Wisconsin Implementation Guide for Syndromic Surveillance

Wisconsin Department of Health Services
Division of Public Health
Office of Health Informatics

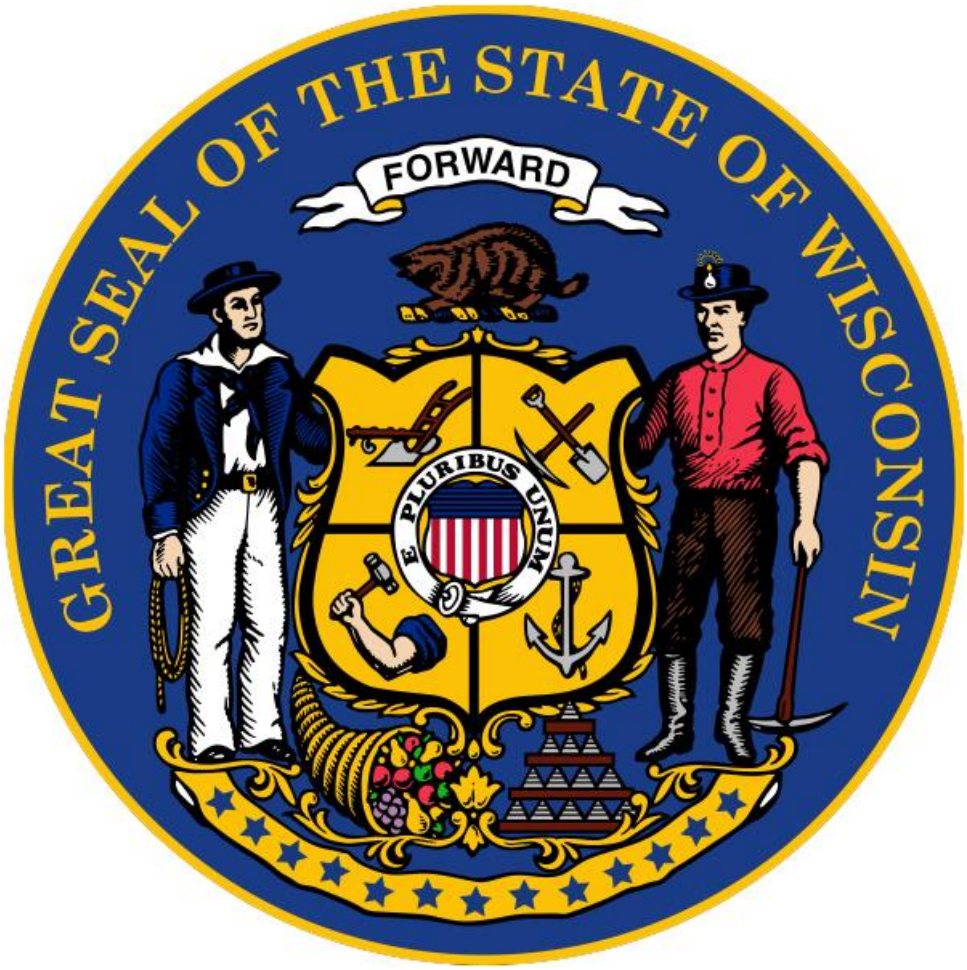

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Table of Contents

I. Introduction

Purpose

The Wisconsin Department of Health Services (DHS), Division of Public Health (DPH), offers this guide for new and current facilities who wish to submit syndromic surveillance data to the Centers for Disease Control and Prevention (CDC) National Syndromic Surveillance Program (NSSP) BioSense Platform. This document provides an overview of Wisconsin's processes for onboarding data feeds. Onboarding is a collaborative process in which health care providers and facilities transmit syndromic surveillance data from internal medical record systems through the Wisconsin Statewide Health Information Network (WISHIN) or through DPH to the BioSense Platform.

For technical teams, DPH offers the Wisconsin Messaging Guide for Syndromic Surveillance, which gives further technical guidance on data elements of interest and how HL7 messages should be constructed to adhere to standards set by the International Society for Disease Surveillance (ISDS), NSSP, and DPH.

Syndromic Surveillance

Syndromic surveillance collects patient visit data, such as reported symptoms from health care facilities, and utilizes statistical tools to detect, monitor, and characterize unusual activity for further public health investigation and response. Syndromic data include patient visit data from emergency departments, urgent care, ambulatory care, and inpatient health care settings. These data are captured and monitored in near real-time as potential indicators of an event, a disease, or an outbreak of public health significance. Public health practitioners use various surveillance systems and data sources in combination with syndromic data to enhance their understanding of emergent public health events.

