# Beyond Submission

## MIIS Features for Data Analysis

# Agenda

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**MIIS Reports!**

# **MIIS Legislation & Regulations**

# Legislation and Regulations

Legislation passed in June 2010, charging MDPH to establish an immunization registry (M.G.L. c. 111, s.24M)
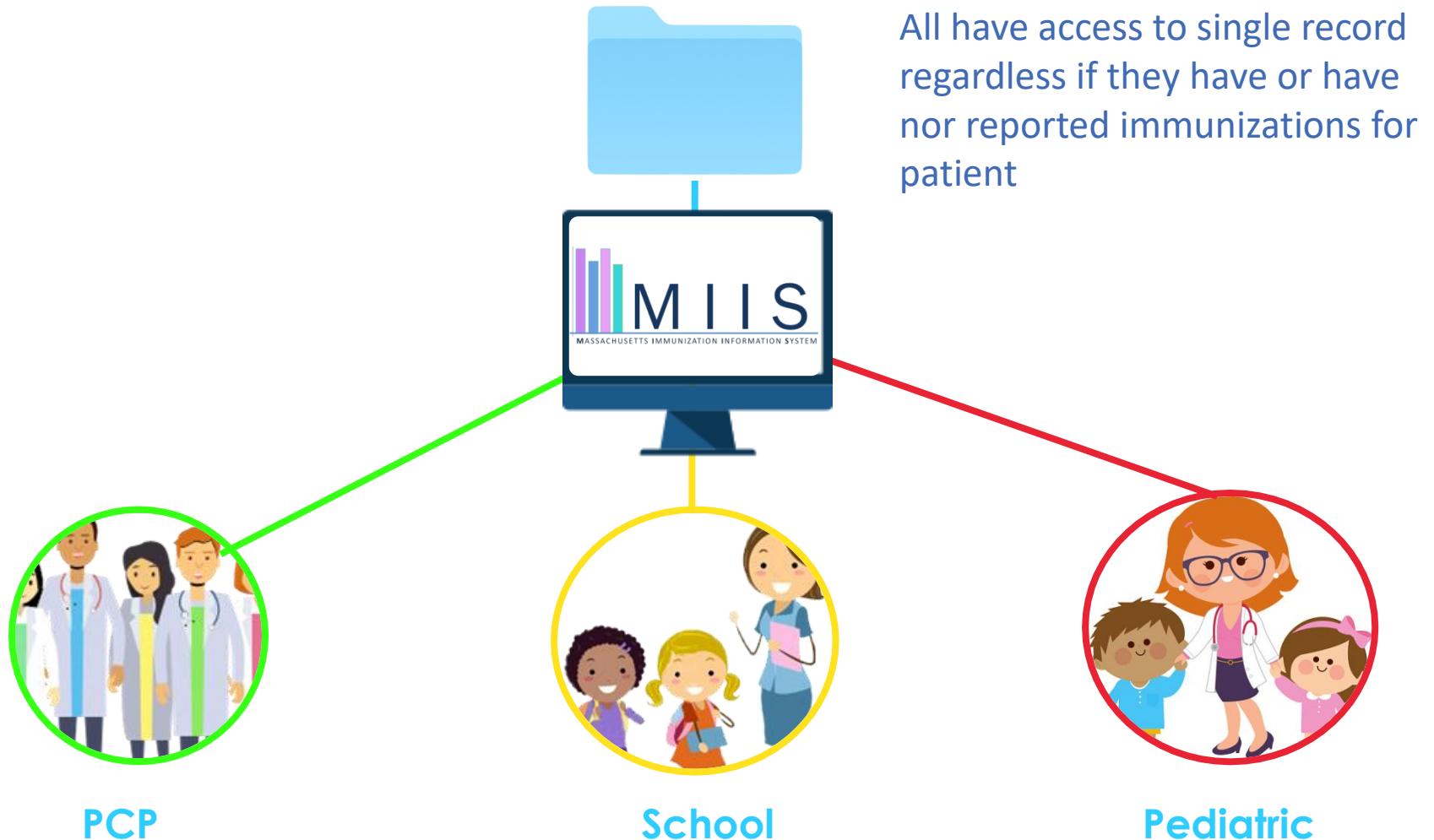
Regulations passed in January 2015, giving further details on legislation and compliance (105 CMR 222.000)

