



**AIRA**  
AMERICAN IMMUNIZATION  
REGISTRY ASSOCIATION

# HL7 Immunization User Group

Monthly Meeting  
November 8, 2018  
2:00 PM ET

# Agenda

- Welcome
  - Poll: Which perspective do you primarily identify yourself with?
- Lot Inventory Deduction Discussion



# Lot Inventory Deduction

Tracy Little, AIRA

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# Vaccines for Children

- Vaccines For Children (VFC) is a federally funded program that provides vaccines at no cost to children who might not otherwise be vaccinated because of inability to pay.
- Other State- or Federally- supplied vaccine programs may operate in the jurisdictions you work in, such as 317 or CHIP. Typically, they operate similarly in terms of eligibility documentation and inventory management.
- The IIS plays an important role in supporting providers' efforts to comply with program requirements and ensure accountability for every dose received and administered.



# Managing Inventory in the IIS

Inventory management functionality varies in complexity across IIS:

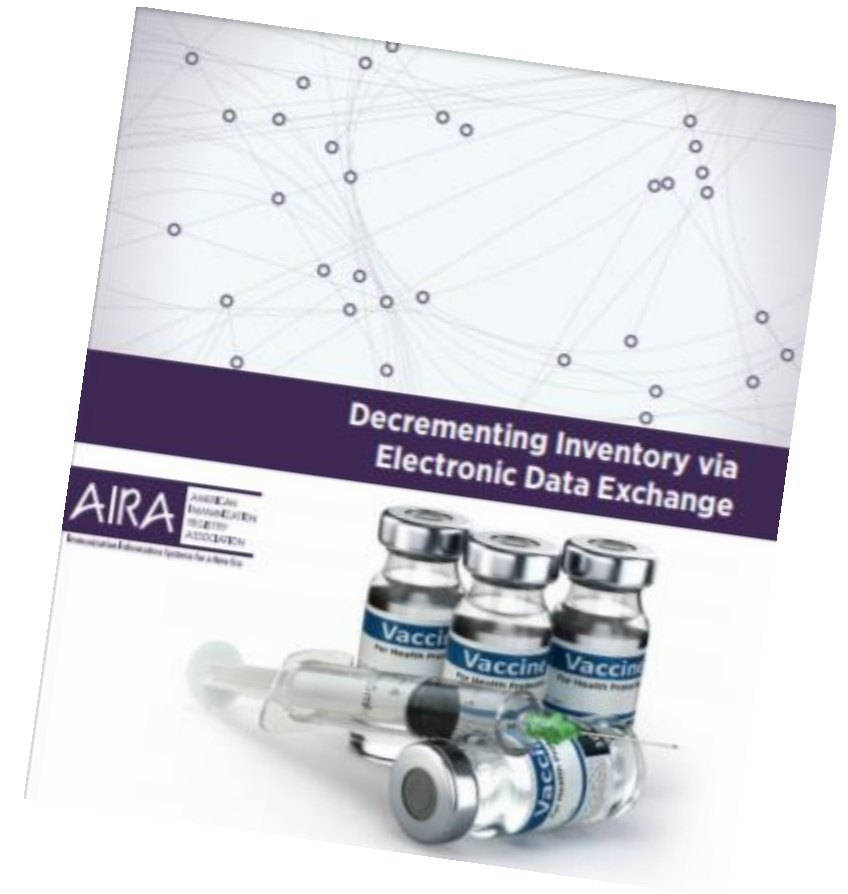
- ✦ Dose-level eligibility: document the reason the patient is eligible
- ✦ Funding source (public/private indicator): document which stock was used
- ✦ Order Management: track inventory by lot and funding source in the IIS; ordering, receiving and managing inventory, import of data file from VTrckS
- ✦ **Decrementing Inventory: as doses are received via data exchange, the matching lot is decremented.**



# Decrementing Inventory via HL7 Data Exchange

- ✓ Automated method to decrement a dose from a provider organization's inventory in the IIS at same time a vaccination event is submitted to the IIS.
- ✓ The IIS matches information submitted in the VXU against the active inventory in the IIS for that provider organization.
- ✓ The IIS uses data elements such as lot number, dose level eligibility, public/private indicator, and CVX code to match inventory.

