increased connectivity between CDPHE programs
  - Refugee Health Program and CIIS coordinate regularly on projects now
- Increased connectivity between CDPHE and CDHS Colorado Refugee Screening Program (who oversees the domestic medical exam and resettlement in the state)
- Increased program efficiency by reducing duplicative data entry
- Improved ability to assess refugee vaccination coverage
- Providers serving refugees now have near-real time access to overseas refugee immunization information for review before refugee medical screenings

# Project Challenges

- Some manual processes remain
  - Downloading data from EDN and uploading to sFTP site for the automated process to begin
- A# and refugee status are sensitive
  - Additional processes and permissions were put into place to limit the ability of CIIS end-users to view this data or generate reports based on refugee status

# Future Plans

- Explore work with CDC to receive batched, automated data exports (to remove a manual step on the CDPHE side)
- Increase data partnership between Refugee Health and CIIS programs
  - Populate CIIS with primary language spoken from the Refugee Database
  - Use primary language to enhance outreach efforts with a health equity lens, including through centralized IIS-based reminder/recall

# Questions?

Heather Roth

[heather.roth@state.co.us](mailto:heather.roth@state.co.us)

# Opportunities & Barriers to Improve Immunization Rates among Medicaid-Covered Children & Pregnant Women: A Federal-State Partnership

AIRA 2020 National Meeting Webinar Series

August 25, 2020

Jill Rosenthal



# Project Overview

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**To identify solutions to immunization gaps and make progress toward immunization goals by:**

- Communicating national immunization program goals to state Medicaid leadership
- Identifying and sharing best practices among Medicaid programs
- Engaging Medicaid program leadership to identify solutions to immunization gaps
- Enhancing collaborative immunization efforts across pertinent state agencies and with CDC by identifying shared priorities and strategies

Partnerships between Medicaid and IZ programs are critical to improve immunization rates for children and pregnant women with Medicaid coverage

# Project Goals/Desired Outcomes

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1. At least four states will make changes to their Medicaid policies or outreach procedures to facilitate vaccination of children living in poverty
2. At least four states will implement policies that include providers caring for pregnant women and/or adults as covered vaccinators
3. At least four states will increase utilization of Medicaid resources for IIS sustainability



