



# **Emergency Medical Services Patient Care Report**

**May 2015**

## **HL7 Normative Ballot**

**Sponsored By:  
Clinical Interoperative Council**

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## Contributors

Co-Editor / Co-Chair	Anita Walden Duke Translational Medicine Institute Duke University <a href="mailto:anita.walden@duke.edu">anita.walden@duke.edu</a>
Co-Editor	Jay Lyle Ockham Information Services LLC <a href="mailto:jlyle@ockhamis.com">jlyle@ockhamis.com</a>
Co-Editor	Sarah Ryan Ockham Information Services LLC <a href="mailto:sryan@ockhamis.com">sryan@ockhamis.com</a>
EMS Subject Matter Expert	Clay Mann National EMS Information System University of Utah School of Medicine <a href="mailto:clay.mann@utah.edu">clay.mann@utah.edu</a>
EMS Subject Matter Expert	Greg Mears, M.D. Formerly of the Department of Emergency Medicine University of North Carolina, Chapel Hill <a href="mailto:gdmears@me.com">gdmears@me.com</a>





## Revision History

Rev	Date	By Whom	Changes
R1 D1	May 2011	Jay Lyle	Initial draft, level two
R1 D2	September 2011	Jay Lyle	Revisions from May ballot; extended to level 3
R1 D3	December 2011	Jay Lyle	Revisions from September ballot
R1 D4	June 2012	Jay Lyle	Implemented in MDHT
R1 D5	July 2013	Jay Lyle	DSTU changes
R1 D6	March 2014	Jay Lyle	Normative version

A detailed list of changes from DSTU version follows.

#	Change	By Whom	Date
1	add descriptions to all templates (ballot ref 28,60,69 )	JLyle	Nov-13
2	change CO2 type to PQ	JLyle	Nov-13
3	cardiac arrest timing value set: remove "no"	JLyle	Nov-13
4	LOINC for environmental allergy is narr not nom. Request new one? (ballot ref 46 )	JLyle	Nov-13
5	make IV sBADM to support rate (dose) (ballot ref 21 )	JLyle	Nov-13
6	Insert "such that" language (ballot ref 1,6,8 )	JLyle	Nov-13
7	Ensure example shows elements in schema order	JLyle	Nov-13
8	typo: patientt, the the, SCT, version (ballot ref 24 , 47, 49, 52 )	JLyle	Nov-13
9	environmental allergy: change to "non-drug"	JLyle	Nov-13
10	correct related document cardinality (ballot ref 5 )	JLyle	Nov-13
11	age units: allow min, h, d, wk, mo, a; not s (ballot ref 23 )	JLyle	Nov-13
12	add URL to paragraph 1 (ballot ref 67 )	JLyle	Nov-13
13	custodian cardinality (ballot ref 3 )	JLyle	Nov-13
14	service event cardinality (ballot ref 4 )	JLyle	Nov-13
15	height of fall unit (ballot ref 18 )	JLyle	Nov-13
16	ucum unit IN_I => in_i (ballot ref 26 )	JLyle	Nov-13
17	ensure all constraints have conformance numbers (ballot ref 29 )	JLyle	Nov-13
18	Correct missing LOINC code names (ballot ref 43,45 )	JLyle	Nov-13
19	make bindings dynamic (ballot ref 56 )	JLyle	Nov-13
20	check all descendant templates for conformance to ancestors (ballot ref 64, 65 )	JLyle	Nov-13
21	correct author model (ballot ref 64 )	JLyle	Nov-13
22	include template ids in examples (ballot ref 57, 58 )	JLyle	Nov-13
23	re-order classes to display in document in schema order (ballot ref 2 )	JLyle	Nov-13

