NEW HAMPSHIRE
Local Implementation Guide for Syndromic Surveillance Reporting

Version 1.07
02/15/2018

VERSION HISTORY

Version #	Implemented By	Revision Date	Reason
1.0	David Swenson	08/31/2011	Initial implementation
1.01	Donna McKean	05/25/2012	Reformatting and expansion of message header segments based on Immunization template
1.02	David Swenson	09/13/2013	Updated content
1.03	Heather Barto	09/30/2013	Re-formatting and updates
1.04	Elizabeth Daly	10/07/2013	Content update
1.05	Christopher Taylor	10/21/2013	Content update
1.06	David Swenson	02/14/2014	Content update after comparison to federal guide V version 1.1 (certified version)
1.0.7	David Swenson	02/15/2018	Reduced content specific to NH's modifications (added ICD10 code format to examples)

ABBREVIATIONS

Acronym	Term
AHEDD	Automated Hospital Emergency Department Data
CDC	U.S. Centers for Disease Control and Prevention
CMS	Centers for Medicare and Medicaid Services
DHHS	Department of Health and Human Services
DPHS	Division of Public Health Services
ED	Emergency Department
ELR	Electronic Laboratory Reporting
FIPS	Federal Information Processing Standard
HCFA	Health Care Financing Administration (now known as CMS)
HL7	Health Level Seven International Organization
MU	Meaningful Use
NH	New Hampshire
NHEDSS	New Hampshire Electronic Disease Surveillance System
NHHIE	New Hampshire Health Information Exchange
NHHIO	New Hampshire Health Information Organization
NPI	National Provider Identifier
ONC	Office of the National Coordinator for Health Information Technology
VPN	Virtual Private Network

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1. Purpose

This document provides specifications for providers to use as guidance for reporting syndromic surveillance electronically to the New Hampshire Department of Health and Human Services (NH DHHS), Division of Public Health Services (DPHS). NH DPHS is using a Rhapsody Integration Engine to receive, transform, and transport facility syndromic surveillance data to the Automated Hospital Emergency Department Data (AHEDD) statewide syndromic surveillance system. Transport is accomplished using a messaging format from the Health Level Seven International Organization (HL7), which provides standards for the exchange, integration, sharing and retrieval of electronic health information. NH DPHS is committed to supporting providers in meeting the requirements for Meaningful Use (MU) involving the transmission of Syndromic Surveillance data to NH DPHS. Though Meaningful Use requires delivery of standardized, syndromic surveillance messages to NH DPHS, Rhapsody gives providers the opportunity to use the modular Orion Health Rhapsody Integration Engine certification as a flexible and cost effective mechanism to satisfy MU requirements.

2. Legal Authority

NH statutes mandate the reporting of certain diseases and health conditions to DPHS by healthcare providers. The Statutes that require this reporting allow DPHS to collect information on these reportable diseases and conditions. Below are the Statutes and Administrative Rules associated with reportable diseases:

NH Statutes:

RSA-141-C:7 (Reporting of Communicable Disease)

Administrative Rules:

He-P 301.02 (Communicable Diseases- Reportable Diseases)
He-P 301.03 (Communicable Diseases- Reporting of Communicable Diseases)

Administrative rule Hep-301.03 requires hospitals with emergency departments to report all emergency department visit data for the purpose of early detection of reportable diseases or outbreaks using syndromic surveillance methods making use of fully automated systems that require no manual intervention to conduct electronic transfers. HL7 formatted transfers may occur immediately at the time of the visit but no later than 24 hours from the time of the visit. This data shall be used in epidemiological investigation by the commissioner or the commissioner's designee in order to identify potential public health threats and institute control measures to reduce exposures and the spread of disease.

3. Background

Since 2010, NH DPHS has been engaged in MU planning. NH DPHS has been successful in the implementation of syndromic surveillance from all NH hospitals. NH DPHS began enhanced manual emergency department surveillance activities after the 9/11 Terrorist Attack as part of a national effort to collect near real-time data for early event detection of bioterrorism. The AHEDD surveillance system was implemented in September 2005, with four pilot hospitals to collect near real-time data to achieve the following goals:

1. Identify bioterrorism or other specific health threats,
2. Assess the health of the citizens of NH,
3. Promote investigation into the cause of diseases or injury, and
4. Improve the public health of NH citizens.