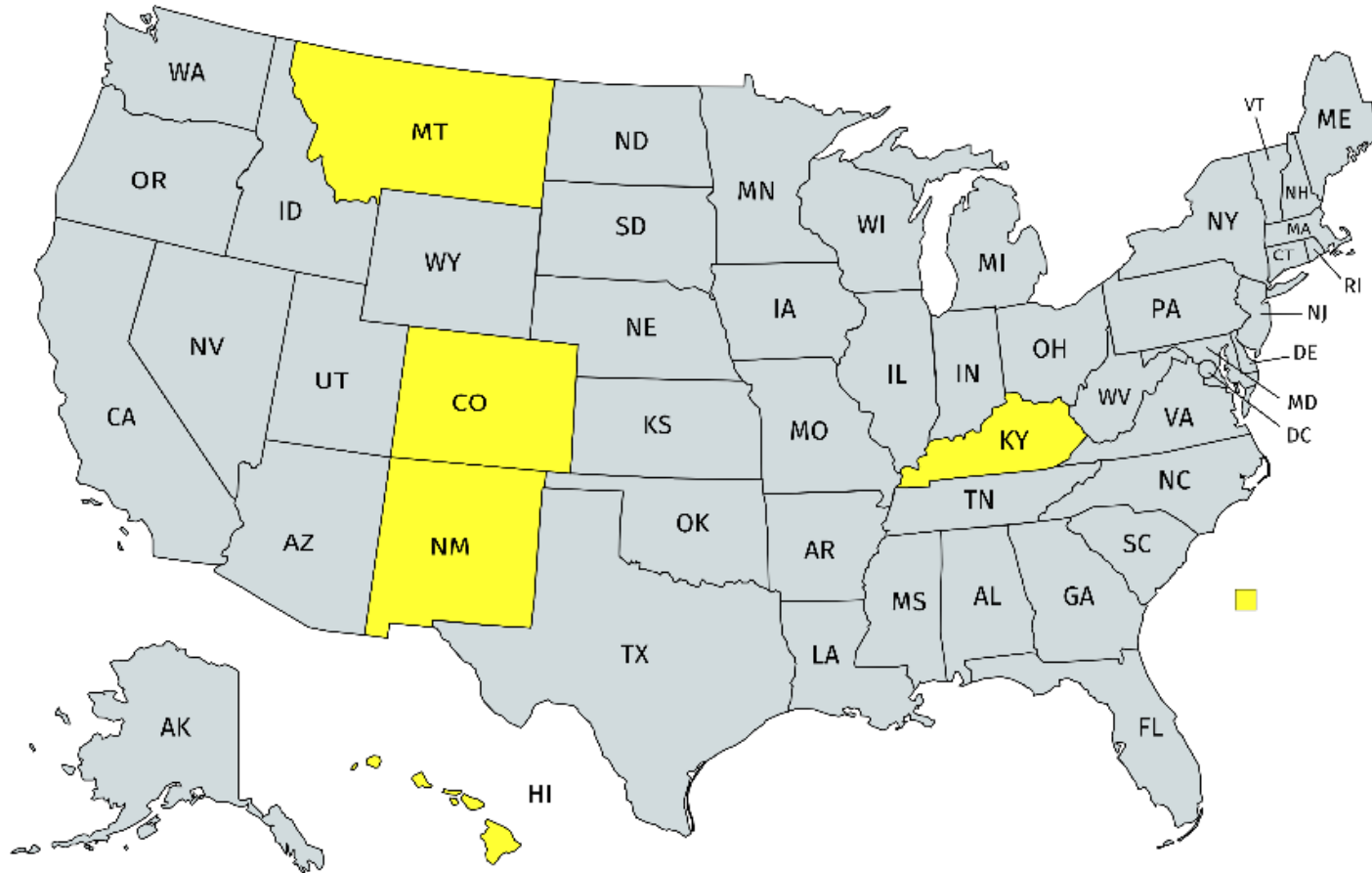
# Project Activities

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- Literature review/best practices scan
- Environmental Scan to assess CoP barriers and current practices
- Quarterly Steering Committee meetings, annually in-person
- Regular communication with CoP States
  - Ongoing technical assistance
  - Individual and all-state calls
  - Annual CoP Immunization Workshop
  - Monthly newsletter
- Regular communication with CDC and state Medicaid leadership to identify and share best practices

# Community of Practice (CoP) Participating States

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Multidisciplinary teams  
made up of Medicaid, IZ  
Program and IIS staff

# State Action Plan Goals

	CO	HI	KY	MT	NM
<b>Goal 1</b>	Generate Medicaid IZ rates for CO child and pregnant populations	Data Sharing Agreement b/t HI Medicaid & IZ Registry	Increase IZ rates for pregnant women	Evaluate the quality of data available for immunization decision making	Execute a successful interface b/t MMIS (Omnicaid) and NMSIIS
<b>Goal 2</b>	Engage partners to improve member education and messaging around IZ and well-child visits	HI IZ Registry Program Stop Gap measures	Increase adolescent HPV rates	Ensure stable funding for Immunization Registry (CHIP Health Services Initiative or 90/10)	ID strategies to increase IZ rates in Medicaid and low-income populations, specifically children & pregnant women
<b>Goal 3</b>	Develop provider strategy based on Goal 1 outcomes	Technology Modernization: Rebuild IIS/Interoperability	Establish the IIS as the source for quality data on IZs	Select interventions for immunization improvement	Submit IAPD to CMS for IIS sustainability
<b>Goal 4</b>	Increase resources for IIS sustainability				

# Common Barriers and Challenges

## Providers

- Provider education (i.e. maternal vaccines, HPV)
- Missed opportunities to recommend/deliver vaccine
- Few OB/GYNs participating in IIS or VFC
- Gaps in vaccine storage, billing capabilities
- Burdensome for providers to participate in/meet requirements for VFC program

