Immunization Registry Cross-jurisdictional Data Exchange and Interoperability Pilot Project

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Office of the National Coordinator for Health IT
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• The Public Health Immunization Pilot Project was launched to address the need to share immunization across jurisdictional boundaries.

• Upon completion of the project providers will be able to request a patient’s record from another immunization registry and retrieve that data across jurisdictional boundaries.

• By creating a transport hub, participating pilot sites will be able to exchange immunization data across jurisdictional boundaries through the centralized hub via a SOAP Web Service utilizing adopted and approved standards for interoperability.
Funding sources

• CDC/National Center for Immunization and Respiratory Diseases (NCIRRD)
• National Vaccine Program Office (NVPO)
**Background & Context**

**Current IIS Data Exchange**
- Limited exchange across jurisdictions
- This exchange is currently done point-to-point; mainly batch files; not real time

**ONC Initiative**
- Pilot states will transfer data via a data hub with partner jurisdictions
- Pilot states will use an adapted version of the CDC Web Services Definition Language (WSDL)
- Pilot states will use the HL7 Immunization Implementation Guide V1.5 (HL7 2.5.1 IZ IG V1.5)

**Future?**
- All IIS will interface with the hub and exchange data with all other IIS
- All IIS will use the adapted CDC WSDL and HL7 IZ IG V1.5

**Advantage of HUB solution:**
- Promotes use of adapted CDC WSDL and HL7 IZ IG V1.5 which will drive interoperability
- Will improve use of bidirectional querying by IIS
- Scalable solution
  - More IIS can easily be added to the hub
  - IIS will be able to theoretically communicate with any other IIS on the hub
Goal:

- To enhance cross-jurisdictional immunization data exchange by:
  - Providing participating pilot sites with a data hub via which they can exchange immunization data
  - Committing pilot sites to implement the HL7 Immunization Implementation Guide V1.5 and use the adapted CDC WSDL

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  - More IIS can easily be added to the hub
  - IIS will be able to theoretically communicate with any other IIS on the hub
- HUB model looks at “envelope” only; does not open contents. PHI passes securely through HUB without being stored; enabled by WSDL updates.
### Project Scope

**It was determined that the following items would fall in and out-of-scope:**

#### In-Scope

- Using current bi-directional messages to enable the exchange
- Establishing a Data Hub that will be utilized by the pilots
- Allowing for the initiation of data exchange thru the following three methods: Physician directly to Immunization Registry; Physician via EHR to Immunization Registry; Consumer via Patient Portal
- Implementation of release 1.5 of IZ IG
- Updated WSDL (corrects issues and adds ability for intermediary player)

#### Out-of-Scope

- Dealing with policy issues around data exchange
- Editing/updating information in registries by Consumers
- No transformation, translation, or reading of message content as it passes thru the hub (hub does not store any patient information or data)
- IIS are responsible for determining requesting/responding partners. The hub will not ensure that requesters of information are authorized to receive immunization data
**Immunization Registry Inter-jurisdictional Interoperability Pilot**

### Phase I: Planning & Analysis
- Nov 2013 - June 2014

<table>
<thead>
<tr>
<th>Task</th>
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<tbody>
<tr>
<td>Create Project Roadmap</td>
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<tr>
<td>Environmental Scan of Existing Hub Products</td>
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<td>Stakeholder Identification and Outreach</td>
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<td>Develop Pilot Site Outreach Strategy</td>
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<td>Assess Current State of State Registries</td>
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<tr>
<td>Define Requirements for Data Hub/WSDL and Pilot Sites</td>
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<td>Identify Potential Pilot Sites and Conduct Pilot Site Outreach</td>
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<td>Finalize List of Participating Pilot Sites</td>
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<td>Pilot Sites Define Interface Technical Requirements</td>
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### Phase II: Design & Build
- July-August 2014

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<th>Task</th>
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<tr>
<td>Finalize Detailed Technical and Functional Design</td>
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<td>Confirm IZ IG v1.5 Implementation Progress</td>
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<td>Technical Development of Data Hub/WSDL</td>
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<td>Technical Development of State Registry Interfaces</td>
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<td>ONC Technical Assistance to Pilot Sites</td>
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<td>Develop Test Cases / Test Data</td>
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### Phase III: Testing & Implementation
- Sept-Oct 2014

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<th>Task</th>
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<tr>
<td>User Acceptance Testing</td>
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<td>Data Hub / WSDL Testing</td>
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<td>Transport Hub &amp; Pilot Site Integration Testing</td>
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<td>Integrated Data Hub Pilots Go-live</td>
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Use Case Objective: For an Immunization Information System (IIS) to respond to a transaction that contains current or historical addresses that are outside its jurisdiction by triggering a QBP or VXU to the other jurisdiction’s IIS.
Pilot Outreach

• Conducted outreach to jurisdictions publicizing the hub solution

• Outlined the project expectations for jurisdictions so that they could assess their ability to participate
  – The following map displays all areas where outreach was conducted
**Ideal Pilot Pairs:**
1. Washington and Oregon
2. Minnesota and Wisconsin
3. DC and Virginia
4. New York City and New York State

**Outreach Color Key:**
- Outreach conducted
- Current participating pilot sites
Pilot Criteria

All pilot sites must...