#	Change	By Whom	Date
24	LOINC: advance directive, no "D" (67516-5, 67840-9) (ballot ref 16 )	JLyle	Nov-13
25	add Carbon Monoxide code	JLyle	Nov-13
26	correct medication cardinality (ballot ref 10 )	JLyle	Nov-13
27	correct cardinality where shall and 0:1 is ambiguous (ballot ref 53 )	JLyle	Nov-13
28	correct trauma center cardinality (ballot ref 61 )	JLyle	Nov-13
29	check parent child conformance (ballot ref 66 )	JLyle	Nov-13
30	correct conformance verb for encounter (ballot ref 62 )	JLyle	Nov-13
31	examples: use effective time value not range (ballot ref 15 )	JLyle	Nov-13
32	remove extraneous xml from examples (ballot ref 7 )	JLyle	Nov-13
33	need code, title, template id in examples (ballot ref 9, 59, 70 )	JLyle	Nov-13
34	generate IDs for II elements (ballot ref 50 )	JLyle	Nov-13
35	include time not year in examples (ballot ref 51 )	JLyle	Nov-13
36	include code system oids in examples (ballot ref 55 )	JLyle	Nov-13
37	include template ids in examples (ballot ref 57, 58 )	JLyle	Nov-13
38	resolved conflicts with consolidated templates	JLyle	Feb-14

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# Chapter 1

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## INTRODUCTION

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### Topics:

- [Overview](#)
- [Audience](#)
- [Scope](#)
- [Approach](#)
- [Organization of This Guide](#)
- [Use of Templates](#)
- [Conventions Used in This Guide](#)

This document is intended to guide software developers in generating CDA-compliant XML patient care reports, also known as run reports, from EMS agency crews to emergency departments and other interested parties. It consists of a set of constraints on the HL7 CDA R2 model mapped to the National EMS Information System (NEMSIS) data elements.

Clinical Document Architecture (CDA) is a standard for information exchange. It is based on the HL7 Reference Information Model, but it constrains that model to a specific set of patterns. This document adds further constraints, so that it specifies not just a generic clinical document, but an Emergency Medical Services (EMS) Patient Care Report—a record of an Emergency Medical Services encounter with a patient.

Further information about CDA is available at [HL7.org](http://HL7.org).

This guide constrains the NEMSIS data set version 3.4 to the HL7 CDA R2 document format. NEMSIS is maintained by the NEMSIS Technical Assistance Center, a US organization funded by the National Highway Transportation Safety Administration, the Centers for Disease Control, and the Health Resources and Services Administration at the University of Utah. The NEMSIS data dictionary is available at [www.nemsis.org](http://www.nemsis.org).

## Overview

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This implementation guide provides constraints to allow implementers to develop CDA-compliant documents that support a common set of information in the emergency medical services (EMS) domain.

This release covers the provision of information from an EMS crew to a receiving hospital or emergency department. A future release will cover the entire EMS dataset; this document will be a template within that specification.

## Audience

---

The audience for this document is software developers and development organizations who wish to produce or receive EMS patient care reports.

Software developers should use the CDA XML schema to guide their production of EMS patient care reports, subject to the constraints documented in this guide. Mappings of NEMSIS elements to the CDA schema are included in this document, in the "NEMSIS trace" comment. Coded elements should use the vocabularies referred to in the constraints.

The CDA schema is published by Health Level 7, and is available at <http://www.hl7.org/implement/standards>.

This guide defines the information payload only. Implementers are encouraged to coordinate with one another by using the IHE framework (available at <http://www.ihe.net>) to address expected capabilities of participating systems, including security and audit considerations.

## Scope

---

The NEMSIS data specification content has been developed over the past 20 years by a variety of partners. Professional organizations contributing to the content include American Ambulance Association (AAA), American College of Emergency Physicians (ACEP), American College of Surgeons: Committee on Trauma (ACS-COT), American Heart Association (AHA), Emergency Medical Services Outcomes Project (EMSOP), International Association of Fire Chiefs (IAFC), International Association of Fire Fighters (IAFF), National Academy of Emergency Medical Dispatch (NAEMD), National Association of Emergency Medical Technicians (NAEMT), National Association of EMS Physicians (NAEMSP), National Association of State EMS Officers (NASEMSO), National EMS Management Association (NEMSMA, formerly NAEMSQP), and the National Emergency Number Association (NENA). Supporting federal partners include National Highway Traffic Safety Administration (NHTSA), Health Resources and Services Administration (HRSA), Emergency Medical Services for Children Program (EMSC), EMSC National Resource Center (NRC), EMSC National EMSC Data Analysis Resource Center (NEDARC), Centers for Disease Control and Prevention (CDC), Federal Emergency Management Administration (FEMA), and HRSA's Office of Rural Health Policy (ORHP). NEMSIS has been adopted in 46 states and territories and implemented by scores of software providers.