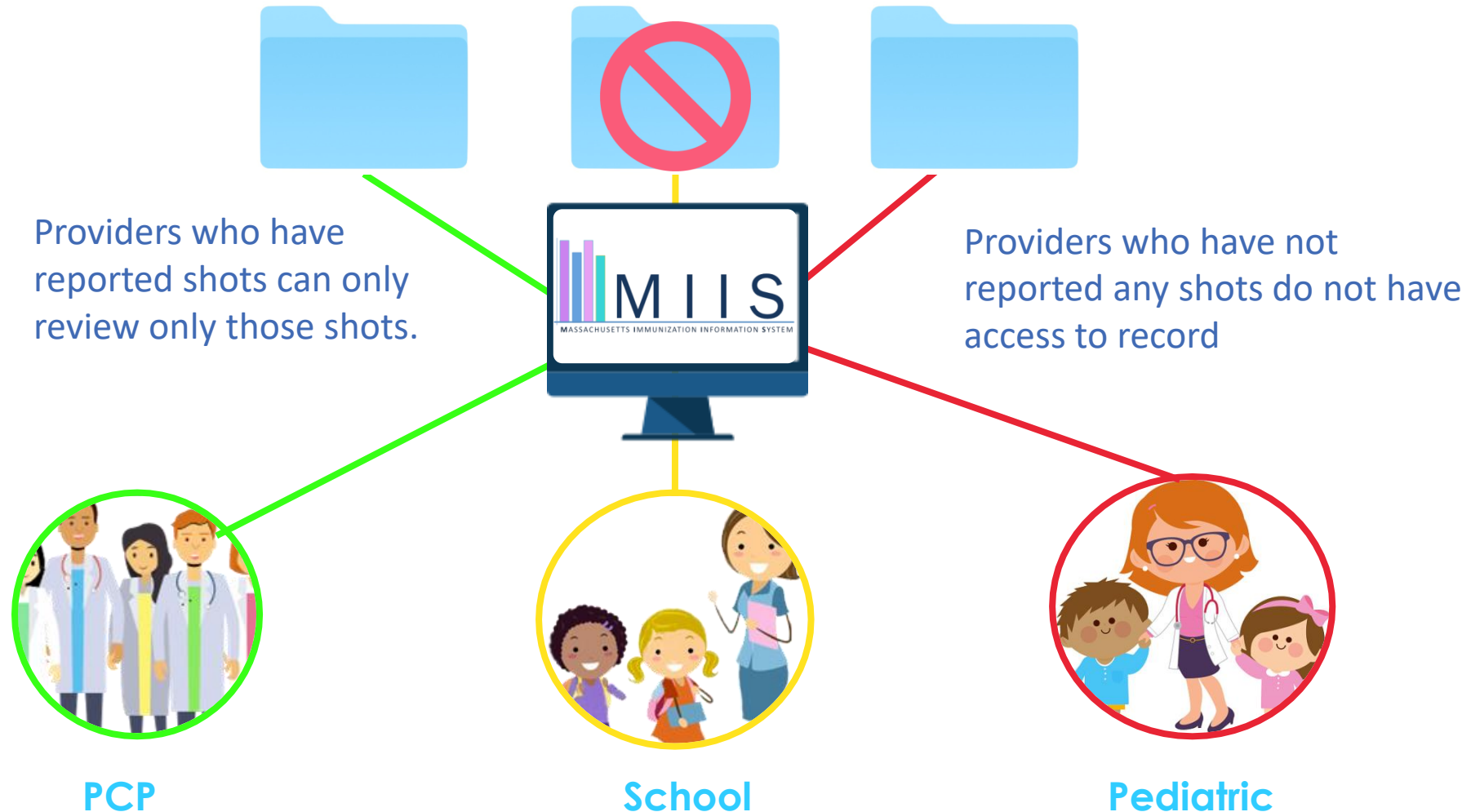**Mandatory to report all administered immunizations to the MIIS**

*Providers' Duty to Inform:* patients must be informed that their immunizations are bring reported to the MIIS

*Patients' Right to Object to Data Sharing:* all patients have the right to object (or withdraw a previous objection) to sharing their immunization data within the MIIS.

Adult Immunization Conference

# Data Sharing = YES

All have access to single record regardless if they have or have nor reported immunizations for patient

MIIS
MASSACHUSETTS IMMUNIZATION INFORMATION SYSTEM

PCP

School

Pediatric

# Data Sharing = NO or UNKNOWN

Providers who have reported shots can only review only those shots.