• Upgrade to the new CDC WSDL adapted for the Data Hub Solution
  • The WSDL is backwards compatible
• Adopt the HL7 Version 2.5.1 IG Immunization Messaging Release 1.5
• Implement any changes required to setup the Data Hub as an integration partner
  • Configuring firewalls, ports, etc.
• Maintain a test and production instance of the IIS and utilize the test version of the Data Hub for Testing and the Production version of the Data Hub for Pilot (production)
• Have the capacity to issue queries via a QBP
• Have the capacity to accept and process RSPs
• Have the capacity to consume a VXU (assumed)
• Have the ability to create or handle any additional errors from the WSDL or HL7 ACK
• Adapt the IIS to process business rules that:
  • Recognize when a new patient’s current address (jurisdiction) is in a partner IIS’ jurisdiction
  • Recognize when a patient’s address (jurisdiction) in the IIS has changed form a partner IIS’ jurisdiction to this IIS’ jurisdiction

All pilot sites should...

• Provide capacity to generate an explicit request (i.e. via a “button” or process that requested the data from a partner jurisdiction)
**Project Metrics**

**Functional metrics:**
- Data hub development time
- Registry interface development time
- Number of participating pilot sites and sub sites
- Percent of messages sent thru the hub correctly

**Data hub technical metrics:**
- Traffic Volume
- Average response times
- Production volumes
- Error rates
  - Total errors
  - Total queries
- Query processing time
- Availability/uptime
- Peak message volume throughput

**State metrics:**
- Errors
  - Queries Sent
  - Queries Received
- Message response times
- Percentage of messages rejected due to multiple match
- Number of end users
  - Number of unique users providing queries
Target Outcomes (Need to develop more metrics)

- Develop and implement a transport hub allowing for providers to request a patient’s record from another immunization registry
- Provide higher quality immunization data to providers, their patients, and other public health programs with an interest in patients’ immunization history

Current Status

- In Development
  - At the end of FY 2014 it is projected that UAT testing, with regards to interfacing with the transport hub, will completed and the hub will be implemented in test and production environments
any questions on cross-jurisdictional data exchange before we continue with -

CONSUMER ENGAGEMENT
Consumer Engagement

• Overview
• Pilot States
• Technology solution
• Marketing Materials
Audacious Inquiry (Ai): Founded in 2004, Ai is a boutique technology consulting firm comprised of SMEs with a primary focus on health information technology.

Scientific Technologies Corporation (STC): Widely recognized as a leading public health informatics company, STC is committed to improving public health through the applied use of population health data collected through modernized information systems.

Strategic Design Studio (SDS): SDS is a healthcare-focused cross-platform marketing and design firm. From traditional medicine to wellness organizations, SDS and its clients share the same goal – supporting good health.
Pilot States

- Washington
- Arizona
- Alaska
- West Virginia
- Louisiana
Flexible workflows

Consumer-initiated
- Online registration
- In-person provider authentication
- Anytime records access

Provider-initiated
- In-Office consumer recruitment
- Real-time authentication & approval
- Authentication & approval + batch registration form entry
State specific reports

# State of Louisiana Universal Certificate of Immunizations

**Expiration Date:** 01/10/2014  
**Vaccine:** DTaP/DT/Td

This record is invalid without a proper expiration date

**Child's Name:** Mike Long  
**SISS Patient ID:** 586427

**Date of Birth:** 01/01/1980  
**Parent or Guardian:** Myrr the

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<th>Vaccine</th>
<th>Dose 1</th>
<th>Dose 2</th>
<th>Dose 3</th>
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<td>06/06/1980</td>
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<td>12/11/2013</td>
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<td>SMALLPOX SHOT/READING</td>
<td>02/02/1993</td>
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<td>HEP-B 2 DOSE</td>
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<td>HERPES ZOSTER</td>
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Marketing Material - Preliminary Tool Kit