In 2010, all NH hospitals with emergency departments signed a memorandum of understanding detailing the responsibilities (including data submission, data security, and data stewardship) and fields to be captured. These fields have been incorporated in this local implementation guidance, which is a subset of the federal syndromic surveillance implementation guide.

4. Syndromic Surveillance Reporting

Syndromic surveillance reporting is important from a public health perspective not only for the reasons already stated but for additional benefits such as reducing staff hours and duplicate data entry, automating manual surveillance reporting, and proactive reporting of disease. This has resulted in earlier detection of infectious disease and health threats, and improvements in the efficiency and public health investigation and response. Reporting syndromic surveillance data

electronically, providers can obtain financial incentives for transmitting syndromic surveillance data for Meaningful Use purposes. See **Appendix D.1, Syndromic Surveillance and Meaningful Use** for related resources.

Syndromic surveillance reporting relies on data sent from a facility to NH DPHS using HL7 formatted messages over a secure transport mechanism. These messages contain patient registrations or visits, updates, discharge data, indirect patient identifiers, demographics, medical visit reason, and clinical diagnosis codes. Medical abstraction codes typically are reported after the patient registration.

The following tables represent NH's local implementation guidance. The guides for the HL7 messaging are available from Health Level Seven International and links to their website can be found in **Appendix D.3, HL7 Messaging**. The tables in this document detail the required and preferred message segments in NH's HL7 messaging implementation. Defined HL7 segments not found in this table are optional but may be included.

The column, "Table Ref" in the tables below, refers to the table number found in the HL7 Data Dictionary, containing standard values used to populate specific fields. The Data Dictionary is available to the public and the link can be found in **Appendix D.3: HL7 Messaging**.

This local implementation guide is written with the expectation that syndromic surveillance messages will be sent in accordance with the HL7 v2.5.1 format. See **Appendix D.3: HL7 Messaging** for a listing of message composition rules for HL7 2.3.1 messages acceptable by NH DPHS, although not compliant with ne MU version 2.5.1 requirements. This appendix is provided as a courtesy to hospitals not presently able to generate an HL7 version 2.5.1 message.

Supported HL7 Admission Discharge Transfer (ADT) messages for syndromic surveillance (arranged in order of submission) are:

ADT Message	Notes
ADT^A04	Register a patient visit
ADT^A08	Update a patient visit
ADT^A03	Discharge/end visit

Supported HL7 message segments for syndromic surveillance messages:

Segment	Notes
MSH	Message Header segment
EVN	Event Type segment
PID	Patient Identification segment
PV1	Patient Visit segment
PV2	Patient Visit - Additional Information segment
DG1	Diagnosis segment
OBX	Observation/Result segment

Usage code interpretations used:

Usage	Notes
R	Required
RE	Required but may be empty
C	Conditional
CE	Conditional but may be empty
O	Optional
X	Not supported

Please reference table Appendix G: HL7 Version Field Changes for fields whose location has either changed between HL7 v2.3.1 and v2.5.1 or are now required with v2.5.1 (as recommended in the PHIN Messaging Guide For Syndromic Surveillance, Reference Appendix D.3 HL7 Messaging). Although NH DPHS expects hospitals to convert to HL7 2.5.1 over time, they may continue to populate to existing fields until the hospital conversion has been made.

Message Header Segment (MSH Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
MSH	**R**			**Contains information describing how to parse and process the message including information about the sender and receiver**
Sending facility	**R**		**MSH-4**	
Namespace ID	RE		MSH-4.1	
Universal ID	R	F1 (Appendix F)	MSH-4.2	Sending Facility's HCFA or NPI Code. Hospitals submitting use a HCFA (reference Appendix F Tables) or hospital provided code. The National Provider Identifier (NPI) is a Health Insurance Portability and Accountability Act (HIPAA) Administrative Simplification Standard, which will be used by Eligible Professionals. Any messages that contain an unrecognized HCFA or NPI number are automatically rejected.
Universal ID Type	R		MSH-4 .3	Should be "L" for Eligible Hospitals and "NPI" for Eligible Professionals (PHIN VADS Universal ID Type, Syndrome Surveillance)
Receiving Facility	**R**		**MSH-6**	Destination system at NH DPHS
Receiving Facility	R		MSH-6.1	Used to route messages "AHEDD" – NH Statewide Syndromic Surveillance System
Message Control ID	**R**		**MSH-10**	Free-text string value used to uniquely identify the message
Processing ID	**R**		**MSH-11**	Used for Message Acknowledgement
Processing ID	R	0103	MSH-11.1	P – Production D – Debug T – Training/Testing
Version ID	**RE**		**MSH-12**	
Version ID	RE	0104	MSH-12.1	HL7 message version (e.g. 2.3.1, 2.5.1)