## Access

- Rural and geographic barriers
- Considerations for special population (i.e. large American Indian populations)
- Need to address surveillance gaps and disparities in coverage between insured and Medicaid

## Data Challenges

- Policy, legal, technical limitations to integrate data IIS/Medicaid
- Need for analysis of whether pockets of need are related to access, provider practices, patient education or anti-vaccine movement
- Medicaid status not reported often enough in IIS to be able to analyze
- Limited capacity/staff
- Defining denominator to determine IIS participation
  - Differences in provider types between data systems
  - Uncertain numbers of clinics/providers beyond VFC

# Common Barriers and Challenges

## Funding

- Lack of funding and capacity to collect data and conduct interventions
- Lack of billing capabilities in local public health
- Funding cuts (i.e. IIS, Medicaid)

## Policies

- Participation in IIS, especially if opt-in
- Anti-vaccine movement actions
- Low reimbursement rates
- Variability in scope of practice and reimbursement policies for pharmacists
- CDC no longer requires collaboration with WIC
- Compliance with exemption legislation, school requirements, IIS participation mandates

# TA Request/Response Examples

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- **IIS Funding & Sustainability**

- Connections/clarification/resources around 90/10; 75/25; 50/50 match programs
- Example IAPD applications from other states

- **Cross Agency Collaboration**

- MOU examples
- FERPA interpretation resources
- Data use cases
- Performance Improvement Project (PIP)/Health Service Initiative models

- **Data**

- How other states have calculated IZ coverage among pregnant women with Medicaid
- IIS onboarding support/resources

- **Provider Outreach**

- Researching VFC participation strategies
- ACOG relationship-building

- **Community Outreach**

- School-based immunizations
- HPV materials

# Example CoP Successes

## CO

- Strengthened data capabilities and data sharing to calculate vaccination rates among pregnant women.
- Matched Medicaid and IIS data (98%).

## HI

- Enacted legislation requiring HPV vaccination for 7<sup>th</sup> grade enrollment.
- Developed data sharing MOU Medicaid/IIS.
- Successfully applied for CMS funding to support new IIS.

## KY

- Created immunization information dashboard for providers, data focused on adolescent and pregnant women.
- Enrolled VFC providers and onboarded pharmacies in IIS.

## MT

- Added pharmacies and non-pediatric immunizing healthcare practices who actively submit immunization data to IIS.
- Added childhood immunizations to Medicaid value-based programs.

## NM

- Successfully applied for CMS funding to upgrade IIS and hire health educators for NM DOH.
- Saw positive trends in Medicaid immunization data.

# Current and Future Considerations

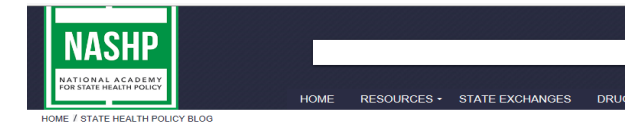
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- Effects of COVID-19 on state progress toward increasing immunization rates
  - Reduced well-child visits due to stay-at-home guidance and subsequent reduced IZ
  - Effects on value-based payment programs and incentive payments
  - Back-to-school IZ catch up opportunities
- Funding opportunities in support of data integration strategies
  - HITECH sunseting
- Medicaid incentives and metrics
  - Explore VFC and IIS participation strategies and incentives
- Expanded set of providers (i.e. pharmacists)
- Upcoming sharing of project results and lessons learned



# Disseminating Resources and Best Practices

- Blog posts, newsletters and resources
- [Project Resources - Google Drive](#)
  - [Monthly Newsletters](#)
  - [IIS Resources](#)
- [AcademyHealth Project Landing Page](#)
- [Immunize Colorado Resource Library](#)
- [NASHP Project Landing Page](#)



## State Medicaid Levers to Promote Immunization: California's Experience

By Rebecca Cooper | September 9th, 2019

Vaccines are a powerful and cost-effective tool to prevent diseases and save lives. Once common, deadly diseases such as polio, measles, and mumps are preventable and smallpox no longer exists outside of a laboratory. According to research estimates, of 4.3 million infants born in the United States in 2009, vaccines will prevent 40,000 deaths and 20 million illnesses over their lifetimes. Vaccinating children is also [cost effective](#), saving \$10.20 for every \$1 spent on immunizations.