Resource! MIROW Guide: Decrementing Inventory via Electronic Data Exchange.



# Where we started

A brief history of HL7 and immunizations





# Funding Models

- US health care typically follows a per-patient re-imburement model
- Vaccines started out differently
  - Vaccine was supplied to large organizations
  - Target was not patients but populations

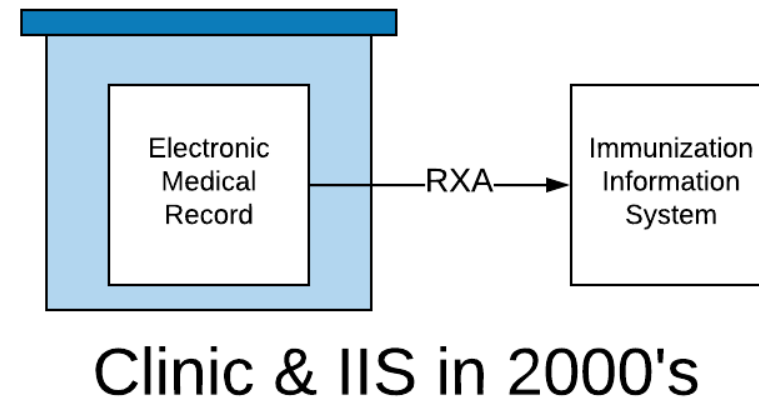
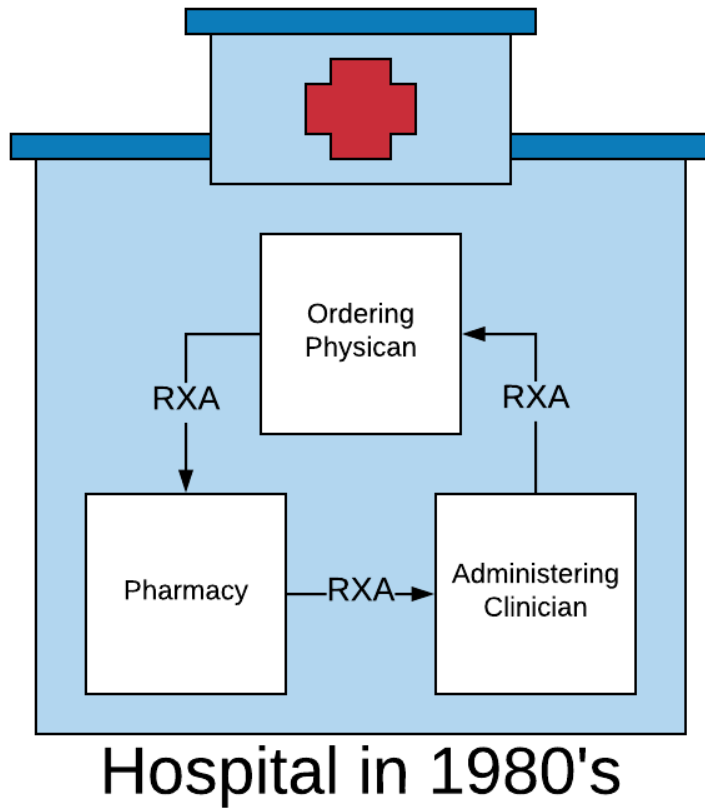


Stone School students line up to get first Washtenaw County shots of Salk polio vaccine, May 1955





# HL7 Messaging of Immunizations



# HL7 Messaging of Immunizations

- Lot decrementing function depends on reporting of administered immunizations
- About 80% overlap in requirements
- OBX segments used to extend the ORC/RXA segment group
  - Funding Eligibility
  - Funding Source



# Changes in the Future?

- Changes in how vaccinations are funded and distributed
  - If all patients have insurance then public vaccines are not needed
  - If state or federal buys all vaccines then all vaccines are public and all patients are eligible
- New messaging standards may lead to tighter integration
  - Lot inventory decrementing could be separated from reporting administered vaccinations
  - Support added for other inventory functions, such as reconciliation, requesting restock, recording wastage, etc.



