

## **EQUIPPING PRISM FOR PANDEMIC INFLUENZA INTEROPERABILITY SPECIFICATION FOR DATA PARTNERS AND IMMUNIZATION REGISTRIES**

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Mini-Sentinel is a pilot project sponsored by the [U.S. Food and Drug Administration \(FDA\)](#) to inform and facilitate development of a fully operational active surveillance system, the Sentinel System, for monitoring the safety of FDA-regulated medical products. Mini-Sentinel is one piece of the [Sentinel Initiative](#), a multi-faceted effort by the FDA to develop a national electronic system that will complement existing methods of safety surveillance. Mini-Sentinel Collaborators include Data and Academic Partners that provide access to health care data and ongoing scientific, technical, methodological, and organizational expertise. The Mini-Sentinel Coordinating Center is funded by the FDA through the Department of Health and Human Services (HHS) Contract number HHSF223200910006I.

# Equipping PRISM for Pandemic Influenza Interoperability Specification for Data Partners and Immunization Registries

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## I. INTRODUCTION

In 2009, the Department of Health and Human Services created the new Post-Licensure Rapid Immunization Safety Monitoring (PRISM) program, which used data from national health insurance plans (Data Partners) and immunization registries<sup>1</sup> to monitor the safety of the H1N1 influenza vaccine<sup>1</sup>. Immunization registries are centralized, population-based repositories of vaccination information operated by state and local public health authorities. During the 2009 H1N1 pandemic, PRISM's data linkages were a crucial source of vaccination data and greatly improved the safety evaluation of the H1N1 vaccine.

In this activity, US Food and Drug Administration (FDA) asked the PRISM team to develop an interoperability specification to standardize data exchange between PRISM Data Partners and immunization registries. The current process for sharing immunization data with the Data Partners is through ASCII text file format (flat file). The Data Partners created a unique file format for each immunization registry to pull the immunization data required for the PRISM project. This requires a great deal of initial programming on the part of both the sending and receiving institutions. To address the lack of a standard format, the main aim of this activity was to define the minimum dataset and file specification needed to match information between Data Partner enrollment files and immunization registries.

## II. KEY OBJECTIVES

This project had four key objectives:

1. Develop a functional and technical messaging specification document
2. Develop consensus among immunization registries and health plans on interoperability specifications
3. Conduct a pilot test of the interoperability of the new file structure and transport layer
4. Enlist one or more new immunization registries to collaborate in Mini-Sentinel

In order to inform all interested parties about this project, a Stakeholder Group was formed that included representatives from the American Health Insurance Plans (AHIP), American Immunization Registry Association (AIRA), the Association of State and Territorial Health Officials (ASTHO), Centers for Disease Control (CDC), Harvard Pilgrim Health Care Institute (HPHCI) and FDA, the National Vaccine Program Office (NVPO). The Stakeholders met in March 2012. Their role was to share information about

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<sup>1</sup> Immunization registries are also referred to as Immunization Information Systems or IIS

the PRISM project with each of their organizations, and assist with any issues that may arise that required their organizations to address in developing and implementing the Health Level Seven (HL7) specification.

**Interoperability Stakeholder Group**

Name	Organization
Kevin Fahey	AHIP
Rebecca Coyle	AIRA
Kim Martin	ASTHO
Warren Williams	CDC
Michael Nguyen	FDA
Tracy Lieu	HPHCI
Dan Salmon	NVPO

**OBJECTIVE 1: DEVELOP A FUNCTIONAL AND TECHNICAL MESSAGING SPECIFICATION DOCUMENT**

Immunization registries provide access to a consolidated immunization record for each person in the system’s catchment area to authorized users and systems. One of the goals of immunization registries is to receive and store immunization histories and updates from providers. These systems may receive requests for individual records from consumers, immunization providers, pharmacies, health plans, health systems, public health departments, and schools. Immunization records are sent electronically to authorized systems and users. When the PRISM project began in 2009 as a novel surveillance system created for the influenza A H1N1 pandemic, immunization registries were recruited to participate in matching their data with that of the PRISM Data Partners based on the completeness of data in their systems, the requirement in their jurisdictions to collect H1N1 vaccine information from providers, and the ability to share data with health plans. PRISM Data Partners completed matches with the 9 selected vaccine registries during the PRISM H1N1 project. In 2011, under the current Mini-Sentinel PRISM program, 8 registries completed another match with the Data Partners.

