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ONGOING DATA QUALITY REVIEW OF INCOMING ELECTRONIC DATA USING A WEB-BASED TOOL

May, 2018

Presented by: CIIS Data Quality Coordinators
Shunda Cotton
Sandra Rodriguez
TOPICS

➢ Ongoing Data Quality (DQ)
➢ Data Validation Web Based Tool
➢ Data Quality Reports
  ○ Completeness
  ○ Vaccine Quality
➢ DQ Report Card
➢ Data Stats
➢ Conclusion
ONGOING DATA QUALITY OVERVIEW

➢ Review of incoming electronic data submissions to ensure data integrity in the Colorado Immunization Information System (CIIS)

➢ Completeness of data elements and identify vaccine quality issues

➢ Generated reports
  ○ Measures how often meaningful data elements are found in the electronic database
  ○ Identifies immunizations issues that fall outside of the vaccine’s parameters
## ONGOING DATA QUALITY REVIEW

<table>
<thead>
<tr>
<th>What data is reviewed</th>
<th>When the data is reviewed</th>
<th>Why the data is reviewed</th>
<th>How much data is reviewed</th>
<th>How the data is reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIIS registry electronic immunization records</td>
<td>Six months after completion of the CIIS interface on-boarding process</td>
<td>This review is vital to ensure that the issues discovered during the CIIS interface on-boarding process are not recurring</td>
<td>The sample size</td>
<td>The evaluation of the electronic immunization records are processed through automated reports Generated reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Completeness</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Vaccine Quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WEB-BASED TOOL

<table>
<thead>
<tr>
<th>Batch Name:</th>
<th>Batch ID: 1030</th>
<th>Batch High: 105276810</th>
<th>Batch Low: 104933322</th>
<th>Site ID: -457</th>
<th>Site Code:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>236 total clients in batch</td>
<td>1895 total client services in batch</td>
<td>Date Range:</td>
<td>Location: VFC Yes</td>
<td>Add</td>
</tr>
</tbody>
</table>

**Selected Clients**

5 Total Selected clients

**Run Reports**

| ALL CLIENTS IN THE BATCH | SERVICE DATA FREQUENCY | CVX COUNTS | RUN REPORTS |

<table>
<thead>
<tr>
<th>Mark</th>
<th>Client ID</th>
<th>First Name</th>
<th>DOB</th>
<th>Age</th>
<th>Gender</th>
<th>Service Date</th>
<th>Client Location</th>
<th>Provider Location</th>
<th>CVX</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1021100</td>
<td></td>
<td></td>
<td>25 Year(s)</td>
<td>F</td>
<td>01/01/2015</td>
<td></td>
<td></td>
<td>9662</td>
</tr>
<tr>
<td></td>
<td>1021100</td>
<td></td>
<td></td>
<td>25 Year(s)</td>
<td>F</td>
<td>03/28/2014</td>
<td></td>
<td></td>
<td>9632</td>
</tr>
<tr>
<td></td>
<td>1021100</td>
<td></td>
<td></td>
<td>25 Year(s)</td>
<td>F</td>
<td>04/08/1986</td>
<td></td>
<td></td>
<td>9744</td>
</tr>
</tbody>
</table>
Completeness Report

Analyzes:
- demographic data
- immunization data
- identify required data elements below the passing thresholds set by CO

Measures how often the following data elements are transmitted in the electronic health record:
- patient address
- phone number
- vaccine lot ID
- manufacturer
- administering provider name
- dosage
- administered body site
- administered route
- vaccine expiration date
- mother/father/guardian name
- vaccine for children eligibility status
- vaccine funding source
- vaccine information sheet and given date
COMPLETENESS REPORT