Meaningful Use

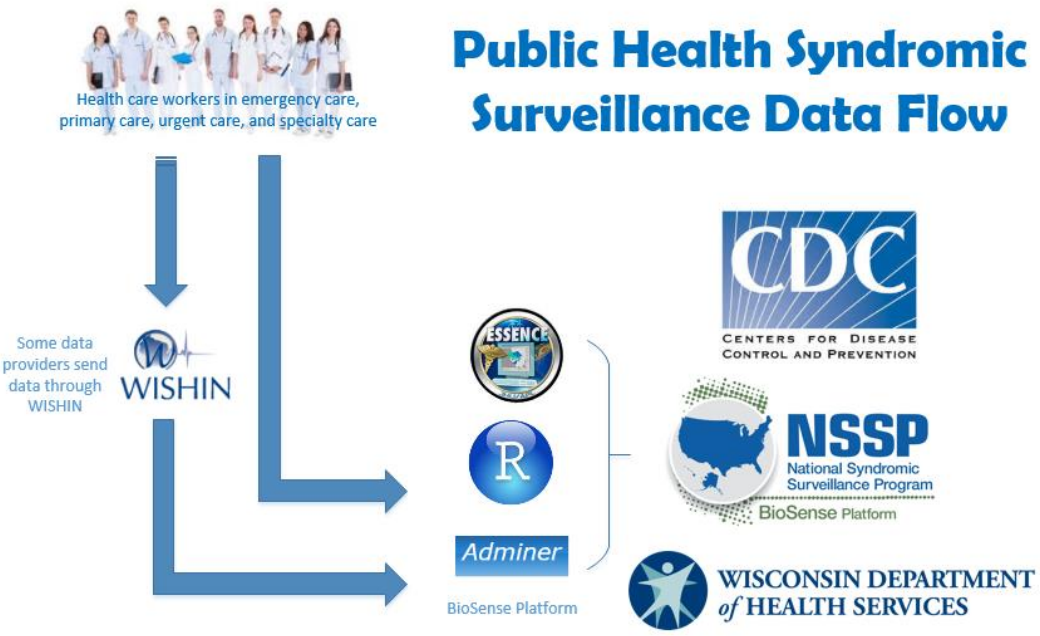
The Electronic Health Record (EHR) Incentive Program (also known as Meaningful Use or Promoting Interoperability) was established as part of Section 4201 of the American Recovery and Reinvestment Act (ARRA) of 2009. Meaningful Use is defined by the use of certified electronic health record technology (CEHRT) to improve health care quality, efficiency, and patient safety. Providers must use their CEHRT in a "meaningful" way (for example, electronic prescribing), as defined by the Centers for Medicare & Medicaid Services (CMS), to receive incentive payments. The program also focuses on ensuring the CEHRT is implemented in a manner that provides for the electronic exchange of health information, with an aim to improve the quality of care. Additionally, providers participating in Meaningful Use must report on quality and process measures to their state Medicaid agency.

II. Data

CDC, NSSP, and BioSense

To support national emergency preparedness, the U.S. Congress passed legislation and appropriated funding to the CDC to establish an integrated national public health surveillance system for early detection and rapid assessment of bioterrorism-related events. To meet this need, CDC launched BioSense in 2003. Since 2011, the focus has expanded to situational awareness for all-hazards preparedness and response. The NSSP provides syndromic surveillance practitioners access to and use of the cloud-based BioSense Platform, a secure, integrated, electronic health information system with standardized analytic tools and processes. These tools enable users to rapidly collect, evaluate, share, and store syndromic surveillance data. By using the BioSense Platform, health officials can analyze syndromic data to improve their common awareness of health threats over time and across regional boundaries.

NSSP is a collaborative program among local, state, and national public health programs to facilitate the timely exchange and use of targeted syndromic surveillance data. These data help public health officials detect, monitor, and respond quickly to local public health threats and events of public health importance. The BioSense Platform is the core component of this integrated, nationwide system for public health syndromic surveillance. NSSP provides resources and technical assistance with onboarding syndromic surveillance feeds for DPH.



Data: Sources, Storage, and Sharing

The BioSense Platform can receive syndromic surveillance data for all facility types, but Emergency Department (ED) onboarding is their highest priority. DPH is prioritizing syndromic surveillance onboarding by facility type and data volume. DPH accepts the following facilities' data (in priority order):

- Emergency Department (ED)
- Urgent Care (UC)
- Inpatient (I)
- Ambulatory Care (AC)

Data Standards

In alignment with the 2015 Edition of the ONC Certification Criteria for EHR Technology, DPH requires all syndromic messages submitted to be HL7 version 2.5.1. Facilities sending earlier version HL7 messages will be asked to update to version 2.5.1 as soon as possible.

