HL7 Immunization User Group

MONTHLY MEETING

OCTOBER 20, 2016

2:00 PM ET

Agenda

- Welcome
- Updates
  - HL7 Workgroup Meeting (Nathan Bunker)
  - 2016 National Immunization Conference (Eric Larson)
  - CMS Update (Mary Beth Kurilo)
- Introduction to ACKs (Nathan Bunker)
- EHR Presentation:
  - Deborah Saeger from Cerner
- Recent Support Activity

Updates

Updates

- HL7 Workgroup Meeting
  - September 2016: Baltimore MD
  - January 2016: San Antonio TX
- 2016 National Immunization Conference
- Medicare & Medicaid Services (CMS) Update
  - Developing a centralized repository of Meaningful Use readiness
  - Public Health Agencies must submit this information to CMS by Oct 31
  - Links:
    - https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/EHR_CentRepos_Form.pdf
    - http://www.cdc.gov/ehrmeaningfuluse/meaningful-use-mu-public-health-ph-reporting-requirements-task-force.html

Introduction to Acknowledgement Messages

NATHAN BUNKER

Acknowledgement Messages

Part of the original HL7 v2 standard

- Originally built for Admission/Discharge/Transfer message (ADT)

Adapted by IIS to:

- Confirm that data was transmitted successfully
- Indicate issues that may need to be corrected by the sender

IIS Support

- IIS with real-time interfaces support ACK messages
- Most IIS use ACK messages to indicate problems with the message
- Format and usefulness of ACK messages varies by IIS

EHR Support

- IIS have anecdotally reported that use of ACK data is very limted

Future Vision

Vision from IIS perspective:

- All important issues related to a specific message are documented and returned in the ACK message
- ACK message contains all the information that is technically needed to troubleshoot message level issues (issues related to coded values, format, structure, etc.)
- EHR can read ACK messages and display results in a way the user can readily take action on

Vision from EHR perspective:

- Clear ACK messages that clearly indicate what happened at the IIS and what next steps, if any, are needed by the EHR in regards to the message
- ACK messages that are consistent from one IIS to the next

Working Towards That Vision

MU 3 Certification for EHR systems

- Requires EHR systems to read Acknowledgment messages and display them to users

IIS Discovery and Assessment, AIRA:

- Conducted discovery testing to determine state of IIS ACK messages
- Created a set of recommendations to clarify the use of ACK messages
- Is providing targeted technical assistance to help IIS bring ACK messages into alignment with standards
- Leading the community to create an assessment process for ACK messages

NIST

- Created tool that IIS can use to verify and test their ACK messages
- Tool is integrated into AIRA Discovery and Assessment testing

ACK Report – What We Analyzed

VXU #1 (Clean Simple message)

- Contained 3 immunizations
- Confirmed acceptance by IIS through ACK

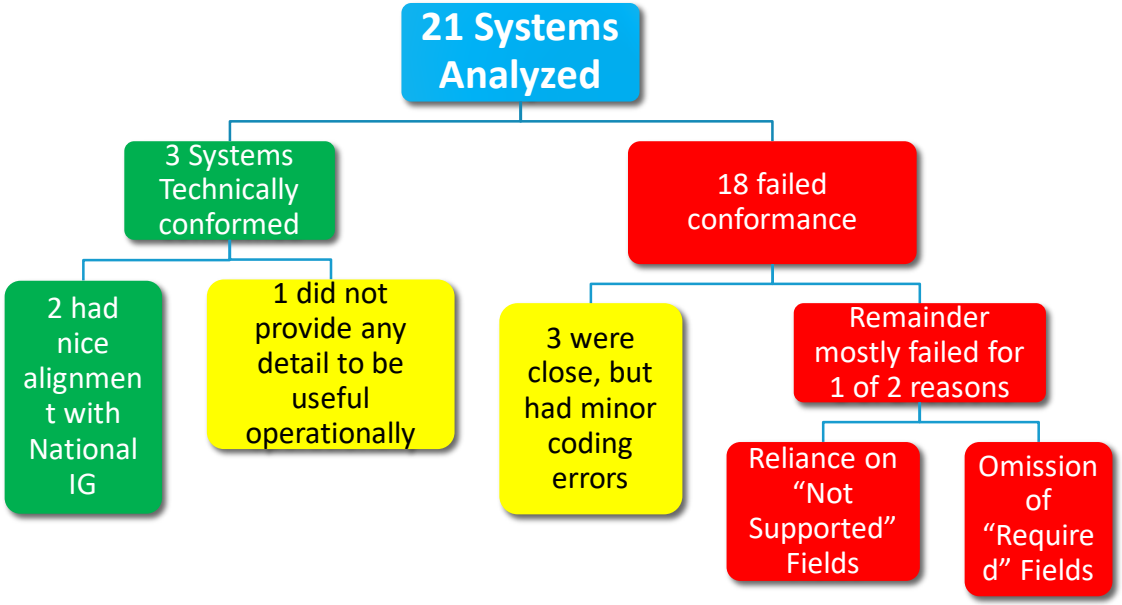
VXU #2 (Erroneous Message)