**Site Code:**
- VFC Status: NO

**Client Counts**
- Clients: 484
- Client Age < 19: 3 (0.619835%)

**Client Demographics Details Included:**
- Mother’s Name: 0% (0 of 3)
- Father’s Name: 0% (0 of 3)
- Guardian Name: 0% (0 of 3)
- Mother/Father/Guardian Name: 0% (0 of 3) - Passing Score is 90%
- Address: 100% (484 of 484) - Passing Score is 95%
- Phone: 99% (478 of 484) - Passing Score is 95%
- Race: 0% (0 of 484)
- Ethnicity: 0% (0 of 484)
- Email: 0% (0 of 484)
- Language: 0% (0 of 484)
- Missing Client Id: 0

**Immunization Counts**
- Totals: 483
- Totals for Clients Age < 19:
  - Administered: 483
  - Administered Date Ranges: 02/21/2018 - 04/10/2018
- Total Historical: 0% (0)

**Immunization Details Included:**
- Lot ID count: 100% (483 of 483) - Passing Score is 100%
- Manufacturer count: 100% (483 of 483) - Passing Score is 95%
- Dosage: 100% (483 of 483) - Passing Score is 95%
- Vaccine Program Eligibility: 100% (3 of 3) - Passing Score is 90%
- Vaccine Funding Source: 100% (3 of 3) - Passing Score is 90%
- Administering Provider Name: 83% (399 of 483) - Passing Score is 95%
- Administered Body Site: 0% (0 of 475) - Passing Score is 95%
- Administered Route: 100% (483 of 483) - Passing Score is 95%
- Expiration Date: 99% (480 of 483) - Passing Score is 95%
- VIS Form Date: 0% (0 of 483) - Passing Score is 90%
Vaccine Quality Report

Analyzes immunization data elements that fall outside of the vaccine's parameters

Report searches for:
- Incorrect MVX code
- Administered vaccination with an unspecified CVX code
- Vaccine given outside of recommended vaccine age range
- Administration date given outside of the vaccine’s licensure date range
- Administered vaccination given outside of the vaccine’s expiration date
- Incorrect VIS edition date
# Vaccine Quality Report

<table>
<thead>
<tr>
<th>Vaccine Description</th>
<th>CVX</th>
<th>Service ID</th>
<th>Manufacturer</th>
<th>TradeName</th>
<th>Dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV</td>
<td>10</td>
<td>5</td>
<td>OTH</td>
<td>.5 ML</td>
<td></td>
</tr>
<tr>
<td>DTAP, S PERTUSSIS ANTIGENS</td>
<td>106</td>
<td>2</td>
<td>OTH</td>
<td>.5 ML</td>
<td></td>
</tr>
<tr>
<td>TO (ADULT); PRESERVATIVE FREE</td>
<td>113</td>
<td>1</td>
<td>OTH</td>
<td>.5 ML</td>
<td></td>
</tr>
<tr>
<td>DTAP-IPV</td>
<td>130</td>
<td>5</td>
<td>PMC</td>
<td>Quadrecel</td>
<td>.5 ML</td>
</tr>
<tr>
<td>DTAP-IPV</td>
<td>130</td>
<td>6</td>
<td>PMC</td>
<td>Quadrecel</td>
<td>.5 ML</td>
</tr>
<tr>
<td>INFLUENZA, HIGH DOSE SEASONAL</td>
<td>135</td>
<td>1</td>
<td>PMC</td>
<td>Fluzone High-Dose</td>
<td>.5 ML</td>
</tr>
<tr>
<td>INFLUENZA, SEASONAL, INTRADERMAL</td>
<td>144</td>
<td>5</td>
<td>PMC</td>
<td>Fluzone, intradermal</td>
<td></td>
</tr>
</tbody>
</table>