For this current project, the PRISM External Interoperability Specifications Workgroup was formed to develop a functional and technical specifications document for the PRISM project. Representatives of all 8 immunization registries currently participating in PRISM were invited to join the workgroup. Six agreed and are listed below. Technical assistance was provided by Rob Savage (Northrup Grumman – contractor for CDC) and Nathan Bunker (Texas Children’s Hospital).

**PRISM External Interoperability Specifications Workgroup**

Representative	Organization
Therese Hoyle	Hoyle Consulting, Inc.
Ian Hancke	Michigan Immunization Registry
Emily Emerson	Minnesota Immunization Registry
Rezaul Kabir	New York City Immunization Registry
Michael Flynn	New York Immunization Registry
Frank Caniglia	Pennsylvania Immunization Registry
Greg Dennis	Virginia Immunization Registry

A consensus-based approach was used for the workgroup to give input systematically and represent their programs as described below. The first task of the workgroup was to review and redefine the fields required by the immunization registries to query and obtain immunization histories. The workgroup identified key issues, risks and constraints, and developed recommendations to address these issues. The current immunization registries’ input and output file format specifications were combined into a list (Appendix A). The list was reviewed by the workgroup through five WebEx meetings over the fall of 2011. Notably, many of the registries had not revised the file format specifications for many years. Many data elements that were required were relevant several years ago but, with the experience of data sharing with Data Partners, the immunization registry managers agreed fewer elements should be required. The workgroup reviewed each data element and determined that only 8 of the 27 current data elements required for the flat file were actually needed to query an immunization registry for an immunization history. Agreements were reached through a consensus-based process on the required data elements for the new technical messaging specification document. The new data elements that should be required when sharing data with the Data Partners are shown below in *Table 1*.

**Table 1: Required Data Elements for the Data Partners Requesting Immunization Histories on Members in the Immunization Registries**

Data Element	
Immunization Registry User ID	The user ID given to the Data Partners by the immunization registry for authentication
Record Identifier	The Data Partner supplied unique member ID
Client Status	Only active Data Partner members may be shared with the Immunization Registry
First Name	Data Partner member first name
Middle Name	Data Partner member middle name
Last Name	Data Partner member last name
Date of Birth	Data Partner member date of birth
Gender	Data Partner member gender

There are some elements which may improve the rate of matching but are not essential for a basic match. These elements may therefore be missing from the data file, but the Data Partner may send them if they have the relevant data. These “required but empty” elements are shown below in *Table 2*.

**Table 2: Fields Required but Empty**

Data Element	
Immunization Registry Record ID	The immunization registry supplied unique client ID
Mothers First Name*	Data Partner member’s mother’s first name

Data Element	Description
Mother's Maiden Name*	Data Partner member's mother's maiden name
Mother's Date of Birth*	Data Partner member's mother's date of birth
Patient Address	Data Partner member's address
Phone number	Data Partner member's phone number

\*only required if member is under 18 years of age

It is unlikely that immunization registries will upgrade their current flat file-sharing systems to reflect the reduced number of variables as they move towards using HL7 for data exchange, as is discussed in more detail below. However, these lists of “required” and “required but empty” fields were the basis for the PRISM HL7 Implementation Guide (Appendix B) used in the pilot study described below and are now readily available for future HL7 data exchange between Data Partners and immunization registries.

## **OBJECTIVE 2: DEVELOP CONSENSUS AMONG IMMUNIZATION REGISTRIES AND HEALTH PLANS ON INTEROPERABILITY SPECIFICATIONS**

The next issue the External Interoperability Specifications Workgroup discussed was how the standardized variables should be electronically exchanged with the Data Partners. This question was considered in the context of the Standards and Certification criteria for Electronic Health Records (EHR) issued by The Office of the National Coordinator for Health Information Technology (ONC). These rules identify the standards and certification criteria for the certification of EHR technologies.

The Final Rule<sup>2</sup> represents the first step in an incremental approach to adopting standards, implementation specifications, and certification criteria to enhance the interoperability, functionality, utility, and security of health IT and to support its meaningful use (Stage 1 began in 2011) by eligible professionals and eligible hospitals under the Medicare and Medicaid EHR incentive programs.

