



Conformance Clarification for EHR Certification of Electronic Syndromic
Surveillance

ADT MESSAGES A01, A03, A04, and A08

HL7 Version 2.5.1

Addendum to PHIN Messaging Guide for Syndromic Surveillance:
Emergency Department and Urgent Care Data (Release 1.1)

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Centers for Disease Control and Prevention



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Public Health Information Network (PHIN) Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care (Release 1.1)—Addendum
Conformance Clarification for Electronic Health Record (EHR) Certification of Electronic Syndromic Surveillance

This addendum consolidates the Centers for Disease Control and Prevention's (CDC's) PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Data, Release 1.1 (PHIN MG) information and clarifies existing conformance requirements. Conformance statements and conditional predicates that clarify message requirements are presented below. Value set requirements, general clarifications, and PHIN MG errata are also provided in this addendum.

1.0 CONFORMANCE STATEMENTS

The following table summarizes conformance statements for specific electronic syndromic surveillance message elements from emergency and urgent care settings (e.g., hospital emergency departments or urgent care centers).

Location	Field Name	Existing Text	Derived Conformance Statement
MSH-1	Field Separator	Default Value " " (ASCII 124).	SS-1: MSH-1 (Field Separator). SHALL have the Literal Value of ' '
MSH-2	Encoding Characters	Default Values "^~\&" (ASCII 94,126, 92, and 38).	SS-2: MSH-2 (Encoding Characters) SHALL have the Literal Value of "^~\&"
MSH-7	Date/Time of Message	Note: Date/Time the sending system created the message in the following format: YYYYMMDDHHMMSS[.S[S[S[S[S]]]]] [+/-ZZZZ] The minimum acceptable precision is to the nearest minute; seconds are desirable. If Coordinated Universal Time (UTC) offset is not sent, it is assumed to be offset of the receiver.	SS-3: MSH-7 (Date/Time of Message) 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]'.
MSH-9	Message Type	Note: All messages will be Admit-Discharge-Transfer (ADT) message types. The triggering event is a real-world circumstance causing the message to be sent. Supported trigger events are A01 (Inpatient Admission), A04 (Emergency Department Registration) and A08 (Update).	SS-4: MSH-9 (Message Type) SHALL be constrained to be a value in the set ('ADT^A01^ADT_A01', 'ADT^A03^ADT_A03', 'ADT^A04^ADT_A01', 'ADT^A08^ADT_A01').
MSH-9.1	Message Code	Literal Value "ADT" or "ACK"	See MSH.9 Note: Requirements for the acknowledgement are not in scope for this addendum.
MSH-9.2	Trigger Event	One of the following literal values: "A01", "A03", "A04", or "A08"	See MSH.9
MSH-9.3	Message Structure	Trigger events A01, A04, and A08 share the same "ADT_A01" Message Structure One of the following literal values: "ADT_A01" or "ADT_A03", or "ACK"	See MSH.9

Location	Field Name	Existing Text	Derived Conformance Statement
MSH-11	Processing ID	Note: Indicates how to process the message as defined in HL7 processing rules Literal values: "P" for Production, "D" for Debug or "T" for Training.	SS-5: MSH-11 (Processing ID) SHALL have a value in the set of literal values ('P', 'D', 'T').
MSH-12	Version ID	Note: HL7 version number used to interpret format and content of the message. Literal value: "2.3.1" or "2.5.1"	SS-6: MSH-12 (Version ID) SHALL have the Literal Value of '2.5.1'.
MSH-21	Message Profile Identifier	PH_SS-Ack^SS Sender^2.16.840.1.114222.4.10.3^ISO or PH_SS-Ack^SSReceiver^2.16.840.1.114222.4.10.3^ISO PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO or PH_SS-NoAck^SSReceiver^2.16.840.1.114222.4.10.3^ISO PH_SS-Batch^SSR Sender^2.16.840.1.114222.4.10.3^ISO or PH_SS-Batch^SSReceiver^2.16.840.1.114222.4.10.3^ISO	SS-7:: An instance of MSH.21 (Message Profile Identifier) SHALL contain the constant value "PH_SS-Ack^SS Sender^2.16.840.1.114222.4.10.3^ISO" OR "PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO"
EVN-2	Recorded Date/Time	Note: Most systems default to the system Date/Time when the transaction was entered. YYYYMMDDHHMM[SS].[S[S[S[S]]]] [+/-ZZZZ] The minimum acceptable precision is to the nearest minute; seconds and microseconds are desirable; the Coordinated Universal Time (UTC) offset is not required.	S-8: EVN-2 (Recorded Date/Time of Message) 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]'..
PID-1	PID	Note: This Set ID numbers the repetitions of the segments. Only one patient per message is supported. Literal value: "1"	SS-9: PID-1 (Set ID) SHALL have the Literal Value of '1'
PID-29	Patient Death and Time	Condition Rule: If the patient expired, this field should contain the patient death date and time. (PV1-36 denotes patient expiration)	SS-10: If valued, PID-29 (Patient Death and 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]'

