

An Opportunity for Sharing: The Massachusetts Immunization Information System

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Agenda

1. Background
2. High Level Functionality
3. Opportunities for Sharing
4. Next Steps

MA IIS History

- ▶ Before MIIS went live in Feb 2011, MA was one of 3 states in the nation without an immunization registry
- ▶ MA had several attempts at establishing an immunization registry
 - Never fully launched due to funding challenges, system requirements (not J2EE compliant), etc.
- ▶ Bureau vision to use one core platform for EDSS, HIV, and IIS

First MIIS Platform

- ▶ ‘Pro’– core application highly configurable/customizable
- ▶ ‘Con’–system not developed specifically for immunization purposes
 - required a lot of work by contracted developers to achieve a user-friendly GUI, meet IIS specific requirements for deduplication, etc.
 - concern about deviating too much from core and being able to implement version upgrades from vendor

Massachusetts IIS (MIIS) Timeline

- ▶ **2009:** Re-procured core platform of MIIS through existing EDSS vendor
- ▶ **2010:** Legislation passed mandating that *all* healthcare providers must report administered immunizations to the state
- ▶ **2011:** Launched MIIS, initially UI users only
- ▶ **2012:** First successful HL7 2.5.1 interface
- ▶ **2012:** Concerns about existing platform's ability to perform core IIS functions with expanding load projections
- ▶ **2012:** Decision to develop custom IIS using Open Source tools
- ▶ **2012 - 2013:** Requirements definition (including Vaccine Management module), development and testing
- ▶ **June 2013:** Launch of **new,** open source-based MIIS, data migration

MIIS Data So Far...