DPH collects data from facilities through admit, discharge, transfer (ADT) messages. DPH accepts the following ADT message types:

- A01 - Inpatient admission
- A03 – Discharge/end visit
- A04 - Emergency department registration
- A08 - Updates to previously sent ADT messages

Samples of each ADT message type can be found below and linked to each type above.

DPH requests that syndromic data be submitted in hourly batches. The timing of files may be adjusted in frequency as is convenient for data submitters. Files must, at a minimum, be sent as early as possible after midnight and contain all visits from the previous 24 hours. Data submission should occur 24 hours a day, seven days a week.

WISHIN and DPH

Providers need to evaluate two options for submitting syndromic surveillance data to DPH before proceeding with onboarding.

Option 1: Submit syndromic surveillance data via WISHIN to the BioSense Platform. For additional information, contact WISHIN directly by email at wishin@wishin.org or by phone at 608-274-1820.

Option 2: Submit syndromic surveillance data directly to the BioSense Platform. The provider will work with DPH to initiate onboarding. The BioSense Platform prefers to receive syndromic surveillance data submissions as a daily batch HL7 file via SFTP. For additional information about this option, send an email to syndromicsurveillance@wi.gov.

Legal Agreements

Before submitting syndromic data, new data providers must submit a signed data use agreement (DUA) with the CDC to register on the BioSense Platform. The DUA allows the site to share data and conduct public health surveillance activities to identify, respond to, and monitor significant events of public health interest. The DUA spells out how CDC will use and access Wisconsin's data.

Data providers must also submit a DUA with DPH and a BioSense Platform Onboarding Process Acknowledgement (BOPA). THE BOPA acknowledges that the data provider has reviewed security and organizational policy standards. DPH will contact the provider during onboarding to execute the DUA and BOPA to submit syndromic surveillance data.

III. Onboarding Process

DPH onboards new facilities to the BioSense Platform in five phases: Registration, Engagement, Connection, Validation, and Operation. An outline of each phase follows. DPH will provide detailed instructions, working closely with the facility once it is selected to onboard (in the Engagement Phase).

Registration

Data providers initiate the onboarding process by visiting and following the instructions for registering on the Wisconsin Public Health Meaningful Use page. When submitting a registration form, the provider will need to submit the following information:

- Organization name
- Primary business contact information (phone number and email address)
- Primary technical contact information (phone number and email address)
- Primary address
- Current submission of syndromic surveillance data
- EHR vendor name, product name, and version of product
- EHR technology's HL7 capacity

After successfully submitting a registration form within the Public Health Registration for Electronic Data Submission System (PHREDS), the system automatically sends a registration confirmation email to the first business contact (and second business contact, if provided). Providers participating in Meaningful Use are advised to save this email for audit purposes.

Engagement

Once a facility is selected to onboard, DPH will email the registered facility's contacts to establish stakeholders, timelines, and go through an overview of the process. Dates for validation will be planned 90 days in the future. During this time:

- The facility will begin testing ADT messages through the National Institute of Standards and Technologies (NIST) HL7 testing tool at https://hl7v2-ss-r2-testing.nist.gov/ss-r2/#/home.
- DPH will work with the stakeholders to finalize the facility list.
- DPH will register the facility as "Planned" with NSSP.
- DPH will send legal agreements to the facility for completion.

Connection

Once all ADT message types are validated by DPH and all legal agreements are signed, DPH will work with data providers to establish their data submission feed to the BioSense Platform. To do this:

- DPH will switch the facility to "Onboarding" with NSSP.
- The facility, DPH, and NSSP will work to create key pairs and other connection details.
- The facility will send over sample messages to the Staging environment.
- The facility and DPH will establish a filename convention for submissions.
- DPH will verify that no PII is being submitted to the BioSense Platform.

Validation

Once a stable connection is established, DPH will begin validation of the data submission. To be moved to the Production stream, messages must be submitted and meet standards for seven days. The validation period can vary greatly depending on facility, electronic health vendor, NSSP, DPH, and facility availability and turnaround times. During the Validation Phase:

- DPH will review messages and provide feedback on message quality to the facility.
- The facility will make adjustments based on feedback from DPH to their interface and/or messages.
- DPH will request official validation by NSSP of data after 7 days of data meeting standards.
- DPH will verify that no PII is being submitted to the BioSense Platform.