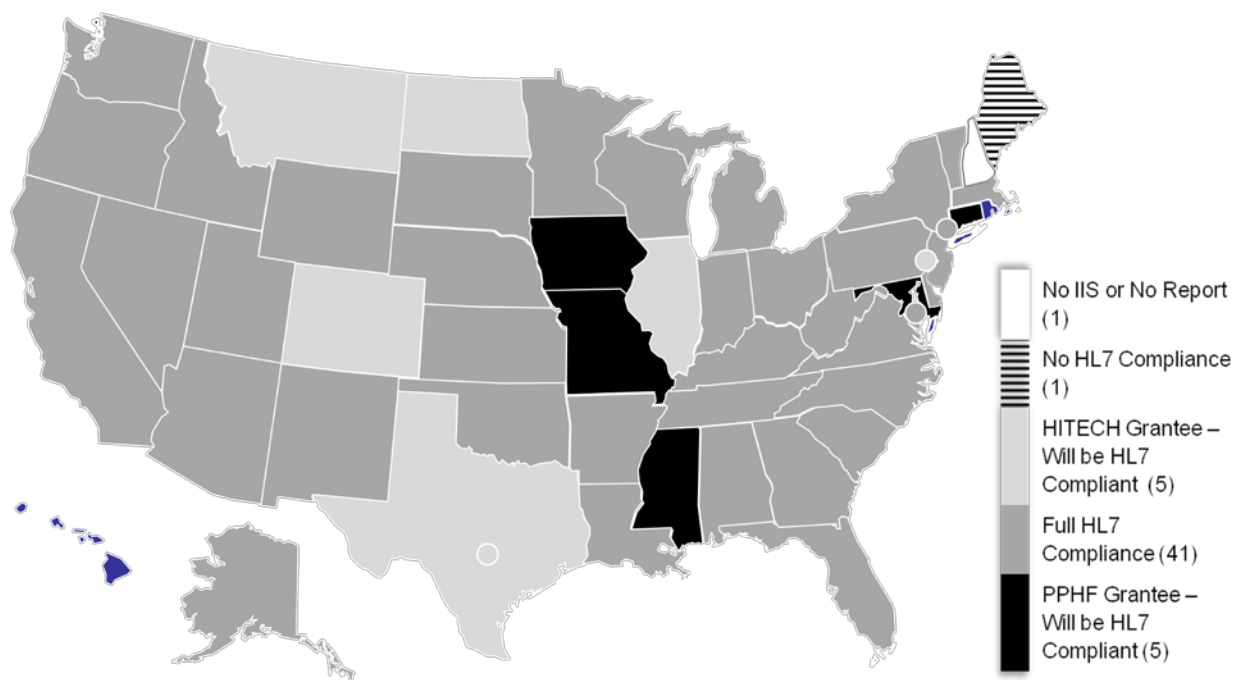
In order to meet these standards, immunization registries across the country have adopted the Health Level Seven (HL7) 2.5.1 standard<sup>3</sup> and are redesigning their applications to receive and send HL7 messages with EHR systems. The HL7 standard is a key factor that supports this two-way exchange of information because it defines a grammar and syntax for formulating the messages that carry this information. It further describes a standard vocabulary that is used in these messages. It does not depend on specific software and is platform-independent. HL7's prime objective is to simplify the implementation of interfaces between healthcare software applications and various organizations in

order to reduce the cost involved in custom interface programming. The increasing adoption of HL7 by the immunization registries for data exchange with immunization providers, health systems and pharmacies, and other states has created an opportunity for Mini-Sentinel’s PRISM program to explore the use of this standard.

In 2010, twenty states received The American Recovery and Reinvestment Act of 2009 (ARRA) Health Information Technology for Economic and Clinical Health (HITECH) funds to increase HL7 capacity in their immunization registries. In 2011, a further 17 states received Prevention and Public Health Funds (PPHF) to increase HL7 capabilities.

Currently, 41 states have immunization registries with HL7 messaging functionality (marked as “HL7 compliant” in *Figure 1*) and, in 2013, all but two immunization programs will have implemented this functionality as indicated in *Figure 1*.

**Figure 1: Immunization Registries Compliance with HL7 Messaging Standards<sup>4</sup>**



The PRISM External Interoperability Specifications Workgroup decided in the Fall of 2011 that HL7 messaging should be considered as an option for sharing immunization data with the Data Partners. The workgroup approved the HL7 implementation guide, written specifically for the PRISM project, which follows the most recent HL7 Version 2.5.1 Implementation Guide for Immunization Messaging, Release 1.3<sup>5</sup>.

