Oregon ESSENCE HL7 Messaging Guide for Syndromic Surveillance:
Emergency Department and Urgent Care Data

August, 2015
Version 1.6

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Revision History Ver/Rel #	Issue Date	Summary of Changes
Draft V1.0	February 7, 2013	First version of draft.
V1.1	July, 2013	Revised draft. Major changes based upon the release of the PHIN MS Syndromic Surveillance Guide (version 1.9)
V1.2	August, 2013	Minor changes.
V1.3	September, 2013	Amended requested variable list, updated XAD example, changed message profile ID, added variables to OBX-5.
V1.4	December, 2013	Clarified patient address, required vs. optional fields
V1.5	June, 2014	Clarified how to send chief complaint, diagnosis code, removed Insurance ID, added Patient Account Number

V 1.6	August, 2014	Clarified OBX-5 fields, added guidance about discharge disposition and Insurance Company ID. Added patient class values.

1 Introduction

The Oregon Health Authority (OHA) compiled this guide for hospitals with emergency departments to aid in the submission of syndromic surveillance data to the Oregon Public Health Division's syndromic surveillance project (Oregon ESSENCE). (We also accept urgent care data from these facilities.) You brave souls. The information in this guide is based on the PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Data Release 1.9 (April 2013). Not all the information presented in the PHIN Messaging guide is replicated here. In the interest of brevity (the PHIN document is 411 pages) we omitted references to unsupported fields. There may be specifications required by Oregon ESSENCE that are not covered in the national guide because we have exercised jurisdictional variation (i.e., some fields are required here that are considered optional in the national specs).

OHA is only accepting data from hospital facilities with emergency departments. We do not accept inpatient and ambulatory care data at this time. (Do not send data from individuals who do not visit the ED as part of their visit to your facility.) Contact Oregon ESSENCE (Oregon.ESSENCE@state.or.us) before embarking on message-creation so we can schedule time (in advance) to work on testing your messages.

1.1 Using this guide

The data elements requested by Oregon ESSENCE for syndromic surveillance submission are listed in ***Appendix A*** by message segment. Users of this guide must be familiar with the details of HL7 v2.5.1 message construction and processing.[1] This guide is not intended to be a tutorial on HL7. ***Appendix B*** covers batch message formatting and ***Appendix C*** covers general formatting of data types (e.g., "HD", "TS", etc.).

1.2 Useful resources

- PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Data Release 1.9: http://www.cdc.gov/phin/library/guides/PHIN%20MSG%20Guide%20for%20SS%20Final_508readyRelease1_9%2004%2027%202013.pdf
- PHIN Conformance Clarification for EHR Certification of Electronic Syndromic Surveillance: http://www.cdc.gov/phin/library/guides/SS%20Addendum.pdf
- Oregon Health Authority Meaningful Use website: Healthoregon.org\MU
- HL7 everything at: http://www.hl7.org

[1] To the extent that HL7 is understandable to anyone (especially epidemiologists).

2 HL7 2.5.1 messaging guidance for syndromic surveillance

Three cardinal rules of messaging before we begin:

1. Do not pre-filter or modify your messages before submission. We want to see all visits originating in your emergency department and urgent care centers.
2. Send syndromic surveillance messages in HL7 version 2.5.1 [2]
3. We'll ask for this in testing, so make sure you can send all variables marked "R" and "RE."

2.1 Basic HL7 terms

There's a basic structure to HL7 messages; users familiar with this structure are advised to skip to the appendices, others may find a brief tutorial helpful.

Term	Definition
Batch	A batch may include one or more messages.
Message	A message is the entire unit of data transferred between systems in a single transmission. It is a series of segments in a defined sequence, with a message type and a trigger event. See Supported Message Types below for more information.
Segment	A segment is a logical grouping of data fields. Segments within a defined message may be required or optional and may occur only once or may be allowed to repeat. Each segment is named and identified by a segment ID, a unique 3-character code (e.g., OBX). End each segment with the carriage return terminator (hex 0D), illustrated in this guide as "<cr>". (The single ASCII character; **NOT** the four-character sequence.)
Field	A field is a string of characters delimited by field characters like "^" (see other delimiters below). Each field has an element name and is identified by the segment it is in and its sequence within the segment. A field is referenced by the 3-character segment code, followed by the field position (e.g., OBX-5).

[2] Although *technically* HL7 versions 2.3.1 and 2.5.1 *are* supported under Stage 1 of Meaningful Use, HL7 2.5.1 is the only acceptable version for Stage 2 of Meaningful Use.

Term	Definition
Component	A component is a portion of a coded or composite field delimited by component separators ("^", see delimiters below). Within a field having several components, not all components are necessarily required to be populated. Leading empty components must be represented by a delimiter (|^^XYZ|), but trailing empty components can be omitted (|XYZ^^| equals |XYZ|). A component is referenced by the 3-character segment code, followed by the field position, and the component position within that field (e.g., OBX-5.2). Are you falling asleep yet? It gets better.
Data Type	A data type restricts the contents and format of the data field. Data types are given a 2- or 3- letter code. Some data types are coded or composite types with several components. The applicable HL7 data type is listed in each field definition (see the second column in the tables in Appendix A) and details on how to format these are listed in Appendix C.
Delimiters	The delimiter values are given in MSH-1 and MSH-2 and are used throughout the message. The delimiters supported by OHA are: | Field Separator ^ Component Separator & Sub-Component Separator ~ Repetition Separator \ Escape Character See HL7 for the ASCII codes.

2.2 HL7 Message structure

Attribute	Definition
Segment	A three-character code for the segment.
XXX	Lack of either brackets or braces indicate a required segment
[XXX]	Square brackets indicate an optional segment
{XXX}	Curly braces indicate a repeating segment
[{XXX}]	Both brackets and braces indicate an optional and repeating segment
Name	Name of the segment.
Description	Explanation of the use of the segment.
Usage	Describes the use of the segment by ESSENCE. Values used in this implementation guide are:
R	Required. This segment must be populated and sent. There may be optional fields within a required segment.
RE	Required, but may be empty. Send empty if no data are available, and update as they become available.
O	Optional. An asterisk (*) denotes fields strongly encouraged for submission. (Please send!)
C	Conditional field. If a specified field is populated, this segment is required (see R usage above)
CE	Conditional field. If a specified field is populated, this segment is required but fields within the segment may be empty (see RE usage above).
X	Field not supported. (These fields aren't discussed in this guide.)

Cardinality	The number of times the segment may appear in a message.
[0..1]	Segment may be omitted and can have, at most, one occurrence.
[1..1]	Segment must have exactly one occurrence.
[0..*]	Segment may be omitted or may repeat an unlimited number of times.
[1..*]	Segment must appear at least once, and may repeat unlimited number of times.