Location	Field Name	Existing Text	Derived Conformance Statement
		The minimum acceptable precision is to the nearest minute; seconds are desirable. (meaning if you have/know it, send it). If Coordinated Universal Time (UTC) offset is not sent, it is assumed to be offset of the receiver.	
PID-30	Patient Death Indicator	Condition Rule: If the patient expired, this field should contain the patient death indicator. (PV1-36 denotes patient disposition)	SS-11: If valued, PID-30 (Patient Death Indicator), SHALL be valued to the Literal Value 'Y'.
PV1-1	Set ID	Note: Set ID numbers the repetitions of the segments Only one patient per message is supported. Literal value: "1"	SS-12: PV1-1 (Set ID) SHALL have the Literal Value of '1'
PV1-19.5	Identifier Type Code	Identifier Type Note: Use the Identifier Type Code that corresponds to the type of ID Number specified in PV1-19.1.	SS-13: PV1-19.5 (Identifier Type Code) SHALL be valued to the Literal Value 'VN'.
PV1-44	Admit Date/Time	Note: Date and time of the patient presentation. YYYYMMDDHHMM[SS].[S[S[S[S]]]] [+/-ZZZZ] The minimum acceptable precision is to the nearest minute; seconds are desirable. (meaning if you have/know it, send it). If Coordinated Universal Time (UTC) offset is not sent, it is assumed to be offset of the receiver.	SS-14: 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]'
PV2-3.3	Name of Coding System	ICD-9 Clinical Modification diagnosis code (including E-codes and V-codes) Or ICD-10 Clinical Modification diagnosis code Or SNOMED Disorder/ Disease domain	SS-15: PV2-3.3 SHALL be valued to one of the Literal Values in the set ('I10', 'I9CDX', 'SCT').
OBX-2	Value Type	0125 Note: Identifies the structure of data in observation value (OBX.5).	SS-16 OBX-2 SHALL be valued to the Literal Value in the set ('TS', 'TX', 'NM', 'CWE', 'XAD').

Location	Field Name	Existing Text	Derived Conformance Statement
OBX-6.1	Identifier (Units)	Pulse Oximetry Unit Temperature Unit Age unit (Syndromic Surveillance) Note: Units are a conditional field. If numeric data is sent, the units field must define the units of the value used in observation value (OBX.5)	<p>SS-17: If OBX 3.1 is valued with 21612-7, then OBX-6.1 (Identifier) SHALL be valued to a member of the set: PHVS_AgeUnit_SyndromicSurveillance, (Value Set OID 2.16.840.1.114222.4.11.3402).</p> <p>SS-18 If OBX 3.1 = is valued with 11289-6 then OBX-6.1 (Identifier) SHALL be valued to a member of the set: PHVS_TemperatureUnit_UCUM (Value Set OID 2.16.840.1.114222.4.11.919).</p> <p>SS-19 If OBX 3.1 is valued with 59408-5 then OBX6.1 (Identifier) SHALL be valued to a member of the set PHVS_PulseOximetryUnit_UCUM, (Value Set OID 2.16.840.1.114222.4.11.3590)</p>
DG1-1	Set-ID	Note: Numbers the repetitions of the segments	SS-20: DG1-1 (Set ID) for the first occurrence of a DG1 Segment SHALL have the Literal Value of '1'. Each following occurrence SHALL be numbered consecutively.
DG1-3.3	Name of Coding System	None	SS-21 DG1-3.1 SHALL be valued to one of the Literal Values in the set ('110', 'I9CDX', 'SCT').

The statements below are conformance requirements for the application as a whole during the sending of multiple messages.