Despite these successes, states are working to improve their immunization rates, which hovered at 68.4 percent nationwide in children ages 19 to 35 months in 2012. California is using an assortment of strategies and inducements to boost its immunization rates.

### How Can States Increase Immunization Rates through Medicaid?

Medicaid plays a key role in the delivery of vaccines, especially among vulnerable populations including children and pregnant women. Because Medicaid [covers](#) a large percentage of US children (39 percent), increasing childhood immunization rates among Medicaid beneficiaries can generate significant long-term savings. US Centers for Disease Control and Prevention (CDC) officials estimate that vaccinating children born between 1994 and 2018 has saved the United States about \$300 billion in direct medical costs and \$1.38 trillion in total costs, and protected millions from serious diseases.



Despite the availability of vaccines through Medicaid and the Vaccines for Children program, immunization rates for children and pregnant women enrolled in Medicaid remain [lower](#) than the rates for those with higher incomes or who are privately insured. In particular, disparities in vaccine coverage exist

# Contact Information

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# The Importance of Comprehensive Immunization Data for Quality Measurement



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# Presenters



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# Adult Immunization in the U.S.

**Adult immunization rates are low** across all CDC Advisory Committee on Immunization Practices (ACIP)-recommended vaccines.<sup>1</sup>

The **COVID-19 pandemic** has dramatically decreased vaccination rates for all age groups compared to previous years.<sup>2</sup>

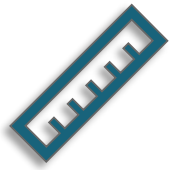
**Quality measures** can help providers measure performance, track quality improvement activities, and understand the vaccination status of their patient population.

## CDC Adult Immunization Rate Estimates<sup>3</sup>

Influenza	45.4%
Tetanus (Td/Tdap)	63.4%
Zoster (Shingles)	34.9%
Pneumococcal	24.5%

## What is a quality measure?

Tool that helps measure the healthcare processes, outcomes, patient experiences, and organizational structures associated with high-quality, evidence-based care.<sup>4</sup>



Typically counts the number of times something occurs out of the number of times something could have occurred, or how many patients are impacted out of a population of interest.



Can assess performance of a provider, system, health plan, or other population.



Data for measures may come from various sources.

# Adult Immunization Status (AIS) Measure

Percentage of individuals 19 years of age and older who are up-to-date on all age-appropriate, recommended vaccines.<sup>5</sup>

Measure	Description	Age Ranges
<b>Influenza</b>	Influenza vaccine received between July 1 of year prior to June 30 of measurement period.	19 and older
<b>Td/Tdap</b>	Td or Tdap vaccine within the past 10 years.	19 and older
<b>Zoster (Shingles)</b>	1 dose of live herpes zoster vaccine (Zostavax) or 2 doses of recombinant herpes zoster (Shingrix) vaccine on or after 50th birthday.	50 and older
<b>Pneumococcal</b>	Polysaccharide <u>and</u> conjugate vaccine $\geq$ 12 months apart on or after age 60.	66 and older
<b>AIS Composite Rate</b>	Percent of vaccines received out of all recommended vaccines based on age.	19 and older

\*Excludes adults from all rates with history of immunocompromising conditions or chemotherapy, bone marrow transplant or in hospice during the measurement year

# Adult Immunization Status (AIS) Measure

- Updates**
1. Removal of pneumococcal conjugate vaccine to align with updated guidelines
  2. No composite score

