SURVEY OF IMMUNIZATION REPORTING TO IMMUNIZATION INFORMATION SYSTEMS (IIS) BY MAJOR U.S. PHARMACIES
DISCLOSURES

Alison Chi declares no conflicts of interest or financial interest in any product or service mentioned in this program, including grants, employment, gifts, stock holdings, and honoraria.

ASAP’s and NCPA’s education staff declares no conflicts of interest or financial interest in any product or service mentioned in this program, including grants, employment, gifts, stock holdings, and honoraria.
Following this presentation, attendees should be able to:

1. Describe the key functions of an immunization information system (IIS) as they relate to pharmacy practice.
2. Explain the legal and policy landscape regarding requirements for pharmacy reporting to IIS.
3. Describe the most common data submission methods from the pharmacy to the IIS.
OBJECTIVES

- Background - IIS & AIRA today
- Provide a high-level overview of legal & policy landscape
- Summarize methods, success & challenges of Pharmacy-IIS Interfaces
WHAT IS AIRA?

- Centralized core of activity for IIS development, standardization, and best practices
- Provides knowledge sharing/capacity building opportunities
- A membership organization for IIS staff & partners
WHAT IS AN IIS?

Immunization information systems (IIS), also known as immunization registries, are confidential, population-based, computerized databases that record all immunization doses administered by participating providers to persons residing within a given geopolitical area.
WHAT IS AN IIS?

At the point of clinical care, an IIS can provide consolidated immunization histories for use by a vaccination provider in determining appropriate client vaccinations.
WHAT IS AN IIS?

At the population level, an IIS provides aggregate data on vaccinations for use in surveillance and program operations, and in guiding public health action with the goals of improving vaccination rates and reducing vaccine-preventable disease.
Support the delivery of clinical immunization services at the point of immunization administration, regardless of setting.

Support the activities and requirements for publicly-purchased vaccine, including the Vaccines For Children (VFC) and state purchase programs.

Maintain data quality (accurate, complete, timely data) on all immunization and demographic information in the IIS.

Preserve the integrity, security, availability and privacy of all personally-identifiable health and demographic data in the IIS.

Provide immunization information to all authorized stakeholders.

Promote vaccine safety in public and private provider settings.
# How Does Immunization Data Get Into an IIS?

<table>
<thead>
<tr>
<th>Method</th>
<th>Advantages</th>
<th>Limitations</th>
</tr>
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<tbody>
<tr>
<td>Paper</td>
<td>• Supports data collection from non-computerized practices</td>
<td>• Timeliness</td>
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<tr>
<td></td>
<td>• Timeliness</td>
<td>• Requires data entry staff</td>
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<tr>
<td>Direct Data Entry (DDE)</td>
<td>• Updates IIS in real-time</td>
<td>• Timeliness</td>
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<tr>
<td></td>
<td>• Clinical support tools accessible to users</td>
<td>• Data quality</td>
</tr>
<tr>
<td></td>
<td>• No additional software required at provider site</td>
<td>• Data completeness</td>
</tr>
<tr>
<td>Flat File (FF)</td>
<td>• Electronic format</td>
<td>• Requires unique, non-standard formatting</td>
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<tr>
<td></td>
<td>• More complete data</td>
<td>• Not automated</td>
</tr>
<tr>
<td></td>
<td>• No additional software required at provider site</td>
<td>• Data quality</td>
</tr>
<tr>
<td>HL7</td>
<td>• Standardized electronic format</td>
<td>• Time- and resource-consuming to implement</td>
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<tr>
<td></td>
<td>• More complete data</td>
<td>• Providers may still have to access IIS website to receive all benefits</td>
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<tr>
<td></td>
<td>• Mostly automated</td>
<td>• IIS (forecasting, reports, reminder recall)</td>
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<td>• Can be bi-directional</td>
<td>• EHR challenges</td>
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Percentage of children aged < 6 years participating in an immunization information system -- United States, five cities§, and D.C., 2013