Operation

Once the seven-day validation is approved by NSSP, the feed will move to Production. At this point onboarding is complete. From here, each party will work to maintain the feed. To do this:

- DPH will verify messages coming into Production.
- DPH will verify feed administrators to be the point of contact moving forward.
- DPH will monitor submission data quality and timeliness.
- DPH and the facility will alert each other if the feed goes down for any reason.
- DPH will communicate completeness and timeliness concerns to feed administrators on a regular basis.
- DPH will communicate changes in message standards to feed administrators.

IV. Glossary

Terminology	Definition
ADM	Analytic Data Management team provides analytical expertise and support for the National Syndromic Surveillance Program
ADT	HL7 message types specific to admit, discharge, and transfer activities. ADT are the message types used by syndromic surveillance.
BioSense Platform	Cloud-based computing environment and repository for syndromic data of the National Syndromic Surveillance Program
BOPA	BioSense Platform Onboarding Process Acknowledgement is a document used by NSSP to guarantee users are familiar with security protocols before using applications within the BioSense Platform
CEHRT	Certified electronic health record technology; to see if an EHR is certified, search https://chpl.healthit.gov/#/search
CDC	Centers for Disease Control and Prevention https://www.cdc.gov
CMS	The Centers for Medicare & Medicaid Services administer Meaningful Use incentives. See http://www.cms.gov/ for more information or email the Wisconsin eHealth Program at eHealth@wisconsin.gov.
Component	A subset of a segment; these are designated with a decimal and number after the segment (Example: OBX-5.1)
Data Element	The basic unit of information within messages. Data elements have requirements and standards for how they are sent.
Data Provider	The health care providers and facilities that submit syndromic data
DHS	Department of Health Services https://www.dhs.wisconsin.gov/
DPH	Division of Public Health https://www.dhs.wisconsin.gov/dph/index.htm
DUA	Data use agreements are legal contracts between a data provider and an entity storing and/or utilizing data to ensure data is stored and used properly
ED	Emergency department
EH	Eligible hospital. See http://www.cms.gov/ for more information.
EHR	Electronic health record
ESSENCE	Electronic Surveillance System for the Early Notification of Community-based Epidemics is the BioSense Platform's application for public health use
Facility	A general reference to a hospital or health care establishment
Field	A slot for information within an HL7 message; a segment could have many fields; a field could have many components.
ICD	International Classification of Diseases
ISDS	International Society for Disease Surveillance
MFT	Master facility table is a resource managed between NSSP and DPH for tracking submitting data providers
NIST	National Institute of Science and Technology provides tools for testing HL7 messages available at https://hl7v2-ss-r2-testing.nist.gov/ss-r2/#/home

NSSP	National Syndromic Surveillance Program is the program within the CDC responsible for the BioSense Platform.
Onboarding	Onboarding is the process of connecting data providers to the BioSense Platform for syndromic data submissions.
PHIN	Public Health Information Network
PHINMS	Message transport system used in public health
PII	Personally identifiable information
Production (PR)	Data providers submit live data here after Staging environment validation
SFTP	Secure file transfer protocol
SSH	Secure Shell is a protocol used to allow remote login and enable network services to operate securely.
Syndromic Surveillance (SS)	The real-time, continuous collection of health-related data from data providers to inform public health
Segment	The divisional units of HL7 messages; each HL7 message consists of several segments (example, MSH is the Message Handler segment)
Staging (ST)	The Staging environment within the BioSense Platform is where messages are sent to be tested and validated; it precedes data being sent to Production.
UC	Urgent care
VADS	Vocabulary Access and Distribution System are standardized values used in syndromic surveillance messages; PHIN VADS can be found at https://phinvads.cdc.gov/vads/ViewView.action?name=Syndromic Surveillance
WISHIN	Wisconsin Statewide Health Information Network http://wishin.org/ is Wisconsin's state-designated entity to govern statewide health information exchange.

V. Data Elements

Wisconsin and the BioSense Platform must receive all "R" and "RE" data elements defined for syndromic surveillance in the PHIN Messaging Guide for Syndromic Surveillance. The following table summarizes the PHIN Messaging Guide for Syndromic Surveillance, Section 4.2, and Syndromic Surveillance Data Elements of Interest specific to Wisconsin. Further explanation for data elements and a listing of all data elements can be found in Wisconsin's Syndromic Surveillance Messaging Guide.

Legend: **R** = required element; **RE** = required but may be empty; **O** = Optional
For a complete description of these terms, see "Usage Rules for a Sending Application" in the Messaging Guide for Syndromic Surveillance: ED/UC, Inpatient and Ambulatory Care Settings.