The PRISM HL7 Implementation Guide (Appendix B) includes specifications for a standard message structure and constrained vocabulary that will allow Data Partners to:



- Request immunization histories for their members
- Receive existing immunization histories from an immunization registry
- Receive acknowledgement of the requests and feedback on problems with the request

It will allow designated immunization registries to:

- Receive requests for immunization histories from the Data Partners
- Return to the Data Partner existing immunization history for their members
- The guide makes the following assumptions:
  - Infrastructure is in place to allow accurate and secure information exchange between information systems
  - Privacy and security has been implemented at an appropriate level
  - Legal and governance issues regarding data access authorizations, data ownership and data use are outside the scope of the guide
  - The Data Partner and immunization registries demographic records contain sufficient information to match Data Partner member to immunization registries person
  - External business rules for data sharing that are specific to the jurisdiction are documented at the local immunization registries level
  - Data Partners will refer to local immunization registries implementation guides when sharing messages

The workgroup agreed that one Data Partner and one immunization registry should pilot the use of HL7 messaging for data exchange.

### **OBJECTIVE 3: CONDUCT A PILOT TEST OF THE INTEROPERABILITY OF THE NEW FILE STRUCTURE AND TRANSPORT LAYER**

The Michigan immunization registry was initially recruited to pilot HL7 messaging but the data system was not capable of returning an HL7 immunization history when the pilot began. Instead, the Minnesota immunization registry agreed to pilot HL7 messaging and Aetna was selected as the PRISM Data Partner. The Minnesota immunization registry has extensive experience with HL7 messaging with health care providers, but no experience using HL7 to share data with Data Partners. Aetna agreed to develop an ad-hoc HL7 message, pilot the data exchange, and check the reliability of the flat file and HL7 messages. The workgroup for this pilot was Carolyn Jevit, Carolyn Neff and Cheryl McMahill-Walraven from Aetna, Inc., and Emily Emerson from the Minnesota Immunization Registry.

An initial batch file containing 10 records was exchanged as a proof of concept that the files could be sent and received between Aetna and Minnesota. The pilot then evaluated an HL7 batch data exchange of 100 records to assess the process and reliability of the immunization histories. The comparison was made among immunization data received via HL7 format, data received in the standard ASCII format (flat file) and the web-based Graphical User Interface (GUI) at the immunization registry. As this was a very manual, time-consuming task, it was not practical to look at more than 100 records. The comparison of the three formats (HL7, flat file, and GUI) focused on the following outcomes: (1) availability of fields; (2) data completeness; (3) time latency; and (4) personnel and other technical effort required for implementation. The full protocol for the pilot study is in Appendix C and on the Mini-Sentinel website at

[http://mini-sentinel.org/data\\_activities/complementary\\_data\\_sources/details.aspx?ID=151](http://mini-sentinel.org/data_activities/complementary_data_sources/details.aspx?ID=151)

The GUI was considered the “gold standard,” that is, the vaccine information for the patients identified on the GUI should also be in the HL7 and flat files. Of the 27 fields available from all three formats combined, none of the formats contained all of the fields and some of the available fields were not populated with any data. For example, the GUI does not display the Current Procedural Terminology (CPT) or vaccine product (CVX) codes; the GUI displays vaccine names for the end user; the flat file used one field to capture the CPT/CVX code and a vaccine type field to distinguish whether the data was a CPT or CVX code; the HL7 file had separate fields for CPT and CVX codes. Notably, the HL7 file did not contain a member ID, such as the Patient ID from the Mini-Sentinel Common Data Model. This would be an essential element to include for matching in any future system and would need to be added to the data creation algorithm.

For the 100 members in the pilot, the flat file returned results on all 100 of them; the HL7 file returned results for only 82. Of the 1996 vaccines (antigens) seen on the GUI, 1990 were seen in the flat file. The HL7 file returned 1396 out of 1782 (78%) vaccines seen on the GUI because the HL7 file matched only 82 of 100 members; this was the primary reason for 360 out of 382 missing vaccine administrations. The benefit of the HL7 message is that the message returns more detailed information about combination vaccines such as Pentacel (DTap/IPV/Hib), representing 3 antigens, whereas the flat file returned the same vaccine as separate antigens with 3 different CVX codes. This is a key advantage for the PRISM program because of FDA’s interest in identifying vaccinations by their brand names.

Because the files returned in flat file and HL7 format were all pulling from the same data source as the GUI, the data returned in each format should match. This indicates that the algorithms used in the data creation process gave rise to the inconsistencies in the data returned, rather than the use of HL7 in itself. Since this was the first time that an HL7 message had been sent in a batch process to Minnesota, the results of this pilot assisted them with future improvements for managing batch processing of HL7 messages. See Appendix D for further details about the results of the pilot.

