



**AIRA**  
AMERICAN IMMUNIZATION  
REGISTRY ASSOCIATION

# HL7 Immunization User Group

Monthly Meeting  
October 10, 2018  
2:00 PM ET

# Agenda

- Welcome
  - Poll: Which perspective do you primarily identify yourself with?
- Updates
  - SISC Update
- Patient Matching discussion, *continued from last month*



# SISC Update

Craig Newman



# Patient Matching Presentation

Greg Faber, Integration Engineer, Epic



The background features abstract, overlapping green geometric shapes in various shades, including light lime green, medium green, and dark forest green. These shapes are primarily located on the left and right sides of the slide, framing the central white area.

# Vaccination Query: Patient Validation

Gregory Faber, PhD

# Example QBP

```
MSH|^~\&|EPIC|1363-92-21|ABCD|EFGH|20171030141149|M106368  
|QBP^Q11^QBP_Q11|3629|T|2.5.1|||AL|NE|||Z44^CDCPHINVS|
```

```
QPD|Z44^Request Evaluated History and Forecast^CDCPHINVS|36117|  
2000005927^^^EPIC^MRN|OLD^MACDONALD^^^^L||19571030|F|6854 HADAFARM  
DR^^VERONA^WI^53953^US^L^^DANE|^PRN^H^^^608^2719000
```

```
RCP|I|1^RD^HL70126|R^Real Time^HL70394
```

- ▶ Facility Identifier - **MSH-4**
- ▶ Quantity Limited Request - **RCP-2** - Hard coded to 1

# Patient Identifying Information

```
QPD|Z44^Request Evaluated History and Forecast^CDCPHINVS|36117|  
2000005927^^^EPIC^MR~531455^^^REGISTRY^RN|OLD^MACDONALD^^^L||19571030  
|F|6854 HADAFARM DR^^VERONA^WI^53953^US^L^^DANE|^PRN^H^^^608^2719000
```

▶ Query ID

▶ MRN

▶ Name

▶ DOB

▶ Gender

▶ Address

▶ Phone

- ▶ Epic supports sending the Registry MRN as well as filing the Registry MRN on the query response.
- ▶ Epic supports both Z34 (Request Complete Immunization History Query Profile) and Z44 (Request Evaluated History and Forecast)

# Patient Validation on RSP^K11

## Patient Validation

Validation Mode:  Basic Validation  Extended Validation  Identity Duplicate Configuration  No Patient Validation

### Patient Validation

Validate resubmitted messages?  No, skip validation  Yes, validate resubmitted messages

Validate duplicate patients?  No, skip validation  Yes, validate patients from IDC

Action if validation fails: Error Only

### Basic Setup

Last Name Characters: 3

First Name Characters: 3

Include Suffixes: No

Include Aliases: Yes (also using PID-9)

Sounds-like: Yes, last name only

Social Security Number: Exact Match

Gender: Exact Match

Date of birth: Exact Match

+ / - Percent:



# Patient Validation on RSP^K11

Duplicate Configuration Setup for 100003 - STANDARD IDENTITY DUPLICATE CONFIGURATION

Configure Settings Testing

**Name Properties**

Available Name Properties

Property
Patient and Duplicate Name Unknown
Patient or Duplicate Name Unknown

Add >

Remove <

Clear <<

Name Properties in Use

Property	Weight
Exact Name	10
Exact Full Name Alias	10
Exact Full Name (No Spaces or Punctua	10
Exact Full Name Alias (No Spaces or P	10
Exact Name Without Suffix	9

New Edit Delete

Property	Weight
<b>Low Threshold</b>	<b>17</b>
High Threshold	29
<b>Sex Properties</b>	
Exact Sex	1
Patient and Duplicate Sex Unknown	0.1
Patient or Duplicate Sex Unknown	0.1
<b>Birth Date Properties</b>	
Exact Birth Date	7
Birth Date Fuzzy	1
Fuzzy Percentage	2.5
Birth Date Month and Day Match	2
Birth Date Month and Year Match	2
Birth Date Day and Year Match	2

Unknown Names	Unknown Birth Dates
DOE,JOHN	1/1/1841
DOE,JANE	
DOE,JO	

Groups
1 RACE
2 FAMILY MEMBERS
3

Group	Custom Property	Weight
1	EXACT RACE [108]	1
2	EXACT RELIGION [117]	3

Restore

Accept and Stay Accept Cancel

# End-user Interactions with RSP^K11

- ▶ Displayed strings
  - ▶ Patient validation failed
    - ▶ Patient validation of the returned query response from the registry was unsuccessful.
  - ▶ No patient found (QAK-2=NF)
    - ▶ The registry does not have data for this patient.
  - ▶ Multiple patients found.
    - ▶ A unique patient could not be identified.
- ▶ Epic can display appropriate error strings received in the RSP
  - ▶ MSA-3 (Currently supported)
  - ▶ ERR-8 (Upcoming development)

```
MSH|^~\&|MIIS|99990|LAHEY|13942|20180813161337||RSP^K11^RSP_K11|A  
CK-20180813-161337-903|T|2.5.1|||NE|AL|||Z33^CDCPHINVS  
MSA|AA|470  
ERR|||0^Message Accepted^HL70357|I|11^No Match - Data Sharing  
No^HL70533|||A match was found in the registry but no value is  
returned since Data Sharing for the record is set to No
```

