

# Building a Sustainable Path Together

## Immunization Reporting through HIEs in Colorado



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Colorado Department  
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# Agenda



**CIIS Overview**

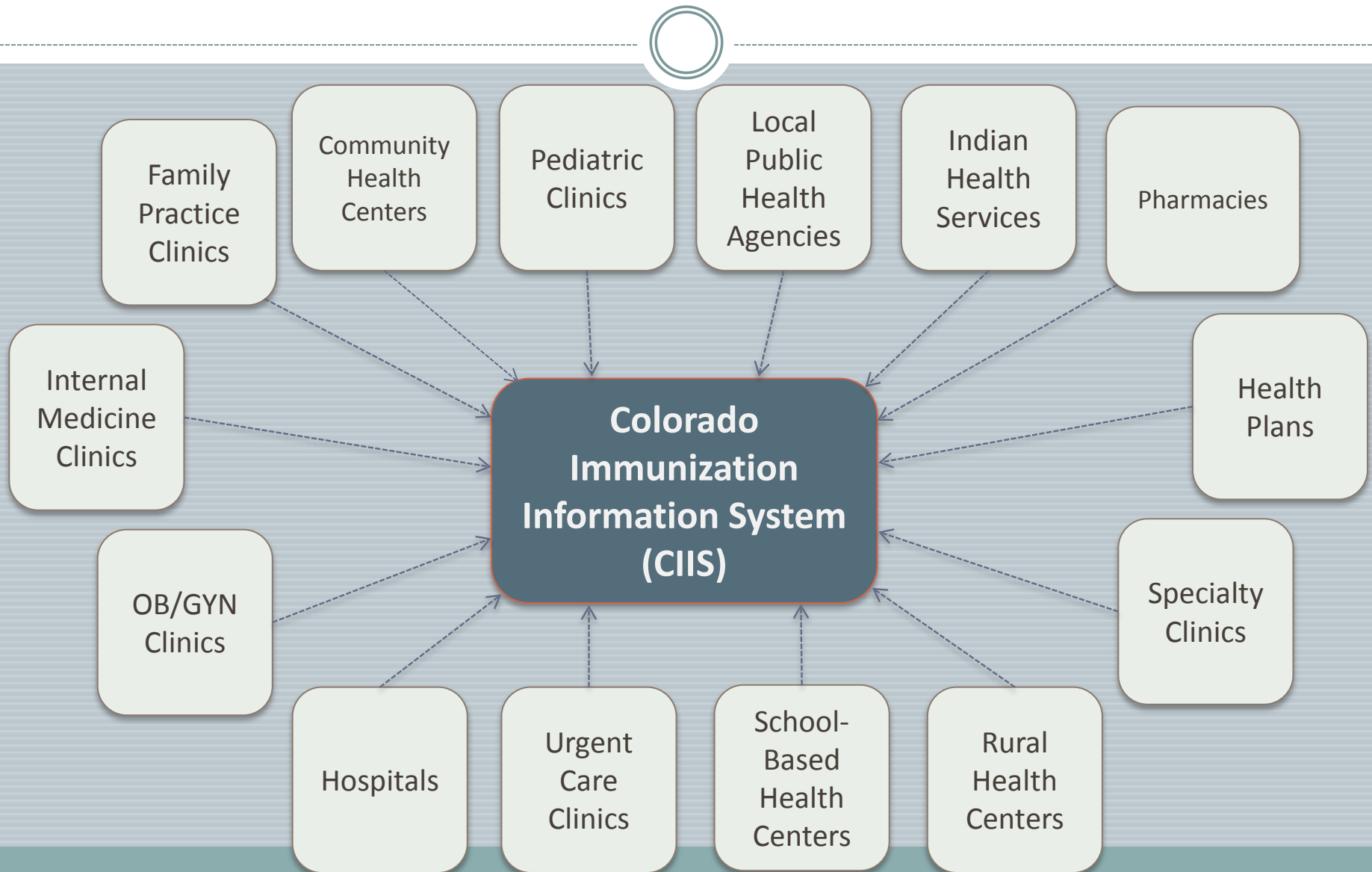
**CORHIO Overview**

**Immunization Reporting Initiative**

**Time Savings and Gained Efficiencies**

**Lessons Learned and Best Practices**

# CIIS Data Sources



# 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



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

# CIIS Interoperability Challenges



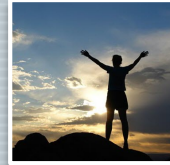
- Limited resources (3 FTE)
- Centralized Office of Information Technology constraints
- Striking a balance between point-to-point interfaces and supporting HIE interfaces
- Ever-increasing demands related to Meaningful Use
- Bottlenecks in implementation process
- EHR configuration issues
- Clinic workflow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

1,100+ Connected!