Providers who have not reported any shots do not have access to record

**PCP**

**School**

**Pediatric**

# **Data Reporting**

# How is data reported to the MIIS?



Flat File, 35.5%

HL7, 62%

Direct Data Entry / Roster, 2.5%

# Data Reporting Volume by Practice Type



Bar chart showing data reporting volume by practice type:
- Multi-Specialty Center: 12,157,598
- Pediatric Practice: 11,721,909
- Community Health Center: 10,683,187
- Hospital (Private): 4,853,060
- Commercial Pharmacy: 4,354,014
- Family Practice: 4,091,581
- Internal Medicine: 2,615,051
- Board of Health/Health Dept: 539,949
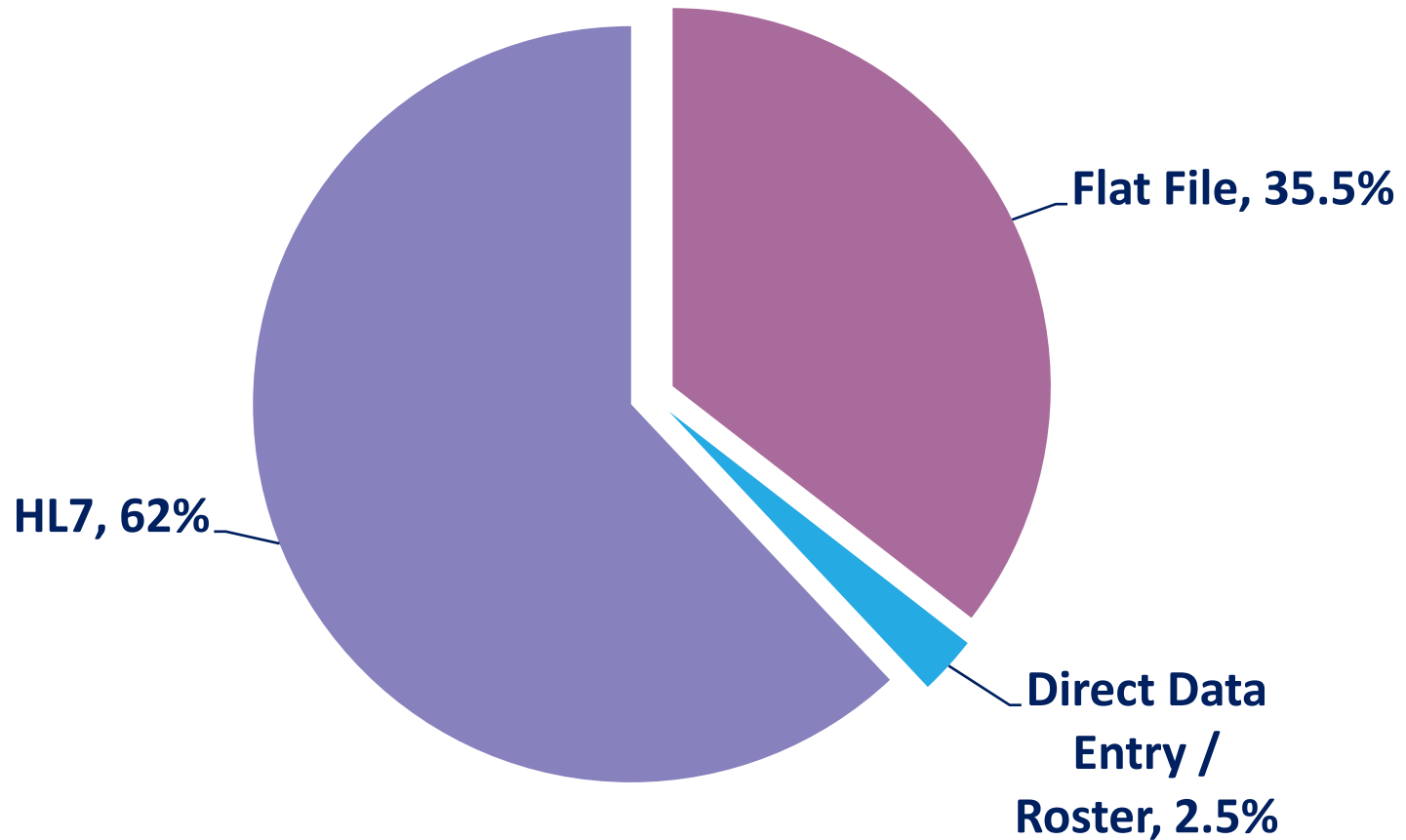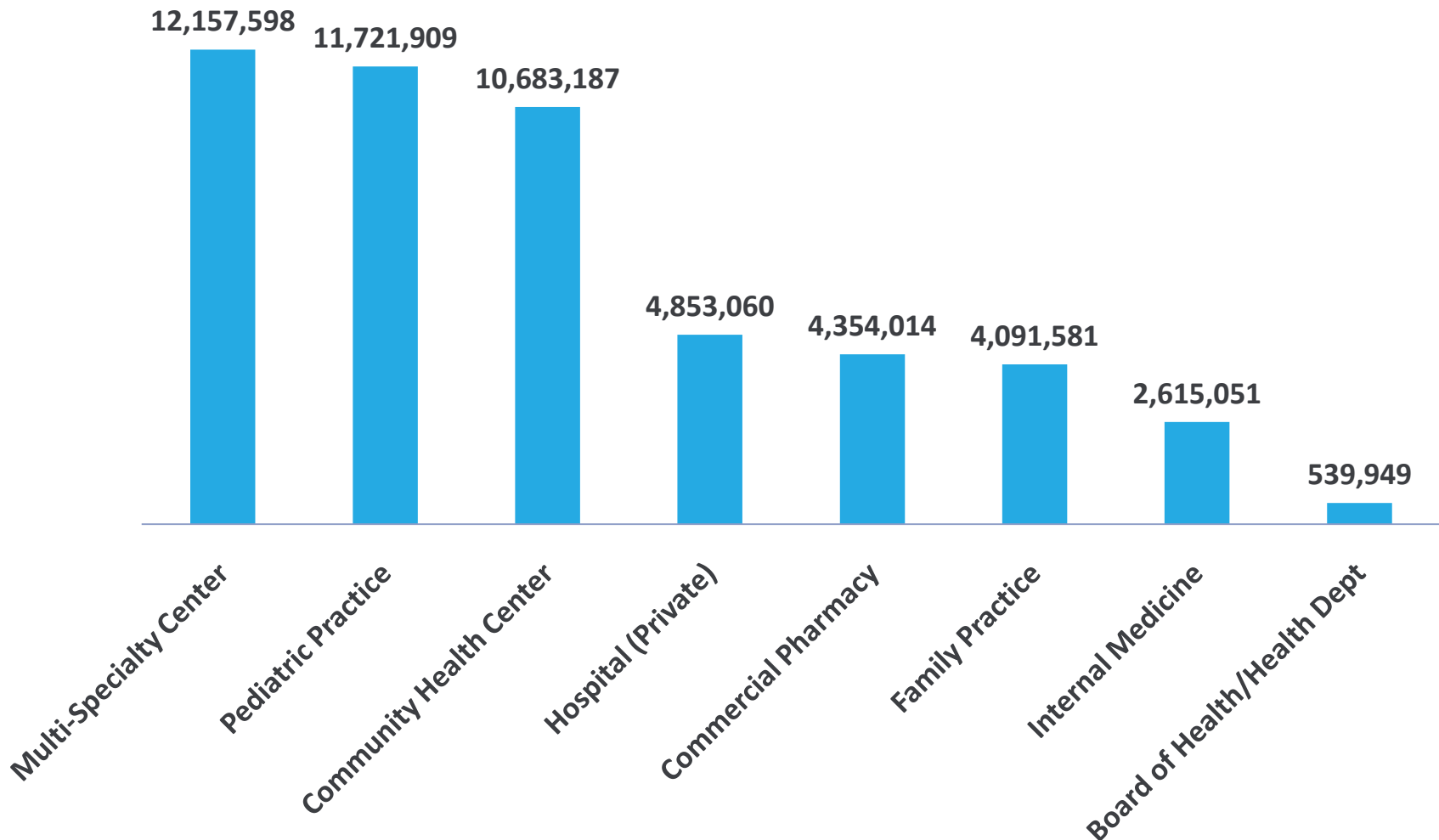
# My Site Features