2.3 Supported message types (ADT_A01, A04, A08, A03)

ESSENCE supports only the following four HL7 Admit-Discharge-Transfer (ADT) message types:

- **ADT^A01** Inpatient Admission
- **ADT^A03** Discharged /End Visit
- **ADT^A04** Emergency Department Registration
- **ADT^A08** Updates to information previously sent via A01 and A04 messages

Encode each segment in the order specified below (note the location of the OBX segment):

Segment order for ADT^A08, ADT^A04 and ADT^A01	Segment order for ADT^A03
MSH	MSH
EVN	EVN
PID	PID
PV1	PV1
[PV2]	[PV2]
{OBX}	[{DG1}]
[{DG1}]	[{PR1}]
[{PR1}]	{OBX}
[{IN1}]	[{IN1}]

2.4 Requested data fields

The table below lists the requested data fields for Oregon ESSENCE, along with a cross-walk to their location in HL7 messages.

HL7 data elements for syndromic surveillance*

Data Element Name	Description of Field	HL7 name (if different) and HL7 location	National Usage
Sending Facility	Name and identifier of facility sending data	MSH-4	R
Date/Time Of Message	Timestamp of when the message was created by the "sending system"	MSH-7	R
Message Type	Type of HL7 message being sent	MSH-9.1	R
Message Trigger	Reason message was triggered: registration at ED, inpatient admission, updates to info, or end of visit	MSH-9.2	R
Message Control ID	Number that uniquely identifies the message	MSH-10	R
Message Date/Time	Timestamp of when the message was created or generated from the "original or treating facility"	Recorded Date/Time EVN-2	R
Facility Name	Name of the treating facility	Event Facility Namespace ID EVN-7.1	R
Event Facility	NPI/OID identifier of the treating facility where the patient originally presented	Event Facility Universal ID EVN-7.2	R
Unique Patient Identifier	Unique identifier for the patient	Patient Identifier List PID-3	R
Gender	Gender of patient	Administrative Sex PID-8	RE
Race	Race of patient	PID-10	RE
Patient Address	Patient residence (everything but street address)	PID-11.5	RE
Ethnicity	Ethnicity of patient	Ethnic Group ID-22	RE
Patient Death Date and Time	If patient has died, death timestamp	PID-29	CE
Patient Death Indicator	If patient has died, death flag	PID-30	CE
Patient Class	Patient classification within facility	PV1-2	R

Unique Visiting ID	Unique identifier for each visit	Visit Number PV1-19	R
Discharge Disposition	Patient's anticipated location or status following ED visit	PV1-36	RE
Admit Date/Time	Date/Time of patient presentation to ED	PV1-44	R
Discharge Date/Time	Date and time of disposition	PV1-45	RE
Admit Reason	Reason patient is admitted as an inpatient from ED.	PV2-3	RE
Observation Identifier	Identifies the field sent in OBX-5	OBX-3	C
Facility Street Address (Treating)	Physical address of treating facility location	OBX-5	RE
Facility/Visit Type	Type of facility or the visit where the patient initially presented for treatment	OBX-5	R
Initial Temperature	1st recorded temperature, including units	OBX-5	O
Initial Pulse Oximetry	1st recorded pulse oximetry value	OBX-5	O
Height	Patient height	OBX-5	O
Weight	Patient weight	OBX-5	O
Triage Notes	Triage notes for the patient visit	OBX-5	O
Chief Complaint / Reason for visit	Short description of the chief complaint or reason for seeking care.	OBX-5	RE
Date of onset	Date that patient began having symptoms of condition being reported	OBX-5	O
Clinical Impression	Clinical impression (free text) of the diagnosis	OBX-5	O
Age	Numeric value of patient age at time of visit.	OBX-5	RE
Date of birth	Alternate supported field instead of Age	PID-7	O
Diagnosis / External Cause of Injury Code	Diagnosis code or external cause of injury code; send all diagnoses here.	Diagnosis Code DG1-3	RE
Diagnosis Date/Time	Date and time of diagnosis	DG1-5	O
Diagnosis Type	Qualifier for Diagnosis / Injury Code specifying type of diagnosis. Indicate initial, preliminary, working, final diagnoses here.	DG1-6	CE
Insurance Company ID	Type of insurance coverage (e.g., self-pay, workers comp).	IN1-3	R
Procedure Code	CPT code for any procedures conducted	PR1-3	R
Units	Unit corresponding to numeric OBX-5 variables	OBX-6	C

2.5 Message transport, transmission and acknowledgment

We accept messages via SFTP (near-real time) only. Before submission can occur, we will need a signed data use agreement and will also have to grant new users access.

Talk to Oregon ESSENCE about how you'll send messages (real-time or batch). We recommend sending batched messages (once daily at 4am). If you want to send messages in real-time, we can likely accommodate that request (but will process them once daily).

Oregon ESSENCE does not send messages acknowledgements at this time. We will e-mail you for issues related to message quality or transmission.

3 FAQABTG: Frequently asked questions answered by this guide

Q: I just sent you some test messages. When are you going to respond with feedback (note: this question is only answered *here* in the guide)?
A: We have a new testing process. Before you send us messages, we ask that you define your hospital workflow using the business process survey and that you provide us documentation from the NIST tool indicating your messages pass snuff. We won't look at your messages until both steps are complete (saves us and you a lot of time).

Q: Some of the variables are empty for inpatients – does this mean you only want data from ED patients?
A: We only want data from individuals initiating their visit in your facility emergency department or urgent care clinic. We are not accepting data from individuals admitted as inpatients who never visit the ED.

Q: Are variables marked with an "R" required?
A: Yes. See page 8.

Q: Are variables marked with an "RE" (Required but may be sent empty) optional?
A: No, for the purposes of message creation and message testing, consider these to be required. These are variables which may (legitimately) be left empty for some patients (for example, if a patient arrives unconscious, he or she won't have a populated chief complaint). Nevertheless, for the majority of patients, these fields will be populated and therefore facilities should have the capability to send them.

Q: I'm nearly done formatting my messages. You guys take HL7 v2.3.1, right?
A: Ut oh! And no! We only accept 2.5.1.