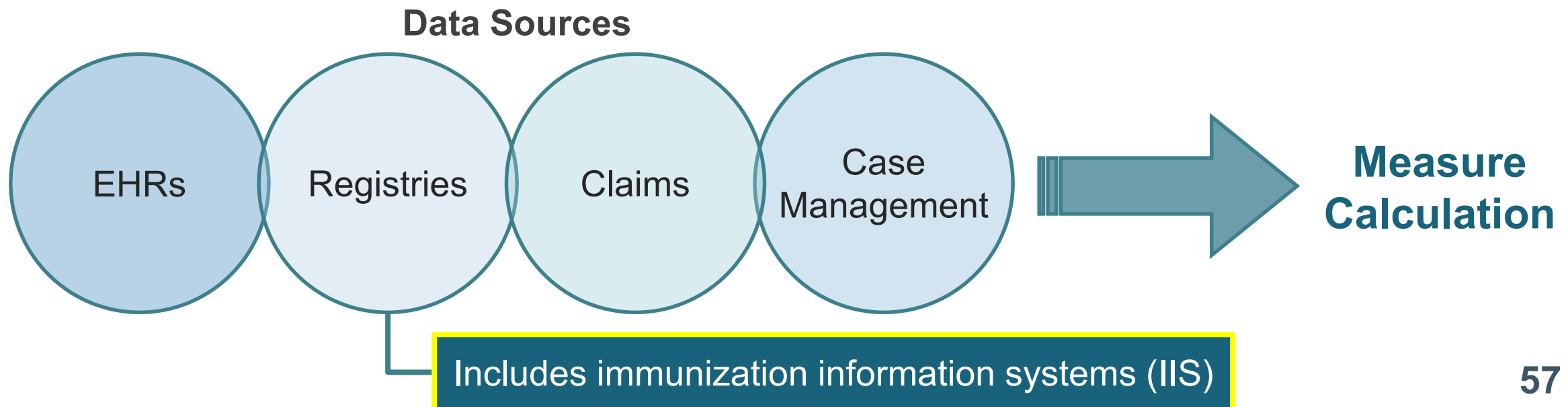
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<b>Zoster (Shingles)</b>	1 dose of live herpes zoster vaccine (Zostavax) or 2 doses of recombinant herpes zoster (Shingrix) vaccine on or after 50th birthday.	50 and older
<b>Pneumococcal</b>	At least one dose of the polysaccharide vaccine at or after age 60	66 and older

\*Excludes adults from all rates with history of immunocompromising conditions or chemotherapy, bone marrow transplant or in hospice during the measurement year



# Benefits of AIS Measure

1. Provides a comprehensive perspective on facilities' vaccination programs.<sup>6</sup>
2. Encourages vaccine providers to focus on ensuring patients are up-to-date on all recommended vaccines.
3. Electronic Clinical Data Systems (ECDS) measures encourage the use of health IT and interoperability between data sources.<sup>7</sup>



**Project Goal:** Understand AIS measure performance in medical groups and assess related data challenges and implications of measure use beyond health plans.

## Rationale

- AIS measure was only tested at the health plan level for HEDIS® use.
- It is unclear whether AIS measure is feasible for measuring performance of medical groups and providers in other quality programs, such as MIPS and MSSP.

## Methods

### Quantitative analysis

of retrospective, de-identified claims and electronic health data from three study sites to calculate AIS measure for two periods.

**Year 1:** 2016-2017

**Year 2:** 2017-2018

### Qualitative interviews

with representatives from three study sites to understand underlying challenges associated with capture and reporting of immunization data.

# Assessment of AIS Measure in Medical Groups



**Site 1**

Single-state health system  
in the East including  
PCMH

Smallest organization  
(200-500 employees)

Unidirectional exchange  
with IIS



**Site 2**

Multi-state ACO in Midwest

Largest organization  
(10,000+ employees)

