

Data Quality Subcommittee

Monthly Meeting: Friday, August 14, 2020

National Syndromic Surveillance Program

Community of Practice

Resources that Advance the Science and Practice of Syndromic Surveillance



Chair(s): MisChele Vickers
Ambassador: Krystal Collier
CSTE Contact: Alyaa Altabbaa

Agenda

- **Agenda – Data Quality Subcommittee | Friday, August 14, 2020**
- Announcements
- Open call for NSSP CoP Data Quality Subcommittee co-chair
- Presentations and Discussion Topics:
 - Patient Severity ESI Values
 - Initial Acuity Investigation & Best Practices – David Swenson (NH)
 - Race and Ethnicity Data Quality Completeness and Validity
 - Brief Summary of Observations – Lawrence Scholl (NCIPC)
 - COVID-19: How are we doing? – MisChele Vickers (AL)
- Open Mic



CSTE Announcements

The 2020 Syndromic Surveillance Symposium will be held ***virtually***
mid-October 2020!

Stay tuned for more details!



Announcements

- Next Data Quality Subcommittee call
 - Friday, September 11, 2020 at 12 PM EST



Open call for NSSP CoP Data Quality Subcommittee co-chair

We have an opening for the volunteer position of
Data Quality Subcommittee co-chair!

Help keep syndromic surveillance on the steady with
great discussions and resources for
Data Quality in the
Community of Practice for the
National Syndromic Surveillance Program

Email syndromic@cste.org if interested



Presentation and Discussion Topics

- ❖ Patient Severity ESI Values
- ❖ Race and Ethnicity Data Quality Completeness and Validity
- ❖ COVID-19: How are we doing?



Presenter

David Swenson, AHEDD Project Manager

State of New Hampshire
Department of Health and Human Services
Division of Public Health Services
Communicable Disease Surveillance Section





NSSP CoP - Data Quality Committee (DQC) AUGUST Call

Topic – Initial Acuity Investigation & Best Practices

David Swenson
State of NH, DHHS, DPHS
8/14/2020

Background

To detect severity for COVID-19 encounters, NH added “initial acuity” (Severity indicator) to the local Syndromic Surveillance System database.

Used PHINVAD values.

Concept Code	Concept Name	Preferred Concept Name	Code System	Value Set
<input type="checkbox"/> AC	Acute	Acute	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> CH	Chronic	Chronic	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> CO	Comatose	Comatose	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> CR	Critical	Critical	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> IM	Improved	Improved	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> MO	Moribund	Moribund	Admission level of care code (HL7)	Admission Level of Care (HL7)

Onboarding Hospital Discrepancies

In onboarding hospitals, NH DPHS **noted** one **hospital used different values** instead of the PHINVAD Initial Acuity values, which don't map easily.

Hospital ESI (Emergency Severity Index) values from weblink

(<https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/systems/hospital/esi/esihandbk.pdf>)

- L1 – Requires immediate life-saving intervention (Patient Dying)
- L2 – High-risk situation, confused/lethargic/disoriented, severe pain/distress
- L3 – Number of resources needed

PHINVAD values

Concept Code	Concept Name	Preferred Concept Name	Code System	Value Set
<input type="checkbox"/> AC	Acute	Acute	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> CH	Chronic	Chronic	Admission level of care code (HL7)	Admission Level of Care (HL7)
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<input type="checkbox"/> CR	Critical	Critical	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> IM	Improved	Improved	Admission level of care code (HL7)	Admission Level of Care (HL7)
<input type="checkbox"/> MO	Moribund	Moribund	Admission level of care code (HL7)	Admission Level of Care (HL7)

Investigation

Compared ESI values from one hospital with current PHINVAD codes and came up with a mapping draft.

How do I match these up?

L1 – Requires immediate life-saving intervention (Patient Dying) – may relate to **“MO”** (PHINVAD value “Critical”)

What does moribund mean? [^]

Definition of moribund. 1: **being in the state of dying:** approaching death in the moribund patient deepening stupor and coma are the usual preludes to death- Norman Cameron. 2: being in a state of inactivity or obsolescence a moribund virus a moribund volcano prune the moribund files from your disk forever-D. S. Janal.

L2 – High-risk situation, confused/lethargic/disoriented, severe pain/distress – may relate to **“CR”** (PHINVAD value “Critical”)

L3 – Number of resources needed – may relate to **“AC”** (PHINVAD value “Acute”, used if not “L1” or “L2”)

Additionally, reached out to NSSP CoP contacts and AZ advised to refer to the HL7 website for an updated syndromic surveillance guide with ESI related values (*HL7 Version 2.5.1 Implementation Guide: Syndromic Surveillance, Release 1 – US Realm, Standard for Trial Use, July 2019, <https://www.hl7.org/>*).

Investigation

The HL7 website for an **updated syndromic surveillance guide** with ESI related value in free download (*HL7 Version 2.5.1 Implementation Guide: Syndromic Surveillance, Release 1 – US Realm, Standard for Trial Use, July 2019, <https://www.hl7.org/>*).