National Participation: 90% (excluding Territories)
Source: CY2013 IISAR

§ Chicago, IL; Houston, TX; New York City, NY; Philadelphia, PA; San Antonio, TX.
Percentage of adolescents aged 11 – 17 years participating in an immunization information system -- United States, five cities§, and D.C., 2013

National Participation: 64% (excluding Territories)
Source: CY2013 IISAR
§ Chicago, IL; Houston, TX, New York City, NY, Philadelphia, PA; San Antonio, TX.
Percentage of adults aged ≥19 years participating in an immunization information system -- United States, five cities§, and D.C., 2013

National Participation: 32% (excluding Territories)
Source: CY2013 IISAR

§ Chicago, IL; Houston, TX; New York City, NY; Philadelphia, PA; San Antonio, TX.
IIS LEGISLATION

A recent CDC legislative survey of all states plus Washington DC revealed that:

- 53* IIS authorized to collect immunization records
- IIS in 49 of 50 states plus Washington DC & 3 cities
- 47 of 50 states plus Washington DC are lifespan IIS
- 42 of 50 states plus Washington DC are opt-out IIS for adults

53 JURISDICTIONS AUTHORIZED TO OPERATE IIS FOR CHILDREN

- Laws authorize operation of IIS, 36, 68%
- Laws authorize sharing of immunization information, 6, 11%
- Laws allow sharing of health care information, 1, 2%
- Rely on general public health statues or regulations, 10, 19%

Source: IIS: A Decade of Progress in Law and Policy;
http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_Information_Systems
51 JURISDICTIONS AUTHORIZED TO OPERATE AN IIS FOR ADULTS

Laws authorize operation of IIS: 27 (53%)

Laws allow sharing of health care information: 3 (6%)

Laws authorize sharing of immunization information: 8 (16%)

Rely on general public health statues or regulations: 13 (25%)

Source: IIS: A Decade of Progress in Law and Policy;
http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_Information_Systems
REPORTING MANDATES:
~31 OF 53 JURISDICTIONS HAVE MANDATES

No mandate; 22; 42%

Mandate at least 1 type of provider/entity to report; 31; 58%

Source: IIS: A Decade of Progress in Law and Policy; http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_INFORMATION_Systems
JURISDICTIONS WITH REPORTING MANDATES
WHO IS MANDATED TO REPORT?

31 Jurisdictions

- Pharmacies/pharmacists: 22
- Private providers: 21
- VFC providers: 23
- Public health providers: 27
- All immunization providers: 21

Source: IIS: A Decade of Progress in Law and Policy; [http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_Information_Systems](http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_Information_Systems)
FOR WHOM DO SHOTS GET REPORTED?

31 Jurisdictions

- only young children (upper age limits of 6 or 7 years old) - 2
- immunizations for children/adolescents/young adults (upper age limits ranging from 10 to 26 years) - 17
- all immunizations for all age groups - 12

Source: IIS: A Decade of Progress in Law and Policy; http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_Information_Systems
CONSENT: CHILDHOOD IMMUNIZATIONS

53 jurisdictions

- 3 jurisdictions require explicit consent.
- 2 jurisdictions can share without consent, with opt out.
- 12 jurisdictions can share without consent, without opt out.
- 36 jurisdictions rely upon implied consent to share with IIS, with right to opt out.

Source: IIS: A Decade of Progress in Law and Policy; http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_Information_Systems
CONSENT: CHILDHOOD IMMUNIZATIONS
CONSENT: ADULT IMMUNIZATIONS:

51 jurisdictions

- 8 jurisdictions require explicit consent.
- 1 jurisdiction allows sharing without consent with opt out.
- 8 jurisdictions allow sharing without consent without opt out.
- 34 jurisdictions rely upon implied consent to share with IIS, with right to opt out.