# Inventory Management of Immunizations

- Elements of the process:
  - Categorizing provider organizations' inventories in the IIS
  - **Submitting data to the IIS by an EHR**
  - Matching incoming data submission to an inventory in the IIS
  - Meeting awardee vaccine accountability requirements.
  - Decrementing inventory based on the data from the EHR and in the IIS
  - Identifying and correcting errors in the DI-v-EDE process.



# Submitting Data to IIS by EHR



# Submitting Data to IIS

## **Good News**

- Same workflow and messages can be used for both establishing official record and decrementing inventory

## **Bad News**

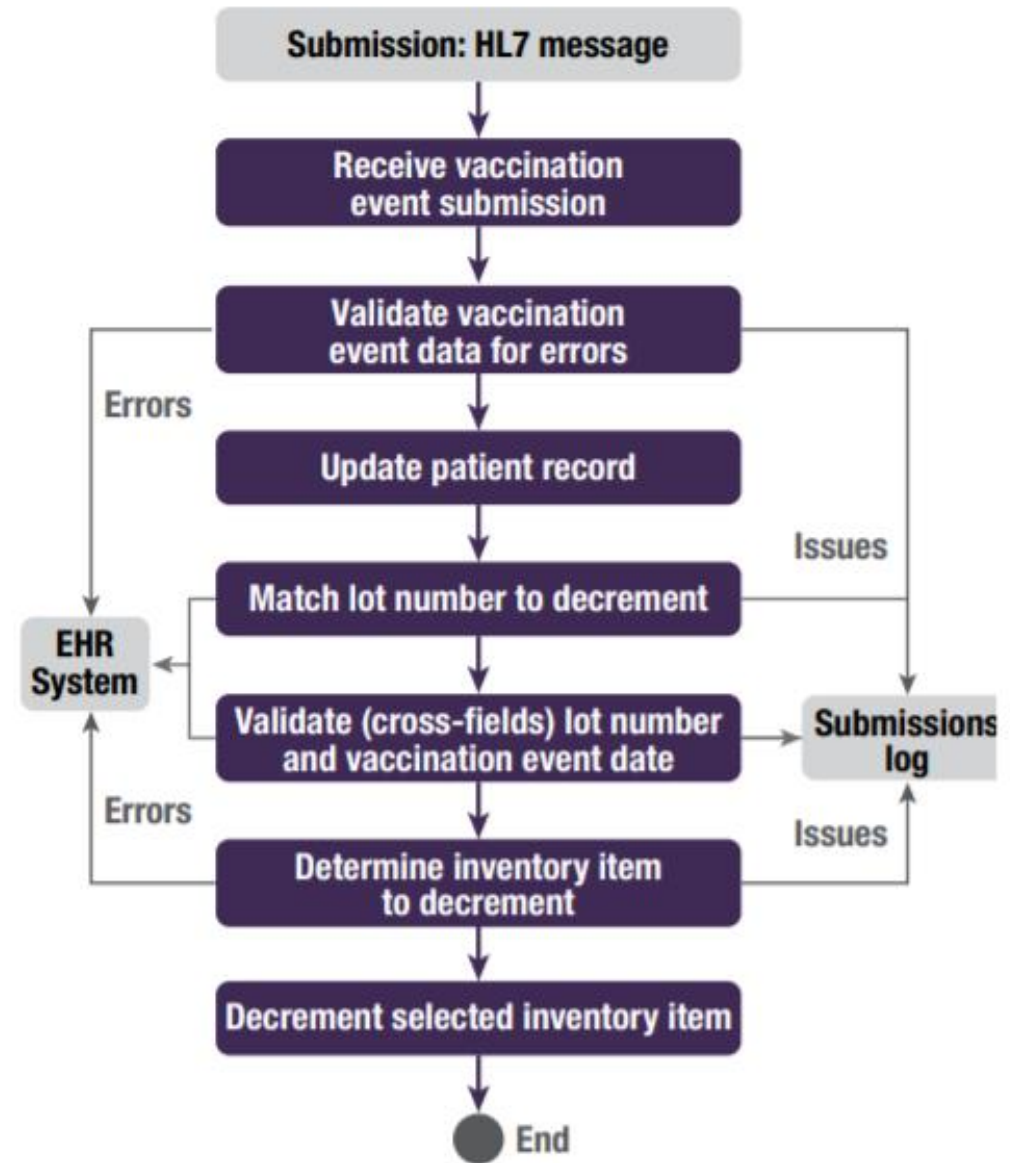
- Stricter onboarding requirements
- Messaging only supports decrementing administered doses
- Every state has differences in how they operationalize process