New Data Elements			
Name	**Location**	**Usage**	**Description**
Travel History	OBX.5.1	O	Text based narrative of patient travel history OBX Segment with OBX-3 Observation Identifier of 10182-4^History of travel Narrative^LN and OBX-2 Value Type of TX
Previous Hospital Unit	PV1.6.1	O	Hospital unit where patient was prior to the current transaction
Hospital Unit	OBX.5	RE	Hospital unit where patient is at the time the message is sent (admission and discharge) OBX Segment with OBX-3 Observation Identifier of 56816-2 Patient Location (LOINC) and OBX-2 Value Type of CWE
Unique Physician Identifier	PV1.7.1	O	Unique identifier for the physician providing care
Height	OBX.5	O	Height of the patient OBX Segment with OBX-3 Observation Identifier 8302-2 Body Height (LOINC) and OBX-2 Value Type of NM.
Weight	OBX.5	O	Weight of the patient OBX Segment with OBX-3 Observation Identifier 3141-9 Body Weight Measured (LOINC) and OBX-2 Value Type of NM.
BMI	OBX.5	O	Body Mass Index OBX Segment with OBX-3 Observation Identifier 39156-5 Body Mass Index (LOINC) and OBX-2 Value Type of NM
Smoking Status	OBX.5	O	Smoking status of patient OBX Segment with OBX-3 Observation Identifier 72166-2 Tobacco Smoking Status (LOINC) and OBX-2 Value Type of CWE.
Insurance Coverage	IN1.15	O	Insurance Plan Type e.g. Medicare, Medicaid, Blue Cross, HMO, etc.; may use value set: PHVS_SourceOfPaymentTypology_PHDSC

Required Data Elements for Wisconsin			
Name	**Location**	**Usage**	**Description**
MESSAGE HEADER	**MSH**	**R**	**INFORMATION FOR PARSING AND PROCESSING**
			MSH segments per message: one (1)
Field Separator	MSH-1	R	Use the literal value "|"
Encoding Characters	MSH-2	R	Use the literal value "^~\&"
Sending Facility	MSH-4	R	The name of the sending facility may differ from the name of the treating facility.
Namespace ID	MSH-4.1	R	A business name descriptive enough to clearly identify the sending facility (1-20 characters)
Universal ID	MSH-4.2	R	NPI is preferred; OID may be used
Universal ID Type	MSH-4.3	R	Use literal value "NPI" for NPI, "ISO" for OID
Receiving Application	MSH-5	R	Use literal value "BioSense^2.16.840.1.113883.3.1673^ISO"
Receiving Facility	MSH-6	R	Use literal value "BioSense^2.16.840.1.113883.3.1673^ISO"
Date/Time Of Message	MSH-7	R	Date/time that the sending system created the message; minimum precision is to the nearest minute: YYYYMMDDHHMM[SS[.S[S[S[S]]]]] [+/-ZZZZ]
Message Type	MSH-9	R	"ADT^A01^ADT_A01", "ADT^A03^ADT_A03'', "ADT^A04^ADT_A01'' or "ADT^A08^ADT_A01"
Message Control ID	MSH-10	R	Each unique message should have a message control ID that is unique at least within the sending application
Processing ID	MSH-11	R	Use literal value "T" during testing and validation; use literal value "P" once the messages have been fully validated and are in production
Version ID	MSH-12	R	Use the literal value "2.5.1"
Message Profile Identifier	MSH-21	R	BioSense will not be sending acknowledgement messages. Use one of the following literal values: "PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO" or "PH_SS-Batch^SS Sender^2.16.840.1.114222.4.10.3^ISO"
EVENT TYPE	**EVN**	**R**	**TRIGGER EVENT INFORMATION**
			EVN segments per message: one (1)
Recorded Date/Time	EVN-2	R	Expected to be the system date/time that the transaction was entered (NOTE, EVN-2 does not have to equal MSH-7); minimum precision is to the nearest minute: YYYYMMDDHHMM[SS[.S[S[S[S]]]]] [+/-ZZZZ]
Event Facility	EVN-7	R	This field shall identify the individual facility where the patient was treated