The NEMSIS data set supports many uses, including the transfer of patient care reports from EMS crews to emergency departments, the prepopulation of hospital electronic health records, identification of trauma registry candidates, and preparation of data for submission to NEMSIS for research. The current specification is designed for the first of these use cases.

Implementers may generate the same patient care reports that they generate today and attach them under the CDA header in "level one" documents, or they may populate the structured sections as specified herein.

A separate effort to develop an implementation guide is the Emergency Transfer of Care specified by Integrating the Healthcare Enterprise (IHE) as the level two template 1.3.6.1.4.1.19376.1.5.3.1.1.19.1. These templates may be harmonized in the future; at this point, they are distinct.

## Approach

---

We first transformed the NEMESIS specification into the Emergency Medical Services Domain Analysis Model (EMS DAM), initially balloted through HL7 in May of 2010 and finalized for the release in May 2011. The static part of the analysis model was then constrained to the HL7 Reference Information Model (RIM) in a Domain Information Model (DIM), balloted in January, 2011, and reballoted in September, 2011. After a DSTU period, this guide was balloted to Normative status in the autumn of 2013.

This guide is the first implementable specification developed based on the EMS DIM.

An initial iteration, balloted in May 2011, supports what is commonly termed “level one” CDA compliance, i.e., a document with structured header information containing an unstructured document of some form (whether pdf, image, or other recognized format). In addition, this iteration supported “level two” compliance, in which human-readable text information is provided for sections identified in XML. A sender of a document, however, must choose whether to send the “level one” encapsulated document or the “level two” set of XML sections: a document containing both is not acceptable.

The September, 2011 iteration modeled the sections to “level three,” in which the sections also include detailed, structured information representing the section text. This structured information follows standard patterns in such a way that receiving applications will be able to process specific semantically identified elements for storage in medical records, application of business rules, or other computable services. This iteration also includes changes to the level two template assignments, so the May 2011 informative version is no longer valid.

The 2015 edition adds a small number of elements requested by stakeholders and brings the guide up to date with NEMESIS 3.4.

Harmonization has been approached semantically rather than syntactically. There are clear parallels, but few exact matches, with the CDA Consolidation project—an effort by the Office of the National Coordinator's Standards & Interoperability initiative in collaboration with HL7 to bring together several similar extant CDA specifications. We expect that LOINC codes will offer the ability to identify consistent information elements, even when the structures they inhabit (templates) may be subject to differing requirements. These requirements include elements required in the Consolidated guide but not always available in an EMS setting, elements needed in an EMS setting but not represented in the Consolidated templates, and elements where a code is specific to a clinical setting and an EMS-specific code is needed. Similarly, harmonization with the Emergency Department specification *Data Elements for Emergency Department Systems* (DEEDS) depends on the use of extant or related LOINC codes for shared elements.

The templates in this guide are open, meaning that information not specified in the guide may be included in document instances, though recipients are under no obligation to comprehend that additional information.

This release is generated from UML models developed in the Open Health Tools (OHT) Model-Driven Health Tools (MDHT) project. The data specifications have been formalized into computational models expressed in UML. These models are used by automated tooling to generate this publication, plus validation tools and Java libraries for implementers.

## Units

Physical quantities use the HL7 PQ data type, in which units are expressed in the Unified Code for Units of Measure (UCUM; 2.16.840.1.113883.6.8), available at [unitsofmeasure.org](http://unitsofmeasure.org). We recommend using the case sensitive values of that specification (2.16.840.1.113883.1.11.12839.). Interface values that are not actual physical units are handled differently: see appendix C for mappings.

## Null and Negative Values

We use RIM attributes for observations that may require explicit negation or null values. A provider who has checked for signs of drug use can assert that a particular sign was found (with a proper value), that whether there were signs is unknown (with a null) or that there were no signs (with negation).

However, in collections of acts other than observations, epistemological attributes may have uncertain semantics. If a procedure is negated, it may not be clear whether the provider is asserting that the procedure has never been performed on the patient or was not performed in a particular context. Similarly, one may document a history of



specific disorders, but including a single, general but negated disorder implies assumptions about the scope of the negated disorder that are not explicitly modeled.