# Submitting Data

- Is there anything else missing from this diagram for your IIS?
- How transparent is this process to the EHR side?

## Immunization Information System (IIS)

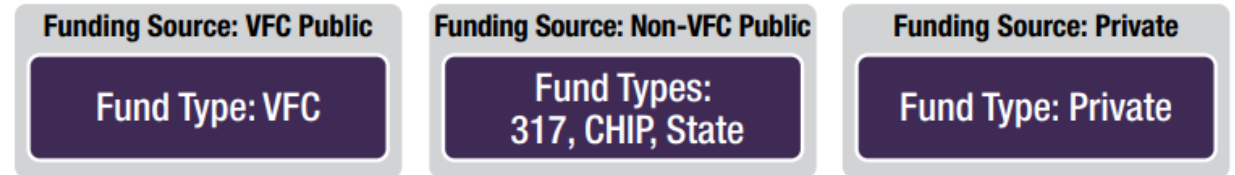




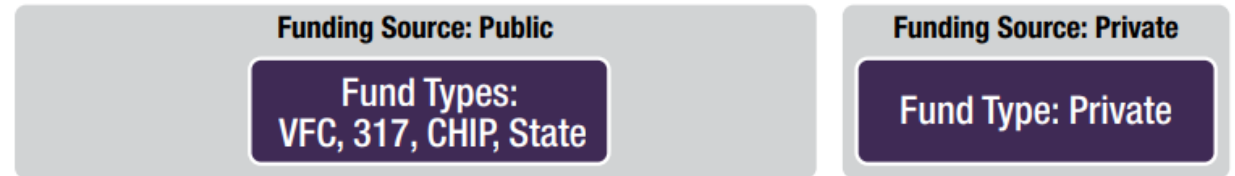
# Vaccine Storage Model

- Publicly funded vaccines must be stored separately
- Which vaccine storage model does your IIS follow?
  - Two-stock
  - Three-stock

## Three-stock model



## Two-stock model



# Key Lot Decrementing Fields

Vaccine Inventory Field	HL7 Field
Vaccine code (CVX or NDC)	RXA-5 Administered Code
Manufacturer	RXA-17 Substance Manufacturer Name
Lot number	RXA-15 Substance Lot Number
Lot number expiration date	RXA-16 Substance Expiration Date
Provider organization IIS ID	RXA-11 Administering Provider
Dose-level eligibility	OBX-5 where OBX-3 is 64994-7^Vaccine Funding Program Eligibility^LN
Dose-level public/private indicator	OBX-5 where OBX-3 is 30963-3^Vaccine Funding Source^LN



# Key Lot Decrementing Fields

ORC|RE|3140^NIST-AA-IZ-2|38766^NIST-AA-IZ-  
2|||||7824^Jackson^Lily^Suzanne^^^^^NIST-PI-  
1^L^^^PRN||654^Thomas^Wilma^Elizabeth^^^^^NIST-PI-  
1^L^^^MD||||NISTEHRFAC^NISTEHRFacility^HL70362|

RXA|0|1|20150624||**49281-0560-05^Pentacel^NDC**|0.5|mL^mL^UCUM|  
|00^New Record^NIP001  
|7824^Jackson^Lily^Suzanne^^^^^NIST-PI-1^L^^^PRN  
|^**^^^NIST-Clinic-1**||||**526434|20150722|PMC^Sanofi Pasteur^MVX**|||CP|A

RXR|C28161^Intramuscular^NCIT|RT^Right Thigh^HL70163

OBX|1|CE|30963-3^Vaccine Funding Source^LN  
|1|^**VXC50^Public^CDCPHINVS**|||||F|||20150624

OBX|2|CE|64994-7^Vaccine Funding Program Eligibility^LN|2  
|^**V04^VFC Eligible - American Indian/Alaska Native^HL70064**|||||  
|F|||20150624|||VXC40^per immunization^CDCPHINVS



# Key Lot Decrementing Fields

- What are your challenges for getting the right data in these fields?