Partial (some states)  
bidirectional exchange



**Site 3**

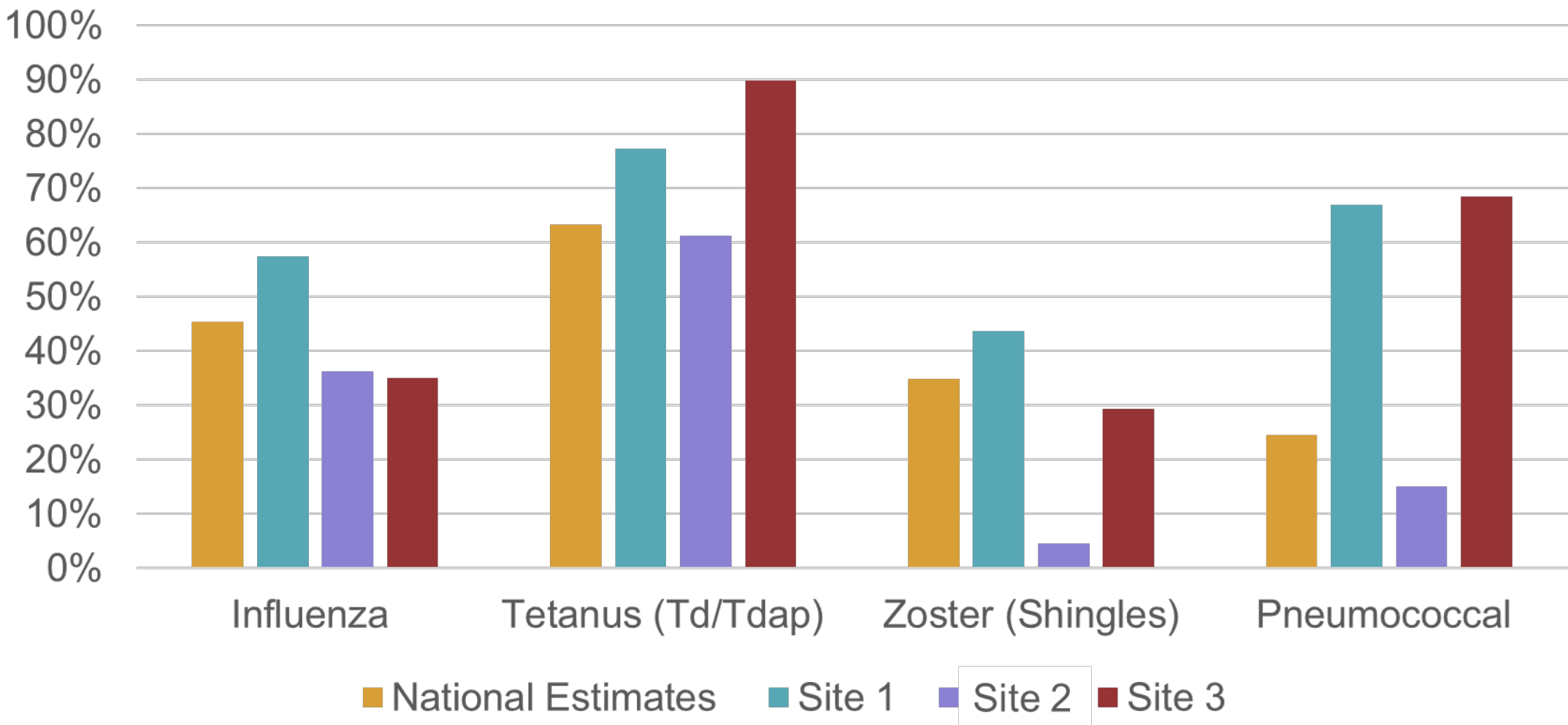
Single-state health system  
in Midwest

Medium-sized organization  
(1,000-5,000 employees)