• Public service announcement
• Brochure to be distributed in literature racks or by hand (no mailing panel)
• Flat panel card
• FAQ – Frequently Asked Questions handout
• Ads
• Specs
• Interoffice posters
• Pocket guide (providers) – Pocket Guide explains the website and outlines advantages to utilizing the software.
• Web banner ads
• Word fact sheets
• JPG headers
• Fax blast template
• Bus boards
• Bus interior
• Bus exterior, curb-side only
• Outdoor advertising
• Event banners
• Doctors’ office buttons – Promotion buttons for providers and staff to wear to encourage MyIR.net use.
• HTML newsletter template – For email newsletters.
• PowerPoint Template
• Overview/Media Relations Primer – Document will outline the goals and objectives of media outreach, as well as the “news” story, along with tips for effective media outreach.
• Template Press Release – Customizable press release announcing the availability of MyIR.net.
• Sample Media Pitches – Pre-written media pitches designed to drive coverage in print, radio, TV, and online media outlets.
• Backgrounder – Background document for media with relevant facts and information regarding the MyIR.net.
• Sample Matte News Release (MNR) – Ready-made news articles for distribution to statewide newspapers.
• Media Messaging Document – Concise messaging and recommended sound bites tailored specifically for the media.
• Campaign Launch Event Template and Event Promotion Materials – Recommendations for the development and execution of a launch event in each of the pilot states, along with sample event promotion materials (i.e. media alert, calendar listing).
• Customized Media List per State (optional) – For each of the pilot state, a customized media list including print, broadcast, and online media outlets and contact information.
• **Overview/Social Media Strategy Recommendations** – Document will outline the goals and objectives of social media outreach, as well as tips on effective social media engagement.

• **Social Media Broadcast Schedule** – A schedule of recommended timing and frequency of social media engagement activity throughout the course of the campaign.

• **Social Media Content** – Fully-drafted Facebook posts, Tweets, and blogs targeted at key audiences and designed to increase engagement around MyIR.net. Tweets and posts can include facts and information on MyIR.net as well as advice from healthcare providers on immunizations.
Confidently access your family’s immunization records online.

ProgramName.com

 Inject more
 CONTROL
 into your family’s
 immunization records.

I access my banking online. Now I can confidently
 access my family’s immunization records, too.

Inject more
 CONVENIENCE
 into your family’s
immunization records.

My patients need an easy, secure way
 to access their immunization records.

Inject more
 SOLUTIONS
 into your family’s
immunization records.

New you can review and print your family’s official
immunization records online with [Program Name].
Getting started is easy. All you need to do is:
1. Register. Complete a [Program Name] enrollment form online or at your
healthcare provider’s office.
2. Request. Ask your healthcare provider to approve your request and set up your
account.
3. Review. Log in as soon as possible and activate your account. You’ll have
immediate access to your family’s immunization records to view, download or
print as often as you need.
Call or visit [Program Name] online for more information:
000-000-0000 • ProgramName.com

[Program Name] gives your patients
access to their own and their families’
immunization records.

- Reduce administrative workload for your staff.
- Empower your patients with more control over their
immunization records.
- Simple, one-time enrollment process takes less than two
minutes to complete!

To learn more or to participate in [Program Name],
call or email [Contact Name, phone, email],
000-000-0000
ProgramName.com

Your vaccination
records online.
IT’S EASY.
Ask me how!
[Program Name] gives you quick, easy and secure online access to your family’s immunization records. It’s ideal for:

- Proof of immunization for school or camp registration
- Seeing a new healthcare provider
- Tracking boosters and yearly vaccines, like the flu shot
- Managing immunization records for an elderly parent
- Preparing for foreign travel or moving to another country
- Being prepared in case of emergency

For Office Use Only
Temporary Password: [insert password]

Sign up today... it's easy! Call visit us online today:
000-000-0000
ProgramName.com

You need an easy way to access your family’s immunization records.

Now you can manage your family’s immunization records online. When you sign up for [Program Name], you can use any trusted computer to view your up-to-date immunization records. You can also download or print an official copy. Why use [Program Name]?

- It’s easy.
  Getting access to your immunization records is simple. Just complete the [Program Name] enrollment form online or at your healthcare provider’s office. Your healthcare provider then creates your account and sends it to your [Program Name] account. You will need your confirmation number and access code to activate your account. You will have immediate access to your family’s immunization records. You do not need your password to access immunization records for your entire family.

- It’s convenient.
  You may not need your immunization records often, but when you do, you can easily access your [Program Name] account. Your healthcare provider will be able to download and print your immunization records. Just log in and access records at any time, anywhere.

- It’s secure.
  Accessing your [Program Name] account is just as secure as accessing your bank account or paying bills online. What makes it secure?

First, you create your own password. This means that only you and those you choose to share it with will be able to access your family’s immunization records. Second, no personal information is available through the web. Your information is protected.

Learn how your patients can easily and securely access their immunization records online.

- Reduce administrative workload for your staff.
- Empower your patients with more control over their immunization records.
- Simple, one-time enrollment process takes less than two minutes for your patients to complete.

To learn more or to participate in [Program Name], call or email [Contact Name, phone, email].
000-000-0000
ProgramName.com
Questions?

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meaningfuluse@cdc.gov