- Still contained 3 immunizations, but one immunization had missing vaccine type
  - e.g., no CVX code was provided
- New Demographic information to avoid patient matching by IIS

Analysis

- Analyze ACK from VXU #2 for conformance to the National IG

ACK Report – What We Found



Sample Reasons for Failures

- Reliance on MSA-3: 12
- No ERR segment: 8
- Missing ERR-4: 8
- Missing ERR-3: 2
- Reliance on ERR-1: 2
- Incorrect usage of AR Code: 6
- Multiple MSA segments: 3

ACK Report – What We Recommend

ACK Alignment

- Encourage IIS to align with release 1.5 of the National IG.

Develop Focused Guidance

- Provide a short and directed community-developed Guidance Document to aid IIS implementers to ensure consistency.

Long-term improvements to the National IG

- Plan for updates to a future release of the National IG to create tighter conformance statements.
- Review the current processing rules (Table 3-1) in the National IG.

Other Considerations

- Consider expanding the ACK message to provide information on partially successful (or accepted) information.

EHR Presentation

DEBORAH SAEGER FROM CERNER

HL7 User Group meeting

Deborah Saeger

Software Architect

Acknowledgement messages

- Our latest release of software supports the acknowledgement messages
- Only warning and error acknowledgement messages are communicated to the client
- The warning/error acknowledgement messages are communicated via an error notice routed to an error queue/printer
- Monitoring of the error notices is the responsibility of the client, typically the IT staff