NamespaceID	EVN-7.1	RE	Use an abbreviation descriptive enough to clearly identify the treating facility
Universal ID	EVN-7.2	R	NPI is preferred, and must identify *the individual facility providing service*; If no existing NPI uniquely identifies the facility providing service, use OID. If no NPI or OID identifies the facility see https://www.hl7.org/oid/index.cfm for information on registering an OID for the facility
Universal ID Type	EVN-7.3	R	Use literal value “ISO” for OID, “NPI” for NPI
PATIENT IDENTIFICATION	**PID**	**R**	**PATIENT IDENTIFYING AND DEMOGRAPHIC INFORMATION** PID segments per message: one (1)
Set ID – PID	PID-1	R	Use the literal value “1”
Patient Identifier List	PID-3	R	Patient’s unique identifier(s) from the submitting facility/organization; identifiers should be strong enough to remain unique across submitting organizations PID-3 is a repeating field that can accommodate multiple patient identifiers.
ID Number	PID-3.1	R	The identifier provided should allow the treating facility to retrieve information on the patient if requested by public health. Use the following hierarchy: (1) Master patient index, if available (2) Medical record number, if available (3) Patient account number, if available (4) Other internal patient identifier, if none of the above patient identifiers are available
Identifier Type Code	PID-3.5	R	Use literal value: “PT” for Master Patient Index; "MR" for medical record number; "AN" for account number; "PI" for patient internal identifier
Patient Name	PID-5	R	If name is intentionally excluded or is unknown, PID-5 shall be valued as either "^^^^^^~^^^^^^S" or "^^^^^^~^^^^^^U" respectively
Name type	PID-5.7	R	If patient legal name is provided, use literal value “L”; if patient name is known but intentionally excluded, use literal value "S"; if patient name is unknown, use "U"
Administrative Sex	PID-8	RE	Use value set **PHVS_Gender_SyndromicSurveillance**
Race	PID-10	RE	Patient may have more than one race defined. Leave blank if race is unknown.
Identifier	PID-10.1	RE	Use value set **PHVS_RaceCategory_CDC**
Patient Address	PID-11	RE	Transmit patient’s primary/current address
City or Town	PID-11.3	RE	Free text

State or Province	PID-11.4	RE	For US residents, use value set **PHVS_State_FIPS_5-2**; otherwise, use local code
ZIP or Postal Code	PID-11.5	RE	USPS 5 digit code for US residents; otherwise, use local postal code
Country	PID-11.6	RE	Use value set **PHVS_Country_ISO_3166-1**
County/Parish Code	PID-11.9	RE	For US residents, use value set **PHVS_County_FIPS_6-4**
Ethnic Group	PID-22	RE	Leave blank if unknown.
Identifier	PID-22.1	RE	Use value set **PHVS_EthnicityGroup_CDC**
PATIENT VISIT	**PV1**	**R**	**VISIT-SPECIFIC INFORMATION** PV1 segments per message: one (1)
Set ID - PV1	PV1-1	RE	Use the literal value "1"
Patient Class	PV1-2	R	Use value set **PHVS_PatientClass_SyndromicSurveillance**; Data providers should include ALL classes of patients cared for at their facility EXCEPT Preadmit and Recurring. Hospitals may additionally exclude records for patients classified as Outpatient.
Visit Number	PV1-19	R	Uniquely identifies the patient visit among all visits at the facility/organization
ID Number	PV1-19.1	R	All syndromic messages produced as a result of a single patient encounter must have the same value for PV1-19.1; messages produced as a result of different patient encounters must not share PV1-19.1 values
Identifier Type Code	PV1-19.5	R	Use the literal value "VN"
Discharge Disposition	PV1-36	RE (A08) R(A03)	Use the value set **PHVS_DischargeDisposition_HL7_2x** This field shall not be populated in an A01 or A04 message; data shall be sent in an A03 at the end of a discrete patient visit (e.g., discharged to home, transferred to another facility, expired, admitted as inpatient), and included in subsequent updates (A08s). Data may be updated throughout encounter (e.g., Final ED disposition vs. Final inpatient disposition). This field is not required in ambulatory settings.
Admit Date/Time	PV1-44	R	Date/time of patient presentation, expressed with minimum precision to the nearest minute: YYYYMMDDHHMM[SS[.S[S[S[S]]]]] [+/-ZZZZ]. Hold this value constant across all messages for a specific visit.

Disposition or Discharge Date/Time	PV1-45	RE(A08) R(A03)	Date/time of patient disposition or discharge, expressed with minimum precision to the nearest minute: YYYYMMDDHHMM[SS[.S[S[S[S]]]]] [+/-ZZZZ] This field shall not be populated in A01 or A04 messages; field shall be populated in A03 discharge messages when available, and subsequent A08 updates. This field is not required in ambulatory settings.