Reference URL: <https://phivvds.cdc.gov/vds/ViewValueSet.action?oid=2.16.840.1.114222.4.11.909>

Disease or Disorder - 64572001 SNOMED Domain

3.4.41 **PHYS EMERGENCYSEVERITYINDEXACUITY CDC - EMERGENCY SEVERITY INDEX - ACUITY**

Metadata

OID: 2.16.840.1.114222.4.11.7776

Type: Externally managed

Attributes

Stability	Extensibility	Content Definition
Static	Closed	Extensional

Reference URL: <https://phivvds.cdc.gov/vds/ViewValueSet.action?oid=2.16.840.1.114222.4.11.7776>

Codes

Value	Code System	Description
1	CDCEDACUITY	Resuscitation
2	CDCEDACUITY	Emergent
3	CDCEDACUITY	Urgent
4	CDCEDACUITY	Less Urgent
5	CDCEDACUITY	Nonurgent

The Emergency Severity Index (ESI) is a tool for use in emergency department (ED) triage. The ESI triage algorithm yields rapid, reproducible, and clinically relevant stratification of patients into five groups, from level 1 (most urgent) to level 5 (least urgent). The ESI provides a method for categorizing ED patients by both acuity and resource needs. (<https://www.ehrg.gov/professionals/systems/hospital/esi/index.html>) Based upon AHRQ 2012 Edition on the Implementation Handbook - version 4.

Investigation

The **local syndromic surveillance system** has an administrative screen to update **Code values** (currently includes original Initial Acuity values).

System Codes

Add Code

Initial Acuity Change Codeset

Initial Acuity Codes
6 items found, displaying all items.

	Name	Short Name	Value	
Edit	Acute	Acute	AC	Delete
Edit	Chronic	Chronic	CH	Delete
Edit	Comatose	Comatose	CO	Delete
Edit	Critical	Critical	CR	Delete
Edit	Improved	Improved	IM	Delete
Edit	Moribund	Moribund	MO	Delete

Export options: [CSV](#) | [Excel](#) | [XML](#)

Hospitals with L# values match the ESI values above without additional mapping

Future Plans

NH DPHS will identify hospitals sending Initial Acuity with original values, and reach out to have them switch over to the ESI values.

Once all hospitals sending Initial Acuity with original values have switched over to the ESI values, NH DPHS will replace new ESI values in Code Initial Acuity in the NH local system administrative screens.

Conclusions:

It appears that HL7 prefers ESI to the original PHINVAD Initial Acuity values.

Reaching out to NSSP CoP contacts is a best practice as other jurisdictions may have resolved issues that others are investigating.

The new HL7 2.5.1 Syndromic Surveillance implementation guide on the HL7 web sight is a useful free tool in onboarding (<https://www.hl7.org/>).

Following this investigation process is a best practice for resolving HL7 field discrepancies.



Questions?

Contact Information

David Swenson

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603-271-7366

Need Directions to Your Final Destination? : Let's Talk About Mapping!

Lawrence Scholl, PhD, MPH

Overdose Morbidity Team

Epidemiology and Surveillance Branch

Division of Overdose Prevention

National Center for Injury Prevention and Control (NCIPC)

Centers for Disease Control and Prevention (CDC)



Poll Questions #1

How do you validate race and ethnicity completeness? (Select one)

- We use R code and validate against the PHIN VADS Value Set
- We use SAS code and validate against the PHIN VADS Value Set
- We use NSSP ESSENCE
- We have another way to handle this
- We haven't found a solution yet



Poll Question #2

How do you validate race and ethnicity validity? (Select one)

- We use R code and validate against the PHIN VADS Value Set
- We use SAS code and validate against the PHIN VADS Value Set
- We use NSSP ESSENCE
- We have another way to handle this
- We haven't found a solution yet



Poll Question #3

How do you handle mapping of race if not completed in the registration part of the EHR? (Select one)

- We ask questions about the registration workflow (is this field required on entry)
- We have another way to handle this
- We haven't found a solution yet



Poll Question #4

How do you handle mapping of ethnicity if not completed in the registration part of the EHR? (Select one)

- We ask questions about the registration workflow (is this field required on entry)
- We have another way to handle this
- We haven't found a solution yet



Poll Question #5

How do you handle mapping of “unknown” category for ethnicity? (Select one)

- We recommend using PHVS_EthnicityGroup_CDC_Unk
- We don't allow “unknown”
- We have another way to handle this
- We haven't found a solution yet



Discussion Topic Questions

- Others on the call what has been your observations from analyzing race and ethnicity data, overall and with respect to data quality and completeness?
- What do others who have been having this issue done for resolution?
- What do we all know about the data quality issues and accuracy of mapping to the PHIN-VADS value sets?
- Next steps?



COVID-19: How are we doing?

MisChele A. Vickers, MPA

Public Health Research Analyst III

Alabama Syndromic Surveillance (AlaSyS)

Analytics, Statistics, and Visualization

Epidemiology, Surveillance, & Informatics

Infectious Diseases and Outbreaks Division

Bureau of Communicable Disease

Alabama Department of Public Health



Open Mic



- New issues! Tell us about your data quality issues
- Questions for the group