**Immunization Data Sent From Providers**

<table>
<thead>
<tr>
<th>Ref Description</th>
<th>Ref MVK</th>
<th>Ref Dosage</th>
<th>Age Low</th>
<th>Age Low Units</th>
<th>Age High</th>
<th>Age High Units</th>
<th>Age Licensee_Start Units</th>
<th>Age Licensee_End Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPV</td>
<td>0.3</td>
<td>6 Weeks</td>
<td>999</td>
<td>Years</td>
<td>01/02/1997</td>
<td>12/31/2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTAP, S pertussis</td>
<td>0.3</td>
<td>6 Weeks</td>
<td>6</td>
<td>Years</td>
<td>01/02/2002</td>
<td>12/31/2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TT (adult); preservative</td>
<td>0.3</td>
<td>1 Years</td>
<td>999</td>
<td>Years</td>
<td>01/02/2003</td>
<td>12/31/2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTAP-IPV</td>
<td>0.5</td>
<td>4 Years</td>
<td>6</td>
<td>Years</td>
<td>01/02/2008</td>
<td>12/31/2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTAP-IPV</td>
<td>0.5</td>
<td>4 Years</td>
<td>6</td>
<td>Years</td>
<td>01/02/2008</td>
<td>12/31/2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFLUENZA, HIGH DOSE 65+</td>
<td>0.5</td>
<td>65 Years</td>
<td>999</td>
<td>Years</td>
<td>01/02/2009</td>
<td>12/31/2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seasonal influenza, intradermal, preservative free</td>
<td>0.1</td>
<td>18 Years</td>
<td>64</td>
<td>Years</td>
<td>06/04/2011</td>
<td>12/31/2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Automatically Cross-Checked Against Reference Table**
<table>
<thead>
<tr>
<th>Whats Going On</th>
<th>Vaccine Description</th>
<th>CVX</th>
<th>Service ID</th>
<th>Manufacturer</th>
<th>TradeName</th>
<th>Dosage</th>
<th>ShotDate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Missing manufacturer code</td>
<td>IPV</td>
<td>10</td>
<td>5</td>
<td>OTH</td>
<td></td>
<td>.5 ML</td>
<td>12/21/2017</td>
</tr>
<tr>
<td>Missing manufacturer code</td>
<td>DTAP, 5 PERTUSSIS ANTIGENS</td>
<td>106</td>
<td>2</td>
<td>OTH</td>
<td></td>
<td>.5 ML</td>
<td>12/27/2017</td>
</tr>
<tr>
<td>Missing manufacturer code</td>
<td>TD (ADULT) PRESERVATIVE FREE</td>
<td>113</td>
<td>1</td>
<td>OTH</td>
<td></td>
<td>.5 ML</td>
<td>12/18/2017</td>
</tr>
<tr>
<td>Age too young</td>
<td>DTAP-IPV</td>
<td>130</td>
<td>5</td>
<td>PMC</td>
<td>Quadracel</td>
<td>.5 ML</td>
<td>01/02/2018</td>
</tr>
<tr>
<td>Age too young</td>
<td>DTAP-IPV</td>
<td>130</td>
<td>6</td>
<td>PMC</td>
<td>Quadracel</td>
<td>.5 ML</td>
<td>11/28/2017</td>
</tr>
<tr>
<td>Expired Vaccine</td>
<td>INFLUENZA, HIGH DOSE SEASONAL</td>
<td>135</td>
<td>1</td>
<td>PMC</td>
<td>Fluzone High-Dose</td>
<td>.5 ML</td>
<td>11/18/2016</td>
</tr>
<tr>
<td>Invalid VIS Date</td>
<td>INFLUENZA, SEASONAL, INTRADERM</td>
<td>144</td>
<td>5</td>
<td>PMC</td>
<td>Fluzone, intradermal</td>
<td></td>
<td>11/02/2012</td>
</tr>
</tbody>
</table>
• Results from data elements reviewed
  • Accuracy
  • Completeness
  • Assigned an overall rating of Pass or Fail

Report Card

Pass

No Action Needed

Fail

Action Needed

• Results displayed in the Findings Report
REPORT CARD

Ongoing Data Quality Report Card

- **Accuracy**: Electronic immunization records are checked for appropriate usage of vaccine based on vaccine manufacturer guidelines for licensure data and the age of the patient at the time of the vaccination. The coding of each immunization is also checked.