Event Type Segment (EVN Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
EVN	**R**			**Contains basic information about the used to communicate trigger event information to receiving applications**
Event Facility	**R**		**EVN-7**	This field identifies the location where the patient was actually treated
Namespace ID	RE		EVN-7.1	Recommend the use of the Organization Name Legal Business Name (LBN) associated with the National Provider Identifier Standard provided by Centers for Medicare and Medicaid Services or State-designated identifier.
Universal ID	R		EVN-7.2	Unique facility identifier of facility where the patient is treated (NPI or State-designated identifier)
Universal ID Type	R		EVN-7.3	PHVS_UniversalIDType_SyndromicSurveillance

Patient Identifier Segment (PID Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
PID	**R**			**Used to provide basic demographics regarding the subject, which may be a person or animal**
Patient Identifier List	**R**		**PID-3**	User defined: Assigning authority

Patient Identifier Segment (PID Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
Patient Identifier	R		PID-3.1	Patient ID or medical record number: Contains the list of identifiers (one or more) used by the healthcare facility to uniquely identify a patient (e.g., medical record number, billing number, birth registry, national unique individual identifier, Medicaid number, etc.)
Patient DOB	**RE**		**PID-7**	Contains the patient's date and time of birth. Format: YYYYMMDDHHMM[SS]
Patient Gender	**RE**	**F2 (Page 15)**	**PID-8**	Contains the patient's gender (PHVS_Gender_SyndromicSurveillance).
Patient Race Identifier	**RE**		**PID-10**	
Patient Race Code	RE	0005	PID-10.1	Refers to the patient's race (PHVS RaceCategory CDC): 1002-5 – American Indian or Alaska Native 2028-9 – Asian 2054-5 – Black or African American 2076-8 – Native Hawaiian or Other Pacific Islander 2106-3 – White 2131-1 – Other Race
Text	O		PID-10.2	Standardized description associated with PID-10.1
Name of Coding System	CE		PID-10.3	If PID-10.1 (the identifier) is provided, then PID 10.3 is valued.
Patient Address	**RE**		**PID-11**	Contains the address of the patient Format: <street address (ST)> & <street name (ST)> & <dwelling number (ST) (e.g. apartment 12, suite B)>
Patient Residence Town	RE		PID-11.3	City or town of patient residence
Patient Residence State	RE		PID-11.4	State of patient residence (PHVS_State_FIPS_5-2 , 33 for NH)
Patient Zip Code	RE		PID-11.5	Zip code of patient residence (USPS) Format: 99999[-9999] for US Zip or ZIP +4 codes or as A9A9A9 for Canadian postal codes
Patient Residence Country	RE	0190	PID-11.6	Country of patient residence (PHVS_Country_ISO_3166-1, USA, etc.)
Patient Residence County	RE		PID-11.9	County of patient residence (PHVS_County_FIPS_6-4, for instance 33003 for Carroll, NH)
Patient Account Number	**O**		**PID-18**	This field contains the patient account number assigned by accounting to which all charges, payments, etc., are recorded
Patient Ethnicity	**RE**		**PID-22**	This field further defines the patient's ancestry as to whether the patient is Hispanic or not
Patient Ethnic Group Identifier	RE	0189	PID-22.1	Reference PHVS Ethnicity Group CDC (PHVS_EthnicityGroup_CDC) 2135-2 – Hispanic or Latino 2186-5 – Not Hispanic or Latino
Text	O		PID-22.2	Standardized description associated with code in PID-22.1
Name of Coding System	CE		PID-22.3	If PID-22.1 (the identifier) is provided then PID 22.3 is valued.