As a result, we manage negation and uncertainty for procedures with explicit Boolean observations. Using an observation allows the clinician to assert a history of zero disorders, or a lack of knowledge about disorders, without tying that assertion to a notional disorder that may imply unanticipated facts or questions.

In the interest of conformance with other guides, we also represent these null and negative acts with null and negated acts, in line with Consolidation Project recommendations. These notional classes should be annotated to ensure that it is clear that they restate the explicit observations, and are not distinct facts.

## Null Value Mapping

NEMESIS contains null values not listed in HL7. "Not applicable" maps directly to "Not applicable", but "Not recorded" and "Not reported" must be represented as the general concept "No information". These NEMESIS values may also be copied into Observation.text.

NEMESIS also contains "pertinent negatives", most of which are addressed with negation and special cases in this document. Some of the negative action values, however, are actually null values, and are recorded as "NI", no information. A mapping of negative action values is provided in Appendix B.

## Organization of This Guide

---

The requirements as laid out in the body of this document are subject to change per the policy on implementation guides (see section 13.02 "Draft Standard for Trial Use Documents" within the HL7 Governance and Operations Manual, [http://www.hl7.org/documentcenter/public/membership/HL7\\_Governance\\_and\\_Operations\\_Manual.pdf](http://www.hl7.org/documentcenter/public/membership/HL7_Governance_and_Operations_Manual.pdf) ).

## Templates

Templates are organized by document (see Document Templates), by section (see Section Templates), and by clinical statements (see Clinical Statement Templates). Within a section, templates are arranged hierarchically, where a more specific template is nested under the more generic template that it conforms to.

## Vocabulary and Value Sets

Vocabularies specified in this guide are derived from standard vocabularies where possible; most questions, however, are fairly specific to the EMS domain. These questions have been encoded in clinical LOINC, and the answer sets have been encoded there as well, and they are included in this document. These values can also be obtained from LOINC.org. We anticipate publishing these value sets in a standard provisioning system, but are on hold pending the current work being done to align LOINC and SNOMED CT.

For properties bound to large value systems (e.g., ICD-10 PCS), NEMESIS provides suggested subsets at NEMESIS.org, under "V3 resources." These are not to be used to validate values (all values in the system are valid), but as suggested aids to providing a manageable user interface. All RxNorm drugs are valid, for instance, but you might wish to provide a selection of drugs commonly found on EMS vehicles for easy selection.

## Use of Templates

---

When valued in an instance, the template identifier (`templateId`) signals the imposition of a set of template-defined constraints. The value of this attribute provides a unique identifier for the templates in question.

## Originator Responsibilities

An originator can apply a `templateId` to assert conformance with a particular template.

In the most general forms of CDA exchange, an originator need not apply a `templateId` for every template that an object in an instance document conforms to. This implementation guide asserts when `templateIds` are required for conformance.

## Recipient Responsibilities

A recipient may reject an instance that does not contain a particular `templateId` (e.g., a recipient looking to receive only CCD documents can reject an instance without the appropriate `templateId`).

A recipient may process objects in an instance document that do not contain a `templateId` (e.g., a recipient can process entries that contain Observation acts within a Problems section, even if the entries do not have `templateIds`).

## Conventions Used in This Guide

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### Conformance Requirements

Conformance statements are grouped and identified by the name of the template, along with the `templateId` and the context of the template (e.g., ClinicalDocument, section, observation), which specifies the element under constraint. If a template is a specialization of another template, its first constraint indicates the more general template. In all cases where a more specific template conforms to a more general template, asserting the more specific template also implies conformance to the more general template. An example is shown below.

#### Template name

```
[<type of template>: templateId <XXXX.XX.XXX.XXX>]
```

Description of the template will be here .....

1. Conforms to <The template name> Template (templateId: XXXX<XX>XXX>YYY).
2. **SHALL** contain [1..1] @classCode = <AAA> <code display name> (CodeSystem: 123.456.789 <XXX> Class) **STATIC** (CONF:<number>).
3. ....