- **Completeness**: The Completeness values are reviewed to help gauge how often meaningful values are found in the electronic data sent from the EHR.

### Data Elements Reviewed

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Passed for Accuracy and Completeness</th>
<th>Data Quality Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient's first and last name</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Patient's Gender</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Patient's DOB</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Patient's Address</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Patient's Phone Number</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Parent/Guardian Name</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vaccination Admin Date</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vaccine Name</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vaccine Lot ID #</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vaccine Dosage (mL)</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Manufacturer/Trade Name</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Administered Route</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Administered Body Site</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vaccine Expiration Date</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Administered By</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>VIS Edition Date</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Date the VIS sheet was given</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>VFC Eligibility</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Funding Source</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Administering Clinic/Hospital</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>CVX/OPT code</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

### Ongoing Data Quality Review Purposes

Review post production electronic immunization records for completeness of data elements and to identify any vaccine quality issues and patterns of data entry errors, gaps and possible interface issues which can be identified without seeing the matching data from the EHR. This review will also look at the issues found during the data validation review to ensure that the issues found are not recurring.

**Pass**
# FINDINGS REPORT

## CIIS Ongoing Data Quality Report

### Issue Found During Data Validation

<table>
<thead>
<tr>
<th>What's Going On</th>
<th>COUNT</th>
<th>What's Seen</th>
<th>What Needs to Be Done</th>
<th>Issue Recurring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body site does not match</td>
<td>15</td>
<td>Charted Record vs. Electronic Record</td>
<td>World/Training</td>
<td>Consult EHR vendor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PO (Cml) vs. RA-Right Arm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Vaccine Quality Review Summary

<table>
<thead>
<tr>
<th>What's Going On</th>
<th>COUNT</th>
<th>What's Seen</th>
<th>What Needs to Be Done</th>
<th>Issue Recurring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administered Shot is Missing</td>
<td>2</td>
<td>TD is missing in the charted record</td>
<td>Work/Training</td>
<td>Consult EHR vendor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flu is missing in the electronic record</td>
<td></td>
<td>Re-trigger message</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>See Table</td>
</tr>
</tbody>
</table>

### Completeness Review Summary

<table>
<thead>
<tr>
<th>What's Going On</th>
<th>COUNT</th>
<th>What's Seen</th>
<th>What Needs to Be Done</th>
<th>See Table</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIS Form Date missing</td>
<td>1</td>
<td>0% (3 of 483)</td>
<td>Passing Score is 90%</td>
<td></td>
</tr>
</tbody>
</table>

### Vaccine Quality Report

The following tables contain discrepancies found during your site's ongoing data quality review with specific examples. Please review and complete each table below.

#### Table 1: What's Going On - Administered shot is missing

<table>
<thead>
<tr>
<th>Patient ID Name DOB</th>
<th>Vaccine &amp; Admin Date</th>
<th>What's Seen</th>
<th>What Needs to be Done and Questions</th>
<th>Response/Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXXXXXX DOB</td>
<td>TD (adult) abridged</td>
<td>Shot is missing in the electronic record sent from the EHR</td>
<td>Can this message be re-triggered if yes?</td>
<td></td>
</tr>
<tr>
<td>XXXXXXXX DOB</td>
<td>TD (adult) abridged</td>
<td>Shot is missing in the electronic record sent from the EHR</td>
<td>If Yes, data message was sent 16/21/16 and 10/1/16.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If No, please consult EHR vendor</td>
<td></td>
</tr>
</tbody>
</table>