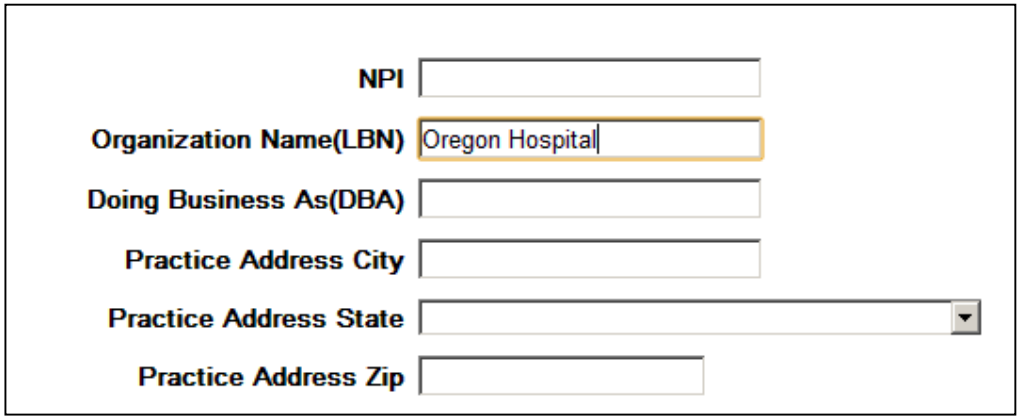
4 Appendix A – HL7 2.5.1 segment structure and vocabulary

4.1 MESSAGE HEADER SEGMENT (MSH)

Example:

MSH|^~\&|ORYGUN_EHR^2.16.840.1.113883.19.3.2.1^ISO |ORYGUN HOSPITAL^0123457689^NPI||20121120111624||ADT^A04^ADT_A01|201112091114-0078|P|2.5.1 <cr>

MESSAGE HEADER SEGMENT (MSH)				
Seq	**Type**	**Use**	**Name**	**Guidance**
1	ST	R	Field Separator	The "pipe" character is used to separate fields. **Literal value:** "|" (ASCII 124).
2	ST	R	Encoding Characters	^ - Component Separator is used to separate components within a field & - Sub-Component Separator is used to separate sub-components within a field component ~ - Repetition Separator is used do delineate repeating component sets within a field \ - Escape Character is used preceding an otherwise illegal character **Literal values:** ^~\& (ASCII 94,126, 92, and 38).
3	HD	O	Sending Application	This is where to send the name of the sending application (either the name of the software vendor or an internally developed system). See **Appendix C** for instructions on how to format the HD data type (for example, it always has three components, and for syndromic surveillance, typically references an OID). **Example**: ORYGUN_EHR^2.16.840.1.113883.19.3.2.1^ISO

MESSAGE HEADER SEGMENT (MSH)				
Seq	**Type**	**Use**	**Name**	**Guidance**
4	HD	R	Sending Facility	Name of the sending facility (i.e., the "owner" of the message information). Use full name of sending facility without codes or abbreviations. Ignore the field length in HL7 and send the full name (can be more than 20 characters). In addition, send *either* facility NPI or OID number *Value set:* PHVS_UniversalIDType_SyndromicSurveillance **Example for NPI**: ORYGUN HOSPITAL^0123456789^ NPI To find the NPI number for a hospital, go to the NPPES Registry and enter the *full* name of the facility (or the parent organization if there are multiple facilities in the same group) in the "Organization Name" field:  Type in the security code and click "Search." On the following page, look at the "Primary Taxonomy" column to find the hospital NPI (if there are multiple rows). **Example for OID:** ORYGUN HOSPITAL ^ 2.16.856.1.113991.3.2051^ISO OIDs are international organizational identifiers (similar to NPIs, but meant to be used internationally). They are an International Organization for Standardization (ISO) identifier. HL7 creates and keeps track of OIDs on their website: http://www.hl7.org/oid/index.cfm. To search for an OID for a hospital, type in the name of the hospital in the "Description" search box. If the hospital does not have an OID, follow directions for creating one or use NPI.
5	HD	O	Receiving Application	We *highly* encourage you to send this field (it helps us process the messages). **Literal value:** Oregon ESSENCE

MESSAGE HEADER SEGMENT (MSH)				
Seq	**Type**	**Use**	**Name**	**Guidance**
6	HD	O	Receiving Facility	**Literal value:** OPHD
7	TS	R	Date/Time of Message	This is the date and time when the "sending system" created the message, and can differ from the date/time of when original report was created or generated from the "original or treating facility" (which is sent in EVN-2, Recorded Date/Time). It' s possible that if there's a lag, or any back-reporting, these two timestamps won't match, making this field useful for connecting the dots on our end. See **Appendix C** for how to format TS data types.
9	MSG	R	Message Type	**Note**: All messages will be Admit-Discharge-Transfer (ADT A01, A03, A04 or A08) message types. **Example:** ADT^A04^ADT_A01
9.1	ID	R	Message Code	**Literal value:** ADT
9.2	ID	R	Trigger Event	**One of the following literal values:** • **A01** - Inpatient Admission • **A03** - Discharge • **A04** - Emergency Department Registration • **A08** - Update
9.3	ID	R	Message Structure	Trigger events A01, A04, and A08 share the same "ADT_A01" Message Structure, while ADT A03 has its own structure (see page 7 for a breakdown of their differences). **Literal values:** ADT_A01 or ADT_A03
10	ST	R	Message Control ID	This field is a number or other identifier that uniquely identifies the message. (Make sure this number is unique – if you don't use a timestamp, please specify what you will be using.) Hospitals may send a Date/Time stamp using microsecond precision or a Date/Time stamp using minute precision plus a sequence number that restarts each day at one or wraps around when it reaches all 9's. Date/Time stamps with less than microsecond precision may not be able to uniquely identify messages. Instead, please use minute precision plus a unique sequence number (*the second option*) for identifying messages. **Example: 201112091114553333** or **201112091114-0078**
11	PT	R	Processing ID	Use "T" during testing and validation. "P" may only be used once the messages have been fully validated. **Literal values:** "P" for Production, "D" for Debug or "T" for Testing.
12	VID	R	Version ID	HL7 version number used to interpret format and content of the message. **Literal value:** 2.5.1

MESSAGE HEADER SEGMENT (MSH)				
Seq	**Type**	**Use**	**Name**	**Guidance**
21	EI	R	Message Profile Identifier	We aren't acknowledging messages at this time. **Literal value:** PH_SS-NoAck^SS Sender^2.16.840.1.114222.4.10.3^ISO

4.2 EVENT TYPE SEGMENT (EVN)

Example:

EVN||201102091114|||||ORYGUN HOSPITAL^0123456789^NPI<cr>

EVENT TYPE SEGMENT (EVN)				
Seq	**Type**	**Use**	**Name**	**Guidance**
2	TS	R	Recorded Date/Time	This is where to document Report Date/Time of report transmission from original source (from treating facility). If data flows through an intermediary or third party, that intermediary *must* keep the original date/time of transmission. **Note**: EVN-2 (Recorded Date/Time) may not equal MSH-7 (Date/Time of Message) if the message is sent after the report was generated.
7	HD	R	Event Facility	Report Facility Name (Treating) in this field (i.e., the name of the physical facility where the patient presented for treatment). **Example:** ORYGUN HOSPITAL^0123456789^NPI

4.3 PATIENT IDENTIFICATION SEGMENT (PID)

Example:

PID|1||20060012168^^^^MR^ORYGUN HOSPITAL&0123456789&NPI~111222333444^^^^PI||^^^^^^S||196004|M||2054-5^BLACK OR AFRICAN AMERICAN^CDCREC|^^SALEM^41^95102^USA^C^^41047|||||||||2186-5^Not Hispanic or Latino^ CDCREC |||||||201112080400|Y<cr>

