

## ABSTRACT

# Enhance public health data capacity through statewide health information exchange of immunization records

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## Objective

The goal of the immunization information exchange is to expand the Utah Statewide Immunization Information System (USIIS) interoperability to all private providers, especially those who are not a USIIS' user but participate in clinical Health Information Exchange (cHIE).

## Introduction

Utah Statewide Immunization Information System (USIIS) is the state immunization registry. It is connected to about 700 organizations, including 100% public health clinics, 60% of private providers, many schools, daycares, pharmacies, and Indian Health Services. Data exchange methods range from web data entry, batch file transfer, proprietary or HL7 data interfaces, and real-time exchange with Intermountain Healthcare's electronic health records (EHR). Clinicians in Utah ranked immunization data as one of the first five use cases for developing the statewide clinical Health Information Exchange (cHIE) in Utah Health Information Network. Utah Department of Health (UDOH) has collaborated with Utah Health Information Network to develop the immunization information exchange.

## Method

We used the agile project management method and developed a roadmap with two developmental tracks and two implementation phases. The two tracks are parallel efforts to develop (1) policies and standards, and (2) technical infrastructure. The first phase is to 'push' the USIIS consolidated immunization records to the cHIE Virtual Health Records (VHR) for provider to query. The second phase aims to 'pull' new immunization information from the cHIE Virtual Health Records into USIIS.

## Results

The policy track has completed following governance milestones: *The Electronic Commerce Agreement* is signed among all

Utah cHIE partners. This is a statewide agreement covering all Utah Department of Health (UDOH) programs' exchange with cHIE providers.

*Utah Department of Health enterprise-wide management policy and procedures* are developed on the basis of USIIS and Medicaid regulations and management protocols. Roles and responsibilities for operating and maintaining the interoperability among independent information systems and cHIE are defined.

*HL7 2.5.1 Immunization Standards with CDC CVX codes* are formally adopted for cHIE. USIIS has worked with UHIN Standards Committee to complete the implementation specifications for cHIE users.

The technical track for phase I has developed or is developing:

## The UDOH-HIE gateway

This gateway will serve all public health clinical information exchanges with cHIE. USIIS has loaded records to cHIE, including demographics, consolidated immunizations, contraindication, and exemption information. Weekly updates capacity is established as well.

## CVX codes mapping

Some EHRs use national drug codes (NDC) codes to store vaccine records in drug tables. According to the standards, cHIE is mapping USIIS' CVX codes with NDC codes in the cHIE Virtual Health Records.

*Displaying consolidated immunization information in patient summary* has been the cHIE's latest, hopefully the last challenge to accurately present immunization records from multiple sources for cHIE users.

## Conclusion

New policy and IT infrastructure are needed to enable public health to exchange clinical information through statewide HIEs. Immunization registry can be a good pilot to develop a roadmap for this endeavor.

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