## HL7 Field

RXA-5 Administered Code

RXA-17 Substance Manufacturer Name

RXA-15 Substance Lot Number

RXA-16 Substance Expiration Date

RXA-11 Administering Provider



# Key Lot Decrementing Fields

- What other fields does your IIS consider for lot decrementing?
- What other fields have IIS asked your EHR to send to support lot decrementing?

## HL7 Field

RXA-5 Administered Code

RXA-17 Substance Manufacturer Name

RXA-15 Substance Lot Number

RXA-16 Substance Expiration Date

RXA-11 Administering Provider

OBX-5 where OBX-3 is  
64994-7^Vaccine Funding Program  
Eligibility^LN

OBX-5 where OBX-3 is  
30963-3^Vaccine Funding Source^LN



# Vaccine Eligibility Codes

- Originally defined at the patient level
  - Eligibility often applies to all vaccines a child receives
    - This covers most vaccines for children with full insurance, without insurance, on Medicaid, or from a federally recognized tribe
  - But there are exceptions
    - What if partially insured?
    - What about vaccinations not publicly supplied?
    - What about adults?
- Moved from recording at patient level to vaccination level
  - Better specificity, which is needed for proper decrementing



# Key Lot Decrementing Fields

ORC|RE|3140^NIST-AA-IZ-2|38766^NIST-AA-IZ-  
2|||||7824^Jackson^Lily^Suzanne^^^^NIST-PI-  
1^L^^PRN||654^Thomas^Wilma^Elizabeth^^^^NIST-PI-  
1^L^^MD||||NISTEHRFAC^NISTEHRFacility^HL70362|

RXA|0|1|20150624||**49281-0560-05^Pentacel^NDC**|0.5|mL^mL^UCUM|  
|00^New Record^NIP001  
|7824^Jackson^Lily^Suzanne^^^^NIST-PI-1^L^^PRN  
|^NIST-Clinic-1||||**526434|20150722|PMC^Sanofi Pasteur^MVX**|||CP|A

RXR|C28161^Intramuscular^NCIT|RT^Right Thigh^HL70163

OBX|1|CE|30963-3^Vaccine Funding Source^LN  
|1|**VXC50^Public^CDCPHINVS**|||||F|||20150624

OBX|2|CE|64994-7^Vaccine Funding Program Eligibility^LN|2  
|**V04^VFC Eligible - American Indian/Alaska Native^HL70064**|||||  
|F|||20150624|||**VXC40^per immunization^CDCPHINVS**





# Vaccine Eligibility and Funding Codes

- Use of these codes depends on state and federal programs available and the rules for these programs
- IIS rules for most coded values:
  - IIS can add new coded values
  - IIS can indicate that certain code values should not be sent
  - IIS cannot redefine what a coded values means
- If at all possible, IIS should try use the national codes without defining new ones



# Vaccine Eligibility Codes

Code	Label	Definition
V01	Not VFC eligible	Do not have one of the statuses below
V02	VFC eligible – Medicaid/Medicaid Managed Care	Eligible for Medicaid and < 19-years
V03	VFC eligible - Uninsured	No health insurance and < 19-years
V04	VFC eligible – American Indian/Alaska native	Member of federally recognized tribe and < 19-years
V05	VFC eligible – underinsured at FQHC/RHC/deputized provider	Insurance does not cover, and receiving care at FQHC, RHC, or deputized provider, and < 19-years



# Vaccine Eligibility Codes

Code	Label	Definition
V22	CHIP	Eligible for CHIP program
V23	317	Eligible for 317 program
V24	Medicare	Enrolled in Medicare
V25	State program eligibility	Eligible for state vaccine program
***	Specific state codes	IIS may define additional codes



# Vaccine Eligibility Codes

- What additional codes does your IIS support or require?
- What special considerations are needed in your jurisdiction?