2011

- Total Sites: 9
- Total Patients: 3,902
- Total Shots: 69,505

2012

- Total Sites: 55
- Total Patients: 815,928
- Total Shots: 3,371,434

2013

- Total Sites: 341
- Total Patients: 1,539,629
- Total Shots: 7,303,293

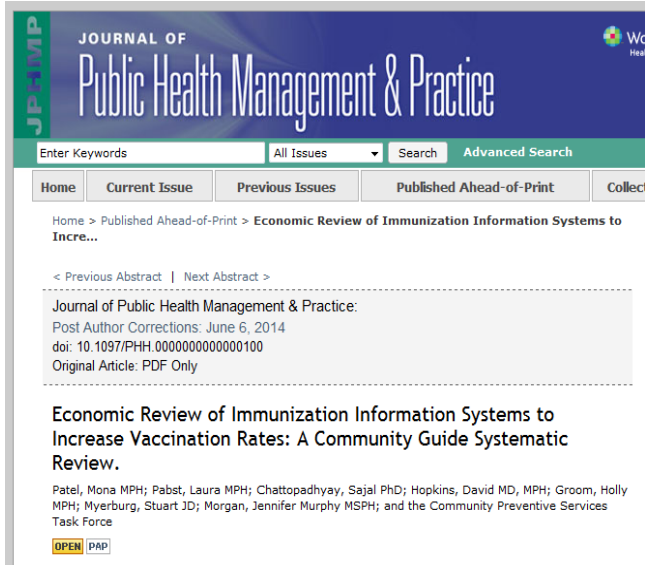
2014

- Total Sites: 532
- Total Patients: 2,370,194
- Total Shots: 13,597,285

2015

- Total Sites: 621
- Total Patients: 2,384,228
- Total Shots: 14,339,356

Background: Key findings from the Journal of Public Health Management & Practice



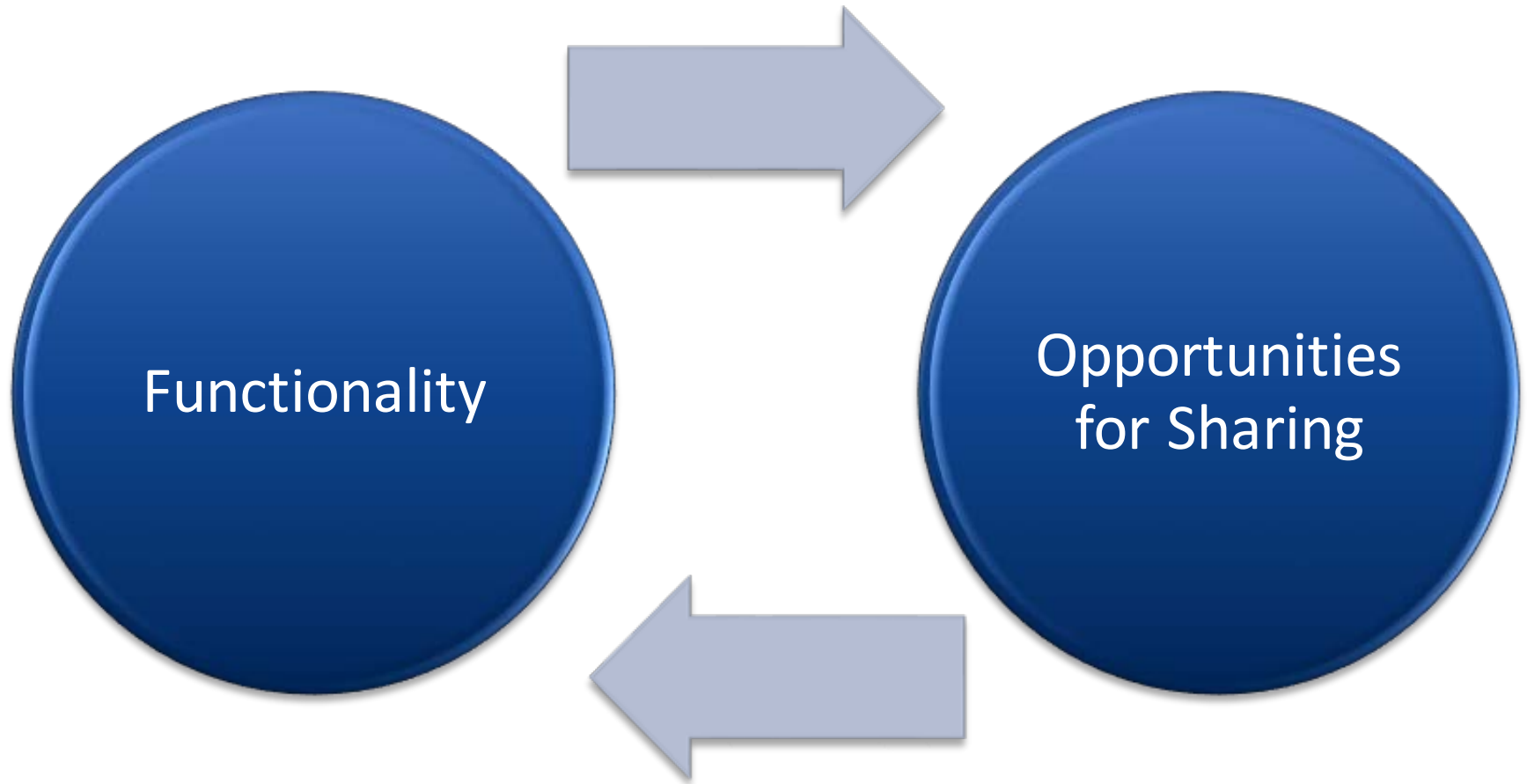
Advancements in Technology

Improved Immunization Data Exchange