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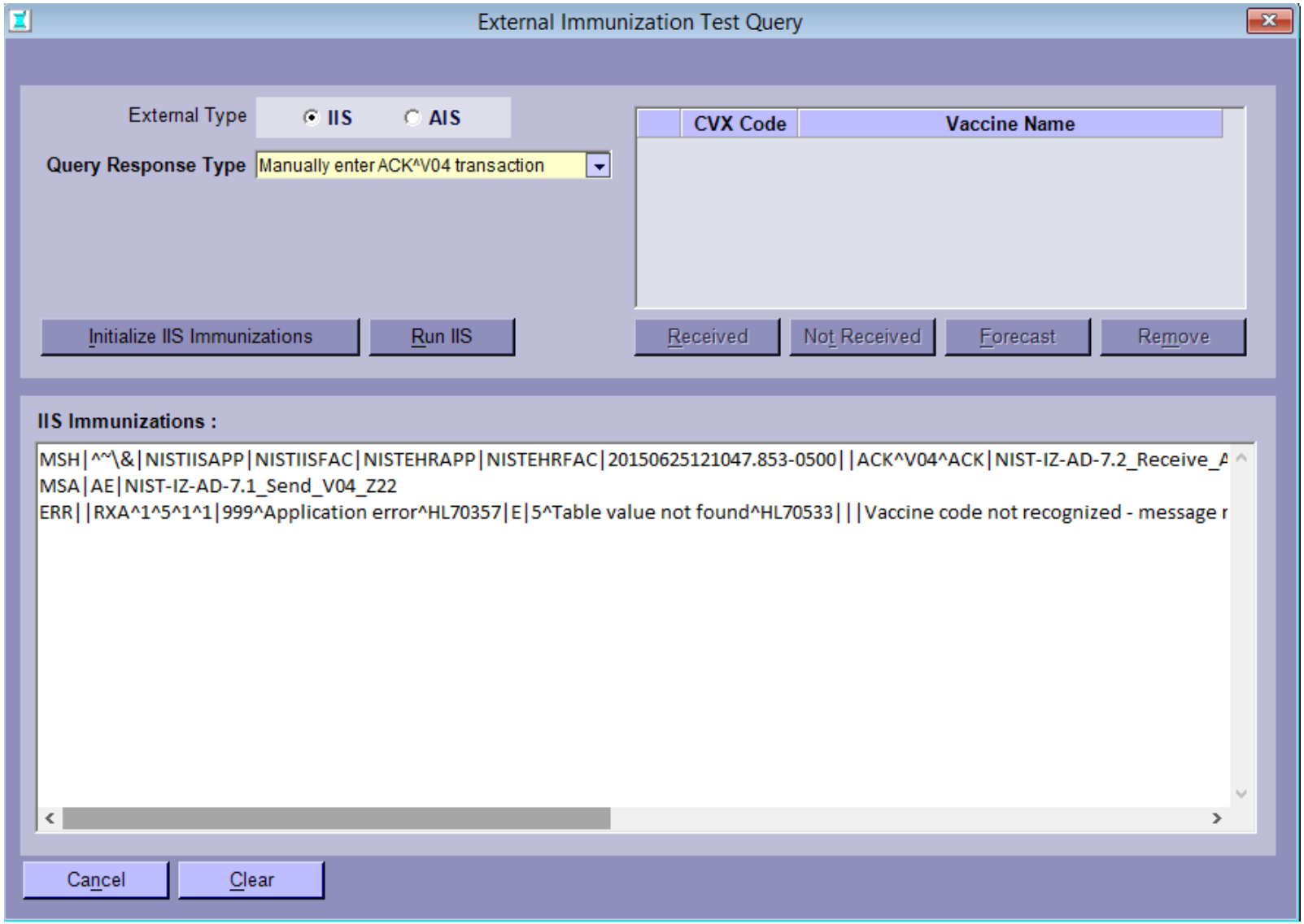
Acknowledgement messages



