



# *Child Care and School Partnerships: Developing Functionality to Enhance IIS Usage*

Lorin Scott-Okerblom, MPH  
Health Educator  
Immunization Branch

Colorado Department of Public Health and Environment

# *Learning Objectives*

- Understand challenges facing users at schools and child cares using the immunization registry.
- Learn about solutions in Colorado to overcome challenges and increase immunization registry use.

# *Overview*

- Colorado Immunization Information System (CIIS)
- Challenges
- Functionality for Schools and Child Cares
- CIIS Enhancements
- Partnerships

# *Colorado Immunization Information System (CIIS)*

- CIIS became a web-based registry in 2001.
- 2007 became a life long registry.
- 2011 new CIIS application went live including participation from staff at schools and child cares.
- July 1, 2011 School nurses allowed to enter immunization and demographic information into CIIS.

## **Approximate CIIS Participation:**

- 90% of public school districts and 11% private schools.
- 5% of licensed child care centers.
- 72% of Head Start facilities.

# Overview

- Colorado Immunization Information System (CIIS)
- Challenges
- Functionality for Schools and Child Cares
- CIIS Enhancements
- Partnerships

# *Challenges*

- Registry usage from schools and child cares
- Immunization legislation and statutes
- Family Education Rights and Privacy Act (FERPA)

# *Colorado Solutions*

- Functionality for schools and child cares
- CIIS Enhancements
- Partnerships

# *Immunization Legislation*

In May 2014 the Colorado General Assembly passed House Bill 14-1288

## Requirements as July 1, 2014:

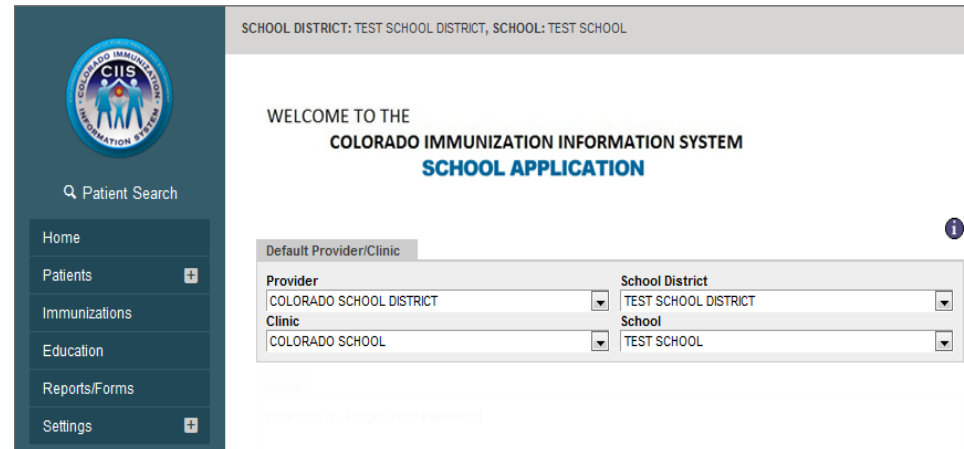
- Schools/child cares must make immunization and exemption rates publicly available, upon request.
- Colorado Board of Health (BOH) to make rules regarding:
  - Frequency of submitting immunization exemption forms
    - Child cares: non-medical immunization exemption forms would be submitted following the ACIP schedule
    - K-12th grade: non-medical immunization exemption forms would be submitted during annual enrollment/registration.
  - Submission of rates to CDPHE annually.

# Overview

- Colorado Immunization Information System (CIIS)
- Challenges
- **Functionality for Schools and Child Cares**
- CIIS Enhancements
- Partnerships

# Functionality for Schools and Child Cares

- CIIS has web application specific for school users.
- School nurses can add or update information.
- Child cares and Head Starts have access to view information only.
- CIIS Modules
  - Patients
    - Demographic
    - Notes
    - Precautions/Contraindications
  - Immunizations
    - Historical immunizations (nurses)
  - Education
    - Student enrollment in CIIS
  - Reports/Forms
  - Settings



The screenshot displays the CIIS School Application web interface. On the left is a dark blue sidebar with the CIIS logo at the top, followed by a 'Patient Search' button with a magnifying glass icon. Below this are menu items: 'Home', 'Patients' (with a plus icon), 'Immunizations', 'Education', 'Reports/Forms', and 'Settings' (with a plus icon). The main content area has a grey header bar stating 'SCHOOL DISTRICT: TEST SCHOOL DISTRICT, SCHOOL: TEST SCHOOL'. Below the header, it says 'WELCOME TO THE COLORADO IMMUNIZATION INFORMATION SYSTEM SCHOOL APPLICATION'. A section titled 'Default Provider/Clinic' contains two columns of dropdown menus. The first column, labeled 'Provider' and 'Clinic', has 'COLORADO SCHOOL DISTRICT' and 'COLORADO SCHOOL' selected. The second column, labeled 'School District' and 'School', has 'TEST SCHOOL DISTRICT' and 'TEST SCHOOL' selected. At the bottom of the main area, there is a 'Forgot Your Password?' link.