The current process in Minnesota can only process batches of 10 HL7 requests at a time. This meant that the request for 100 had to be manually broken down into 10 files, which added time and work to the process for Minnesota staff. Future upgrades to HL7 2.51 software will have the capability to manage larger batch files. If HL7 exchange between Data Partners and immunization registries is put into operation, it will be essential to find a timely way to process millions of records in a short time.

In conclusion, the ability to exchange batch HL7 messaging between immunization registries and a Data Partner proved successful. In this pilot, the flat file format was the most accurate, complete, and expedient method for Data Partners to obtain immunization histories at this time. This conclusion is not generalizable to all Data Partners and immunization registries. This is particularly true because Minnesota had extensive prior experience with HL7 query and response, and thus registries with no prior HL7 query and response experience may face additional challenges. Moreover, the HL7 file format is a new data transmission method for Aetna, and the Minnesota immunization registry is in the process of determining how to effectively use batch processing for HL7 file format exchanges. The completeness of the data returned via HL7 is likely to improve with the lessons learned from this pilot study. As more organizations begin sharing the latest versions of HL7 messages and become more experienced with electronic data sharing capabilities, the HL7 file format transmissions may be the only method to share vaccine information between Data Partners and immunization registries.

The time invested for Aetna to develop the HL7 file was 309 hours of programmer and project management time.

A major issue that we could not address in the HL7 pilot was the mechanism to exchange data, or the transport layer. This was because the access or resources to purchase or implement the necessary transport layer software were not available to Aetna.

Data Partners require immunization registries to supply immunization histories for specific safety surveillance projects, for millions of members at a time, and usually only need to exchange data once or twice a year, compared to a provider sharing data on a daily or weekly basis. Transport layer technologies and protocols provide the infrastructure to transfer HL7 messages from the HL7 sender to HL7 receiver. In January 2011, the CDC Immunization Information Systems Branch coordinated the efforts of the Transport Layer Expert Panel, which consisted of 41 industry experts including immunization registry programs. The Transport Layer Expert Panel recommended the Simple Object Access Protocol (SOAP) Web Services as the transport standard. The panel's findings do not represent a mandate for immunization registry programs, but rather a recommendation in an effort to move toward standardization across the immunization messaging community. Other, lower-cost, transport layer software is also being developed and should be considered. The transport layer software may aid Data Partners in automated transfer of HL7 data with immunization registries. This may resolve the issue of exchanging large batches of data at one time and will remove the need for manual intervention and thus reduce cost.

#### **OBJECTIVE 4: ENLIST ONE OR MORE NEW IMMUNIZATION REGISTRIES TO COLLABORATE IN MINI-SENTINEL**

Indiana's immunization registry has been recruited for future participation in the Mini-Sentinel PRISM activities. The Indiana immunization registry has more than 39 million vaccination records for over 5 million Indiana residents and is utilized by more than 1200 provider locations. They also connect with the Indiana Health Information Exchange (IHIE). This connection provides secure, seamless integration between IHIE and the immunization registry, eliminating a step for physicians and providing greater efficiencies for the Indiana State Health Department. The next match between PRISM Data Partners and

the immunization registries will start in January 2014 to coincide with the PRISM Sequential Analysis activity. Indiana will be included at this time.

## **OTHER CONSIDERATIONS**

### **Statewide Health Information Exchanges**

Implementation of statewide health information exchanges (HIE) may impact how Data Partners share data with immunization registries in the future. HIEs are being developed to ensure consistency with national messaging standards for sharing health information. If such national messaging standards were widely adopted, this would have the following impact on PRISM-registry matching:

- The development of HL7 files would become a worthwhile investment of time and resources for the Data Partners
- The cost of data matching would be greatly reduced as the process will be standardized
- Expanding the matching to new Data Partners or immunization registries would be easier
- There will be a single point of contact to gain access to all public health data within a state or jurisdiction which would greatly reduce the administrative burden of having to contract separately with, for example, the immunization registry and the vital records registry

In addition to these advantages, the HIEs are also working with the health insurance companies, including PRISM Data Partners, to develop a Master Person Index which will include member IDs. This will be kept up-to-date via an automated feed. This will increase the match rates with the Data Partners.