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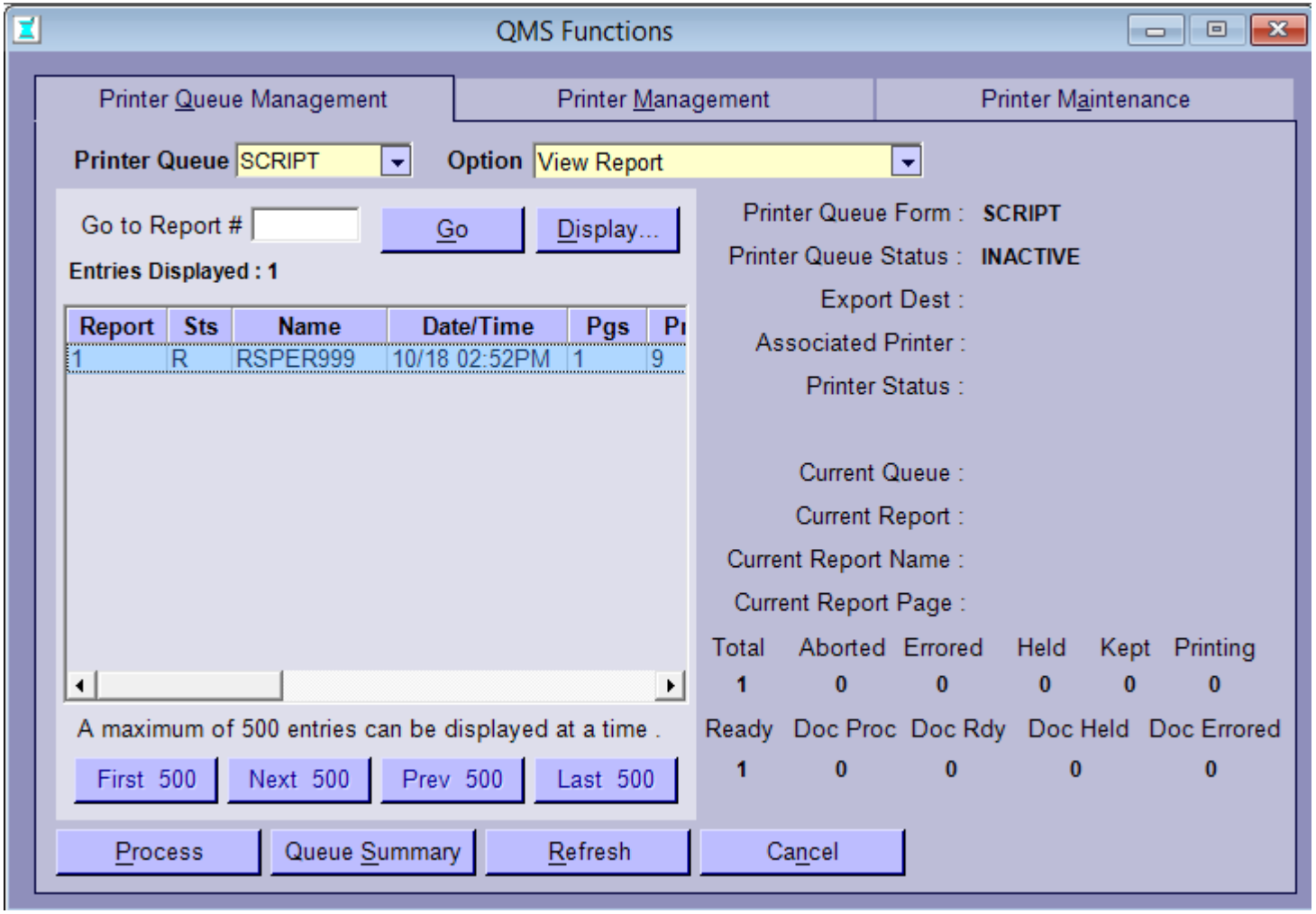