PATIENT IDENTIFICATION SEGMENT (PID)				
Seq	**Type**	**Use**	**Name**	**Guidance**

PATIENT IDENTIFICATION SEGMENT (PID)				
Seq	**Type**	**Use**	**Name**	**Guidance**
1	SI	R	Set ID - PID	The Set ID numbers the repetitions of the segments. Send only one patient per message. **Literal value:** 1
3	CX	R	Patient Identifier List	Report Unique Patient Identifier/ Medical Record Number here. Unique Patient Identifier PID.3 is a repeating field that can accommodate multiple patient identifiers. Despite this feature, it's best if you pick one identifier and stick with it.
3.1	ST	R	ID Number	This is where to document the actual Unique Patient Identifier (ideally, patient medical record number). We use this identifier to investigate public health events (e.g., outbreaks). Use the same value each time the patient visits the hospital. We *strongly* recommend you send patient Medical Record Number. Otherwise, it becomes ungainly to track people down. In addition, the Medical Record Number may aid in record de-duplication efforts and in the resolution of transcription errors. If the Medical Record Number is not available for sending, please contact us to evaluate other options for what to send. Don't send Social Security Numbers. **Example:** 20060012168
3.5	ID	R	Identifier Type Code	This component, the Identifier Type Code, defines which type of ID Number is reported in PID-3.1. For Medical Record Number, use **literal value:** MR *Value set:* PHVS_IdentifierType_SyndromicSurveillance
3.6	HD	O	Assigning Facility	This component should contain identification information for the facility that assigned the number in PID 3.1. **For example:** If ORYGUN HOSPITAL assigned a Medical Record Number in PID 3.1 then PID 3.6 would contain: "ORYGUN HOSPITAL&0123456789&NPI"
5	XPN	R	Patient Name	This is the field for patient name. Patient name is a required HL7 field, although syndromic surveillance does not require the patient name. Our solution? Send the patient name as a pseudonym. **Literal value for a pseudonymized name:** |^^^^^^~^^^^^^S| The "S" for the name type code (PID.5.7) in the second name field indicates that it is a pseudonym.
7	TS	O	Date/Time of Birth	Report this field if not reporting age (OBX-5).

PATIENT IDENTIFICATION SEGMENT (PID)				
Seq	**Type**	**Use**	**Name**	**Guidance**
8	IS	RE	Administrative Sex	Patient *gender* (not sex). Really quick, according to the World Health Organization: "**Sex**" Refers to the biological and physiological characteristics that define men and women. "**Gender**" Refers to the socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women. *Value set:* PHVS_Gender_SyndromicSurveillance **Example:** M
10	CE	RE	Race	Patient racial category (CDC). Patient could have more than one race defined; if so, please report them all. **Example of a patient with more than one race:** 2054-5^Black or African American^CDCREC~2028-9^Asian^CDCREC~2131-1^Other Race^CDCREC
10.1	ST	RE	Identifier	Standardized code for patient race category. *Value set:* PHVS_RaceCategory_CDC **Example:** 2054-5
10.2	ST	O	Text	Standardized description associated with code in PID-10.1 **Example:** BLACK OR AFRICAN AMERICAN
10.3	ID	CE	Name of Coding System	Condition Rule: Required if an identifier is provided in component 1. **Expected Value:** CDCREC
11	XAD	RE	Patient Address	Patient address. Please send city, state, county and country (everything but street address). **How to format address field: |**^^Free text city or town ^State (*PHVS_State_FIPS_5-2*) ^Zip code^ Country (*PHVS_Country_ISO_3166-1*)^^^County (*PHVS_County_FIPS_6-4*)| **Example for an address in Billings, MT: |**^^Billings^30^59101^USA^^^30111|
18	CX	O	Patient Account Number	Please send this if it's different from Patient Visit Number (PV1-19).
22	CE	RE	Ethnic Group	Patient's ethnicity (using ethnic group categories from the CDC). If patient ethnicity is originally collected in a different format (other than Hispanic vs. non-Hispanic), please discuss how to report this field with us. **Example:** 2135-2^Hispanic or Latino

PATIENT IDENTIFICATION SEGMENT (PID)				
Seq	**Type**	**Use**	**Name**	**Guidance**
22.1	ST	RE	Identifier	Standardized code for patient ethnic group. *Value set:* PHVS_EthnicityGroup_CDC **Example:** 2135-2
22.2	ST	O	Text	Standardized description associated with code in PID-22.1. **Example:** Hispanic or Latino
22.3	ID	CE	Name of Coding system	Condition Rule: Required if an identifier is provided in component 1. **Expected Value:** CDCREC
29	TS	CE	Patient Death Date and Time	This field contains the patient death date and time. (PV1-36 denotes patient expiration). Similarly, if PV1-36 is valued with any of the following: '20', '40', '41', '42'then PID-29 (Patient Death and Time) needs to be populated.
30	ID	CE	Patient Death Indicator	Condition Rule: If the patient expired, this field should contain the patient death indicator. See PID-29 for the conditions when to report this field. **Literal Value (if patient is deceased):** Y **Literal Value (if patient is alive):** N

4.4 PATIENT VISIT SEGMENT (PV1)

Note: If a patient has not been discharged send the field as empty. Do not wait to send data until patient has been discharged. Discharge dates should be sent in subsequent update messages regarding the patient.

Example:

PV1|1|E|1108-
0|E||||||MED||||7|||||20110209_0064^^^^VN^TUALITY&0123456789&NPI|||||||||||||||09|||||||20111217144208|20111217164208<cr>

PATIENT VISIT SEGMENT (PV1)				
Seq	**Type**	**Use**	**Field Name**	**Values**
1	SI	RE	Set ID	Set ID numbers the repetitions of the segments. Only one patient per message is supported. Don't get this confused with real-time vs. batch messaging (multiple messages with information about one patient each will get batched together and sent to us in one go).

PATIENT VISIT SEGMENT (PV1)				
Seq	**Type**	**Use**	**Field Name**	**Values**
				Literal value: 1
2	IS	R	Patient Class	Patient Classification within facility. **Expected values:** **E** for Emergency **I** for Inpatient (patient admitted from emergency department) **O** for Outpatient (urgent care, observation stay, day surgery, catheter lab) **P** for Preadmit **R** for Recurring patient **D** for Direct Admit **V** for Observation Patient We have added (the last two) values to this list: PHVS_PatientClass_SyndromicSurveillance
19	CX	R	Visit Number	Unique identifier for each patient visit. A visit is defined as a discrete or unique clinical encounter within a service department or location. **Example:** 20110209_0064^^^^VN^TUALITY&0123456789&NPI
19.1	ST	R	ID Number	This is a unique number that identifies every visit for any given patient. **Example:** 20111009_0034
19.5	ID	R	Identifier Type Code	Identifier Type Code that corresponds to the visit number specified in PV1-19.1. **Literal value for "Visit Number":** VN
36	IS	RE	Discharge Disposition	This should be sent upon patient's departure from emergency department or urgent care facility. The disposition provides the outcome of patient's visit (i.e., Discharged to home, Transferred to another facility, Expired, Admitted as inpatient). Send this field as empty if the patient has not been discharged. **Note**: We're expecting that this field will update with multiple submissions. *Value set:* PHVS_Discharge Disposition_HL7_2x **Example for a patient discharged home or to self care:** 01
44	TS	R	Admit Date/Time	This field contains the admit date/time. This field is also used to reflect the date/time of an outpatient/emergency patient registration.