Scope	Existing Text	Derived Conformance Statement
Visit IDs	None.	SS-22: ALL messages constrained by this guide that are produced as a result of a single patient encounter for the purpose of Syndromic Surveillance, SHALL have the same value for PV1-19.1 (Visit ID).
Visit IDs	None	SS-23: Messages constrained by this guide that are produced as a result of different patient encounters for the purpose of Syndromic Surveillance, SHALL NOT have the same value for PV1-19.1 (Visit ID).

Scope	Existing Text	Derived Conformance Statement
Message Updates	When data elements are updated in the provider's system, the entire record (i.e., all specified elements) should be resent. Message receivers will use unique identifiers to match and reconcile records.	SS-24: When data elements are updated in the provider's system, the entire record (i.e., all specified elements sent in previous messages) SHALL be resent.

2.0 CONDITION PREDICATES

This section clarifies and formalizes the format in which condition predicates are specified. For data type condition predicates, the name of the data type is appended with the sequence number. The first entry in the table below can be interpreted as follows: If the first component of PID.10 (i.e., PID.10.1—in this context we refer to the element as CE.1 since the data type for PID.10 is CE-coded element) is valued, then PID.10.3 is required to be supported (i.e., the effective usage is RE).

Location	Field Name	Sender Usage	Existing Text	Derived Condition Predicate
PID-10.3	Name of Coding System	CE	Condition Rule: Required if an identifier is provided in component 1.	Condition Predicate: If CE.1 (Identifier) is valued.
PID-22.3	Name of Coding System	CE	Condition Rule: Required if an identifier is provided	Condition Predicate: If CE.1 (Identifier) is valued.
PID-29	Patient Death Date and Time	CE	Condition Rule: If the patient expired, this field should contain the patient death date and time. (PV1-36 denotes patient expiration)	Condition Predicate: If PV1.36 is valued '20'
PID-30	Patient Death Indicator	CE	Condition Rule: If the patient expired, this field should contain the patient death indicator. (PV1-36 denotes patient disposition)	Condition Predicate: If PV1.36 is valued '20'
PV2-3.3	Name of Coding System	C	Condition Rule: Required if an identifier is provided in component 1.	Condition Predicate: If CE.1 (Identifier) is valued.
OBX-3.3	Name of Coding System	C	Condition Rule: Required if an identifier is provided in component 1.	Usage for this element is essentially R (Required) since OBX 3.1 is Required. See the errata section that changes the usage to R for OBX.3.3.
OBX-5.3	Name of Coding System	C	Condition Rule: Required if an identifier is provided in component 1.	Condition Predicate: If CWE.1 (Identifier) is valued.
OBX-5.6	Name of Alternate Coding System	C	Condition Rule: Required if an identifier is provided in component 4.	Condition Predicate: If CWE.4 (Alternate Identifier) is valued.
OBX-6	Units	C	Note: Units are a conditional field. If numeric data is sent, the units field must define the units of the value used in observation value (OBX.5)	Condition Predicate: If OBX.2 (Value Type) is valued "NM"

Location	Field Name	Sender Usage	Existing Text	Derived Condition Predicate
OBX-6.3	Name of Coding System	C	Condition Rule: Required if an identifier is provided in component 1.	Usage for this element is essentially R (Required) since the component OBX 6.1) is Required. See the errata section that changes the usage to R for OBX.6.3.
DG1-3.3	Name of Coding System	C	Condition Rule: Required if an identifier is provided in component 1.	Usage for this element is essentially R (Required) since the component DG1 3.1 is Required. See the errata section that changes the usage to R for DG1.3.3.

3.0 VALUE SET REQUIREMENT CLARIFICATION

For conformance testing, the message elements summarized in the table below SHALL be valued with elements from the specified value sets. Value sets described in the guide for elements not in the table below will not be considered for conformance testing, as their associated message elements will not be constrained. (These unconstrained value sets in the guide are still worth consulting; they should be considered suggested usage, reflective of best and widespread practices, and may possibly become requirements in the future.) Value sets shown below are defined by their name in Public Health Information Network Vocabulary Access and Distribution System (PHIN VADS), which may constrain the original Health Level Seven (HL7) tables and other code systems indicated. PHIN VADS will be used to test content for these elements.