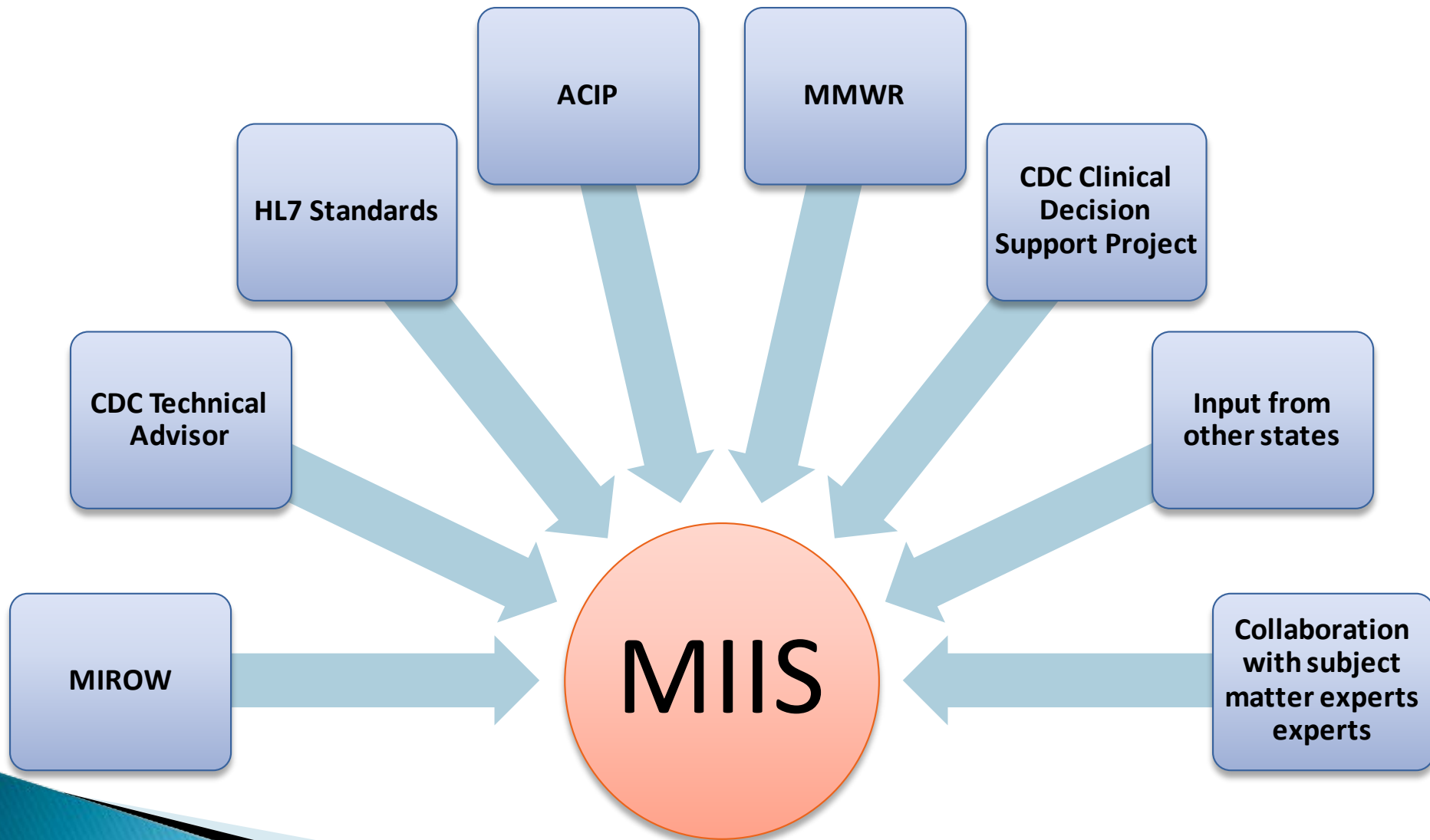
Shared Initiatives

Reduction in Costs

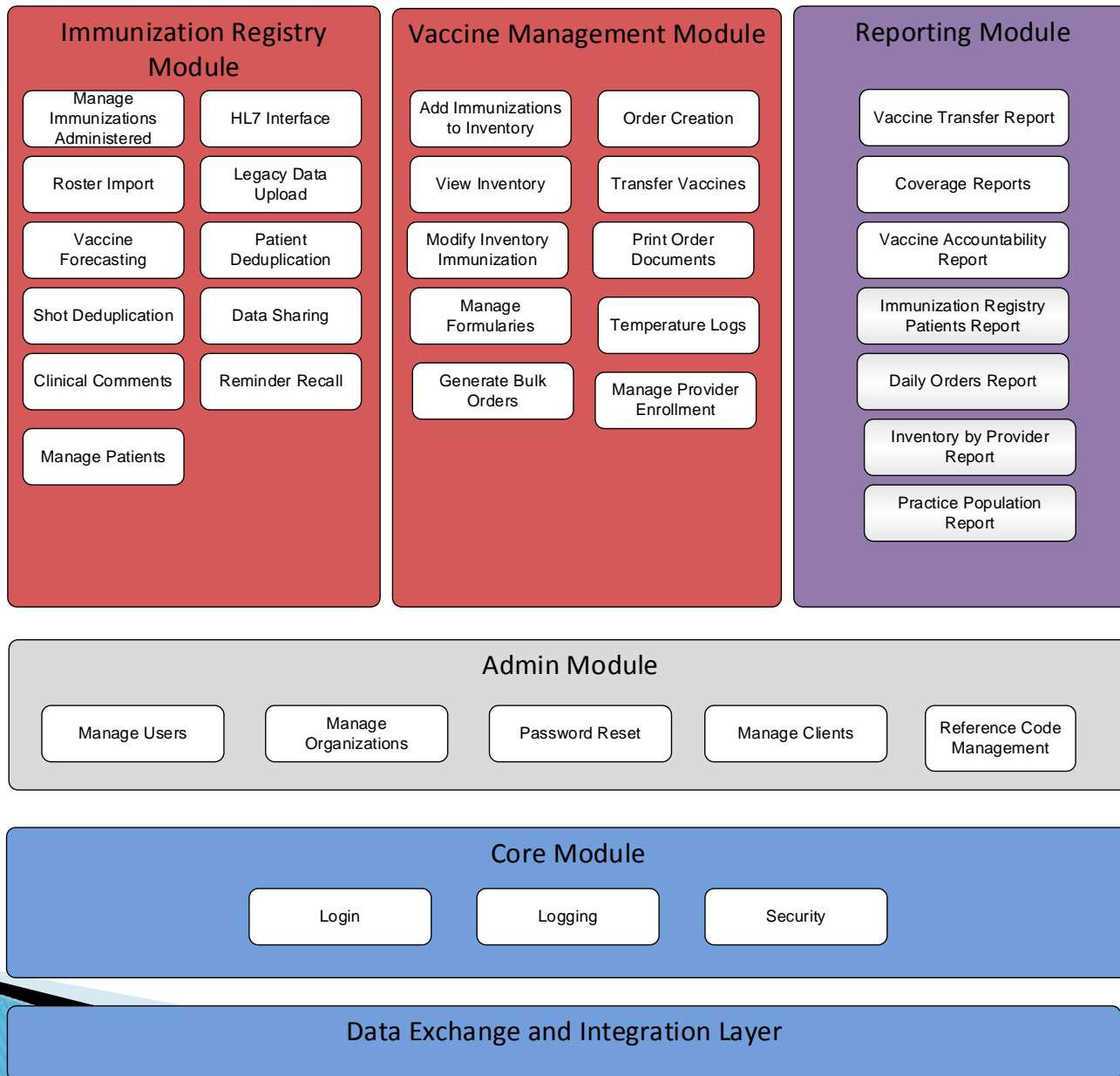
Let's Explore What's Available



Informed by the work of others



High-Level Functionality: Modules



High-Level Functionality: Modules



Modules: Immunization Registry



Manage Immunizations

- ★ Vaccine Forecasting
- ★ Shot Deduplication

Manage Patients

- ★ Clinical Comments
- ★ Patient Deduplication

Roster Import

HL7 Interface

- ★ HL7 Message Processing

Legacy Data Import
Interface

Data Sharing

Modules: Immunization Registry

Manage Patients

- Search
- New Patient
- Search Roster
- New Roster
- Duplicate Patient Queue
- Duplicate Shot Queue

Reports

- Reminder Recall
- Coverage Report

Birth Date: 01/01/2000 Age: 15 yr 2 mo Gender: N/A MRN: N/A MIIS ID: 121

John Demo Address: N/A Phone: N/A

VFC Status: Not VFC Eligible, Privately Insured Insurance: N/A Data Sharing Status: Yes

[Resolve Duplicate Patient](#)

Patient Demographics

Data Sharing

Addresses

Caregivers

Provider Information

Birth Information

Immunizations

Clinical Comments

Immunizations

[Add Immunization](#)

Recommended Groups

Clicking on a Due/Overdue immunization will open up the add Immunization popup screen.