PATIENT VISIT SEGMENT (PV1)				
Seq	**Type**	**Use**	**Field Name**	**Values**
45	TS	RE	Discharge Date/Time	Date and time of the patient discharge (Disposition Date/Time).

4.5 PATIENT VISIT - ADDITIONAL INFORMATION SEGMENT (PV2)

Note: The PV2 segment is a continuation of visit-specific information where the Admit Reason is communicated. The PV2 is a required empty segment, meaning that if the information is available it must be sent with the message.

Example:

PV2|||9131^ABRASION FOREARM INFECT^I9CDX<cr>

PATIENT VISIT - ADDITIONAL INFORMATION SEGMENT (PV2)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
3	CE	RE	Admit Reason	This field contains the short description (coded or free text) of the providers' reason for patient admission (from an emergency department patient to an inpatient). Typically, this is an ICD-9/10 code. This is not the same as Chief Complaint or Triage Note (reported in the OBX segment, described below).
3.1	ST	RE	Identifier	Use a value from one of the following value sets to specify the admit reason. ICD-9 codes are best if you have them! *Value sets:* PHVS_AdministrativeDiagnosis_CDC_ICD-9CM PHVS_CauseOfDeath_ICD-10_CDC PHVS_Disease_CDC **Example:** 9131
3.2	ST	RE	Text	Send this so we know what you're talking about in 3.1. **Example:** abrasion forearm infect
3.3	ID	C	Name of Coding System	Condition Rule: Required if an identifier is provided in component 1. **Literal value for ICD-9**: I9CDX **Literal value (for ICD-10):** I10 **Literal value (for Snomed Codes):** SCT

4.6 OBSERVATION/RESULT SEGMENT (OBX)

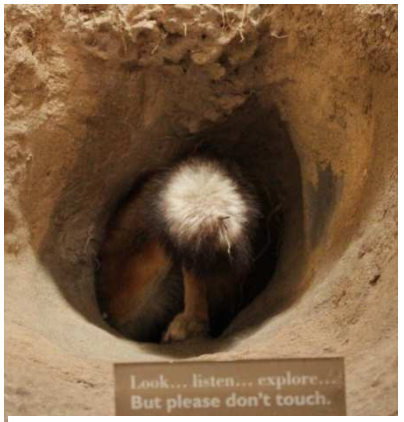
Example:

OBX|1|CWE|8661-1^CHIEF COMPLAINT:FIND:PT:PATIENT:NOM:REPORTED^LN||^^^^^^^^CRAMPY AND BURNING STOMACH ACHE, AFTER DRINKING TOO MUCH WATER ||||||F
OBX|2|NM|21612-7^AGE TIME PATIENT REPORTED^LN||43|a^YEAR^UCUM|||||F
OBX|3|NM|11289-6^BODY TEMPERATURE:TEMP:ENCTRFIRST:PATIENT:QN^LN||99.1|[degF]^FARENHEIT^UCUM|||||F
OBX|4|NM|59408-5^OXYGEN SATURATION:MFR:PT:BLDA:QN:PULSE OXIMETRY^LN||95|%^PERCENT^UCUM|||||F
OBX|5|TS|11368-8^ILLNESS OR INJURY ONSET DATE AND TIME:TMSTP:PT:PATIENT:QN^LN||20111215||||||F
OBX|6|TX|44833-2^DIAGNOSIS.PRELIMINARY:IMP:PT:PATIENT:NOM:^LN||Pain consistent with appendicitis||||||F
OBX|7|TX|54094-8^TRIAGENOTE:FIND:PT:EMERGENCYDEPARTMENT:DOC^LN||Pain and a recurrent cramping sensation.||||||F
OBX|8|XAD|SS002^TREATING FACILITY LOCATION^PHINQUESTION||Hypothetical Hospital^1237 In the Hospital Lane St.^Hypothetical City^41^97309^USA^^^411047||||||F<cr>

OBSERVATION/RESULT SEGMENT (OBX)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
1	SI	R	Set ID - OBX	Set ID numbers the repetitions of the segments. There may be multiple repetitions of OBX segments (two repetitions are needed if sending both Triage Notes and Age, for example). HL7 usage for this field is optional, but it would really help us if you populate it for your messages. **Example:** OBX|1|…. OBX|2|…. OBX|3|….
2	ID	R	Value Type	This field identifies the structure of data in observation value OBX.5. **Literal values:** • TS • TX • NM • CWE • XAD

<table>
<tr><th colspan="4">OBSERVATION/RESULT SEGMENT (OBX)</th></tr>
<tr><th>Seq</th><th>Type</th><th>Use</th><th>Field Name</th><th>Guidance</th></tr>
<tr><td>3</td><td>CE</td><td>C</td><td>Observation Identifier</td><td>This field identifies data to be received in observation value OBX.5 (Observation Identifier). Options for this field are below:

<table>
<tr><th>Concept Code</th><th>Concept Name</th></tr>
<tr><td>21612-7</td><td>Age Time Patient Reported</td></tr>
<tr><td>11289-6</td><td>Body temperature:Temp:Enctrfrst:Patient:Qn:</td></tr>
<tr><td>8661-1</td><td>Chief complaint:Find:Pt:Patient:Nom:Reported</td></tr>
<tr><td>44833-2</td><td>Diagnosis.preliminary:Imp:Pt:Patient:Nom:</td></tr>
<tr><td>SS003</td><td>Facility / Visit Type</td></tr>
<tr><td>8302-2</td><td>BODY HEIGHT</td></tr>
<tr><td>11368-8</td><td>Illness or injury onset date and time:TmStp:Pt:Patient:Qn:</td></tr>
<tr><td>59408-5</td><td>Oxygen saturation:MFr:Pt:BldA:Qn:Pulse oximetry</td></tr>
<tr><td>56816-2</td><td>Patient location</td></tr>
<tr><td>SS002</td><td>Treating Facility Location</td></tr>
<tr><td>54094-8</td><td>Triage note:Find:Pt:Emergency department:Doc:</td></tr>
<tr><td>3141-9</td><td>BODY WEIGHT MEASURED</td></tr>
</table>

1: JavaScript rabbit hole

Value set: PHVS_ObservationIdentifier_Syndromic Surveillance (plus height and weight – listed above)

If the OBX-5 field is blank, do not send OBX-3 (in other words, only send OBX-3 if there is info in OBX-5). (Otherwise, you will send us down the JavaScript rabbit hole trying to parse messages with populated OBX-3's and blank OBX-5's.)</td></tr>
<tr><td>3.1</td><td>ST</td><td>R</td><td>Identifier</td><td>Example: 54094-8</td></tr>
<tr><td>3.2</td><td>ST</td><td>O</td><td>Text</td><td>Example: TRIAGENOTE:FIND:PT:EMERGENCYDEPARTMENT:DOC</td></tr>
<tr><td>3.3</td><td>ID</td><td>C</td><td>Name of Coding System</td><td>Condition Rule: Required if an identifier is provided in component 3.1.