# My Site

### STATE VACCINE PROGRAM ENROLLMENT

Enroll/Re-enroll annually to receive state supplied vaccine.

### SITE/USER MANAGEMENT

**NEW**

Update provider site information and add/remove user access to the MIIS.

### ONBOARDING

**NEW**

Submit your provider's site request to onboard with the MIIS to send immunization data, set up bi-directional querying or indicate an EHR transition.

### ADMIN CONSOLE

View a summary of HL7 messages, HL7 details and other HL7 reports.

### SYSTEM USAGE DASHBOARD

Review statistics about the practice, patients and users associated with the provider site.

### PROVIDER SCORE CARD COMING SOON!

# System Usage Dashboard

Useful information about the practice including shot, patient and user information

Data trends and totals

PDF export available

**Provider Site Name:**
**Site PIN:**

## Practice Information

**Two Year Comparison of Administered vs. Historical Immunizations - September 01, 2017 to August 31, 2019***


Immunizations Reported By Month
September 01, 2017 to August 31, 2019
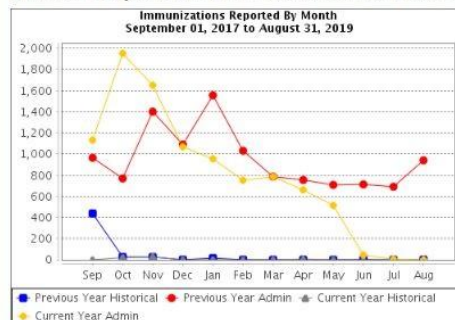
| MONTH | PREVIOUS YEAR ADMIN. | PREVIOUS YEAR HISTORICAL | CURRENT YEAR ADMIN. | CURRENT YEAR HISTORICAL |
|---|---|---|---|---|
| September | 964 | 438 | 1,132 | 0 |
| October | 770 | 27 | 1,952 | 21 |
| November | 1,401 | 26 | 1,651 | 29 |
| December | 1,089 | 1 | 1,068 | 0 |
| January | 1,556 | 16 | 955 | 1 |
| February | 1,031 | 1 | 752 | 0 |
| March | 786 | 0 | 785 | 0 |
| April | 755 | 1 | 660 | 7 |
| May | 708 | 0 | 514 | 0 |
| June | 713 | 2 | 45 | 1 |
| July | 691 | 0 | 6 | 1 |
| August | 941 | 1 | 0 | 0 |