Patient Visit Segment (PV1 Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
PV1	**R**			**Information used by Registration/Patient Administration applications to communicate information on a visit-specific basis**

Patient Visit Segment (PV1 Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
Patient Class	**O**	**0004**	**PV1-2**	Field value to categorize patients by site (as described in PHIN VADS - PHVS_PatientClass_SyndromicSurveillance, such as E for "Emergency" or I for "Inpatient")
Patient Type	**RE**	**0018**	**PV1-18**	User defined patient type (such as E for "Emergency")
Visit Number	**R**		**PV1-19**	Unique number assigned to each patient visit
ID Number	R		PV1-19.1	
Discharge Disposition	**RE**		**PV1-36**	Patient's anticipated location or status following discharge (Required with ADT^A03, Required Empty in ADT^A08)
Admit Date/Time	**R**		**PV1-44**	Admit Date/Time shall be expressed with a minimum precision of the nearest minute and be represented in the following format: 'YYYYMMDDHHMM[SS[.S[S[S[S]]]]] [+/-ZZZZ]'
Discharge Date/Time	**RE**		**PV1-45**	Discharge Date/Time shall be expressed with a minimum precision of the nearest minute and be represented in the following format: 'YYYYMMDDHHMM[SS[.S[S[S[S]]]]] [+/-ZZZZ]'; not populated in a registration message; (Required with ADT^A03, Required Empty in ADT^A08)

Patient Visit Additional Information Segment (PV2 Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
PV2	**R**			**Segment provides a** continuation of visit-specific information and is the segment where the Admit Reason is passed
Admit Reason	**RE**		**PV2-3**	Patient admit reason (may be coded or free text)
Identifier	RE		PV2-3.1	ICD-CM, ICD-10CM code (PHVS_AdministrativeDiagnosis_CDC_ICD-9CM Or PHVS_AdministrativeDiagnosis_ICD-10CM Or PHVS_Disease_CDC)
Text	RE		PV2-3.2	Free-text value, if used
Name of Coding System	C	0396	PV2-3.3	If PV2-3.1 is provided, then PV2-3.3 is valued. **SHALL** be valued to one of the Literal Values in the set ('I10', 'I9CDX', 'SCT').

Diagnosis Segment (DG1 Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
DG1	**R**			**Segment contains patient diagnosis information of various types (syndromic surveillance supports Admitting, Working and Final Diagnosis types)**
Set ID – DG1	**R**		**DG1-1**	DG1 Set ID for the first occurrence of a DG1 segment shall have the value of "1", followed by consecutive numbers for subsequent occurrences
Diagnosis Coding Method	**X**	**0053**	**DG1-2**	Diagnosis Coding Method
Diagnosis Code	**R**		**DG1-3**	Primary and secondary diagnoses

Diagnosis Segment (DG1 Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
Code Identifier	R		DG1-3.1	ICD-9 CM V-codes and E-codes reported using the same data field, or ICD-10CM codes (PHVS_AdministrativeDiagnosis_CDC_ICD-9CM **Or** PHVS_AdministrativeDiagnosis_ICD-10CM **Or** PHVS_Disease_CDC); NH requires formatting with ICD codes (prefer to have period formatting - (for ICD-9-CM codes - DG1-3.1 "780.2", "V06.1, "E935.0", and for ICD-10-CM codes – DG1 – 3.1 "H83.8X3")
Diagnosis Text	O		DG1-3.2	Description of the diagnosis code
Name of Coding System	RE		DG1-3.3	Required if DG1-3.1 is provided. Shall be valued to one of the Literal Values in the set ('I10', 'I9CDX', 'SCT').
Diagnosis Type	**R**	0052	**DG1-6**	If DG1 segment is provided, required to provide type. Values are detailed in PHIN VADS. Shall be valued to one of the Literal Values in the set PHVS_DiagnosisType_HL7_2x ('A' for Admitting, 'W' for Working, and 'F' for Final Diagnosis).
Diagnosis Priority	**RE**	0359	**DG1-15**	Identifies the priority of the diagnosis code ("1" being the Primary diagnosis code); although usage in federal guide is "X" (not supported), NH wants to have to ability to identify the primary diagnosis