Default Provider/Clinic	
<b>Provider</b>	<b>School District</b>
COLORADO SCHOOL DISTRICT	TEST SCHOOL DISTRICT
<b>Clinic</b>	<b>School</b>
COLORADO SCHOOL	TEST SCHOOL

# Functionality for Schools and Child Cares

## Exemptions

- Schools can enter immunization exemptions into CIIS under the *Notes* section.

Add TEST, KAIT (3856685) DOB: 07/28/2014 AGE: 0Y 8M 3D

Create Cancel

Date: 03/31/2015 Type: REFUSED VACCINATION Vaccine: HEP B, PED/ADOL

Author: SCOTT-OKERBLOM, LORIN (-) Provider: COLORADO SCHOOL DISTRICT

School District: TEST SCHOOL DISTRICT

Note:

Refusal Reason:  
MEDICAL EXEMPTION  
RELIGIOUS EXEMPTION  
PERSONAL EXEMPTION  
DEFERRED

Create Cancel

View TEST, KAIT (3856685) DOB: 07/28/2014 AGE: 0Y 8M 3D

**Patient Immunization Record** Add History

DOB: 07/28/2014 Age: 0Y 8M 3D History of Varicella? NO Date of Varicella:

The patient has previously refused one or more vaccines.


# Functionality for Schools and Child Cares

## Education Module



- Both schools and child cares can manually enter the facility the child attends in CIIS.

**Education**

Click "View" to see the details of an existing record or "Add School Enrollment" to create a new record.

Add School Enrollment 

**View** TEST, KARA (444393) DOB: 06/07/2006 AGE: 8Y 9M 24D

School District	School	Enrollment Date	Unenrollment Date	FERPA Date	
Test School District	TEST SCHOOL	03/19/2015			 <a href="#">View</a>
Aspen 1	ASPEN COMMUNITY CHARTER SCHOOL	07/26/2013	03/18/2015	07/26/2013	 <a href="#">View</a>

## Education

Click "Create"/"Update" to save the record or "Cancel" to return to the previous page.



Add TEST, KARA (444393) DOB: 06/07/2006 AGE: 8Y 9M 24D

Create

Cancel

### School District

TEST SCHOOL DISTRICT



### School

TEST SCHOOL



### Author

LORIN SCOTT-OKERBLOM



### Student ID

111111111

### Enrollment Date

03/31/2015



### Unenrolled Date



### Grade Level

2



### Comments



### FERPA Consent

#### Date

03/31/2015



#### Method

MAIL



#### Relationship

PARENT



Create

Cancel



COLORADO

# *Functionality for Schools and Child Cares*

## Reports

- Immunization Rates
- Student Grade Advancement
- Student Roster

### School Nurse

**Immunization Rates**  
**Student Grade Advancement**  
**Student Roster**

**Report Selection Criteria**

**School District**  
TEST SCHOOL DISTRICT ▼

**School**  
TEST SCHOOL ▼

**Report Type**  
☒ Appropriate Statistics Summary  
☐ Patients not Properly Immunized Detail

**Doses By Vaccine Series**  
Vaccine Series Dose Presets  
▼

<b>DTaP/Tdap</b>	<b>Hepatitis A</b>	<b>Hepatitis B</b>	<b>HIB</b>
4	0	3	3
<b>HPV</b>	<b>Influenza</b>	<b>Meningococcal</b>	<b>MMR</b>
0	0	0	1
<b>Pneumococcal</b>	<b>Polio</b>	<b>Rotavirus</b>	<b>Varicella</b>
0	3	0	2

**Tdap (Or Pertussis Containing)**  
0

**Age Range**  
From: 5 Through: 12 UOM: YEARS ▼

**As Of Date Range**  
From: 03/31/2015 📅 Through: 03/31/2015 📅

**Grade Range**  
From: K ▼ Through: 5 ▼

**Compliance By**  
Age: MONTHS ▼ Or Date: 📅

☐ Exclude Patients with Less than 2 non- Influenza/H1N1 Vaccinations?

☐ Count both valid and invalid doses (i.e., Do not run Recommender to validate immunization history)?