**Total Immunizations Reported September 27, 2018 - September 26, 2019 = 8,622**


Source of Immunization
09/27/2018 - 09/26/2019
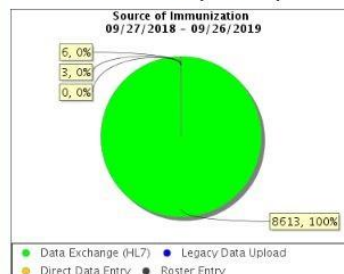
| SOURCE | NUMBER OF IMMUNIZATIONS REPORTED | PERCENT OF IMMUNIZATIONS REPORTED | LAST REPORTED |
|---|---|---|---|
| Data Exchange (HL7) | 8,613 | 100% | 07/02/2019 |
| Legacy Data Upload | 0 | 0% | N/A |
| Direct Data Entry | 3 | 0% | 07/02/2019 |
| Roster Entry | 6 | 0% | 07/11/2019 |

*Administered refers to immunizations administered at your practice. Historical refers to immunizations administered at a different provider practice.

# Data Exchange Terms

## HL7  (Health Level Seven)

- HL7 is a set of international standards for transfer of clinical and administrative data between software applications used by various healthcare providers.

## VXU  (Vaccine Event Submission)

- The HL7 VXU message is used for sending immunization events and associated patient data.

## QBP/RSP  (Query and Response)

- The HL7 QBP message is used for requesting immunization information. The HL7 RSP message is used for returning immunization information in response to a QBP message.

# HL7 Admin Console

Provides Access to the HL7 messages

Helps Providers and DPH Users Monitor Data

| Message quality | Missing data | Message counts |
|---|---|---|

# HL7 Admin Console

Select Report Type:
◯ HL7 Message Summary   ⦿ HL7 Message Details   ◯ HL7 Details - Query and Response   ◯ Data Quality Overview

The initial display will show the most recent messages received for all sites to which you have access.

You may filter these messages using the input variables below.

| | | | |
|---|---|---|---|
| Message Status: | Success with Warnings ▾ | MIIS ID: | |
| *Date Received (FROM): | 09/01/2019 02:58 PM | MRN: | |
| *Date Received (To): | 09/20/2019 02:58 PM | GW User ID: | |
| HL7 Message: | Contains ▾ | Keyword: | |
| Acknowledgement: | Contains ▾ | Keyword: | |

Reset     Submit

Close

## Massachusetts Immunization Information System

## Data Quality Overview

**Selected Site PIN:**
**Date Received From:** 01/31/2020 10:18 AM
**Date Received To:** 02/07/2020 10:18 AM

**Total HL7 Messages:** 114
**Total Administered Immunizations:** 169
**Total Historical Immunizations:** 16

| Description | Value |
|---|---|
| **Total Immunizations** | 185 |
| Number of administered immunizations given to patients >= 19 | 4 (2.4%) |
| Number of historical immunizations given to patients >= 19 | 2 (12.5%) |
| Number of administered immunizations given to patients < 19 | 165 (97.6%) |
| Number of historical immunizations given to patients < 19 | 14 (87.5%) |
| **Missing Data Elements from Administered Immunizations** | |
| VFC eligibility at the shot level, given to patients < 19 | 1 (0.6%) |
| Lot number | 0 (0.0%) |
| Lot type | 1 (0.6%) |
| Vaccine manufacturer | 0 (0.0%) |
| Route of administration | 0 (0.0%) |
| Site of administration | 15 (8.9%) |
| Dose size | 0 (0.0%) |
| Missing units or units not equal to ML | 0 (0.0%) |

| Incorrect Data Elements from Administered Immunizations | |
|---|---|
| Unmapped NDC | 169 (100.0%) |
| Vaccine Code (CVX) does not match the CVX derived from NDC | 0 (0.0%) |
| Vaccine manufacturer (MVX) does not match the MVX derived from NDC | 0 (0.0%) |
| **Total # of Administered Immunizations for each CVX code** | |
| DTaP,5 pertussis antigens (106) | 6 (3.6%) |
| DTaP-HepB-IPV (110) | 13 (7.7%) |
| DTaP-IPV (130) | 2 (1.2%) |
| Flu-IIV3(TIV), p-free (140) | 1 (0.6%) |
| Flu-IIV4, p-free (150) | 43 (25.4%) |
| HepA-Adult (52) | 1 (0.6%) |
| HepA-Peds 2 Dose (83) | 14 (8.3%) |
| Hib-PRP-T (48) | 19 (11.2%) |
| HPV9v (165) | 12 (7.1%) |
| MCV4-D (Menactra) (114) | 5 (3.0%) |
| MenB-4C (Bexsero) (163) | 1 (0.6%) |
| MenB-FHbp (Trumenba) (162) | 7 (4.1%) |
| MMR (03) | 2 (1.2%) |
| MMRV (94) | 2 (1.2%) |
| PCV13 (133) | 18 (10.7%) |