Due

Overdue

[Influenza Td Polio MMR MCV HepB HPV HepA Varicella](#)

Immunizations

Clicking on an existing immunization will open up the Edit Immunization popup screen.

HepB [03/05/2013 History](#)

DTP/aP [03/05/2013 History](#)

Polio [03/05/2013 History](#)

Contraindications

Reports

[Immunization Forecast](#)

[Adult Certificate Of Immunization](#)

[Pediatric Certificate Of Immunization](#)

[Vaccine Administration Record PDF](#)

Support Materials

[0-18 yrs Schedule](#) [Adult Schedule](#) [Catch-up Schedule](#) [Simplified Schedule](#)

Modules: Vaccine Management



Manage Provider Enrollment

Manage Inventory

★ Inventory Deduction

Manage Formularies

Manage Orders

Bulk Orders

VTrckS Data Exchange

Temperature Logs

Modules: Vaccine Management

Vaccine Management

- Formulary Templates
- Provider Formularies
- Provider Enrollment
- Enrollment Worklist
- New Order
- Orders Worklist
- Create Order File For Cdc
- Process Shipment File From Cdc
- Inventory
- Transfer Vaccines
- Allocate Vaccines
- Report Aggregate Usage
- Temperature Logs

Reports

- Daily Orders
- Inventory By Provider
- Vaccine Accountability

Enrollment

Provider Site Enrollment Data

Addresses

Shipping Information

Practice Profile

Practice Provider List

Agreement t

Provider Site Enrollment Data

*Provider Site Vaccine PIN: 10001

*Name of Facility or Practice: January Pediatrics

Adult Only Practice ☐

Specialty? ☐

A Specialty Provider is defined as a provider that only serves a defined population due to the practice specialty (e.g. OB/GYN or family planning)

Public/Private: PRIVATE

*Practice Type: Pediatric Practice

MIIS Registration Status: Registered

*Enrollment Status: Enrolled ▼

Site Type: --Select Site Type-- ▼

*Telephone: (508) 111-2222 

*Fax: (508) 111-2211

*Vaccine Coordinator Last Name: Smith

Vaccine Coordinator First Name: John

*Vaccine Coordinator's Email:

*Backup Vaccine Coordinator Last Name: smith

Backup Vaccine Coordinator First Name:

Backup Vaccine Coordinator Email:

*Medical Director's Last Name: Smith

*Medical Director's First Name: John

*Medical Director's License No: 654632

Medicaid or NPI No:

Enrollment Status Last Updated: 12/17/2014

Ext:

Modules: Reports



Vaccine Transfer

Coverage and Reminder Recall

Vaccine Accountability

Patient Level

Daily Orders

Inventory By Provider

Practice Population

Modules: Reports

Reports

- Reminder Recall
- Coverage Report
- Daily Orders
- Inventory By Provider
- Vaccine Accountability

Coverage Report input parameter screen

Report Type: Custom Coverage Report

Report Name:

Filter by PIN or Provider Site Name:

Available Vaccine PINs:

ABC PROVIDER - 10027

ACTON MEDICAL TRAINING SITE - 65656

AM PEDIATRICS - 10024

AMHERST PEDIATRICS LLP - 10043

APRIL PEDIATRICS - 10004

=> Add all

=> Add

=< Remove

=< Remove all

Selected Vaccine PINs:

Include Patients of Age Range:

* From: Months

* Reference Date: 03/29/2015

* To: Months

Count Immunizations given on or before (choose one):

☒ An Age ☐ A Date

* Assessment Age: Months

☐ Include Invalid Immunizations

Limit Report By:

VFC Eligibility Status: American Indian/Alaska Native
Insured (covers all recommended childhood and adolescent vaccines)
Medicaid (includes MassHealth and Medicaid-managed care plans)

Patient Race: American Indian or Alaska Native
Asian
Black or African-American

Patient Ethnicity: Hispanic or Latino
not Hispanic or Latino
Unknown

Patient Status: Active
Inactive-Deceased
Inactive-Lost to Follow up

City:

Practice Type: -- Select Practice Type --

Adult Only Sites:

Enter the Number of Doses for the Vaccine Groups below:

HepB Influenza MPSV

Rotavirus MMR PPSV

Modules: Resources

• **MIIS Resources**

- [MIIS User Manual](#)
- [Fact Sheet for Parents and Patients in English](#)
- [Fact Sheet for Parents and Patients in foreign languages](#)
- [Objection \(Withdrawal of Objection\) to Data Sharing Form in English](#)
- [Objection \(Withdrawal of Objection\) to Data Sharing Form in foreign languages](#)
- [ContactMIIS Resource Center](#)
- [MDPH's MIIS Website](#)
- [Vaccine Management Information](#)

• **Immunization Schedules and Recommendations**

- [Childhood and adolescent immunization schedule](#)
- [Adult immunization schedule](#)
- [Advisory Committee on Immunization Practices \(ACIP\) Recommendations](#)

• **Vaccine Information Statements (VISs)**

- [Vaccine Information Statements in English](#)
- [Vaccine Information Statements in foreign languages](#)

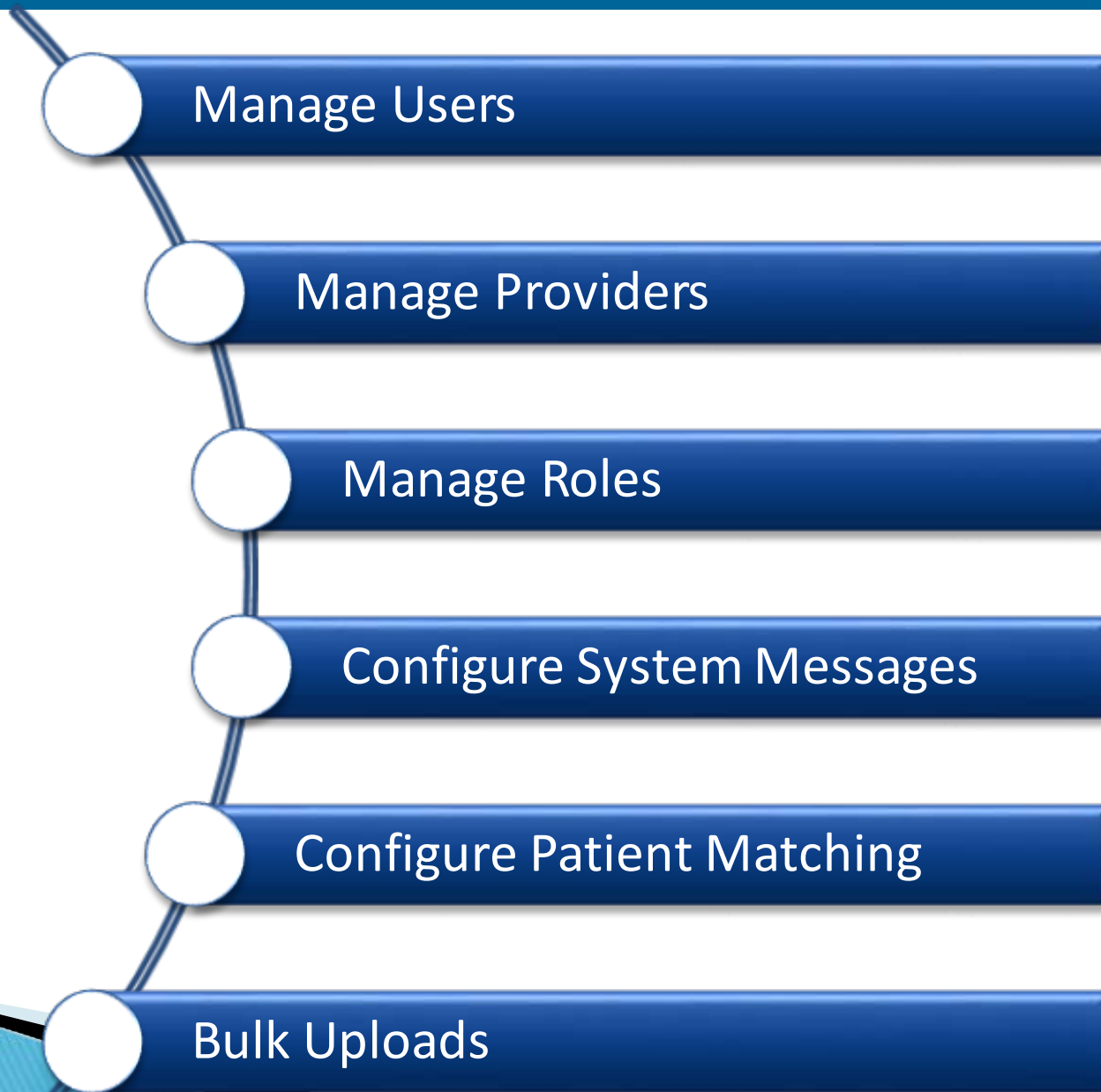
• **Reporting Vaccine Errors and Adverse Reactions**