**Run Report** **Cancel**

# Immunization Rates Report



## Immunization Rates - Appropriate Immunizations

School District = Test School District, School = TEST SCHOOL, DTaP/Tdap Series Count = 4, HepB Series Count = 3, Hib Series Count = 3, MMR Series Count = 1, Polio Series Count = 3, Varicella Series Count = 2, Age Range = 5 - 12 (YEARS) As Of 03/31/2015 - 03/31/2015, Exclude = N, Count Valid And Invalid Doses = N, Grade From = K, Grade Through = 5

	Full Data Set	
Total Patients	3	
Total INACTIVE Patients	0	
Adjusted Total Patients	3	
Patients GIVEN appropriate number of doses of all indicated antigens	1	( 33.33 )
Patients NOT GIVEN appropriate number of doses of all indicated antigens	2	( 66.67 )

### Children Given the following vaccine combinations:

Patients with at least 4 valid doses in the Tetanus containing/Tdap vaccine series	2	( 66.67 )
Patients with at least 3 valid doses in the Polio vaccine series	2	( 66.67 )
Patients with at least 1 valid doses in the MMR/Measles vaccine series	2	( 66.67 )
Patients with at least 3 valid doses in the Hib vaccine series	1	( 33.33 )
Patients with at least 3 valid doses in the HEPB vaccine series	2	( 66.67 )
Patients with at least 2 valid doses in the Varicella(CPOX) vaccine series	3	( 100.00 )

## Immunization Rates - Patients Not Properly Immunized

3938078 TEST, JIMMIE 10 E ORANGE ST DENVER, CO 80205			DOB: 12/31/2009		Remind:	Last: 03/20/2015
Primary Contact: CLAIRE TEST			(H):		(W):	
Mother: CLAIRE			County: DENVER			
Default Clinic: PHYLLIS MANUAL CLINIC			Relationship: MOTHER			Grade: K
			Father:			
			Local ID:			
Vaccination Group	Vaccination	Dose	Given On	Given At	Reason Invalid	
Tetanus containing	DTaP (Daptacel)	1	03/01/2010	PR		
	DTaP (Daptacel)	2	05/02/2010	PR		
	DTaP (Daptacel)	3	07/05/2010	PR		
	DTaP (Daptacel)	4	04/01/2011	PR		
	DTaP (Daptacel)	5	03/20/2015	TRP		
Polio	Polio-IPV	1	03/01/2010	PR		

# Student Grade Advancement

## Select Students to Advance

School District

TEST SCHOOL DISTRICT



School




TEST SCHOOL



Grade

K



	Patient ID	Name	DOB	Last Updated	Updated By
	3938078	TEST, JIMMIE	12/31/2009	Mar 24 2015 7:33AM	TESTER1
	3858679	TEST, KADEN	09/24/2009	Mar 23 2015 4:26PM	SCOTTLO

Search

Update

Cancel

# Student Roster

**Report Selection Criteria**


**School District**  
TEST SCHOOL DISTRICT ▼

**School**  
TEST SCHOOL ▼

**Grade Range**  
From ▼ Through ▼

**County of Residence**  
(ALL) ▼

**Group Report Totals by**  
☒ School District/School  
☐ County

**Enrollment Open as of**  
03/31/2015 

**Age Range**  
From: ▼ Through: ▼ UOM: ▼

**Sort by**  
☒ Alphabetical  
☐ Student Enrollment date  
☐ Most recent FERPA date

**Output Type** ☒ PDF ☐ EXTRACT - Delimiter: |

**Run Report** **Cancel**



## Student Roster

April 16, 2015

School District - Test School District, School - TEST SCHOOL, County - (ALL), Enrollment Date - 04/16/2015, Sort By - Alphabetical

### School District/School: Test School District / TEST SCHOOL

Name (ID)	Age	Date of Birth	Grade	Enrollment Date	Un-Enrollment Date	Most Recent FERPA Date
TEST, JIMMIE (3938078)	5Y 3M 16D	12/31/2009	K	04/14/2015		
TEST, KADEN (3856679)	5Y 6M 23D	09/24/2009	K	03/17/2015		
TEST, KARA (444393)	8Y 10M 9D	06/07/2006	2	03/19/2015		

Test School District / TEST SCHOOL Patient Totals: 3

Report Patient Totals: 3

# Overview

- Colorado Immunization Information System (CIIS)
- Challenges
- Functionality for Schools and Child Cares
- **CIIS Enhancements**
- Partnerships

# *CIIS Enhancements*

## Exemption Module

- Exemptions easier to enter and more easily accessible.
- CDPHE or school staff will enter exemptions into system from paper or online form.

## Exemption Report

- List students with exemption type and date claimed.
- Aggregate numbers on exemption types.
- Information on valid exemptions and flag students that need to complete new exemption form.