In March 2010, ONC announced the State HIE Exchange Cooperative Agreement Program awardees. In total, 56 states, eligible territories, and qualified State Designated Entities received awards. The State HIE Cooperative Agreement Program funds states' efforts to build capacity rapidly for exchanging health information across the health care system both within and across states. The goal for universal implementation of HIEs is 2015.

Currently, HIEs are exchanging data with immunization registries, disease surveillance systems, laboratories, physicians and health systems. The ONC is building on these existing efforts to advance regional and state-level HIEs while moving toward nationwide interoperability. Implementing HL7 messaging capabilities according to the PRISM HL7 Implementation Guide may aid Data Partners and immunization registries to align with the meaningful use Standards and Certification Criteria issued by ONC.

### III. CONCLUSION

The benefits to PRISM adopting an HL7 format are multi-fold:

- All immunization registries will soon be transitioning to HL7 from flat files and thus PRISM is prepared for this inevitable transition nationwide
- Data quality will improve for key data elements of interest to FDA safety surveillance, including improved capture of combination vaccines, vaccine brand names, and vaccine lot numbers
- There is potential for reduced operating costs, timeliness, and staff effort for both data partners and vaccine registries once routine systems are put into place, and issues of batch size and automation are resolved
- It would facilitate the rapid inclusion of new data partners or vaccine registries - especially important for pandemic preparedness as vaccine registries are capable of capturing vaccinations outside of traditional health care settings, such as mass vaccination clinics

The External Interoperability Specifications workgroup agreed on a standard set of data elements which are essential for matching Data Partner member data to immunization registries records. This set of elements was used in the PRISM HL7 Implementation Guide (Appendix B) and could be used in the development of the Query By Parameter HL7 2.5.1 documents currently being developed by immunization programs across the country. Additionally, we envision that the PRISM Data Partners that did not participate in the pilot may simply download the guide for local implementation.

The ability to exchange batch HL7 messaging between an immunization registry and a Data Partner proved successful. In this pilot, although the flat file format was the most accurate, complete, and expedient method for Data Partners to obtain immunization histories at this time, it is expected that the completeness of the HL7 format will improve as the immunization registries and Data Partners gain experience with HL7. As stated above, the primary reason for HL7's lower match rate was because the batch process was new to Minnesota for the retrieval of data. We therefore recommend that this finding be re-tested once there is more experience.

This pilot study has shown that it is technically feasible for Data Partners and an immunization registry to exchange data using HL7. Much work remains to define and implement a sustainable and scalable system to meet PRISM's needs of matching millions of patients on a periodic basis. The most significant immediate system need is the development of an automated data exchange system to reduce the manual tasks for the Data Partners of uploading the batches of patient identifiers and then downloading the files returned from the immunization registries. This could be met by the use of effective transport layer software. The cost of implementing such a system, as well as what entity would pay for better system automation, would need to be balanced against the current cost of these manual processes.

Currently, the infrastructure at the registries and within the PRISM data partners does not exist to facilitate the adoption of routine HL7 batch message exchange. The next planned matching exercise between the Data Partners and selected states is scheduled for January 2014 and this will likely be

achieved using flat file exchange. The planned date for universal implementation of HIEs across the country is 2015. As this date approaches, it would be worthwhile to reassess the next steps for HL7 message exchange with the Data Partners.

Recommendations for future work include:

- Review the current status of HIE implementation and make decisions about whether Data Partners should develop HL7 messaging capabilities (Summer 2014)
- Investigate the technical feasibility of the SOAP transport layer mechanism options with a Data Partner and an immunization registry for an automated message flow between the two systems *versus* an HL7 batch file data exchange of over a million members between a Data Partner and an immunization registry to better reflect the real situation
- Cost assessment of HL7 file set up and transport mechanism for Data Partners
- If the decision is made to implement HL7 messaging, the pilot to compare the match rates of file transfer methods should be repeated

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## V. APPENDIX

### APPENDIX A: INPUTS AND OUTPUTS

Table A. Current input file requirements for different states

Field Identifier	Field Description	PRISM*	FL	MI	MN	NYC	NYS	PA	WI	VA
MSH Record Type Code	Record Type Code (set to "Q")	N		X						
MSH User ID	MCIR userid issuing this request	R		X						
MSH Recsys ID	ID assigned by MCIR to record system requesting data	N		X						
MSH Recsys Name	Name of record system (e.g. ACRS)	N		X						
MSH Control ID	Unique identifier associated with this query request	R		X						
MSH Sequence	Unique sequence identifying each record in the request	R		X						
MSH Timestamp	Time stamp of requested record if known	R		X						
QRD MCIR ID	MCIR ID of requested record if known	R		X						
QRD Patient ID	Patient ID used by requesting system	O		X						
ORD EBC ID	For State Registrar Use Only	N		X						