# Contact Information

▶ Greg Faber - [gfaber@epic.com](mailto:gfaber@epic.com)

# Patient Matching Presentation

Mike Loula, Lead Business Analyst, DXC

Aaron Wallisch, IR Solutions Software Architect, DXC



- *For incoming data (VXU's) what sort of patient matching algorithm(s) do you use?*
  - *For example, exact matches for certain demographic elements (e.g., first name, last name, DOB, gender)?*
  - *A weighted matching algorithm considering a number of different demographic elements?*

WIR based systems use a patient deduplication program called RunMatch

- It scores every record with a matching first name, last name, or birth date
- Name components, dates, gender, and address components are all scored separately
- Scoring varies based on:
  - Exact match
  - Partial match
  - Variations (Robert/Rob/Bob)
  - Switched characters or digits
  - Soundex
  - Commonality of data
- Each component has min/max possible scores
- Sum of the component scores must be over a threshold to be considered a match

- *When responding to queries (QBP) what matching/searching strategies do you use?  
(Is this same or different matching process as VXUs or UI look up)*

- QBP's use the same matching logic as VXU's

- The UI uses the same logic, but has a lower threshold than VXU's and QBP's

- Lets the user make the final determination if it is a match or not

- *What role does the submitter MRN play in patient matching?*
  - *Is there any sort of mechanism where a previously-stored MRN may “fast track” a subsequent patient match?*
  - *How does the IIS differentiate between MRN values that may be the same for different patients but assigned by different provider organizations?*
- Current RunMatch algorithm only uses MRN for a state Medicaid organization
- Recent enhancement (going into pilot testing) will score MRN for organizations
  - Counts as an additional field being contributed to the overall score
  - Is not enough to be considered a match on its own
  - Only considers MRN(s) for the organization submitting the VXU or QBP, not from different provider organizations

- *What role does the IIS ID (a.k.a. “SR ID,” or in some jurisdictions, “LR ID”) play in patient matching?*
  - *Are there scenarios when its presence in a QBP would not guarantee an exact match RSP? I.e., might there be a possibility of a “death loop” of Z31 multi-match RSPs if the queried demographics don’t sufficiently match the patient in the IIS even when the SR ID is present in the QBP?*
- The IIS ID is not used as part of the current patient matching algorithm
- Some states treat it as a secondary chart number



• *What does your IIS return when a QBP matches a single patient in the IIS but not with the highest confidence?*

- *A Z32 / Z42 RSP containing the immunization history for that patient?*
- *A Z31 RSP containing just one potential matching patient?*
- *A Z33 “Too Many” RSP? A Z33 “Not Found” RSP?*

• If a QBP sent in scores high enough to match a single patient, the IIS returns a Z32 RSP with the Immunization history for the patient.

• If a QBP sent in where no patient is matched, the IIS returns a Z33 NF (Not Found) RSP

• If a QBP sent in has one or more possible matches, the IIS returns a Z31 RSP containing potential matching patients

# Next Meeting

November, 8th

2:00 pm ET / 11:00 am PT



# More Information

- Web Links

- Subscribe to immunization group

<http://www.hl7.org/participate/UserGroups.cfm?UserGroup=Immunization>

- Public User Group Wiki

<http://www.hl7.org/special/committees/iug/index.cfm>

- Private User Group Wiki

<http://iugwiki.hl7.org/>

- HL7 Press Release

[http://www.hl7.org/documentcenter/public\\_temp\\_F760602A-1C23-BA17-0C0D326E635471F9/pressreleases/HL7\\_PRESS\\_20140402.pdf](http://www.hl7.org/documentcenter/public_temp_F760602A-1C23-BA17-0C0D326E635471F9/pressreleases/HL7_PRESS_20140402.pdf)

- AIRA Press Release

<http://www.immregistries.org/events/2014/04/10/hl7-immunization-user-group>



# Contact Information

If you have any questions or comments:

- Kim Salisbury-Keith [Kim.SalisburyKeith@health.ri.gov](mailto:Kim.SalisburyKeith@health.ri.gov)
- Nathan Bunker [nbunker@immregistries.org](mailto:nbunker@immregistries.org)
- Kevin Snow [ksnow@envisiontechnology.com](mailto:ksnow@envisiontechnology.com)
- Danny Wise [Danny.Wise@allscripts.com](mailto:Danny.Wise@allscripts.com)

Thank you!