Literal values:
LOINC codes are identified as "LN"
LN PHIN codes are identified as: "PHINQUESTION"

Value set: PHVS_ObservationIdentifier_Syndromic Surveillance (3rd column; note that Height and Weight both use Loinc code sets)

Example: LN</td></tr>
</table>

OBSERVATION/RESULT SEGMENT (OBX)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
5	Varies	Varies	Observation Value	Listed below are the supported fields for OBX-5 by usage requirement (e.g., R, RE, O). Values received in this field are defined by value type (OBX.2) and observation identifier (OBX.3). We strongly encourage submission of all fields detailed below. **Note**: *BEWARE* for each OBX-5 value, you'll need to provide a code (along with description and name of coding system), free text, a number or date/time stamp. **For those visual people out there, here's the general gist:** OBX|[SEGMENT NUMBER][VALUE TYPE][IDENTIFER^TEXT^NAME OF CODING SYSTEM]|**[IDENTIFER^TEXT^NAME OF CODING SYSTEM] OR [FREE TEXT] OR [^^^^^^^^FREE TEXT] OR [DATE/TIME STAMP] OR [NUMBER]**|[UNITS]||||RESULT STATUS|||DATE/TIME OF OBSERVATION **Required (data type in parentheses):** • Facility/Visit Type (CWE) **Required but may be sent empty (data type in parentheses):** • Age(NM) • Chief Complaint/Reason for Visit (CWE) • Facility Address (Treating) (XAD) **Optional, but highly recommended (data type in parentheses):** • Clinical Impression (TX) • Date of onset (TS) • Height (NM) • Initial Temperature (NM) • Initial Pulse Oximetry (NM) • Triage Notes (TX) • Weight (NM)
OBX 5: CWE Data Type Use for Facility/Visit Type and Chief complaint/reason for visit				
5	CWE	Varies		**Chief complaint/reason for visit** This is a short description of the reason why the patient is seeking care – ideally, free text – and in the patient's own words. Typically many options exist for pulling this field (we will consult with you about where this field is coming from). The preference is to send free text chief complaint alone instead of a combination of free-text and coded chief complaint.

OBSERVATION/RESULT SEGMENT (OBX)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
				The following coded value sets may be used if free text isn't available: • PHVS_AdministrativeDiagnosis_CDC_ICD-9CM • PHVS_CauseOfDeath_ICD-10_CDC • PHVS_Disease_CDC (SNOMED Based Value Set) **Example of free text chief complaint:**OBX|1|CWE|8661-1^CHIEF COMPLAINT:FIND:PT:PATIENT:NOM:REPORTED^LN||^^^^^^^^BACK ACHE AFTER FALLING OFF LADDER|||||F|||201112171531<cr> **Example of coded chief complaint:** OBX|3|CWE|8661-1^CHIEF COMPLAINT – REPORTED^LN||7804^Dizziness and giddiness [780.4]^I9CDX|||||F|||20110217 --- **Facility/Visit Type** *Value set:* PHVS_FacilityVisitType_SyndromicSurveillance. For facility types that are not defined in this value set, use the applicable NUCC code for your facility type (e.g., General Acute Care Hospital = 282N00000X) Example:OBX|2|CWE|SS003^FACILITY / VISIT TYPE^PHINQUESTION||261QE0002X^EMERGENCY CARE^HCPTNUCC|||||F|||201102091114<cr>
OBX 5: TX Data Type Triage Notes, Clinical Impression				
5	TX	O		**Triage Notes** Although considered an "Optional" field by the national specifications, we *strongly* encourage submission of this field (it has great public health value). Triage notes are the provider's first take about what's going on with the patient (it's their interpretation of the patient's chief complaint). Multiple triage notes might be available. Send as free text if available. When sending, make sure OBX-3 is set to the literal value: 54094-8^TRIAGENOTE:FIND:PT:EMERGENCYDEPARTMENT:DOC^LN **Example:** OBX|1|TX|54094-8^TRIAGENOTE:FIND:PT:EMERGENCYDEPARTMENT:DOC^LN||Pain and recurrent cramping sensation.|||||F|||201102091114<CR> --- **Clinical Impression** Clinical impression is another field with "Optional" usage, but great public health utility; please send where available. This is typically the clinician's final take on the reason for the patient visit. Send this as free text if available. When sending, make sure OBX-3 is set to the literal value: 44833-2^PRELIMINARY DIAGNOSIS^LN||

OBSERVATION/RESULT SEGMENT (OBX)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
				Example: OBX|1|TX|44833-2^PRELIMINARY DIAGNOSIS^LN||Pain consistent with appendicitis|||||F|||20110209111
OBX 5: TS Data Type Date of onset				
5	TS	O		Date of onset of illness or injury. This field is really useful for understanding and characterizing outbreaks. Although usage is not considered "required" at the national level, we strongly encourage submission if the field is available. Use with LOINC Code 11368-8 in OBX-3. **Example:** OBX|7|TS|11368-8^ILLNESS OR INJURY ONSET DATE AND TIME:TMSTP:PT:PATIENT:QN^LN||20110215|||||f|||201102171658<cr>
OBX 5: XAD Data Type Facility Street, City, County, Zip code and State Address				
5	XAD	RE		Send the current address of the facility where the individual received treatment. **How to format address field:** |Name of Facility^Street Address^City^State (*PHVS_State_FIPS_5-2*)^Zip^Country (*PHVS_Country_ISO_3166-1*)^Address Type (*HL70190*)^^County (*PHVS_County_FIPS_6-4*) **Example for an address in Hypothetical City, Oregon (in Marion County):** OBX|8|XAD|SS002^TREATING FACILITY LOCATION^PHINQUESTION||Hypothetical Hospital^1237 Break a Leg Ln.^Hypothetical City^41^97309^USA^^^411047|||||F|||201102091114
OBX 5: NM Data Type Use for Age, Temperature, Pulse Oximetry, Height, Weight				
5	NM	Varies		**Age** Send age or numeric value of patient age in years at time of visit (not at time of report). If age is not available, send Date of Birth instead (PID-7). **Example age:** OBX|4|NM|21612-7^AGE TIME PATIENT REPORTED^LN||43|A^YEAR^UCUM||||F|||201102171<cr> **Example for when patient age is not known (OBX-5 is blank):** OBX|4|NM|21612-7^AGE – REPORTED^LN|||UNK^unknown^NULLFL||||F|||20110217<cr> --- **Example Initial Temperature:** OBX|3|NM|11289-6^BODY TEMPERATURE:TEMP:ENCTRFIRST:PATIENT:QN^LN||100.1|[degF]^FARENHEIT^UCUM||A||F|||20110217145139<cr>- ---