#### Figure 1: Template name and "conforms to" appearance

The conformance verb keyword at the start of a constraint ( **SHALL** , **SHOULD** , **MAY** , etc.) indicates business conformance, whereas the cardinality indicator (0..1, 1..1, 1..\*, etc.) specifies the allowable occurrences within an instance. Thus, " **MAY** contain 0..1" and " **SHOULD** contain 0..1" both allow for a document to omit the particular component, but the latter is a stronger recommendation that the component be included if it is known.

The following cardinality indicators may be interpreted as follows:

- 0..1 as zero to one present
- 1..1 as one and only one present
- 2..2 as two must be present
- 1..\* as one or more present
- 0..\* as zero to many present

Value set bindings adhere to HL7 Vocabulary Working Group best practices, and include both a conformance verb ( **SHALL** , **SHOULD** , **MAY** , etc.) and an indication of **DYNAMIC** vs. **STATIC** binding. The use of **SHALL** requires that the component be valued with a member from the cited value set; however, in every case any HL7 "null" value such as other (OTH) or unknown (UNK) may be used.

Each constraint is uniquely identified (e.g., "CONF:605") by an identifier placed at or near the end of the constraint. These identifiers are not sequential as they are based on the order of creation of the constraint.

1. **SHALL** contain [1..1] component/structuredBody (CONF:4082).
  - a. This component/structuredBody **SHOULD** contain [0..1] component (CONF:4130) such that it
    - a. **SHALL** contain [1..1] Reporting Parameters section (templateId:2.16.840.1.113883.10.20.17.2.1) (CONF:4131).
  - b. This component/structuredBody **SHALL** contain [1..1] component (CONF:4132) such that it

- a. **SHALL** contain [1..1] Patient data section - NCR (templateId:2.16.840.1.113883.10.20.17.2.5) (CONF:4133).

### Figure 2: Template-based conformance statements example

Note that most constraints in this guide do not contain the "such that" phrase, and this could in some cases give the impression that two statements, each of the form "SHALL contain exactly one . . ." are to be in conflict. This is an artifact of the modeling tool: both statements are required, and they are not in conflict.

CCD templates are included within this implementation guide for ease of reference. CCD templates contained within this implementation guide are formatted WITHOUT typical **KEYWORD** and **XML** element styles. A WIKI site is available if you would like to make a comment to be considered for the next release of CCD: [http://wiki.hl7.org/index.php?title=CCD\\_Suggested\\_Enhancements](http://wiki.hl7.org/index.php?title=CCD_Suggested_Enhancements) The user name and password are: wiki/wikiwiki. You will need to create an account to edit the page and add your suggestion.

1. The value for "Observation / @moodCode" in a problem observation SHALL be "EVN"  
2.16.840.1.113883.5.1001 ActMood STATIC. (CONF: 814).
2. A problem observation SHALL include exactly one Observation / statusCode. (CONF: 815).
3. The value for "Observation / statusCode" in a problem observation SHALL be "completed"  
2.16.840.1.113883.5.14 ActStatus STATIC. (CONF: 816).
4. A problem observation SHOULD contain exactly one Observation / effectiveTime, to indicate the biological timing of condition (e.g. the time the condition started, the onset of the illness or symptom, the duration of a condition). (CONF: 817).

### Figure 3: CCD conformance statements example

## Keywords

The keywords SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY, and NEED NOT in this document are to be interpreted as described in the [HL7 Version 3 Publishing Facilitator's Guide](#):

- **SHALL**: an absolute requirement
- **SHALL NOT**: an absolute prohibition against inclusion
- **SHOULD/SHOULD NOT**: valid reasons to include or ignore a particular item, but must be understood and carefully weighed
- **MAY/NEED NOT**: truly optional; can be included or omitted as the author decides with no implications

## XML Examples

XML samples appear in this document in a fixed-width font. Portions of the XML content may be omitted from the content for brevity, marked by an ellipsis (...) as shown in the example below.

```
<ClinicalDocument xmlns='urn:hl7-org:v3'>
...
</ClinicalDocument>
```

### Figure 4: ClinicalDocument example

XPath expressions are used in the narrative and conformance requirements to identify elements because they are familiar to many XML implementers.

---

# Chapter

# 2

---

## DOCUMENT TEMPLATES

---

### Topics:

- [Patient Care Report](#)

This section contains the document level constraints for CDA documents that are compliant with this implementation guide.

