



National Center for Immunization and Respiratory Diseases (NCIRD)
Immunization Information Systems (IIS)
Strategic Plan

Executive Summary

Summary of IIS Strategic Plan v1.3
finalized on ***November 30, 2013***

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1 Introduction

1.1 Overview

In November 2013, the Centers for Disease Control and Prevention (CDC) National Center for Immunization and Respiratory Diseases (NCIRD) released its Immunization Information Systems (IIS) Strategic Plan to guide NCIRD’s future IIS-related investment decisions. NCIRD developed the IIS Strategic Plan with input from the IIS community and identified 18 initiatives in five key focus areas to help the IIS community to achieve the Plan’s goals. To assist with refining and prioritizing these initiatives—as well as keeping the Plan aligned with the evolving IIS environment—NCIRD created an intergovernmental IIS Executive Board. The Board reviewed the proposed IIS Strategic Plan and provided input to the final version.

1.2 Strategic Plan Development Approach

NCIRD developed the IIS Strategic Plan with input from a broad cross-section of the IIS community, including:

- 24 immunization community stakeholders, including IIS managers and representatives from CDC, other federal agencies, universities and NGOs focused on health IT, informatics and immunization information management,
- Subject matter experts (including a member of the Health IT Standards Committee and an expert on state-level SOA and HIE architecture),
- IIS stakeholders at the federal and state level during the NCIRD-sponsored Immunization Blue Ribbon Panel on May 16-17, 2013, and
- Other documentation and research to identify key challenges and trends.

Based on its findings, NCIRD outlines five IIS Strategic Plan Focus Areas (see Table 1).

Table 1: IIS Strategic Plan Focus Areas

Name	Description
Nationwide Leadership	Vision, strategy, policy, standards, accountability, and shared services developed for sharing on a nationwide basis by NCIRD and the IIS community (including state and local immunization programs) working with HHS and other federal agencies, the Executive Office of the President and Congress.
Sustainability	Long-term funding and resources to maintain immunization information management on a nationwide scale.
Provider Services	Services for immunization providers in support of data exchange with IIS and clinical decision support at the point of care.
Public Health Services	Services for public health officials and organizations in support of immunization programs, informatics, surveillance and coverage.
Interoperability / Data Management	Data exchange across the information immunization management ecosystem, including data quality and technical and semantic interoperability services developed in collaboration with state and local partners.

The Plan organizes IIS-related accomplishments, challenges, goals, and strategic initiatives to these five Focus Areas.

2 Current State

2.1 IIS Description and Accomplishments

As a repository, the IIS is a centralized system of record of immunizations for residents of the jurisdiction that it supports—storing data such as patient name, demographics, immunization administration date, dosage, type, *etc.* The purpose of the IIS is to consolidate immunization information from providers into one database to provide an accurate immunization assessment and eliminate the use of manual vaccine administration logs. The IIS can also be thought of as software that provides services to users related to the data in the database. An IIS transforms immunization data into usable information and is an integral part of the “immunization information supply chain.” Examples of services provided by many of today’s IIS include:

- Identifying populations at high risk for vaccine-preventable diseases to target interventions and resources efficiently,
- Combining immunization information from different sources into a single record,
- Providing official immunization records for school, day care, and camp entry requirements,
- Protecting the privacy of all users, including children, families, and providers,
- Reminding families when an immunization is due or has been missed,
- Helping providers and parents determine when immunizations are due to ensure children get only the vaccinations they need, and
- Exchanging immunization information with healthcare providers to ensure timely immunizations, consolidation of records, and efficient workflows.

Immunization programs have become adept at locating multiple funding sources for IIS. This situation is both a challenge and an accomplishment. According to 2010 data, most of the IIS funding (55%) comes from CDC / NCIRD, some from the States (almost 18%), and the rest (27%) from multiple sources, including local, private, in-kind, CMS/MMIS, CMS/HITECH, HRSA, other federal programs, and emergency preparedness.¹

2.2 Challenges

Table 2: Summary of IIS Challenges, by Strategic Plan Focus Area

Focus Area	High-Level Challenges
Nationwide Leadership	<ul style="list-style-type: none"> • Policies and standards to support immunization management are not coordinated nationwide across all immunization stakeholders. • There is no overriding nationwide consent policy for interstate data exchange. • There is no nationwide policy for interstate data exchange.
Sustainability	<ul style="list-style-type: none"> • There is no IIS line item in VFC or section 317 funding programs. State-level support of IIS is variable and although CDC-provided Prevention and Public Health Fund awards have helped, these funds are short in duration and cannot be used to support ongoing operations to maintain the IIS technology and appropriately-skilled staff to support it.

¹ Source: Presentation by Dr. Chesley Richards, former Director, NCIRD Immunization Services Division at the Immunization Blue Ribbon Panel on May 16, 2013.