OBSERVATION/RESULT SEGMENT (OBX)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
				Example Height OBX|3|NM|8302-2 ^BODY HEIGHT^LN||69|[in_us]^ inch [length]^UCUM||||F|||20110217145139<cr> --- **Example Weight** OBX|3|NM|3141-9 ^BODY WEIGHT MEASURED^LN||120|[lb_av]^pound[mass]^UCUM||||F|||20110217145139<cr> --- **Example Initial Pulse Oximetry** OBX|4|NM|59408-5^OXYGEN SATURATION:MFR:PT:BLDA:QN:PULSE OXIMETRY^LN||95|%^PERCENT^UCUM||||F|||201112171658<cr>
6	CE	C	Units	Units are a conditional field – use them with numeric data. Age units *value set:* PHVS_AgeUnit_SyndromicSurveillance **Example Age Units:** a^YEAR^UCUM d^day^UCUM wk^week^UCUM --- Initial Temperature *value set:* PHVS_TemperatureUnit_UCUM **Literal value for Temperature Units: Cel** or **[degF]** --- **Literal value for Initial Pulse Oximetry:** % --- Height units *value set:* PHVS_HeightUnit_UCUM **Example Height Units:** cm^CentiMeter [SI Length Units]^UCUM [ft_us]^foot^UCUM [in_us]^inch^UCUM m^meter^UCUM --- Weight units *value set:* PHVS_WeightUnit_UCUM **Example Weight Units:** g^gram^UCUM kg^KiloGram [SI Mass Units] ^UCUM [oz_av]^ ounce^UCUM [lb_av]^pound^UCUM
11	ID	R	Observation Result Status	This is where to communicate the status of the observation (final, pending, corrected, etc.). *Value set:* PHVS_ObservationResultStatus_HL7_2x

OBSERVATION/RESULT SEGMENT (OBX)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
				Example for final result status: F
14	TS	O	Date/Time of the Observation	

4.7 DIAGNOSIS SEGMENT (DG1)

Example:

DG1|1||78900^ABDMNAL PAIN UNSPCF SITE^^I9CDX||201112171658|A<cr>

Diagnosis Segment (DG1)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
1	SI	R	Set ID	Numbers the repetitions of the segments. **Example:** DG1|1||78900^ABDMNAL PAIN UNSPCF SITE^I9CDX|||A<cr> DG1|2||5409^ACUTE APPENDICITIS NOS^I9CDX|||W<cr>
3	CE	R	Diagnosis Code	Diagnosis code. Send everything that you have. We're interested in preliminary, provider-assigned, working, admitting, primary, secondary, discharge, professional-coder assigned. In other words, anything you have that's collected as an ICD-9 or ICD-10 field. (We can accept both.) You can send as many codes as there are; we understand there may be delay with assigning a code from a profro multiple codes may be sent. Make sure the first diagnosis code is the primary/diagnosis. ICD-9 codes are preferred. See **Appendix C** for how to send CE data type.
3.1	ST	R	Identifier	Standardized code for diagnosis. Use ICD-9 codes if available (from the PHVS_AdministrativeDiagnosis_CDC_ICD-9CM Value Set) to specify the diagnosis code. If ICD-9 is not available, use the following value sets: • PHVS_CauseOfDeath_ICD-10_CDC • PHVS_Disease_CDC **Example:** 69276
3.2	ST	RE	Text	Standardized description associated with code in DG1-3.1. **Example:** Sunburn of second degree

Diagnosis Segment (DG1)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
3.3	ID	R	Name of Coding System	Condition Rule: Required if an identifier is provided in component 3.1. **Example:** I9CDX **Literal value for ICD-10 codes:** I10 **Literal value for ICD-9 codes:** I9CDX **Literal value for Snomed codes:** SCT
5	TS	O	Diagnosis Date/Time	It's very helpful if you can include the date and time of diagnosis.
6	IS	R	Diagnosis Type	HL7 Diagnosis Type identifies the type of diagnosis being sent. It is critical to be able to distinguish among the diagnosis types when the syndromic system is receiving messages in real-time. (**Literal values: A** for Admitting diagnosis, **W** for Working diagnosis or **F** for Final diagnosis. Again, a reminder: send this field as empty if diagnosis is not available. Do not wait to send data until diagnosis is available.

4.8 PROCEDURES SEGMENT (PR1)

Example: PR1|1||90281^Immune globulin (IG), human, for intramuscular use^C4||201112171858<cr>

PROCEDURES SEGMENT (PR1)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
1	SI	R	Set ID	Numbers the repetitions of the segments **Note**: Sender usage is of this segment is optional. Go ahead and send this field as empty if procedure information is not available (we'd rather you not delay sending the rest of the information while you're waiting for procedure info).
3	CE	R	Procedure Code	Procedure code (CPT-4) identifier.
3.1	ST	RE	Identifier	*Value set:* PHVS_CodingSystem_HL7_2x_Table0396
3.2	ST	O	Text	Free text, or accompanying code value.
3.3	ID	CE	Name of Coding System	**Literal value:** C4
5	TS	R	Procedure Date/Time	

4.9 INSURANCE (IN1) SEGMENT

Example: IN1|1|INSURANCE PLAN ID|INSURANCE COMPANY ID||||||||||||PLAN TYPE<cr>

INSURANCE (IN1)				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
1	SI	R	Set ID	Numbers the repetitions of the segments.
2	CE	R	Insurance Plan ID	Please provide your facilities list of insurance plans. Talk to Oregon ESSENCE about what to send.
2.1	ST	RE	Identifier	*Value set:* HL70072 (values not defined yet)

<table>
<tr><th colspan="5">INSURANCE (IN1)</th></tr>
<tr><th>Seq</th><th>Type</th><th>Use</th><th>Field Name</th><th>Guidance</th></tr>
<tr><td>2.2</td><td>ST</td><td>O</td><td>Text</td><td>Free text, or accompanying code value.</td></tr>
<tr><td>2.3</td><td>ID</td><td>CE</td><td>Name of Coding System</td><td>Literal value: L</td></tr>
<tr><td>3</td><td>CX</td><td>R</td><td>Insurance Company ID</td><td>Please use the following translation list to crosswalk insurance company ID to payer type:
<table>
<tr><th>Value</th><th>Value Description</th></tr>
<tr><td>1</td><td>Medicare</td></tr>
<tr><td>2</td><td>Medicaid</td></tr>
<tr><td>3</td><td>Private insurance</td></tr>
<tr><td>4</td><td>Self-pay</td></tr>
<tr><td>5</td><td>No charge</td></tr>
<tr><td>6</td><td>Other</td></tr>
<tr><td>.</td><td>Missing</td></tr>
<tr><td>.A</td><td>Invalid</td></tr>
</table></td></tr>
<tr><td>15</td><td>IS</td><td>O</td><td>Plan Type</td><td></td></tr>
</table>

5 Appendix B: HL7 batch structure and vocabulary

HL7 file and batch header and trailer segments are defined in exactly the same manner as HL7 message segments; hence, the same HL7 message construction rules used for individual messages can be used to encode and decode HL7 batch files. One batch of messages per file is supported. See following sections for an explanation of these batch file headers.

