Building a Sustainable Path Together
Immunization Reporting through HIEs in Colorado

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2013 AIRA Conference
Agenda

CIIS Overview
CORHIO Overview
Immunization Reporting Initiative
Time Savings and Gained Efficiencies
Lessons Learned and Best Practices
CIIS Data Sources

- Family Practice Clinics
- Community Health Centers
- Pediatric Clinics
- Local Public Health Agencies
- Indian Health Services
- Pharmacies
- Internal Medicine Clinics
- OB/GYN Clinics
- Hospitals
- Urgent Care Clinics
- School-Based Health Centers
- Rural Health Centers
- Health Plans
- Specialty Clinics

Colorado Immunization Information System (CIIS)
CIIS by the Numbers

- Total Patients: 3,924,430
  - 0-18 year olds: 1,618,795
  - 19+ year olds: 2,305,635
- Total Vaccinations: 42,340,552
  - 0-18 year olds: 29,387,538
  - 19+ year olds: 12,953,014
- Total Opt-Outs: 1,275
- Active Users: 3,400
# CIIS Interoperability Success

<table>
<thead>
<tr>
<th><strong># of clinics sending HL7 batch files to CIIS:</strong></th>
<th>217</th>
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</thead>
<tbody>
<tr>
<td><strong># of clinics real-time, bidirectional messaging with CIIS:</strong></td>
<td>88</td>
</tr>
<tr>
<td><strong>EHRs currently in production:</strong></td>
<td>AthenaHealth, Aprima, CareTracker, ClearPractice, eClinicalWorks, e-MDs, EMC Corporation (VaxTrax), Epic, GE Centricity, Intergy, MEDITECH, NextGen, RPMS, SuccessEHS, SureScripts, Systoc</td>
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<tr>
<td><strong>EHRs currently in pilot phase:</strong></td>
<td>AllScripts (Enterprise), Cerner, CPSI, Greenway, Sevocity/NueMD</td>
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CIIS Interoperability Challenges

- Limited resources (3 FTE)
- Centralized Office of Information Technology constraints
- Striking a balance between point-to-point interfaces and supporting HIE interfaces
- Ever-increasing demands related to Meaningful Use
- Bottlenecks in implementation process
- EHR configuration issues
- Clinic workflow issues → poor data quality
CORHIO Overview

Who We Are

- Colorado Regional Health Information Organization
- A nonprofit, public-private partnership
- The state-designated entity for health information exchange (HIE) in Colorado

Vision

- Shared health information for all individuals in every Colorado community promoting the **right care**, at the **right time** and the **right place**.

Goals for 2015

- Health information exchange deployed in every community
- 85% of providers are meaningful users of electronic health records (EHRs)
Vision for HIE

- No ‘Wrong Door’ for Patients
- Providers have access to a patient’s more complete health history *during the visit*
- Providers have access to the information needed to evolve with health reform (e.g., ACOs)
- Patients are active participants in their healthcare
- Communities and policy makers have access to aggregated, de-identified health data to improve community and public health
CORHIO By the Numbers

45 Hospitals Connected or in Implementation
(31 are already connected to the HIE)

120 Long-Term, Post-Acute Care, Home Health Facilities Connected or in Implementation

1,800+ Office-Based Physicians/Providers Connected or in Implementation

2,631,000+ Unique Patients With Clinical Data in the HIE

Number increases daily!
Data in the CORHIO Network

Hospitals

Public Health Departments

Laboratories

Radiology Centers

Reportable Conditions

Newborn Screening Results

Lab Results

Pathology Reports

Radiology Reports

Hospital ADT info

Consult Reports

Transcription Notes

Lab/Rad

Immunizations
CORHIO’s Public Health Initiatives

- Immunization exchange
- Electronic lab reporting (ELR)
- Newborn screening ordering and results
- Hospital cancer registry reporting
- e-Referral to Colorado QuitLine (smoking cessation program)
The Role of HIEs in Public Health

- Reduction of duplicative, point-to-point interfaces
- Enable Meaningful Use reporting
- Provide technical support for creation of interfaces
- Minimize manual data entry
- Improve data quality
- Increase bandwidth for Public Health programs
Immunization Reporting Initiative

- Submission of immunization data to CIIS from multiple data sources via CORHIO
- Initiated in 2010
- Long-term vision = bidirectional, real-time messaging
Pilot Success

- Pueblo Community Health Center went live in June 2013 with one-way HL7 batch file to CIIS
- To date, PCHC has sent 27,810 immunizations to CIIS through CORHIO interface

“The CORHIO interface to CIIS has saved Pueblo Community Health Center time and led to greater efficiency. Overall, it was a pleasant experience.”

--Chad Hess, RN, PA-C

Pueblo Community Health Center
<table>
<thead>
<tr>
<th>Provider</th>
<th>Planning/System Capability</th>
<th>Requirement Validation</th>
<th>Implementation</th>
<th>Parallel Validation</th>
<th>Support</th>
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</thead>
<tbody>
<tr>
<td>Pueblo Comm. Health Center</td>
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<td>Greenwood Pediatrics</td>
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<td>The Pediatric Center</td>
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<td>Hilltop Family Practice</td>
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<td>AgeWell Medical Associates</td>
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Estimated Time Savings for CIIS Staff

Interoperability Manager
Provides project management for all CIIS interfaces
5% time saved on each CORHIO interface

Data Interface Specialist
Primary contact for testing, message format validation, data mapping
20-30% time saved on each CORHIO interface

Data Quality Analyst
Performs required data quality review on all interfaces
0% time saved on each CORHIO interface
Gained Efficiencies

- EHR capability analysis
- Initial message testing
- Project management activities
  - Production message testing
  - Staging and data validation preparation
  - Data quality review of production data
  - Interface activation
  - Post Go-Live monitoring
Lessons Learned

- Knowledge transfer takes time
- Clear, consistent and frequent communication is key
- Some requirements are negotiable
- EHR proficiency among clinic staff differs widely
- Data quality review identifies changes that can be made to clinic workflow and/or retraining needs
Best Practices

- Convene and collaborate early and often.
- Dedicate a team to the project.
- Identify data needs and technical specifications that are negotiable.
- Hold regular meetings to keep project moving.
- Celebrate success!