Focus Area	High-Level Challenges
Provider Services	<ul style="list-style-type: none"> Some IIS integration standards for providers and EHR-S vendors are applied in a variable way across jurisdictions due to local statutes and business rules. Immunization-centric data, functionality, usability and interoperability standards are applied in a variable way data collection at the point of care.
Public Health Services	<ul style="list-style-type: none"> Some sectors of the immunization information management community lack knowledge, skills and roles in the areas of informatics, epidemiology, economics, computer science, and IT. Some IIS functions are redundant while others are variable across jurisdictions due to local statutes and business rules. Some IIS interoperability standards for immunization programs and IIS vendors are implemented in a variable way across jurisdictions due to local statutes and business rules. Methods/standards for analyzing IIS data (e.g., developing coverage rates) vary from IIS to IIS, resulting in potential misinterpretation by public health officials and scientists.
Interoperability / Data Management	<ul style="list-style-type: none"> Challenges remain to ensure immunization data in IIS is complete, accurate and acquired in a timely manner.

3 Future State

3.1 Vision

Any vision for the future of immunization information management must be subordinate and aligned to the vision for nationwide immunization management, which is: “A nation without vaccine-preventable disease, disability, and death.”²

In support of the nationwide immunization vision, NCIRD, in consultation with various stakeholders and subject matter experts, proposes this vision for immunization information management:

“Real time, consolidated immunization data and services for all ages are available for authorized clinical, administrative, and public health users, and consumers, anytime and anywhere.”³

3.2 Goals

NCIRD interpreted the future state vision to create a long-term goal aligned to each Focus Area (see Table 3). The team also created near- and mid-term goals to help define the outcomes and metrics for near-, mid-, and long-term initiatives.

Table 3: NCIRD’s IIS Goals

Focus Area	Long-Term Goal
Nationwide Leadership	There is a nationwide immunization and immunization information management program vision, strategy, policy and metrics.
Sustainability	Local, state and nationwide immunization information management programs have sufficient funding and resources such as informaticians, epidemiologists, economists, business analysts, contracts specialists, engineers, and information technologists.
Provider Services	Providers transmit immunization event data automatically and receive consolidated patient history and clinical decision support within the same application.

² Source: The vision statement used by the CDC’s Global Immunization Strategic Framework 2011–2015 [here](#).

³ Source: Paraphrased from a vision proposed by Dr. Chesley Richards, former Director, Immunization Services Division within NCIRD, during opening remarks for the Immunization Blue Ribbon Panel, May 16, 2013.

Focus Area	Long-Term Goal
Public Health Services	IIS collect and display real-time, accurate immunization coverage analytics for all ages and vaccine inventory status for the jurisdiction to support all immunization program functions and public health use, and immunization clinical decision support is available as an IIS service.
Interoperability / Data Management	Data exchange among immunization information management systems is automatic and transparent regardless of location.

3.3 Strategic Initiatives

NCIRD, with input from the IIS Executive Board, developed 18 strategic initiatives to help drive implementation of the IIS Strategic Plan.

Table 4: IIS Strategic Initiatives

Focus Area	Strategic Initiatives
Nationwide Leadership	1. Nationwide Immunization Information Management Vision and Strategy 2. Nationwide Immunization Information Management Policy and Metrics
Sustainability	3. IIS - IIS and EHR - IIS Cross-jurisdictional Data Exchange Policy 4. IIS Value, Funding and Cost Optimization 5. Immunization Program Capacity Management Plan 6. Shareable and Transportable Immunization Services
Provider Services	7. Nationwide Immunization EHR Interoperability Standards 8. Nationwide Immunization Provider Workflow and Services Standards 9. Immunization-centric EHR Certification 10. Provider-accessible Immunization Data Entry and Clinical Decision Support Service 11. IIS Services Validation
Public Health Services	12. Data Analytics 13. IIS Service Catalog and Sharing Mechanism 14. Nationwide Immunization Program Workflow and Services Standards
Interoperability / Data Management	15. Nationwide Interstate and Intrastate Interoperability Standards 16. Data Quality Services 17. Nationwide Consolidated Patient Immunization History Standards 18. Consumer-accessible Immunization Clinical Decision Support Service

The IIS Strategic Plan also identifies NCIRD functions and current/past projects relevant to each proposed initiative, as well as proposed metrics, a strategic roadmap, and potential stakeholder groups. Finally, the Plan lists short- and long-term recommendations for implementation.

3.4 Next Steps and Further Information

NCIRD plans to engage the IIS Executive Board on a quarterly basis to request input and provide updates to the IIS Strategic Plan’s implementation. NCIRD will carefully consider their input, and will produce periodic summaries of ongoing updates to the operational version of the IIS Strategic Plan to share with internal and external stakeholders.

For any questions or concerns regarding this Executive Summary or to request a copy of the full IIS Strategic Plan document, please contact NCIRD at IISExecutiveBoard@cdc.gov.