Observation Result Segment (OBX Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
OBX	**R**			**Used to transmit observations related to the patient and visit**
Value Type	**R**	**0125**	**OBX-2**	This field contains the format of the observation value in OBX (Literal Value: PHVS_ValueType_SyndromicSurveillance, "NM" is a numeric data type, Literal Value: "CWE" s for Facility/Visit type patient visited for treatment or chief complaint)
Observation Identifier	**R**		**OBX-3**	This field contains a unique identifier for the observation
Identifier	R		OBX-3.1	LOINC or locally defined Code PHVS_ObservationIdentifier_SyndromicSurveillance (Such as 8661-1 for Chief Complaint, SS003 for Facility/Visit Type, or 21612-7 for Age)
Text	O		OBX-3.2	Description (such as CHIEF COMPLAINT – REPORTED for Chief Complaint, FACILITY/VISIT TYPE for Facility/Visit Type, and AGE – REPORTED for Age)
Name of Coding System	R	0396	OBX-3.3	Possible values include LN – LOINC (for Age and Chief Complaint, or "PHINQUESTION" for Facility/Visit Type)
Observation Value	**RE**		**OBX-5**	This field contains the value observed by the observation producer (reference OBX-2)
Numeric Value	RE		OBX-5.1	For NM data type specify numeric value (such as Age); for CWE, Facility/Visit Type specify facility number (PHVS_FacilityVisitType_SyndromicSurveillance); if Chief Complaint is Coded specify ICD code
Text Value	RE		OBX-5.2	For CWE data type, Chief Complaint from Coding System or Drop Down Menu specify text; for CWE, Facility/Visit Type, specify Facility Type such as "Emergency Care")
Name of Coding System	C		OBX-5.3	If OBX-5.1 provided, then OBX-5.3 is valued

Observation Result Segment (OBX Segment)				
DATA FIELD	**USAGE**	**TABLE REF**	**HL7 SEGMENT**	**DESCRIPTION**
Original Text	RE		OBX-5.9	Unstructured, free text Chief Complaint value (such as “fever, cough, and difficulty breathing”)
Observation Units	**C**		**OBX-6**	Required when an observation’s value is measured on a continuous scale, such as with “Age units” (Include if OBX-2 is valued “NM”)
Identifier	RE		OBX-6.1	PHVS_AgeUnit_Syndromic Surveillance (such as “a” for Age)
Text	RE		OBX-6.2	Text value (such as “YEAR” for Age)
Name of Coding System	C	0396	OBX-6.3	Include if OBX-6.1 is provided

APPENDICES

Appendix A: Establish Syndromic Surveillance Reporting With NH DPHS

This Appendix provides an overview of the process used to establish syndromic surveillance submission from the participating provider to NH DPHS. The following steps should be followed.

Providers should complete and return the *Meaningful Use Registration Form on the NH DHPS website (http://www.dhhs.nh.gov/dphs/bphsi/meaningful-use.htm)* to NH DPHS indicating their interest in onboarding for Meaningful Use. Provider questions should be directed to DPHS. Contact information can be found in **Appendix E: NH DPHS Contact Information.**

1. Once NH DPHS receives the participating provider's interest and/or information, the next steps regarding the syndromic surveillance submission process will be provided.
2. A new provider (not already sending data to NH DPHS) needs to complete the following activities:
    a. Evaluate the volume of patient registrations or visits at the provider.
    b. Conduct a self-service test of messages to evaluate whether changes are required to the respective ED system to allow for the submission of electronic registrations, update, and discharges conformant with this Guide. See **Appendix D.4,** HL7 Message Test Tools for available tools, such as the PHIN MQF Tool, which will assist in testing for conformance to the established standards.
    c. Implement required processes to identify and submit patient registrations or visits, updates, and discharges.
3. Set up connectivity with NH DPHS for the data transmission feed selected by the participating facility (Reference **Appendix B**).
4. Submit test messages to NH DPHS designated test system for structural and content review.
5. Once test messages meet accepted format and content, the participating facility will begin streaming test files to NH DPHS containing registrations or visits (A04's), updates (A08's), and discharges (A03's). The test messages must be in conformance with this guide. Providers already submitting syndromic surveillance data will continue sending their production data through their existing VPN tunnel.
6. Once streamed registrations, updates, and discharges meet acceptance criteria, approval will be granted to promote the feed directly into the production environment. For providers already submitting syndromic surveillance data, the test data must be similar in completeness of data and volume of data when compared to the production submission (the production data serves as a baseline to which the test data is measured).
7. When NH DPHS verifies that the electronic test submission for providers already submitting syndromic surveillance data is consistent with this guide and the existing production submission, the participating facility will be advised to discontinue their existing VPN production direct connection.

Appendix B: Establish Data Submission Feed

This Appendix provides information to establish a data submission feed to NH DPHS that provides a secure transport of data messages. If the facility has already established a data feed with another NH DPHS system, such as the Automated Hospital Emergency Department Data (AHEDD) system, the same transport may be used for MU purposes. There are several transport options available for communicating with NH DPHS. These include:

B.1 Virtual Private Network (VPN)

VPN is a secure tunnel between a specific sending and receiving IP Address and Port.