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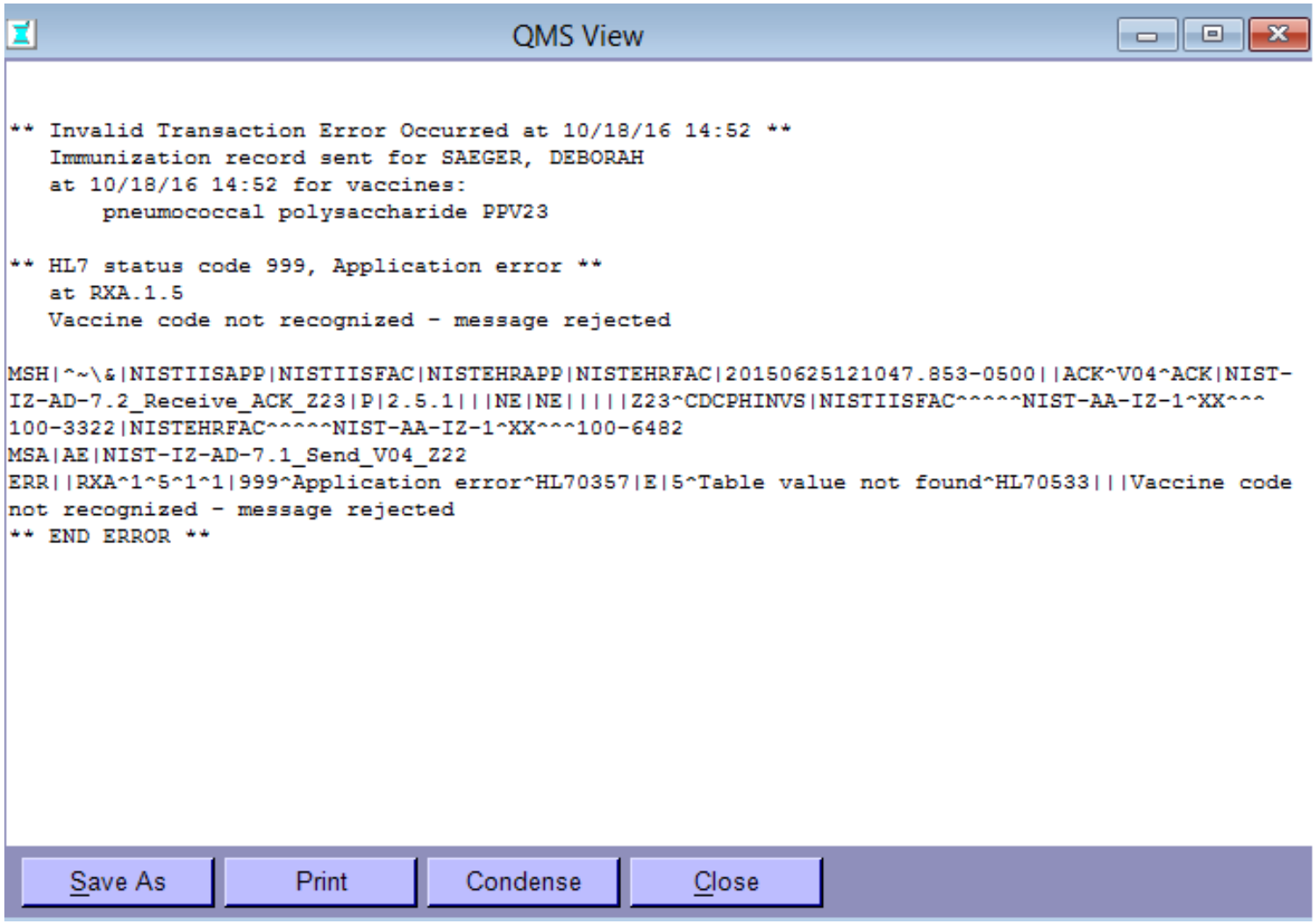
Acknowledgement messages



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Acknowledgement messages

Any Questions?

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Recent Support Activity

NATHAN BUNKER

ID Types in RSP PID-3

What patient identifier types should be sent in a query response?

- Should the MRN be sent?
- Should the IIS id be sent?

QPD-3 should echo what was sent in the QBP, echoing back the id that was supplied in the query

PID-3 can repeat so more than one identifier can be sent:

- The IIS id and the provider's MRN (if known) can both be sent
- The IIS id should use a value of 'SR' in PID-3.5
- Providing both would be best practice (if you known both)
- However, don't count on EHRs consuming or using the IIS id. We've heard they might, but that is fairly local.

Filler Order Number in ORC-3

ORC-3 is required but if the vaccination is entered directly into the IIS what value should it have?

Three different possible ids identified:

- Query System Immunization id: Submitted by system that is querying
- Other External System Immunization id: Submitted by another 3rd party system
- IIS Immunization id: IIS internal id for vaccination (usuallydb id)

When replying to a query, the value of ORC-3 SHALL be:

- Query System Immunization Id (when known)
- Otherwise, IIS Immunization Id (should always be known)

ORC-3 SHALL NEVER be:

- The Other External System Immunization id

Filler Order Number in ORC-3

If a patient has the following history **in the IIS:**

Immunization	Date	IIS ID	Provider A ID	Provider B ID
Hep B	01/01/2010	123	456	789
DTaP	03/01/2010	124	457	No ID on File
Polio	03/01/2010	125	No ID on File	No ID on File