Bidirectional exchange with  
IIS

# Key Quantitative Findings

Immunization Rates for Four Vaccines (Year 2)  
Compared to National Estimates



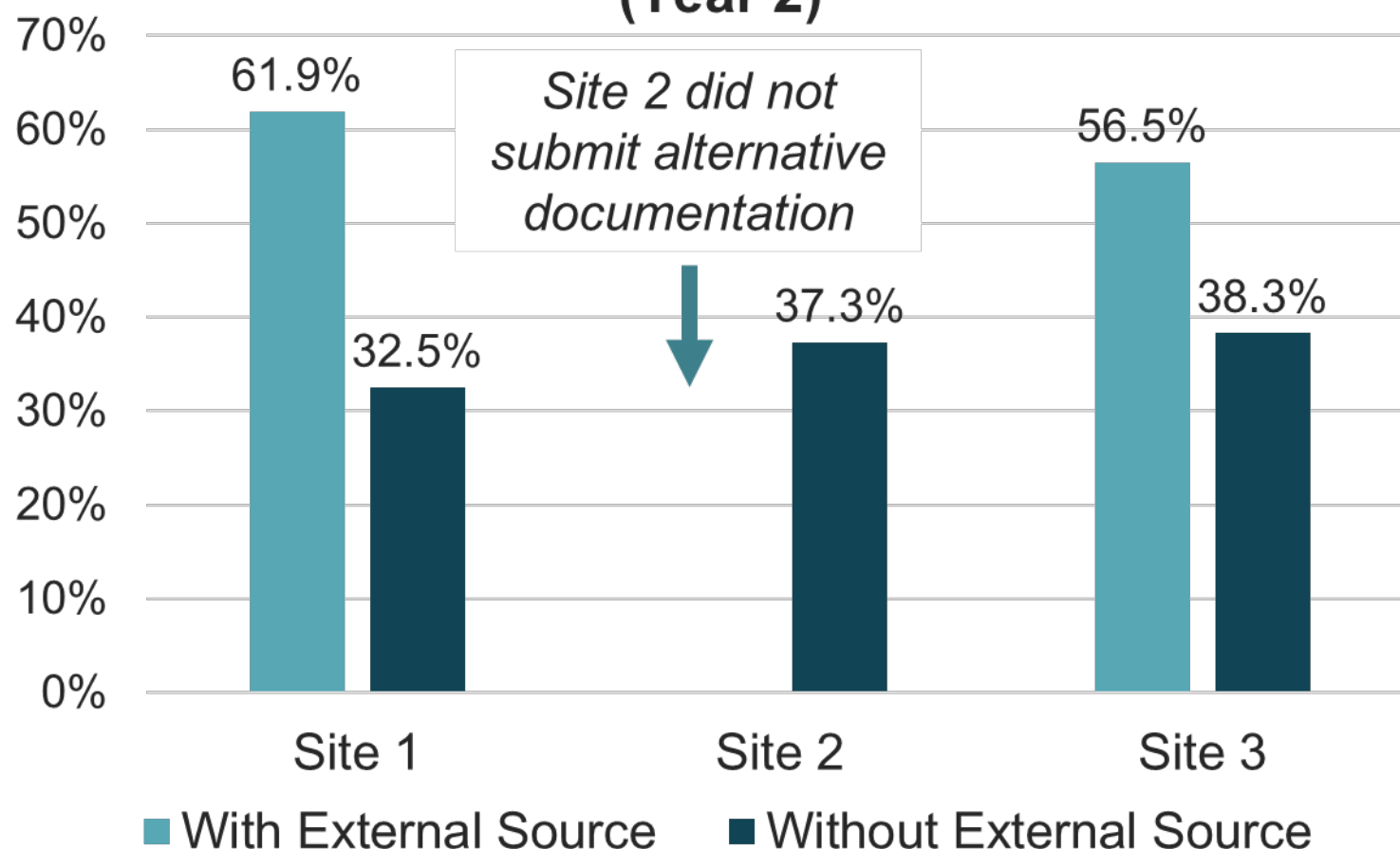
# Key Quantitative Findings

Sites could submit data for immunizations received outside the medical group (alternative documentation).

- Pharmacy records
- IIS
- Patient self-report (flu)

External sources of immunization data contributed remarkably to performance.

## AIS Composite Scores (Year 2)



# Key Qualitative Findings

Variation in data availability exists between the three medical groups and across states.

## **State-specific policies for immunization reporting**

In states where reporting by pharmacies is not required, pharmacies report fewer vaccinations to IIS.

## **Maturity of IIS**

In states with less advanced IIS, sites pull data from the registry to the EHR manually, which is resource-intensive.





The use of data from external sources like IIS provides a comprehensive view of immunization rates.