## Patient Care Report

[ClinicalDocument: templateId 2.16.840.1.113883.17.3.10.2]

*A report from the EMS crew to the emergency department summarizing the patient's condition and any remedial actions taken*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.2"
2. **SHALL** conform to *Consol General Header Constraints* template (templateId: 2.16.840.1.113883.10.20.22.1.1)
3. **SHALL** contain exactly one [1..1] **@classCode**="DOCCLIN" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:10000)
4. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:10001)
5. **SHALL** contain exactly one [1..1] **id** (CONF:5363)
  - *NEMESIS trace: ERecord.01*  
*/@root should be the OID for the Agency; @extension the internally assigned ID*
6. **SHALL** contain exactly one [1..1] **code** (CONF:5253)/**@code**="67796-3" *EMS patient care report - version 3.1 Document NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10002)
7. **SHALL** contain exactly one [1..1] **title** and **SHALL** equal "EMS Patient Care Report" (CONF:5254)
8. **SHALL** contain exactly one [1..1] **confidentialityCode**, which **SHALL** be selected from ValueSet HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 **STATIC** (CONF:5259)
  - *Default value is "N" (normal)*
9. **MAY** contain zero or one [0..1] **versionNumber** (CONF:5264)
  - *May be null, and in most cases will not be used. In circumstances where updates are likely, the first instance should be denoted by a versionId of "1."*
10. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:10004)
  - a. This recordTarget **SHALL** contain exactly one [1..1] **patientRole** (CONF:10870)
    - a. This patientRole **SHALL** contain at least one [1..\*] **addr** (CONF:10031)
 

*NEMESIS Trace*  
*EPatient.05 . . . /PatientRole/addr/streetAddressLine*  
*EPatient.06 . . . /PatientRole/addr/city*  
*EPatient.07 . . . /PatientRole/addr/county*  
*EPatient.08 . . . /PatientRole/addr/state*  
*Paatient.09 . . . /PatientRole/addr/postalCode*  
*EPatient.10 . . . /PatientRole/addr/country*
    - b. This patientRole **SHALL** contain at least one [1..\*] **id** (CONF:10871)
 

*NEMESIS Trace*  
*EPatient.01: root= the OID for the generating EMS agency, or "NI"*  
*EPatient.12: root=" 2.16.840.1.113883.3.184" (Social Security Administration)*  
*EPatient.20 and EPatient.21: root= the OID for the state department of motor vehicles, found at HL7.org, and reproduced as found in March of 2011 in appendix A.*
    - c. This patientRole contains zero or more [0..\*] **telecom**

*NEMESIS Trace: EPatient.18*
    - d. This patientRole **SHALL** contain exactly one [1..1] **patient** (CONF:10872)

- a. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode** (CONF:10035), which **SHALL** be selected from ValueSet *Administrative Gender Excluding Nulls* 2.16.840.1.113883.3.2074.1.1.5 **DYNAMIC** (CONF:10878)

*NEMESIS Trace: EPatient.13*

- b. This patient **SHOULD** contain zero or one [0..1] **birthTime** (CONF:10873)

*NEMESIS Trace*

*EPatient.17*

- c. This patient **MAY** contain zero or one [0..1] **ethnicGroupCode** (CONF:10874), which **SHALL** be selected from ValueSet *Ethnicity Group* 2.16.840.1.114222.4.11.837 **DYNAMIC** (CONF:10032)

*NEMESIS Trace: EPatient.14*

- d. This patient **SHOULD** contain zero or one [0..1] **maritalStatusCode** (CONF:5303), which **SHALL** be selected from ValueSet *HL7 Marital Status* 2.16.840.1.113883.1.11.12212 **STATIC** 1

- e. This patient **SHOULD** contain zero or more [0..\*] **name** (CONF:10875)

*NEMESIS Trace*

*EPatient.02 . . . /PatientRole/Patient/name/family*

*EPatient.03 . . . /PatientRole/Patient/name/given*

*EPatient.04 . . . /PatientRole/Patient/name/given*

*Name sub-elements SHOULD be in the following order: family, given, middle (also "given").*