# CIIS Exemption Report

## Patients with Vaccine Refusals

Enter the selection criteria and click the 'Run Report' button.



## Report Selection Criteria

### Provider

COLORADO SCHOOL DISTRICT



### Vaccine



### Refusal Reason



### Refusal Date Range

From:   Through:  

### Age at time of Refusal Range

From:  Through:  UOM:



Output Type ☒ PDF ☐ EXTRACT - Delimiter:

Run Report

Cancel



## Patients with Vaccine Refusals

January 07, 2015

Provider = COLORADO DEPT OF PUBLIC HEALTH AND ENVIRONMENT, Refusal Date (from) = 05/16/2012, Refusal Date (through) = 01/07/2015

### COLORADO DEPT OF PUBLIC HEALTH AND ENVIRONMENT

Patient Name	DOB	Age	Note Date	Vaccine Refused	Refusal Reason
TEST, HARPER (2087582)	09/25/2004	10Y 3M 13D	01/07/2015	MMR	Personal Exemption
TEST, HENRY (2301274)	03/25/2007	7Y 9M 13D	05/03/2013	MMR	Personal Exemption
			08/04/2014	Tdap	Medical Exemption
			08/04/2014	Tdap	Medical Exemption
TEST, TEST (3565972)	10/05/2010	4Y 3M 2D	10/24/2014	Influenza, Seasonal	Personal Exemption
TEST, TI (3853840)	05/20/2008	6Y 7M 18D	05/20/2013	DTaP	Personal Exemption
			05/20/2013	Hep A, Ped/Adol	Religious Exemption
			05/20/2013	Hep B, Ped/Adol	Personal Exemption
			05/20/2013	Hib, PRP-T (ActHib)	Religious Exemption
			05/20/2013	Influenza, Seasonal	Personal Exemption
			05/20/2013	MMR	Personal Exemption
			05/20/2013	PCV-13 (Prenvar)	Religious Exemption
			05/20/2013	Polio-IPV	Religious Exemption
			05/20/2013	VAR (Varivax)	Religious Exemption
TEST, TILLY (3853828)	05/20/2012	2Y 7M 18D	05/20/2013	DTaP	Medical Exemption
TEST, TISTA (3975350)	10/07/1999	15Y 3M 0D	10/07/2013	Hep A,	
			10/07/2013	Hep B,	
			10/07/2013	Influenza,	
			10/07/2013	MCV4	
			10/07/2013	MMR	
			10/07/2013	Polio-IPV	
			10/07/2013	Tdap	
			10/07/2013	VAR (V	
TEST, TULIPINA (3853782)	05/20/2011	3Y 7M 18D	05/20/2013	DTaP	
TEST, TYSTAL (3975352)	02/07/2013	1Y 11M 0D	10/07/2013	DT, ped	

### Number of patients by vaccine refused

DT, ped	1
DTaP	3
Hep A, Ped/Adol	2
Hep B, Ped/Adol	2
Hib, PRP-T (ActHib)	1
Influenza, Seasonal	3
MCV4 (Menactra)	1
MMR	4
PCV-13 (Prenvar)	1
Polio-IPV	2
Tdap	2
VAR (Varivax)	2

### Number of patients by refusal reason

Medical Exemption	3
Personal Exemption	4
Religious Exemption	2

# *CIIS Enhancements*

## Student Roster Upload

- Upload a spreadsheet of all students
  - Return spreadsheet with all immunizations documented for students in registry.
    - Allows schools to use information from CIIS to update their own systems.
    - Enroll all students with school/school district or child care in CIIS.

# Overview

- Colorado Immunization Information System (CIIS)
- Challenges
- Functionality for Schools and Child Cares
- CIIS Enhancements
- Partnerships

# *Partnerships*

From HB 14-1288, CDPHE must work with other state departments to develop joint immunization data collection and data sharing policies

Through legislation and necessity, new relationships have been formed.

- Colorado Department of Education
  - Family Educational Rights and Privacy Act (FERPA) Guidance
  - Student directory information
  - Supporting training efforts to meet HB 14-1288 requirements
- Colorado Department of Human Services
  - Outreach and education with licensing

# *Conclusion*

There are many challenges that face child cares and schools from accessing and using the immunization registry. Colorado has focused on solutions to these issues to increase the usage and effectiveness of the registry and improve data.

- CIIS Functionality
- CIIS Enhancements
  - Exemption Module
  - Student Roster Upload
- Partnerships

# *Questions?*

Lorin Scott-Okerblom, MPH  
Health Educator  
Immunization Branch

Colorado Department of Public Health and Environment  
[lorin.scott-okkerblom@state.co.us](mailto:lorin.scott-okkerblom@state.co.us)