If Provider A queries for this patient, IIS would return the following:

Immunization	Date	ORC-3
Hep B	01/01/2010	|456^PROVIDER_A|
DTaP	03/01/2010	|457^PROVIDER_A|
Polio	03/01/2010	|125^MIIS|

If Provider B queries for this patient, IIS would return the following:

Immunization	Date	ORC-3
Hep B	01/01/2010	|789^PROVIDER_B|
DTaP	03/01/2010	|124^MIIS|
Polio	03/01/2010	|125^MIIS|

Adjuvanted Vaccines

One IIS noted this guidance on adjuvanted vaccines:

- Implementation Guidance: Systems should work towards recording vaccine and adjuvant separately. Each component should be sent in a separate Order Group in HL7 messages. Systems should work towards displaying as a single event.

We believe only a limited number of IIS have implemented this:

- H5N1 vaccine is approved, but no ACIP recommendations for its use yet.
- Question applies only to situations where adjuvant must be mixed by clinician (there are vaccines that already have pre-mixed adjuvant, this does not apply)

When this becomes a real situation, IIS will need to be able to document both vaccine and adjuvant as either may be recalled or have adverse reactions

- Adjuvant will have an independent lot number
- Each is recorded in a separate RXA Systems should work towards recording vaccine and adjuvant separately.

Adjuvanted Vaccines

Example:

RXA|0|1|20140907|20140907|160^Influenza H5N1 -2013^CVX^^^
|0.5|mL^^UCUM||00^NEW IMMUNIZATION
RECORD^NIP001|1234567890^SMITH^SALLY^S||||1234ad||IDB^ID
Biomedical^MVX|||CP|A <CR>

RXA|0|1|20140907|20140907|801^AS03^CVX^^^
|0.5|mL^^UCUM||00^NEW IMMUNIZATION
RECORD^NIP001|1234567890^SMITH^SALLY^S||||455sd||
|||CP|A|<CR>

ACK Response in MSA-1: AR verses AE

Under what conditions should an AR be sent in MSA-1?

The concept of “Application Reject” is very narrowly defined by HL7.

- Warning: In colloquially use you might hear something like “we rejected your message.” The HL7 definition does not match the use of this phrase.

AR is only to be used for these situations:

- Unsupported Message Type
- Unsupported Event Code
- Unsupported Processing ID
- Unable to process for reasons unrelated to format or content

So AR may rarely used in day-to-day communication

Acknowledgement Mode: MSH-15 and MSH-16

Since HL7 v2.2 there has been a definition of “Original Mode” and “Enhanced Mode” for sending acknowledgments.

In “Original Mode” the sending system expected the receiver to send back a single ACK with an MSA value of AR, AE, or AA.

“Enhanced Mode” defined the possibility of a preliminary ACK that may be sent back indicating that that the message had been received and the receiving system was taking responsibility for the message (commit).

In practice IIS use the “Original Mode”.

- IG specifies that this is indicated by setting MSH-15 to ER and MSH-16 to AL

However, we have just learned that we should be doing this:

- Set MSH-15 to NE and MSH-16 to AL

Acknowledgement Mode: MSH-15 and MSH-16

Changes coming:

- Future versions of IG will indicate that MSH-15 must be NE and MSH-16 must be AL
- NIST test tools will allow EHR systems to be certified sending either NE or ER in MSH-15.

Recommendations for IIS:

- Most IIS should be accepting either NE or ER in MSH -15
- IIS that read this field and take action should review what they currently do to ensure that they are compatible with the latest guidance

Side Note: Question spurred discussion at HL7, and a cleanup of standard:

- The differentiation between “Original Mode” and “Enhanced Mode” will be removed in later versions of HL7. MSH-15 and MSH-16 will become required fields.

Next Meeting

THURSDAY, NOVEMBER 10TH

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
- 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
- Nathan Bunker nbunker@immregistries.org
- Kevin Snow ksnow@envisiontechnology.com

Thank you!