# HL7 Summary Email

# HL7 Summary Email

| Site PIN | Provider Name | Message Type | HL7 Messages | Success | Success With Warnings | Errors | Percent of Errors | Avg Processing Time(ms) | Avg weekly count | Percent change | Last Message Received |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | VXU | 144 | 110 | 11 | 23 | 16.2% | 1 | 175 | 82.3% | 2/23/2019 12:21 |

**SUCCESS:** *Displays the total number of HL7 messages successfully received.*

**SUCCESS WITH WARNINGS:** *Displays the total number of HL7 messages successfully received but had warnings. A warning is a missing or invalid field value that is not essential for the message. Please have your technical contact review these messages, and make corrections.*

**ERRORS:** *Displays the total number of HL7 messages that failed. Failed messages are not uploaded to the system. These messages require attention and resubmission. Please have your technical contact review these messages and resubmit.*

# HL7 Email Next Steps

Take note of your success/error rate and message count

If the error rate is greater than 5%, contact your IT/EHR vendor to report the failures

If the message count is lower than expected, use the Trouble Shooting Missing Data Guide and report issues

Gather additional information by logging into the MIIS and accessing the HL7 admin console

# MIIS Reports

Adult Immunization Conference

# What Reports?

| Coverage Reports | Practice Population Report | Patients Vaccinated Report |
| --- | --- | --- |
| Invalid Dose Report | Reminder Recall | Inventory Decrementing Tool |

# Coverage Reports

## Custom Coverage Report

- Ages (any) Evaluates at either Age (any) or Date (any)

## Adolescent 13-17-year-old Report

- Ages (13-17 Years inclusive) Evaluates as of (date indicated)

## Standard Adolescent Coverage Report - *NEW*

- Ages (13 years inclusive) Evaluates as of 13 years

## Standard Childhood Coverage Report

- Ages (24-35 months inclusive) Evaluates at age 24 months

## Massachusetts Immunization Information System

## Custom Coverage Report

**Report Name:** [redacted]
**Age Range:** 55 Year(s) to 100 Year(s) (inclusive)
**Today's Date:** 02/27/2020
**Provider Name:** [redacted]

**As Of Date:** 02/27/2020
**Birth Date Range:** 02/28/1919 - 02/27/1965
**Selected PIN(s):** [redacted]
**Assessment Date:** 02/27/2020

### Selected Parameters:

**Patient Status:** Active

**Go LIVE Date:** 12/29/2014
**Number of Patients Assessed:** 77617
Evaluation of Immunization Rates as of: 02/27/2020

| Vaccine Group | Count | Percentage | Number of Doses Evaluated |
|---|---|---|---|
| RZV (Shingrix) | 2340 | 3% | ≥ 2 Recombinant Zoster Vaccine (RZV) |
| ZVL (Zostavax) | 11298 | 15% | ≥ 1 Zoster Vaccine Live (ZVL) |
| All Antigens | 904 | 1% | Receipt of all the doses listed above |

# Practice Population Report

Allows providers to see a complete list of their patients

Patient status can be managed in bulk from this report

Managing patient status will help with all reports and deduplication queues!

Available in PDF output

# Practice Population Report

Patient Listing PDF

## Practice Population Report

**Selected Site PIN:** 88812    **Provider Name:** Vaccine Ordering

**Age Range:** 1 Months to 100 Years (inclusive)    **Age as of:** 03/26/2020

Selected Parameters:

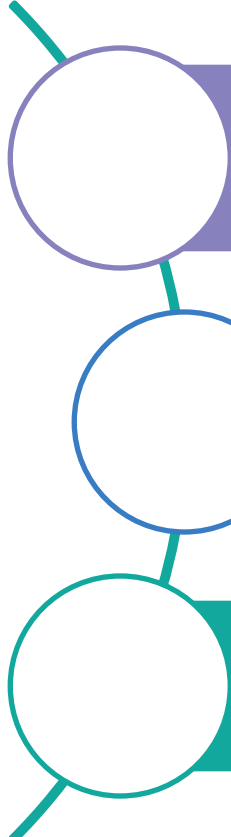**Patient Status:** Active

**Total Patient Count:** 4
**Total Number of Immunizations Administered by this Site:** 4
**Percent of Patients with Data Sharing 'No':** 0%