5.1 FHS: File Header Segment

The FHS segment is used as the lead-in to a file (group of batches) and appears before the MSH segment. *Technically*, this segment is optional, but we strongly recommend including it, so we can more easily parse your files.

Example:

FHS|^~\&|SSAPP|FACILITYNAME^0987654321^NPI|Oregon ESSENCE|OHA|20110127093425|YCI-MO20090126||IMMYCI20090127-003HL7<cr>

FHS: File Header Segment				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
1	ST	R	File Field Separator	Default Value "|" (ASCII 124).
2	ST	R	File Encoding Characters	Default Values "^~\&" (ASCII 94, 126, 92 and 38).
3	HD	O	File Sending Application	The name of the application that sends the file
4	HD	RE	File Sending Facility	The name of the facility that sends the file
5	HD	O	File Receiving Application	**Literal value:** Oregon ESSENCE
6	HD	O	File Receiving Facility	**Literal value:** OHA
7	TS	RE	File Creation Date/Time	
9	ST	RE	File Name/ID	
10	ST	O	File Header Comment	
11	ST	RE	File Control ID	
12	ST	RE	Reference File Control ID	Unique ID for this file.

5.2 FTS: File Trailer Segment

The FTS segment is used to define the end of a file (group of batches). This is required in the FHS is sent.

Example: FTS|1<cr>

FTS: File Trailer Segment				
Seq	Type	Use	Field Name	Guidance
1	NM	R	File Batch Count	**Literal value:** 1 The number of batches contained in this file. Since this interface is constrained to one batch per field, this number should always be "1"
2	ST	O	File Trailer Comment	You can put something here. But why? We don't care.

5.3 BHS: Batch Header Segment Definition

The BHS segment is a required segment used to head a group of HL7 messages that comprise a batch.

Example:
BHS|^~\&|ELRAPP|FACILITYNAME^0987654321^NPI|Oregon ESSENCE|OHA|20110127093425<cr>

BHS: Batch Header Segment Definition				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
1	ST	R	Batch Field Separator	Default Value "|" (ASCII 124).
2	ST	R	Batch Encoding Characters	Default Values "^~\&" (ASCII 94, 126, 92 and 38).
3	HD	O	Batch Sending Application	Send the name of the application you're using to send messages.
4	HD	RE	Batch Sending Facility	
5	HD	O	Batch Receiving Application	

BHS: Batch Header Segment Definition				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
6	HD	O	Batch Receiving Facility	
7	TS	RE	Batch Creation Date/Time	
9	ST	RE	Batch Name/ID	
10	ST	O	Batch Header Comment	
11	ST	RE	Batch Control ID	
12	ST	RE	Reference Batch Control ID	

5.4 BTS: Batch Trailer Segment Definition

The BTS segment defines the end of a batch of HL7 messages and is required when sending batches of messages.

Example:
BTS|100|Facility reporting for 2-1-2011cr>

BTS: Batch Trailer Segment Definition				
Seq	**Type**	**Use**	**Field Name**	**Guidance**
1	NM	R	Batch Message Count	The number of messages contained in the preceding batch.
2	ST	O	Batch Comments	Don't use this field.

6 Appendix C: Data Types

Only data types used in this guide are represented in the table below. For more explicit details on data type construction, please visit http://www.HL7.org. Selected tables and value sets referenced in this table are available in **Appendix B**.

Data Type	Name	Structure (Relevant Value Set)	Examples
CE	Coded Element	|ID^Text^Coding System(*HL70396*)| Alternate coding systems (components 3-6 in this field) are not supported	|78900^ABDMNAL PAIN UNSPCF SITE^I9CDX|
CWE	Coded with Exceptions	|ID^Text^ Coding System (*HL70396*)^^^^^^ Original Text|	|7804^DIZZYNESS AND GIDDINESS [780.4]^I9CDX^^^^^^DIZZY AFTER VISITING THEME PARK| Can also send without text if not available: |7804^DIZZYNESS AND GIDDINESS [780.4]^I9CDX |
CX	Extended Composite ID with Check Digit	|ID^^^Assigning Authority^Identifier Type (*HL70203*)^Assigning Facility (HD data type)|	|MD01059711^^^MIDDLE EARTH HEALTH CENTER^MR^MIDDLE EARTH HEALTH CENTER^9876543210^NPI|
HD	Hierarchic Designator	|Namespace ID(full name)^Universal ID (NPI or ISO)^Universal ID Type (NPI or ISO)|	| CITY GENERAL HOSPITAL^0133195934^NPI | For **Sending Application** you can omit the ISO: |Namespace ID(full name)|
ID	Coded Value for HL7 Defined Tables	|Coded Value|	|ABC|
IS	Coded Value for User-Defined Tables	|Coded Value|	|XYZ|
NM	Numeric	|Numeric|	|123.4|
SI	Sequence ID	|ID|	|1|
ST	String	|String Data|	|Just about anything goes in here|
TS	Time Stamp	|YYYYMMDDHHMM.SSSS-ZZZZ|	|200806021328.0001-0005|
TX	Text Data	|Text|	| can have leading spaces.|
VID	Version Identifier	|Version ID|	|2.5.1|

Data Type	Name	Structure (Relevant Value Set)	Examples
XAD	XAD Extended Address	|Name of Facility^Street Address^City^State (*PHVS_State_FIPS_5-2*)^Zip^Country (*PHVS_Country_ISO_3166-1*)^Address Type (*HL70190*)^^County (*PHVS_County_FIPS_6-4*) |^^Free text city or town ^State (*PHVS_State_FIPS_5-2*) ^Zip code^ Country (*PHVS_Country_ISO_3166-1*)^^^County (*PHVS_County_FIPS_6-4*)|	|ABC Hospital^4444 Healthcare Drive^ Suite 123^Portland^OR^97232^USA^B^^ Multnomah| |^^Billings^30^59101^USA^^^30111|
XPN	Extended Person Name	|Family Name^Given Name^Middle Initial^Suffix^Prefix^^Name Type^^^^^^Professional Suffix|	Report name as a pseudonym: |^^^^^^~^^^^^^S|

Thank you!

This guide would not have been possible without the help of the technical teams working on syndromic surveillance in Oregon.