Code	Label
V01	Not VFC eligible
V02	VFC eligible – Medicaid/Medicaid Managed Care
V03	VFC eligible - Uninsured
V04	VFC eligible – American Indian/Alaska native
V05	VFC eligible – underinsured at FQHC/RHC/deputized provider
V22	CHIP
V23	317
V24	Medicare
V25	State program eligibility
***	Specific state codes



# Vaccine Funding Codes

## Two-stock use

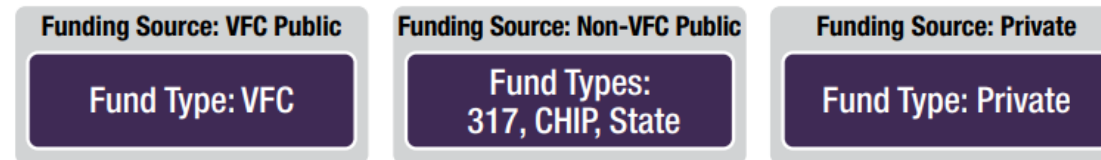
- PHC70
- VXC50

## Three-stock

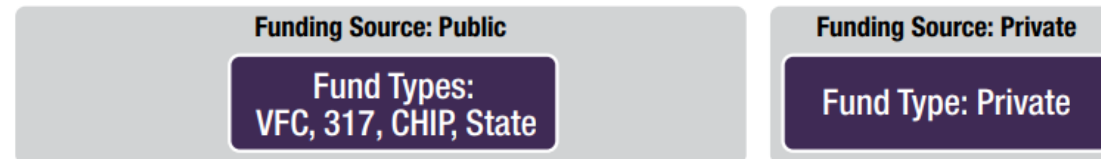
- PHC70
- VXC51
- VXC52

Code	Label	Vaccine stock was...
PHC70	Private	Privately funded
VXC50	Public	Publicly funded
VXC51	Public VFC	Funded by the VFC program
VXC52	Public non-VFC	Funded by the non-VFC program

### Three-stock model



### Two-stock model



# Vaccine Funding Codes

- Not all IIS require these
- Provide a more complete picture
- Many of the combinations of funding and eligibility are possible but not allowed under program guidelines
  - V01 Not VFC Eligible – VXC50 Public
- Without the funding code the IIS assumes the source of the vaccine based on the eligibility



# Vaccine Funding Codes

- Does your IIS require any of these?
- Have any EHRs seen other codes besides these?
- How do they impact inventory decrementing?

Code	Label
PHC70	Private
VXC50	Public
VXC51	Public VFC
VXC52	Public non-VFC





# Onboarding

- How do inventory requirements impact the onboarding process?
- How are onboarding requirements different for providers depending on whether or not they receive publicly funded vaccines?
- What are the largest challenges you face in onboarding in regards to getting inventory setup properly? What are the pain points, what is not working well?



# Other Situations

- Borrowing
  - What should happen if a clinician gives a publicly funded vaccine to a non-eligible patient?
- Reconciliation
  - What is the process for adjusting local and IIS inventories so they match?
- Non-Consented Patients
  - If a patient cannot be submitted to the IIS, how are the vaccinations decremented?



# Any other questions?

- Do you have any other questions about messaging to support lot decrementing?



# Resources

[MIROW Guide: Decrementing Inventory via Electronic Data Exchange : full guide](#)

[MIROW Guide: Decrementing Inventory via Electronic Data Exchange : mini guide](#)

[Discovery Session: Decrementing Inventory](#)



Recommendations of the  
American Immunization Registry Association (AIRA)  
Modeling of Immunization Registry Operations Work Group (MIROW)

Issued on May 9, 2016



# Next Meeting

December 13th

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:

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- Danny Wise [Danny.Wise@allscripts.com](mailto:Danny.Wise@allscripts.com)

Thank you!