#### Table 2: What's Going On - Incorrect CVX code

<table>
<thead>
<tr>
<th>Patient ID Name DOB</th>
<th>Vaccine &amp; Admin Date</th>
<th>What's Seen</th>
<th>What Needs to be Done and Questions</th>
<th>Response/Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXXXXXX DOB</td>
<td>TD (adult) abridged</td>
<td></td>
<td>The correct CVX code for Tenoxicam is 113. The CVX code may be mapped incorrectly or not updated in the EHR. Please consult with EHR vendor if needed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient ID Name DOB</th>
<th>Vaccine &amp; Admin Date</th>
<th>What's Seen</th>
<th>What Needs to be Done and Questions</th>
<th>Response/Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>XXXXXXXX DOB</td>
<td>TD (adult) abridged</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Statistics

- organization
- descriptive
- scientific
- analysis
- collection
- data
- experiments
- science
- theory
- mathematical
- interpretation
- statistical
- inference
- probability
- population
- sample
- science
- experiments
- theory
- mathematical
- interpretation
- statistical
- inference
- probability
- population
- sample
- science
- experiments
Total Patients: 5,768,266.
Total Vaccinations: 64,355,268.
Patients 0-6 mo: 564,375.
Patients 0-18 yrs: 1,774,528.
Patients 19+: 3,992,965.
Immunizations 0-18 yrs: 36,037,855.
Immunizations 19+: 28,314,902.
COMPLETENESS OF DATA ELEMENTS

Meeting thresholds vs. below thresholds

<table>
<thead>
<tr>
<th>Data Element</th>
<th>Meeting Threshold</th>
<th>Below Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother, Father, Guardian</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>Address</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>Phone</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>Lot ID</td>
<td>31</td>
<td>0</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>Dosage</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>Vaccine Program Eligibility</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Vaccine Funding Source</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Administered Provider Name</td>
<td>29</td>
<td>3</td>
</tr>
<tr>
<td>Administered Body Site</td>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>Administered Route</td>
<td>26</td>
<td>5</td>
</tr>
<tr>
<td>Expiration Date</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>VS Edition Date</td>
<td>23</td>
<td>8</td>
</tr>
</tbody>
</table>
VACCINE QUALITY ERROR REPORTING

- Invalid VIS Date: 109 errors
- Vaccine Formulation No Longer Available: 16 errors
- Incorrect Manufacturer Code: 14 errors
- Age Too Young: 11 errors
- Administered Body Site Error: 11 errors
- Incorrect CVX Code: 8 errors
- Expired Vaccine: 8 errors
- Missing Manufacturer Code: 5 errors
- Age Too Old: 3 errors
- Unspecified CVX Code: 0 errors
ON-BOARDING SITES WITH RECURRING DISCREPANCIES

- Onboarding Process Review Completed: 27 sites
- Onboarding Process Review Not Completed: 4 sites
- Recurring Discrepancies: 15 sites
- No Recurring Discrepancies: 12 sites
SPECIFIC RECURRING DISCREPANCIES FROM ON-BOARDING

- Incorrect VIS Edition Date: 95
- Incorrect Dosage Amount: 20
- Missing Dosage: 18
- Incorrect CVX Code: 18
- Expiration Date Missing: 8
- Shot Administered Incorrectly: 4
- Missing Manufacturer Code: 4
- VIS Sheet Not Given: 3
- Vaccinations Outside Recommended Age Range: 3
- Missing Body Site: 3
- Vaccine Given After Vaccine Was Discontinued: 2
- Incorrect Manufacturer Code: 0

Number of Discrepancies
COMPLETED ONGOING DQ REVIEWS

31 Ongoing DQ Reviews

- Pass: 68%
- Fail: 32%
NEW DISCREPANCIES

- VFC Eligibility and Funding Source do not match: 16
- Vaccine Dosage is Incorrect: 5
- Incorrect VIS Edition Date: 2
- Lot IDs are the same for two Different Vaccines: 1

Number of Discrepancies
CONCLUSION

● The automated reports expand the bandwidth of the CIIS staff to evaluate demographic and immunization data in the production environment
  ○ This has increased Colorado’s efforts to perform data quality reviews of electronic data
    ■ After completion of the IIS on-boarding process
    ■ To assess accuracy and completeness of the immunization data received