VI. Sample ADT HL7 Messages

A01 – Admit

MSH|^~\&|EPIC|Hospital^6868012945^NPI|BioSense^2.16.840.1.113883.3.1673^ISO|BioSense^2.16.840.1.113883.3.1673^ISO
|20180110101830||ADT^A01^ADT_A01|12345678|P|2.5.1|||NE||||||PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO||
EVN||20120110101830|||||Hospital^6868012945^NPI
PID|1||E123456^^^ORGENTITY&NPI&ISO^MR||^^^^^^~^^^^^^S||19680922|M||2106-3^White^CDCREC|^^Chatham^55^53206^USA^^^55079|||||||12345678||||2186-5^NOT HISPANIC OR LATINO^CDCREC|||||||||
PV1|1|E|G.ER|E||||||||||7|||||G0000471^^^MPI&2.16.840.1.114222.4.1.3657&ISO^VN^DGH&2.16.840.1.114222.4.1.3657&ISO|||||||||||||||||||||||||20140620113859|||||||
PV2|||J1100^Influenza due to unidentified influenza virus with unspecified type of pneumonia^I10C
OBX|1|CWE|SS003^FACILITY/VISIT TYPE^PHINQUESTION||261QE0002X^Emergency Care ^HCPTNUCC||||||F|||201612272000-0500
OBX|2|NM|21612-7^Age-Reported^LN||10|a^^UCUM|||||F|||201612272000-0500
OBX|3|TX|8661-1^CHIEFCOMPLAINT^LN||fever, cough, difficulty breathing||||||F|||201612272000-0500
OBX|4|TS|11368-8^ILLNESSORINJURYONSETDATEANDTIME^LN||201612262200-0500||||||F|||201612272000-0500
OBX|5|CWE|56816-2^HOSPITALUNIT^LN||1047-0^PediatricRespiratoryCriticalCare^HSLOC||||||F|||201612272000-0500
DG1|1||J1100^INFLUENZA DUE TO UNIDENTIFIED INFLUENZA VIRUS WITH UNSPECIFIED TYPE OF PNEUMONIA^I10C||201612272000-0500|A
IN1|1|1234567|12345678|InsuranceGroup||||||||||92^Other(Non-government)^PHDSC

A03 – Discharge

MSH|^~\&|EPIC|Hospital^6868012945^NPI|BioSense^2.16.840.1.113883.3.1673^ISO|BioSense^2.16.840.1.113883.3.1673^ISO
|20180110101830||ADT^A03^ADT_A03|12345678|P|2.5.1|||NE||||||PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO||
EVN||20120110101830|||||Hospital^6868012945^NPI

PID|1|| E123456^^^ORGENTITY&NPI&ISO^MR||^^^^^^~^^^^^^S||19680922|F||2028-9^Asian^CDCREC|^^Chatham^55^53703^USA^^^55025||||||12345678||||2186-5^NOT HISPANIC OR LATINO^CDCREC|||||||||
PV1|1|E|G.ER|E||unit|1234567898|||MED||||7|||||12345678^^^12345678&NPI&ISO^^||||||||||||||||01|||||||20180109171536|20180109201000|||||||||
PV2|||S82.3^FRACTURE OF LOWER END OF TIBIA^I10C
OBX|1|NM|21612-7^AGE-REPORTED^LN||50|a^^UCUM|||||F|||||||||||||
OBX|2|NM|11289-6^BODY TEMPERATURE^LN||97.5|[degF]^FAHRENHEIT^UCUM|||||F|||20180115112500||||||||||
OBX|3|NM|59408-5^OXYGEN SATURATION:PULSE OXIMETRY^LN||95|%^PERCENT^UCUM|||||F|||20180115112500||||||||||
OBX|4|TX|8661-1^CHIEF COMPLAINT^LN||broken ankle||||||F|||||||||||||
OBX|5|CWE|SS003^FACILITY / VISIT TYPE^PHINQUESTION||261QE0002X^Emergency Care^HCPTNUCC||||||F|||||||||||||
OBX|6|TX|11450-4^ANKLE PAIN^LN||ankle pain||||||F|||||||||||||

A04 – Registration

MSH|^~\&|EPIC|Hospital^6868012945^NPI|BioSense^2.16.840.1.113883.3.1673^ISO|BioSense^2.16.840.1.113883.3.1673^ISO
|20180110101830||ADT^A04^ADT_A01|12345678|P|2.5.1|||NE||||||PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO||
EVN||20120110101830|||||Hospital^6868012945^NPI
PID|1|| E123456^^^ORGENTITY&NPI&ISO^MR||^^^^^^~^^^^^^S||19680922|M||2054-5^BLACK OR AFRICAN AMERICAN^CDCREC|^^Chatham^55^53206^USA^^^55079||||||12345678||||2186-5^NOT HISPANIC OR LATINO^CDCREC|||||||||
PV1|1|E|G.ER|E||||||||||7|||||G0000471^^^MPI&2.16.840.1.114222.4.1.3657&ISO^VN^DGH&2.16.840.1.114222.4.1.3657&ISO|||||||||||||||||||||||||20140620113859|||||||
PV2|||J1100^Influenza due to unidentified influenza virus with unspecified type of pneumonia^I10C
OBX|1|CWE|SS003^FACILITY / VISIT TYPE^PHINQUESTION||261QE0002X^EMERGENCY CARE^HCPTNUCC||||||F|||20140620|||||||||
OBX|2|NM|21612-7^AGE-REPORTED^LN||29|a^^UCUM|||||F|||||||||||||
OBX|3|NM|8302-2^BODYHEIGHT^LN||45|[in_us]^inch^UCUM|||||F|||201612272000-0500
OBX|4|NM|3141-9^BODYWEIGHTMEASURED^LN||768|[oz_av]^ounce^UCUM|||||F|||||||||||||
OBX|5|TX|8661-1^CHIEFCOMPLAINT^LN||fever, cough, difficulty breathing||||||F|||201612272000-0500