Update Patient Status

| LAST NAME ⬍ | FIRST NAME ⬍ | MIDDLE NAME ⬍ | BIRTH DATE ⬍ | MRN ⬍ | MIIS ID ⬍ | PATIENT STATUS ⬍ | DATA SHARING STATUS ⬍ | NUMBER OF IMMS ADMIN AT THIS SITE ⬍ | DATE OF MOST RECENTLY ADMIN IMM AT THIS SITE ⬍ | TOTAL IMMS IN THE MIIS ⬍ |
|---|---|---|---|---|---|---|---|---|---|---|
| DKDFVU | URWAS | | 07/01/1977 | | 3651674 | Active | Yes | 1 | 03/26/2020 | 1 |
| DYDXXDBQ | OBGBPLBW | UFXVPVPA | 05/05/1988 | | 8522233 | Active | Yes | 1 | 03/26/2020(NV) | 11 |
| LNZYGOMDOL | CHXFIMTUVC | | 08/20/1986 | | 8579556 | Active | Yes | 1 | 03/26/2020 | 2 |
| MGSMNKXPGK | ESYTCKHWKN | | 06/01/2013 | | 8560749 | Active | Yes | 1 | 03/26/2020 | 2 |

Close

# Patient's Vaccinated Report

Providers may see who and how many patients they vaccinated within a time frame

Providers may run this report for one vaccine, several vaccines, or all vaccines

Available in PDF Export

# Patient's Vaccinated Report

Patient Listing PDF

## Patients Vaccinated Report

**Report Name:** test        **Selected Site PIN:** 88812

**Provider Name:** Vaccine Ordering    **Vaccine Administration Date Range:** 01/01/2000 - 03/26/2020

**Vaccine Group:** Any Vaccine

### Selected Parameters:

**Patient Status:** Active

**Number of Patients Vaccinated:** 4

| LAST NAME | FIRST NAME | MIDDLE NAME | BIRTH DATE | MRN | VACCINE | LOT NUMBER | DATE GIVEN |
|---|---|---|---|---|---|---|---|
| DKDFVU | URWAS | | 07/01/1977 | | Flu-ccIIV4, p-free | jjjjjjjjjjjjjjjjjjjj | 03/26/2020 |
| DYDXXDBQ | OBGBPLBW | UFXVPVPA | 05/05/1988 | | Rotavirus, pentavalent | dxgcbbc | 03/26/2020 (NV) |
| LNZYGOMDOL | CHXFIMTUVC | | 08/20/1986 | | Td | ffffffffffffff | 03/26/2020 |
| MGSMNKXPGK | ESYTCKHWKN | | 06/01/2013 | | DTaP-Hib-IPV | kkkkkkkkkkkkkk | 03/26/2020 |

Update Validity/Recall Status

# Invalid Dose Report

Totals doses that are invalid in the MIIS for their patients

Available in PDF or Excel outputs

Great tool for identifying administration errors and ensuring patients are properly protected

**Massachusetts Immunization Information System**

**Invalid Dose Report**

**Selected PIN(s):** 88812
**Immunizations Reported By:** Any Facility
**Vaccine Group:** Any Vaccine

**Provider Name:** Vaccine Ordering
**Vaccine Administration Date Range:** 01/01/2000 - 03/26/2020

**Selected Parameters:**

**Patient Status:**   Active

| Vaccine Group | Vaccine | Doses Given | IFM Invalid | Incomplete Dosage | Expired Lot Administered | Storage/Handling Issue (if forced invalid) | Affected by Recall (if forced invalid) | Forced Invalid Unspecified | Total Invalid Doses Given |
|---|---|---|---|---|---|---|---|---|---|
| HepB | HepB-Peds | 2 | 2 (100.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 2 (100.0%) |
| MCV | MCV4-D (Menactra) | 2 | 1 (50.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (50.0%) |
| Rotavirus | Rotavirus, pentavalent | 1 | 1 (100.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (100.0%) |
| Tdap | Tdap | 1 | 1 (100.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 1 (100.0%) |
| **Total** | | 6 | 5 (83.3%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 5 (83.3%) |

**Total Invalid Immunization Count:** 5

| Last Name | First Name | Middle Name | Birth Date | Vaccine | Date Given | Administered By | Reason Code |
|---|---|---|---|---|---|---|---|
| DYDXXDBQ | OBGBPLBW | UFXVPVPA | 05/05/1988 | HepB-Peds | 05/05/2019 | | IFM Invalid |
| DYDXXDBQ | OBGBPLBW | UFXVPVPA | 05/05/1988 | HepB-Peds | 04/05/2019 | | IFM Invalid |
| DYDXXDBQ | OBGBPLBW | UFXVPVPA | 05/05/1988 | MCV4-D (Menactra) | 05/05/2019 | | IFM Invalid |
| DYDXXDBQ | OBGBPLBW | UFXVPVPA | 05/05/1988 | Rotavirus, pentavalent | 03/26/2020 | test | IFM Invalid |
| MGSMNKXPGK | ESYTCKHWKN | | 06/01/2013 | Tdap | 09/11/2019 | Automation User | IFM Invalid |