The AIS measure is feasible to use in medical groups and rates calculated using the measure are comparable to national estimates.



Including the AIS measure in quality programs (e.g., MIPS and MSSP) may help raise adult immunization rates to meet national goals and priorities.

1. <https://www.hhs.gov/vaccines/national-adult-immunization-plan/index.html>
2. <https://www.medscape.com/viewarticle/931913>
3. <https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/NHIS-2017.html>
4. <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures>
5. <https://www.ncqa.org/wp-content/uploads/2019/02/NCQA-AIS-PRS-Webinar-Slides-Feb-2019.pdf>
6. <https://www.izsummitpartners.org/content/uploads/2019/05/brkout-c-1-quality-wg.pdf>
7. <https://www.ncqa.org/hedis/the-future-of-hedis/hedis-electronic-clinical-data-system-ecds-reporting/>



# Thank you!



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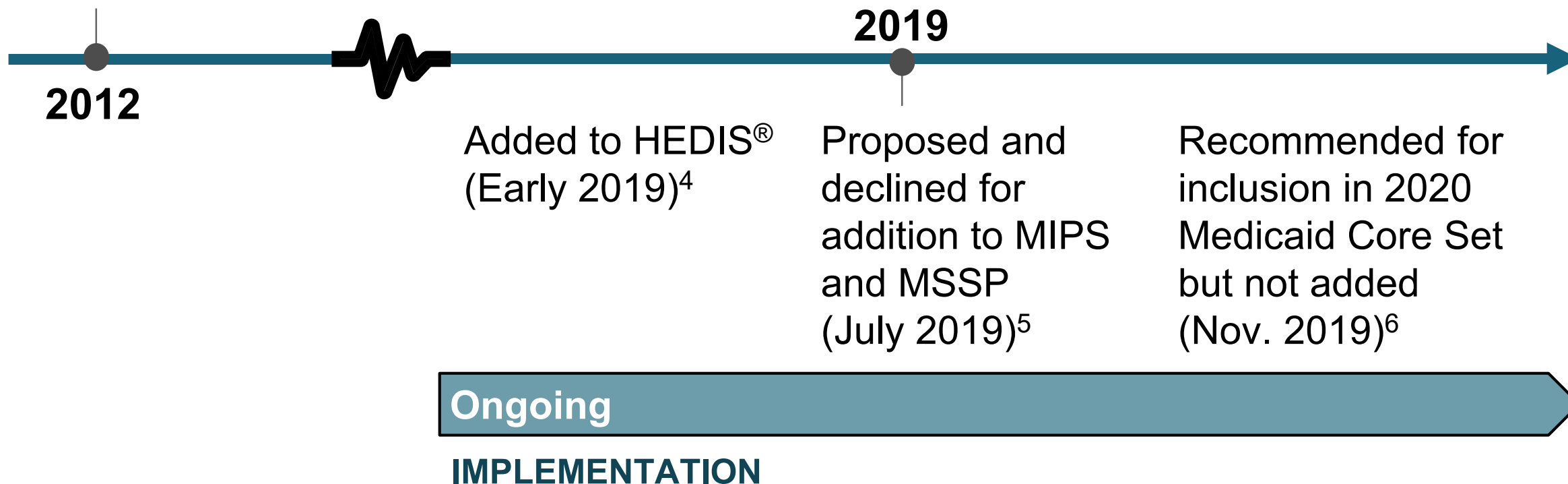
# Appendix

# Efforts in AIS Measure Development and Implementation



## DEVELOPMENT

Composite measure conceptualized during National Adult and Influenza Immunization Summit (NAIIS)<sup>1</sup>



- Not all sites submitted alternative documentation.
- Data collection directions given to site were intentionally broad; sites may have had interpreted what data to extract differently.
- While claims data was permitted, sites submitted only EHR data.
  - High proportion of data used for ECDS measures is administrative claims data.
- Availability of Shingrix and timing of data extraction were key factors.
- HEDIS® measure was specified for health plans so modifications and interpretations of the measure were made.