B.2 Rhapsody-to-Rhapsody

NH DPHS uses Rhapsody, a message broker developed by Orion Health, to receive HL7 messages. A submitting laboratory may use Orion's Rhapsody Connector transport technology.

B.3 NH HIE

NH DPHS is a participant in the New Hampshire Health Information Organization (NHHIO) and is capable of receiving provider data through the Health Information Exchange (HIE), which is a service for exchanging information across NH's health care delivery systems. Providers may elect to send syndromic surveillance messages directly or through the NHHIO HIE. This service includes an Office of the National Coordinator for Health Information Technology (ONC) certified secure reliable transport mechanism capable of delivering both syndromic surveillance and ELR.

B.4 PHINMS

PHINMS – Public Health Information Network Messaging System is a system that provides a FIPS 140-2 certified encryption methods when securely sending and receiving encrypted data over the Internet. PHINMS employs Electronic Business Extensible Markup Language (ebXML) technology.

Appendix C: Sample Messages

This Appendix provides samples of the types of HL7 data messages that can be sent.

C.1 Patient Registration Message

This sample of an HL7 message contains the patient registration.

MSH|^~\&||Elliot Hospital^300012^L||AHEDD|201208171230||ADT^A04^ADT_A01|NIST-SS-001.12|P|2.5.1|||||||||PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO|
EVN||201208171230|||||ELLIOT HOSPITAL^1902996028^NPI
PID|1||2222^^^^MR||^^^^^^~^^^^^^S||19690201|F||2106-3^White^CDCREC|^^MANCHESTER^33^03103^USA^^^33011|||||||||2135-2^Hispanic or Latino^CDCREC|
PV1| |E|||||||||||||||E|2222001^^^^VN|||||||||||||||||||||||||201208171200|
PV2|||^FEVER, CHILLS, UTI
OBX|1|CWE|SS003^FACILITY/VISIT TYPE^PHINQUESTION||261QE0002X^Emergency Care^NUCC||||||F|
OBX|2|NM|21612-7^AGE – REPORTED^LN||**43**|a^YEAR^UCUM|||||F|||20110217
OBX|3|CWE|8661-1^CHIEF COMPLAINT - REPORTED^LN||^^^^^^^^Fever, chills, smelly urine with burning during urination||||||F|

Use this OBX format if the patient's age is unknown.
OBX|4|NM|21612-7^AGE – REPORTED^LN|||UNK^unknown^NULLFL|||||F|||20110217

Examples OBX Segment:
Coded value -
OBX|3|CWE|8661-1^CHIEF COMPLAINT:FIND:PT:PATIENT:NOM:REPORTED^LN||780.4^^^^^^^^Dizziness and giddiness ||||||F|||20110217|
Structured field or drop-down menu value -
OBX|3|CWE|8661-1^CHIEF COMPLAINT:FIND:PT:PATIENT:NOM:REPORTED^LN||^Dizziness and giddiness||||||F|||20110217|
Free-text value –
OBX|3|CWE|8661-1^CHIEF COMPLAINT:FIND:PT:PATIENT:NOM:REPORTED^LN||^^^^^^^^STOMACH ACHE||||||F|||2011021715 31|

C.2 Patient Update Message (with Multiple Diagnosis Codes)

This sample of an HL7 message contains the patient update with multiple diagnoses.

MSH|^~\&||Elliot Hospital^300012^L||AHEDD|201208031100||ADT^A08^ADT_A01|NIST-SS-001.12|P|2.5.1|||||||||PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO|
EVN||201208030230|||||ELLIOT HOSPITAL^1902996028^NPI
PID|1||3333^^^^MR||^^^^^^~^^^^^^S||19690201|M||2106-3^White^CDCREC|^^MANCHESTER^33^03103^USA^^^33011|||||||||2186-5^Hispanic or Latino^CDCREC|
PV1|1|E|||||||||||||||E|3333001^^^^VN|||||||||||||||||01|||||||201208031030|201208031230|
PV2|||^SOB
OBX|1|CWE|SS003^^PHINQUESTION|| 261QE0002X ^Emergency Care^NUCC||||||F|
OBX|2|NM|21612-7^AGE – REPORTED^LN||**43**|a^YEAR^UCUM|||||F|||20110217
OBX|3|CWE|8661-1^CHIEF COMPLAINT - REPORTED^LN||^^^^^^^^Shortness of Breath||||||F|
DG1|1||J96.00^acute respiratory failure^I10||201208030230|W|||||||||1|
DG1|2||J81.0^ acute pulmonary edema^I10||201208030230|W|||||||||2|
DG1|3||581.4^acute respiratory failure^I9CDX||201208030230|W|||||||||1|

C.3 Patient Discharge Message

This sample of an HL7 message contains the patient discharge.