# **Reminder Recall**

Allows providers to run reminder recalls for their patients directly from the MIIS

Letters, Postcards and mailing labels are available to print

Reminder recall reports can be exported via PDF or Excel

# Reminder Recall

| Patient Listing PDF | Patient Listing Excel | Letters | Postcards | Labels |

## Reminder Recall Report

**Report Name:** test     **Selected Site PIN:** 88812

**Provider Name:** Vaccine Ordering     **Age Range:** 1 Months - 100 Years (inclusive)

**Age as of:** 03/26/2020     **Immunization Due Date Time Frame:** Due Now

### Selected Parameters:

**Selected Vaccine Groups:** All Vaccines
**Patient Status:** Active

Additional Text:
(Optional, to be added to each letter)

☐ Select/Deselect All

**Patient Listing**

**Total Patients:** 4

Note: Patient records where an address is not complete are not available to be selected for printing.

| LAST NAME ⇕ | FIRST NAME ⇕ | MIDDLE NAME | BIRTH DATE ⇕ | AGE | DUE/OVERDUE GROUPS | FORECAST | TEXT LANGUAGE | PHONE NUMBER | REMINDER RECALL ADDRESS | SELECT TO PRINT |
|---|---|---|---|---|---|---|---|---|---|---|
| DKDFVU | URWAS | | 07/01/1977 | 42 yr 8 mo | MMR, Tdap, Varicella | View | English ▾ | Home: (999) 999-9999<br>Mobile: (586) 379-8002 | | ☐ |
| DYDXXDBQ | OBGBPLBW | UFXVPVPA | 05/05/1988 | 31 yr 10 mo | Flu, HepB, Tdap, Varicella | View | English ▾ | Home: (000) 000-0000<br>Work: (000) 100-0000<br>Mobile: (000) 200-0000 | | ☐ |
| LNZYGOMDOL | CHXFIMTUVC | | 08/20/1986 | 33 yr 7 mo | Tdap Flu, MMR, Varicella | View | English ▾ | | | ☐ |
| MGSMNKXPGK | ESYTCKHWKN | | 06/01/2013 | 6 yr 9 mo | Flu, HepA, HepB, MMR, Varicella | View | English ▾ | | | ☐ |

# Inventory Decrementing Tool

Generates a list of vaccines that were not deducted from a provider's inventory when saved to a patient's record.

Allows users to correct errors to the immunization record and correctly deduct vaccine doses from their inventory.

Helpful Tips

Historical Immunizations Do Not Decrement!

Private immunizations do not decrement *unless* you manually add your private inventory to the MIIS

# Inventory Decrementing Tool

## Inventory Decrementing Tool

**Selected Site PIN :** 88812    **Date Given Range:** 01/01/2010 - 03/26/2020

**Vaccine Type :** Routine

**Immunizations Remaining After Auto-Decrementing**

**Total Immunizations:** 3

| ACTION | RECORD SOURCE TYPE ⇕ | VACCINE ⇕ | LOT TYPE ⇕ | LOT NUMBER ⇕ | NDC ⇕ | REASON FOR NOT DEDUCTING ⇕ | CURRENT CALCULATED INVENTORY | DATE GIVEN ⇕ | ADMINISTERED BY ⇕ | PATIENT NAME | DATE OF BIRTH |
|--------|---------------------|-----------|------------|--------------|-------|---------------------------|------------------------------|--------------|-------------------|--------------|---------------|
| Reset | Administered | DTaP-Hib-IPV | Private | kkkkkkkkkkkk | | Vaccine and lot number combination not found in inventory | N/A | 03/26/2020 | test | ESYTCKHWKN MGSMNKXPGK | 06/01/2013 |
| Reset | Administered | Rotavirus, pentavalent | Private | dxgcbbc | | Vaccine and lot number combination not found in inventory | N/A | 03/26/2020 | test | OBGBPLBW DYDXXDBQ | 05/05/1988 |
| Reset | Administered | Td | State | ffffffffffffff | | Vaccine and lot number combination not found in inventory | N/A | 03/26/2020 | test | CHXFIMTUVC LNZYGOMDOL | 08/20/1986 |

Adult Immunization Conference

**Contact US**

**MIIS Help Desk**
**P: 617-983-4335**
**F: 617-983-4301**
**W: www.contactmiis.info**
**E: miishelpdesk@state.ma.us**

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