● Lessons Learn/Continuous improvement of Quality data
  ○ LOA (Letter of Agreement)
  ○ Internal review at site level
  ○ Accountability/ownership
  ○ Best practices
QUESTIONS
Colorado Department of Public Health & Environment-Immunization Branch

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Two Sides of a Coin

Interoperability from the IIS and Provider Viewpoints

Brandy Altstadter
May 16, 2018
OVERVIEW

- A BRIEF HISTORY OF INTEROPERABILITY AND IIS
- SCALING FOR VOLUME
- DATA QUALITY
- SECURITY, COMMUNICATION, AND EXTERNAL INFLUENCES
- PATIENT QUERIES
A BRIEF HISTORY OF INTEROPERABILITY AND IIS

EARLY DAYS
Direct data entry and flat files.

INITIAL HL7
Early HL7 projects and continued flat file interfaces.

HURRICANE KATRINA
Data shared with all 50 states.

MEANINGFUL USE
Stage 1 of Meaningful Use incentives providers to establish HL7 connections.

TODAY
80-90+% of data submitted via HL7 in many states. Continually increasing use of query.

- Mid-1990s
- Early 2000s
- 2005
- 2011
- 2019
PUBLIC HEALTH
Specifically Immunization Information Systems.

PRIVATE STAKEHOLDERS
IISs have many stakeholders, focusing primarily on the national perspective.
SCALABILITY

WHY IS IT IMPORTANT?
Wait! Everybody wants something from me…

And, it’s always different!
Wait! Everybody wants something from me…

And, it’s always different!
DATA QUALITY

WHY IS IT SO IMPORTANT?
I'm concerned about IIS quality. How good is the quality in the IIS?

What is the minimum I can send to the IIS?
## IIS DATA QUALITY

### Technical Testing
- Correctly formatted and fully populated HL7 messages
- Test to identify possible random technical transfer issues
- Test live patient data to verify what the IIS will ultimately get

### Data Quality Testing
- Ensure patient and immunization data is accurate, correct, and complete
- Review accuracy of codes
- Ability to send VFC Eligibility
- Accurate inventory tracking
PROVIDERS AND IIS DATA

Stay Compliant
- Meet state requirements
- Meaningful Use

Improve Patient Care
- Reduce the likelihood of giving a patient a vaccination they have already received
- Ensure patients receive the vaccines they need
- Feel confident recommending additional vaccines

Engage and Inform Patients
- The health care provider’s recommendation is a critical factor in the patient’s decision to get vaccinated
- Provide a complete record to patients

Coordinate Care
- Fully participate in information sharing between health care providers
- Improve communication between the provider and patient
WHAT ELSE?

SECURITY AND PRIVACY
Protecting the data.

COMMUNICATION
Talking the same language.

EXTERNAL INFLUENCES
Managing the chaos.
PATIENT QUERIES

KNOCK KNOCK
CLOSING IMMUNIZATION GAPS

Utilizing IIS Data with Queries

PATIENT MATCHING → DATA COMPLETENESS → MESSAGING TO PATIENTS
CDC guidance on adult immunizations states the following:

A healthcare provider recommendation is a critical factor in whether patients get the vaccines they need.

Routinely assess patient immunization status and strongly recommend vaccines that patients need, whether you stock the vaccines or not.

Recommending vaccines prompts more patients to get immunized.

VALUE
IIS provides value to providers and impacts patients on an individual level.

QUALITY
IISs continue to invest in high quality data:
Completeness + Accuracy = Improved Patient and Provider Confidence

REMOVE BARRIERS
More providers submitting data improves the experience for everyone.
VISIT US

If you are in or visiting the Phoenix area, let us know and come by our office.

We’re always happy to talk registries.

Call our executive assistant, Robin, at (480)745-8500 to schedule.

CONTACT INFO

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