- [Vaccine Adverse Event Reporting System \(VAERS\)](#)
- [Institute for Safe Medication Practices \(for reporting errors\)](#)

• **Other Resources**

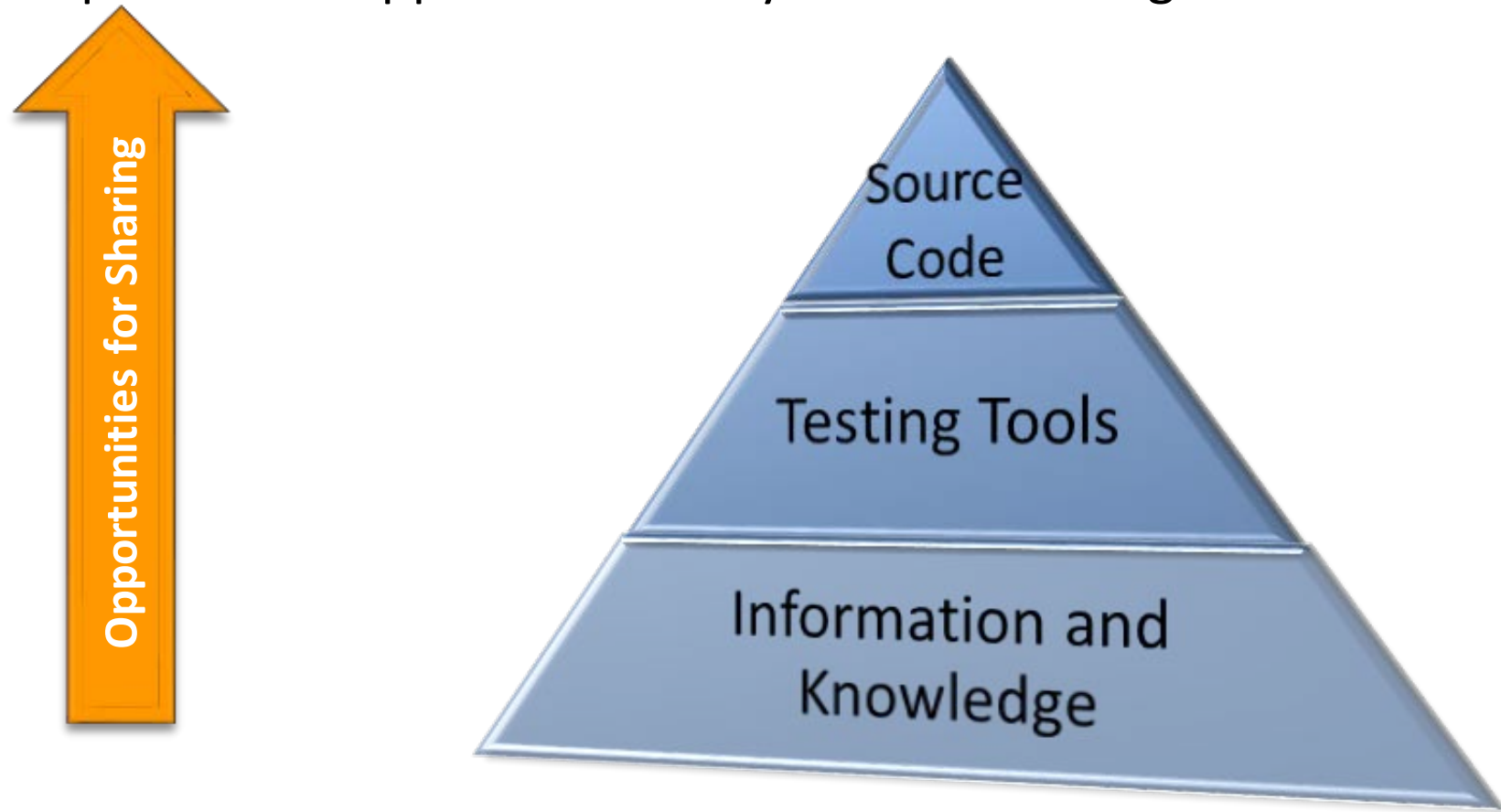
- [CDC's National Center for Immunization and Respiratory Diseases](#)
- [CDC's Provider Resources for Vaccine Conversations with Parents](#)
- [CDC's Vaccine Safety web page](#)
- [CDC's Travelers' Health web page](#)
- [Immunization Action Coalition \(IAC\)](#)
- [Vaccine Education Center at the Children's Hospital of Philadelphia](#)