Field Identifier	Field Description	PRISM*	FL	MI	MN	NYC	NYS	PA	WI	VA
Record Identifier	Plan Supplied Unique Member Identifier	R			X	X	X		X	X
Client Status	Client Status Field Code	R			X		X			
First Name	Member First Name	R	X	X	X	X	X	X	X	X
Middle Name	Member Middle Name	R	X	X	X	X	X	X	X	X
Last Name	Member Last Name	R	X	X	X	X	X	X	X	
Name Suffix	Member Name Suffix	O		X	X		X			
Birth Date	Member Birth Date in MMDDYYYY Format	R	X	X	X	X	X	X	X	X
Death Date	Member Death in MMDDYYYY Format	N			X		X			
Mother's First Name	Member's Mother's First Name	RE			X		X			
Mother's Maiden Name	Member's Mother's Maiden Name	RE		X	X	X	X			
MOMDOB	Member's Mother's Date of Birth in MMDDYYYY Format	RE				X				
Sex (Gender)	Gender Code	R	X	X	X	X	X			
Race	Race Code	O			X		X			

Field Identifier	Field Description	PRISM*	FL	MI	MN	NYC	NYS	PA	WI	VA
Ethnicity	Ethnicity Code	O			X		X			
SSN	Member Social Security Number	N	X		X					
Contact Allowed	Code for determining of notices will/will not be sent	N			X		X			
Consent to Share	Controls visibility of records to other provider organizations. (Should always be set to "Y" or null)	N			X		X			
Chart Number	Sending Organization's Chart Number	N			X		X			
Responsible Party First Name	Responsible Party for Member's First Name	O		X	X		X			
Responsible Party Middle Name	Responsible Party for Member's Middle Name	N			X		X			
Responsible Party Last Name	Responsible Party for Member's Last Name	O		X	X		X			
Responsible Party Relationship	Responsible Party Relationship to Member	N			X		X			
Street Address	Responsible Party's Street Address of Residence	O	X	X	X	X	X			

Field Identifier	Field Description	PRISM*	FL	MI	MN	NYC	NYS	PA	WI	VA
APTNBR	Member's Apartment Number	O				X				
Mailing Address Line	Responsible Party's Non-Residence Mailing Address	O			X		X			
Other Address Line	Responsible Party's Additional Address Line	O			X	X	X			
City	Responsible Party's City	O	X	X	X	X	X			
State	Responsible Party's State	O	X	X	X	X	X			
Zip Code	Responsible Party's Zip Code (5 digit or plus 4 (no "+" sign)	O	X	X	X	X	X			
County	Responsible Party's County Code	O		X	X		X			
Phone	Responsible Party's Phone (digits only without dashes, etc...)	O		X	X	X	X			
MEDICAID	Member's Medicaid ID	O				X				
Sending Organization/ Health Plan ID	ID of Health Plan (Get from Front Desk)	R	X	X	X	X	X	X	X	X
Eligibility Code	Eligibility Code of Member	N			X					
Eligibility Effective Date	Eligibility Effective Date in MMDDYYYY Format	N			X					

Field Identifier	Field Description	PRISM*	FL	MI	MN	NYC	NYS	PA	WI	VA
<b>Total</b>			11	26	32	17	29	5	6	5

X = Currently required

\* R=Required; RE=Required but Empty; O=Optional; N=Not require

**Table B. Current output fields for different states**

Field Identifier	Field Description	FL	MI	MN	NYC	NYS	PA	WI	VA
HMO Last Name	Input File Member Last Name	X							
HMO First Name	Input File Member First Name	X							
HMO Middle Name	Input File Member Middle Name	X							
HMO DOB (mm/dd/yyyy)	Input File Member Date of Birth in mm/dd/yyyy Format	X							
HMO Gender	Input File Gender M-Male, F-Female	X							
HMO Social Security Number	Input File Member Social Security Number	X							
HMO Medicaid ID	Input File Member Medicaid ID Number	X			X				
HMO Street Address	Input File Member Street Address	X							
HMO City	Input File Member City	X							
HMO State	Input File Member State	X							
HMO Zip Code	Input File Member Zip Code	X							