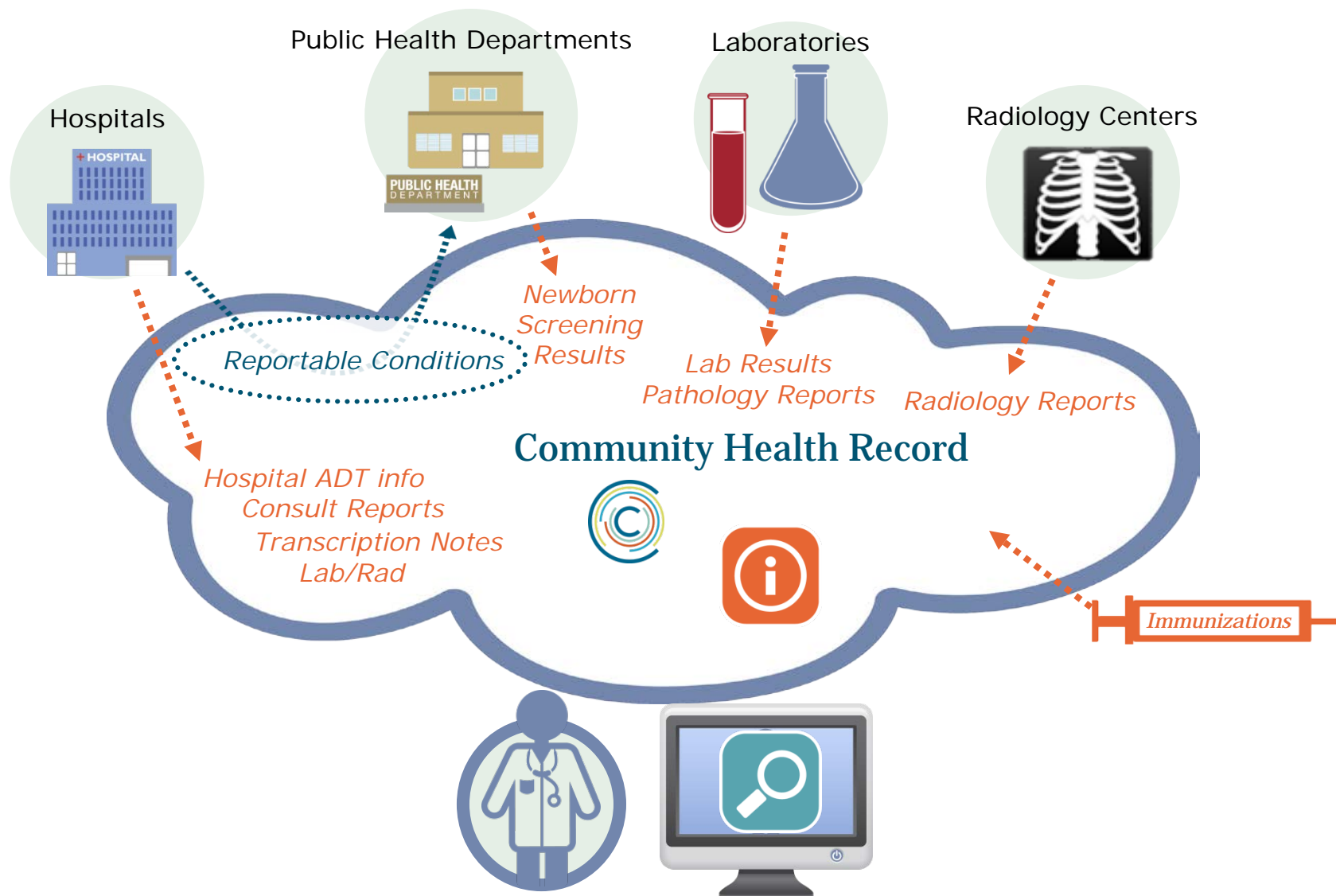
**Office-Based Physicians/Providers Connected or in Implementation**

**2,631,000+**

Number increases daily!

**Unique Patients With Clinical Data in the HIE**

# Data in the CORHIO Network



# 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*



**Pueblo  
Community  
Health Center**

# CORHIO Sites in Progress

Provider	Planning/ System Capability	Requirement Validation	Implementation	Parallel Validation	Support
Pueblo Comm. Health Center					X
Greenwood Pediatrics				X	
The Pediatric Center			X		
Hilltop Family Practice			X		
Long's Peak Family Practice	X				
Castle Valley				X	
Dr. Hinman		X			
Rocky Mtn. Youth Clinic	X				
Miramont Family Practice		X			
AgeWell Medical Associates		X			

# 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!**

# Thank You!



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