Message Element	PHIN VADS Value Set Name	HL7 Table 0396 Code System Identifier	Code System OID/ PHIN VADS Link
PV1-36	'PHVS_DischargeDisposition_HL7_2x'	HL70112	2.16.840.1.114222.4.11.915 Link
PV2-3	'PHVS_AdministrativeDiagnosis_CDC_ICD-9CM' OR 'PHVS_CauseOfDeath_ICD-10_CDC' OR 'PHVS_Disease_CDC'	I9CDX OR I10 OR SCT	2.16.840.1.114222.4.11.856 ICD 9 LINK OR 2.16.840.1.114222.4.11.3593 ICD 10 LINK OR 2.16.840.1.114222.4.11.909 SNOMED LINK
OBX-3	PHVS_ObservationIdentifier_SyndromicSurveillance	LN Note: Supplemented with values from PHINQUESTION	2.16.840.1.114222.4.11.3597 LINK Note: Value set above contains values from both LN and PHINQUESTION
OBX-6	PHVS_AgeUnit_SyndromicSurveillance OR PHVS_TemperatureUnit_UCUM OR PHVS_PulseOximetryUnit_UCUM	UCUM	2.16.840.1.114222.4.11.3402 Age Unit Link OR 2.16.840.1.114222.4.11.919 Temperature Unit Link OR 2.16.840.1.114222.4.11.3590 PULSE OX LINK
DG1-3	'PHVS_AdministrativeDiagnosis_CDC_ICD-9CM' OR 'PHVS_CauseOfDeath_ICD-10_CDC' OR 'PHVS_Disease_CDC'	I9CDX OR I10 OR SCT	2.16.840.1.114222.4.11.856 ICD 9 LINK OR 2.16.840.1.114222.4.11.3593 ICD 10 LINK OR 2.16.840.1.114222.4.11.909

Message Element	PHIN VADS Value Set Name	HL7 Table 0396 Code System Identifier	Code System OID/ PHIN VADS Link
	OR PHVS_PulseOximetryUnit_UCUM		SNOMED LINK
DG1-6Diagnosis Type	PHVS_DiagnosisType_HL7_2x	HL70052	2.16.840.1.114222.4.11.827 LINK

Note: All the value sets associated with syndromic surveillance can also be downloaded using the following link:

[http://phinvads.cdc.gov/vads/ViewView.action?name=Syndromic Surveillance](http://phinvads.cdc.gov/vads/ViewView.action?name=Syndromic%20Surveillance).

4.0 GENERAL CLARIFICATIONS

The scope of the conformance requirements will only address sender behavior. All actions on the part of the receiver, including acknowledgements, are not covered by the conformance requirements.

The conformance requirements do not specify transport in order to give state and local public health agencies the flexibility to specify their preferred means of transport.

Any references to use of HL7 v. 2.3.1 in the guide are irrelevant for the purpose of this addendum. The conformance requirements in this addendum mandate the use of HL7 v. 2.5.1.

Due to variations in state and local laws and practices governing the exchange of health information for public health surveillance purposes, inclusion of data elements specified as unsupported for implementation in Chapter 3 of the PHIN MG for Syndromic Surveillance (i.e., 'sender' or 'receiver' usage indicated as 'X'), shall be allowed for EHR certification. These will be treated as Optional Fields, where their presence or absence is not considered part of the conformance requirements.

5.0 ERRATA

There are additional errata identified in Release 1.1 of the PHIN MG. These will be brought to the attention of the public health surveillance community as a second release of the PHIN MG is produced. These errata are documented and corrected below.

Location	Field Name	Change	Existing	Corrected
OBX-6.3	Name of Coding System	Changed usage (sender and receiver)	C	R
MSH-7	Date/Time Of Message	Changed Precision from seconds to minutes	YYYYMMDDHHMMSS[.S[S[S[S]]]] [+/-ZZZZ]	YYYYMMDDHHMM[SS[S[S[S[S]]]] [+/-ZZZZ]
MSH-21	Message Profile Identifier	Changed Usage Sender	O	R
MSH-21	Message Profile Identifier	Cardinality	[0..*]	[1..*]
PID-8	Administrative Sex	Changed Vocabulary Value Set	PHVS_Gender_SyndromicSurveillance	PHVS_AdministrativeSex_HL7_2x
OBX-3.3	Name of Coding System	Changed Usage (sender and receiver)	C	R
OBX-5	TimeStamp (TS) data type	Changed Precision	The minimum acceptable precision is to the nearest day.	Unconstrained. Some values might be to the day, others to the year/decade, etc.
DG1-3.3	Name of Coding System	Changed Usage (sender and receiver)	C	R