Field Identifier	Field Description	FL	MI	MN	NYC	NYS	PA	WI	VA
MEDREC	Member's Plan Id or Member's Medical Record ID				X		X		
Client Record identifier	Plan Supplied Unique Member identifier		X	X		X			X
Medicaid/Chart Number	Medicaid or Chart Number							X	
REG Last Name	Registry File Last Name	X	X		X			X	X
REG First Name	Registry File First Name	X	X		X			X	X
REG Middle Name	Registry File Middle Name	X	X		X			X	X
REG DOB (mm/dd/yyyy)	Registry File Date of Birth in mm/dd/yyyy Format	X	X		X			X	X
REG Gender	Registry File Gender M-Male, F-Female, U-Unknown	X	X		X				X
REG State Immunization ID/MSH User ID	Registry File State Immunization ID/MCIR userid issuing this request/Member 9 digit CIR ID	X	X		X				X
REG Social Security Number	Registry File Social Security Number	X	X						
REG Medicaid Number	Registry File Medicaid Number	X	X						

Field Identifier	Field Description	FL	MI	MN	NYC	NYS	PA	WI	VA
REG Address	Registry File Address	X							
HOUSENBR	Member's house number of address				X				X
Street	Member's street name		X		X				X
APTNR	Member's apartment number		X		X				X
REG City	Registry File City	X	X		X				X
REG State	Registry File State	X	X		X				X
REG Zip Code	Registry File Zip Code	X	X		X				X
Phone	Member's 10 digit phone number				X				
MOMDOB	Member's mother's date of birth in mm/dd/yyyy Format				X				
MOMMNAME	Member's mother's maiden last name				X				
Has Matches?	Registry File Matches Found = "Y", Not Found = "N"	X							
Number of Matches?	Number of Registry Matches found for input member	X							
Vaccine Type/RXA Vaccine	Type of vaccine administered (text short description)/MCIR Vaccine Code based on CDC VX Standard vaules	X	X	X		X		X	X

Field Identifier	Field Description	FL	MI	MN	NYC	NYS	PA	WI	VA
Trade Name	Trade name of vaccine Administered			X		X	X		
Date Vaccine Administered/RXA Shot Date	Date of vaccine administration in month/day/year Format/MCIR Date of Vaccine administration	X	X	X	X	X	X	X	X
CPT Code	CPT code of vaccine administered			X		X		X	X
Vaccination Code	Pennsylvania Registry Vaccination Code						X		
RXA Dosage	MCIR Vaccine Dosage in ML		X						
RXA Provider	Will not be supplied and appears as null		I						
RXA Lot/Lot Number	MCIR Lot for vaccine administered/Lot number of vaccine administered		X	X	X	X			
RXA Lot Expiration Date	MCIR Lot expiration date for vaccine administered		X						
RXA Manufacturer/Manufacturer Code	MCIR manufacturer of vaccine administered/Vaccine Manufacturer		X	X	X	X			
HL7 Vaccine Code	HL& Vaccine code of administered vaccine				X				
RXA Non Administered	Vaccine not administered due to C-Child condition, F-Family condition, W-Waiver or 42-Documented immunity		X						



Field Identifier	Field Description	FL	MI	MN	NYC	NYS	PA	WI	VA
RXA Date Last Modified	MCIR date vaccine event was reported of last updated		X						
RXA Route/Administration Route Code	MCIR vaccination route code/Route of vaccine administration		X	X		X			
RXA Site/Body Site Code	MCIR vaccination site code/Body site of vaccine administration		X	X		X			
Reaction Code	Reaction to vaccine administration			X		X			
Immunization Information Source	Indicates new shot "00" or historical shot "01"			X		X			
Provider Name	Historical Provider Name			X		X			
Administered By Name	Name of person who administered the vaccine			X		X			
Facility/Site Name	Facility administering vaccine/Site name or Site ID of location of vaccine administration		X	X		X			
Sending Organization	ID of health plan (get from front desk)			X		X			
Eligibility Code	Eligibility code of Member			X		X			
Vaccine Purchased With	Method of purchase PVF- private funds, PBF- public funds					X			

Field Identifier	Field Description	FL	MI	MN	NYC	NYS	PA	WI	VA
Create Date	Date of output file creation		X						
<b>Total</b>		<b>27</b>	<b>27</b>	<b>16</b>	<b>21</b>	<b>17</b>	<b>4</b>	<b>8</b>	<b>16</b>

X = currently included