MSH|^~\&||Elliot Hospital^300012^L||AHEDD|201208171430||ADT^A03^ADT_A03|NIST-SS-001.22|P|2.5.1|||||||||PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO|
EVN||201208171430|||||ELLIOT HOSPITAL^1902996028^NPI

PID|1||2222^^^^MR||^^^^^^~^^^^^^S||19690201|F||2106-3^White^CDCREC|^^MANCHESTER^33^03103^USA^^^33011||||||||||2135-2^Not Hispanic or Latino^CDCREC|
PV1|1|E|||||||||||||||E|2222001^^^^VN|||||||||||||||01|||||||201208171200|201208171400|
PV2||| ^ACUTE RESPIRATORY FAILURE
DG1|1|J96.00^acute respiratory failure ^I10|||F|||||||||1|
OBX|1|CWE|SS003^^PHINQUESTION||261QE0002X^Emergency Care^NUCC||||||F|
OBX|2|NM|21612-7^AGE – REPORTED^LN||**43**|a^YEAR^UCUM|||||F|||20110217
OBX|3|CWE|8661-1^CHIEF COMPLAINT - REPORTED^LN||^^^^^^^^Shortness of Breath||||||F|

C.4 Acknowledgement Message

Based upon the agreed upon transport mechanism, NH DPHS will return an acknowledgement message to the system a facility employs to submit data to public health. Below is a sample of that message.

MSH|^~\&||Elliot Hospital^300012^L ||AHEDD|201208031100||ADT^A08^ADT_A01|NIST-SS-001.12|P|2.5.1
MSA|AA|NIST-SS-001.22|

Appendix D: References and Resources

D.1 Syndromic Surveillance and Meaningful Use

Overview of syndromic surveillance http://www.cdc.gov/mmwr/preview/mmwrhtml/su5301a3.htm
CDC Meaningful Use http://www.cdc.gov/ehrmeaningfuluse/
PHIN – Public Health Information Network http://www.cdc.gov/phin/index.html

D.2 Local Resources

NHHIE - New Hampshire Health Information Exchange http://www.dhhs.nh.gov/hie/
NHHIO - New Hampshire Hospital Information Organization http://www.nhhio.org/
RECNH – Regional Extension Center of New Hampshire http://www.recnh.org/

D.3 HL7 Messaging

PHIN Messaging Guide For Syndromic Surveillance: Emergency Department, Urgent Care And Impatient Settings for HL7 v2.5.1, Release 1.9, April 2013, http://www.cdc.gov/phin/resources/PHINguides.html
HL7 Data Dictionary - Appendix A, Health Level Seven, Version 2.6 © 2007, http://www.hl7.org/special/committees/vocab/V26_Appendix_A.pdf
PHIN Vocabulary and Access Distribution System (VADS) Search Tool, https://phinvads.cdc.gov/vads/SearchHome.action
HL7 Messaging Standard Version 2.3.1, Implementation Guides, Download http://www.hl7.org/implement/standards/product_brief.cfm?product_id=141

D.4 HL7 Message Test Tools

PHIN MQF Message Quality Framework, https://phinmqf.cdc.gov/, to test HL7 messages for required format and fields (not content)
NIST (National Institute of Standards and Technology), http://xreg2.nist.gov:8080/HL7V2MuValidation2011, web application for HL7 testing

D.5 NH Reportable Disease List, Statues and Administrative Rules

Reportable Disease Conditions List - http://www.dhhs.state.nh.us/dphs/cdcs/documents/reportablediseases.pdf
NH Communicable Disease Statute, RSA-141-C, http://www.gencourt.state.nh.us/rsa/html/X/141-C/141-C-mrg.htm
NH Communicable Diseases Administrative Rules, He-P 301, http://gencourt.state.nh.us/rules/state_agencies/he-p300.html

Appendix E: NH DPHS Contact Information

For questions about syndromic surveillance at NH DPHS, please contact:

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Appendix F: Tables

Table F1 – Assigning Authority (MSH-4.1)	
Value	**Description**
300001	Concord Hospital
300003	Dartmouth-Hitchcock Medical Center
300005	Lakes Region General Hospital
300006	Huggins Hospital
300007	Monadnock Community Hospital
300008	Littleton Regional Hospital
300009	New London Hospital
300010	Speare Memorial Hospital
300011	St. Joseph Hospital
300012	Elliot Hospital
300013	Franklin Regional Hospital
300014	Frisbie Memorial Hospital
300015	The Memorial Hospital
300016	Alice Peck Day Memorial Hospital
COCQC	Parkland Medical Center
300018	Wentworth-Douglas Hospital
300019	Cheshire Medical Center
300020	Southern NH Medical Center
300021	Weeks Medical Center Hospital
300022	Androscoggin Valley Hospital
300023	Exeter Hospital
300024	Valley Regional Hospital
300028	Cottage Hospital
COCQE	Portsmouth Regional Hospital
300033	Upper Connectibut Valley Hospital
300034	Catholic Medical Center

Table F2 – Administrative Sex (PID-8)		
Value	**Description**	**Definition**
F	Female	Person reports that she is female.
M	Male	Person reports that he is male.
O	Other	
U	Unknown/undifferentiated	No assertion is made about the gender of the person.
A	Ambiguous	
N	Not applicable	

Appendix G: HL7 Version Field Changes

The fields below are those whose location has either changed between HL7 v2.3.1 and v2.5.1 or are now required in v2.5.1 (as recommended in the PHIN Messaging Guide For Syndromic Surveillance, Reference Appendix D.3 HL7 Messaging).

DATA FIELD	HL7 2.3.1 Location	HL7 2.5.1 Location	COMMENT
Sending Facility	MSH-4	MSH-4.2	Sending Facility Code
Receiving Facility	MSH-6	MSH-6	Value "AHEDD" to be used for Syndromic Surveillance
Event Facility Name		EVN-7.1	Treatment facility name
Event Facility ID		EVN-7.2	Treatment facility unique ID
Event Facility Type		EVN-7.3	Treatment facility type (such as NPI)
Race		PID-10.1	Patient Race
Patient Residence City	PID-11.3		Require this field to continue to identify city (needed to group by Public Health Region)
Patient Residence State	PID-11.4	PID-11.4	Require this field to continue to identify state
Patient Residence Country		PID-11.6	Would like to use this field to identify out of country
Patient Residence County		PID-11.9	
Ethnicity		PID-22.1	Patient Ethnicity
Patient Class		PV1-2	May be needed to identify "patient type" (since patient type is not required but patient class is in federal version 1.9)
Patient Type	PV1-18		Was required with 2.3.1 (not with 2.5.1), would like to receive field, which is used to identify type of visit
Visit Number	PID-18 or PV1-19	PV1-19	
Admit Reason/Chief Complaint	PV2-3	PV2-3.2 or OBX-5	Traditionally this value has been supplied in PV2-3, but is now provided in OBX-5 (Free-text is OBX-5.9, but OBX-5.2 if drop-down value)
Diagnosis Coding Method	DG1-2		Used to designate coding system in earlier version
Diagnosis Code	DG1-3.1	DG1-3.1	
Diagnosis Code Description		DG1-3.2	
Diagnosis Coding System	DG1-3.3	DG1-3.3	Recommended to designate coding system in 2.5.1
Diagnosis Type		DG1-6	
Diagnosis Priority	DG1-1	DG1-1 or DG1-15	Would like to use this field to identify primary versus secondary diagnosis
Value Type		OBX-2	Used if chief complaint, age, or facility visit are reported
Observation Identifier		OBX-3.1	Used if chief complaint, age, or facility visit are reported
Text		OBX-3.2	Used if chief complaint, age, or facility visit are reported
Name of Coding System		OBX-3.3	Used if chief complaint, age, or facility visit are reported
Observation Value Identifier		OBX-5.1	Used if chief complaint, age, or facility visit are reported
Text		OBX-5.2	Used if chief complaint, age, or facility visit are reported

DATA FIELD	HL7 2.3.1 Location	HL7 2.5.1 Location	COMMENT
Name of Coding System		OBX-5.3	Used if chief complaint, age, or facility visit are reported
Age		OBX-5.1	