Source: IIS: A Decade of Progress in Law and Policy; http://journals.lww.com/jphmp/Abstract/publishahead/Immunization_Information_Systems
IIS CHALLENGES & SUCCESSES

**Successes**
- 49 states have IIS and 50th is in development
- Most able to electronically exchange information
- Many standardized many operations/functions
  - Patient de-duplication
  - Vaccine data quality
  - Patient status
  - Vaccine forecasting

**Challenges**
- Percentage of adults in IIS still low
- Policy issues still exist
- Can’t easily exchange data with another state (but there is hope!)
- Implementing standards takes time & lacks mandate
- Still many areas to standardize
“SURVEY OF IMMUNIZATION REPORTING TO IIS BY MAJOR U.S. PHARMACIES”
HTTP://WWW.IMMREGISTRIES.ORG/RESOURCES/AIRA_PHARMCY_IIS_WHITE_PAPER.PDF

Published January 2014

Survey Purpose:
- Examine work to connect IIS & Pharmacies
- Identify pharmacies providing immunizations
- Identify pharmacies reporting vaccinations administered to IIS
  - Ascertain nature and quality of data received
- Capture successes and challenges
- Identify efforts to increase pharmacy reporting to IIS
METHODS

Phase 1: Online survey issued to all State, Territory, and Local IIS CDC Awardee Projects

Phase 2: Interviews with representatives from the five largest pharmacy chains actively interfacing with IIS in multiple states
PHARMACY INTERVIEW
PURPOSE

- Improve understanding of pharmacy approach to vaccination and reporting
- Provide balance and validation of IIS Survey responses
RESULTS
MAP OF IIS SURVEY RESPONSES
MAJOR FINDINGS

Of state and project areas responding to survey (n=45)

- Pharmacies allowed to provide vaccinations in 42 (93%)
- Pharmacies report doses administered to IIS in 36 (80%) jurisdictions
- Pharmacies required to report in 22 (49%)
- Pharmacists will generally administer whatever vaccinations allowed in accordance with individual state laws
MOST COMMON DATA SUBMISSION METHODS & FREQUENCY

Flat files loaded manually (26%), HL7 batch (25%) and Manual data entry (23%)

For Electronic Interfaces:
- Weekly data feeds (42%)
- Daily feeds (28%)
For pharmacies reporting electronically (n = 64) multi-site feed including all sites/clinics in jurisdiction most common practice (83%)

For manual submissions (n=22), data entry is almost always performed at the individual site/clinic level (82%)
MOST COMMON TRANSPORT METHODS
FTP/SFTP (47%)
SOAP over HTTP(s) (24%)
TYPES OF VACCINATIONS REPORTED BY FREQUENCY
SUCCESSES

- Significant increase in adult immunization records
- Improved quality of adult data
- Improvement of overall patient care
- System Improvements
CHALLENGES - IIS PERSPECTIVE

- Data quality issues
- Lack of unique patient identifiers
- Variations in patient’s name
- Lack of patient address
- Inability to collect required data elements
- Inability to generate file format supported by the IIS
CHALLENGES - PHARMACY PERSPECTIVE

- Restrictions on type of files IIS are willing/able to accept
- Limited IIS staffing resources and infrastructure
- State variations in IIS specifications
- IIS consent requirements mandated through state/local law
RECOMMENDATIONS
RECOMMENDATIONS

- Evaluate IIS reporting specifications to standardize for partners that span multiple states/jurisdictions
  - required fields, reporting methods supported, reporting timelines

- IIS not supporting current standards should establish & communicate implementation timelines to pharmacy partners

- Avoid requiring pharmacies to perform duplicate data entry
Assemble partners with ability to influence public health policy and pharmacy vaccination practice

Include pharmacy partners in immunization & IIS related meetings and educational opportunities whenever appropriate
RECOMMENDATIONS (CONT.)

- Leverage partnerships to increase Pharmacy-IIS interfaces and improve patient care.

- Consider future study opportunities to evaluate pharmacy data quality.
WHY IIS? A REMINDER

IIS create
comprehensive immunization records

IIS generate
reminders to ensure on-time immunization

IIS assist
with clinical decision support and forecasting

IIS assist
with vaccine ordering and inventory management
AIRA WEBSITE RESOURCES

www.immregistries.org
Thank you!

Danielle Reader-Jolley
Participating Immunization Information Systems
CVS
Kroger
Rite Aid
Safeway
Surescripts
Walgreens
QUESTIONS?

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