Modules: System Administration



Opportunities for Sharing

Now that we have a sense of what the MIIIS functions are, let's explore what opportunities may exist for sharing



Information and Knowledge



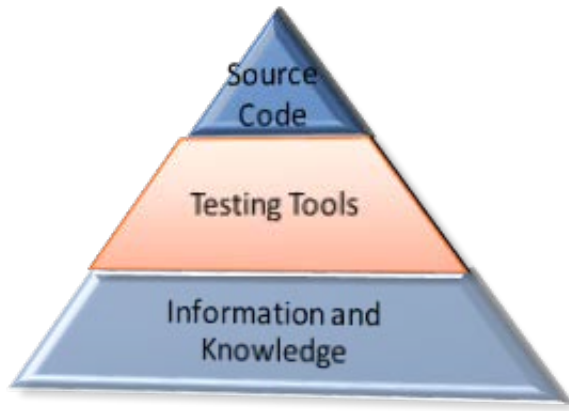
Requirements Documents

- ▶ Use Case Documents
- ▶ Data Dictionary
- ▶ Algorithm Logic (patient deduplication, shot deduplication, vaccine forecasting, inventory deduction, HL7 message processing, report logic, data sharing)

Roll-out Documents

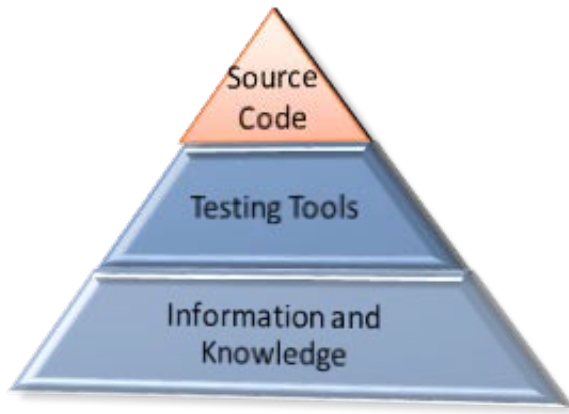
- ▶ User Manual
- ▶ Interoperability Roll-out Plans
- ▶ MA HL7 Implementation Guide

Testing Tools



- ▶ Test Cases
- ▶ Automated Test Libraries

Source Code



- ▶ The application source code can be made available.
- ▶ Code is not published for public access – intent is to share with interested Immunization Programs.

Note:

- Application built using J2EE architecture, including Spring Framework, Hibernate Persistence Layer, and JavaServer Faces
- System utilizes proprietary platform tools such as Oracle, WebLogic, Rhapsody, etc.

Summary

1. The MIIS has a wide range of functionality.
2. There are different ways in which the work can be shared.

What we do belongs to the entire IIS community.

- ▶ the community funds the work
- ▶ it is the right thing to do

Next Steps

We feel proud to be a part of the IIS Community.

If you want to learn more, contact us.

Contact Information

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