A08 –Patient Update

MSH|^~\&|EPIC|HospitalName^6868012945^NPI|BioSense^2.16.840.1.113883.3.1673^ISO|BioSense^2.16.840.1.113883.3.1673^ISO|20180110101830||ADT^A08^ADT_A01|12345678|P|2.5.1|||NE||||||PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO||
EVN||20120110101830|||||HospitalName^6868012945^NPI

PID|1||E123456^^^ORGENTITY&NPI&ISO^MR||^^^^^^~^^^^^^S||19680922|F||2106-3^White^CDCREC|^^Chatham^55^53206^USA^^^55079||||||12345678||||2135-2^HISPANIC OR LATINO^CDCREC|||||||||
PV1|1|E|G.ER|E||unit|1234567898|||MED||||7|||||12345678^^^12345678&NPI&ISO^^||||||||||||||||01|||||||20180109171536|20180109201000|||||||||
PV2|||B34.9^INFECTION^I10C
OBX|1|NM|21612-7^AGE-REPORTED^LN||50|a^^UCUM|||||F|||||||||||||
OBX|2|TX|8661-1^CHIEF COMPLAINT^LN||abdominal pain||||||F|||||||||||||
OBX|3|CWE|SS003^FACILITY/VISITTYPE^PHINQUESTION||261QE0002X^Emergency Care^HCPTNUCC||||||F|||||||||||||

VII. Useful Resources

Wisconsin Syndromic Surveillance resources

Wisconsin Department of Health Services Syndromic Surveillance website
https://www.dhs.wisconsin.gov/phmu/syndromic.htm

Wisconsin Public Health Meaningful Use resources

Wisconsin Department of Health Services Meaningful Use website
https://www.dhs.wisconsin.gov/phmu/index.htm

Current national syndromic surveillance messaging guidance document

Messaging Guide for Syndromic Surveillance: Emergency Department, Urgent Care, Inpatient, and Ambulatory Care Settings (Release 2.2, May 2017)

https://healthsurveillance.site-ym.com/resource/resmgr/MESSAGING-GUIDE-FOR-SYNDROM.html

Syndromic surveillance messaging standards referenced by the 2015 edition of the ONC Certification Criteria for EHR Technology

PHIN Messaging Guide for Syndromic Surveillance: Emergency Department, Urgent Care, Inpatient and Ambulatory Care Settings, Release 2.0 (April, 2015)
https://www.cdc.gov/nssp/documents/guides/syndrsurvmessagguide2_messagingguide_phn.pdf

Messaging and terminology standards and validation resources

- National Institute of Standards and Technology (NIST) Syndromic Surveillance 2015 edition validation tool: https://hl7v2-ss-r2-testing.nist.gov/ss-r2/#/home
- Health Level Seven International (HL7) standards development organization: http://www.hl7.org/
- PHIN Vocabulary Access and Distribution System (VADS): http://phinvads.cdc.gov/
- National Syndromic Surveillance Program Data Dictionary: https://www.cdc.gov/nssp/biosense/docs/NSSP-Data-Dictionary.xlsx
- International Classification of Diseases, Ninth Revision (ICD9): http://icd9.chrisendres.com/
- International Classification of Diseases, Tenth Revision (ICD10): http://www.icd10data.com/

- Logical Observation Identifiers Names and Codes (LOINC) resource: http://loinc.org/
- Systematized Nomenclature of Medicine-Clinical Terms (SNOMED CT): http://www.ihtsdo.org/snomed-ct/
- American Medical Association Current Procedural Terminology (CPT): http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt.page

Questions?

For questions about this guide or about syndromic submission to the Wisconsin Department of Health Services, please contact the Wisconsin Syndromic Surveillance team by email at syndromicsurveillance@wi.gov.

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