*For names from cultures not following the order assumed above, the "family" name SHOULD be populated with whatever name component should be used to sort by. E.g., for a person with a single name, "family" should be used.*

- f. This patient **SHALL** contain exactly one [1..1] **raceCode** (CONF:10876), which **SHALL** be selected from ValueSet *RaceCategory* 2.16.840.1.114222.4.11.836 **DYNAMIC** (CONF:10033)

*NEMESIS Trace: EPatient.14*

*NEMESIS collects race and ethnicity in the one-question format (see guidance at [http://www.whitehouse.gov/omb/fedreg\\_1997standards](http://www.whitehouse.gov/omb/fedreg_1997standards)), but the HL7 RIM and, therefore, the CDA schema contain separate elements. It is necessary to populate both CDA fields based on the values selected for the NEMESIS question. Further, the CDA model includes a single race code. In order to support multiple race codes as required by OMB, we adopt a second race code entry from the HL7 SDWG namespace. All documents with a race code must populate the CDA race code; if more than one race code is recorded, then the SDWG element may also be populated. No semantic priority is implied by the element selection.*

- g. This patient **MAY** contain zero or one [0..1] **religiousAffiliationCode** (CONF:5317), which **SHALL** be selected from ValueSet *HL7 Religious Affiliation* 2.16.840.1.113883.1.11.19185 **STATIC** 1
- h. This patient **MAY** contain zero or more [0..\*] **sdctc:RaceCode** (CONF:10877), which **SHALL** be selected from ValueSet *RaceCategory* 2.16.840.1.114222.4.11.836 **DYNAMIC** (CONF:10034)

*NEMESIS Trace: EPatient.14*

- i. This patient **MAY** contain zero or more [0..\*] **sdctc:RaceCode**, which **SHALL** be selected from ValueSet *Race Value Set* 2.16.840.1.113883.1.11.14914 **DYNAMIC** (CONF:7263)

*Note: The sdctc:raceCode is only used to record additional values when the patient has indicated multiple races or additional race detail beyond the five categories required for Meaningful Use Stage 2. The prefix sdctc: SHALL be bound to the namespace "urn:hl7-org:sdctc". The use of the namespace provides a necessary extension to CDA R2 for the use of the additional raceCode elements.*

- j. This patient **MAY** contain zero or one [0..1] **birthplace** (CONF:5395)
  - a. This birthplace **SHALL** contain exactly one [1..1] **place** (CONF:5396)

- a. This place **SHALL** contain exactly one [1..1] **addr** (CONF:5397)
- b. This place If country is US, this **addr** **SHALL** contain exactly one [1..1] state, which **SHALL** be selected from ValueSet StateValueSet 2.16.840.1.113883.3.88.12.80.1 DYNAMIC
- c. This place This **addr** **MAY** contain zero or one [0..1] postalCode, which **SHALL** be selected from ValueSet PostalCodeValueSet 2.16.840.1.113883.3.88.12.80.2 DYNAMIC
- d. This place This **addr** **SHOULD** contain zero or one [0..1] country, which **SHALL** be selected from ValueSet CountryValueSet 2.16.840.1.113883.3.88.12.80.63 DYNAMIC
- k. This patient **MAY** contain zero or more [0..\*] **guardian** (CONF:5325)
  - a. Such guardians **SHOULD** contain zero or more [0..\*] **addr** with @xsi:type="USRealmAddress"
    - a. **SHALL** contain exactly one [1..1] **city** (CONF:7292)
    - b. **SHOULD** contain zero or one [0..1] **country** (CONF:7295)
    - c. **SHOULD** contain zero or one [0..1] **postalCode** (CONF:7294)
    - d. **SHOULD** contain zero or one [0..1] **state** (CONF:7293)
    - e. **SHALL** contain at least one [1..\*] **streetAddressLine** (CONF:7291)
    - f. **SHOULD** contain zero or one [0..1] **@use** (CONF:7290), which **SHALL** be selected from ValueSet *PostalAddressUse* 2.16.840.1.113883.1.11.10637 **STATIC**
    - g. State is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the state **MAY** be present but **MAY** be bound to different vocabularies (CONF:10024)
    - h. PostalCode is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the postalCode **MAY** be present but **MAY** be bound to different vocabularies (CONF:10025)
    - i. **SHALL NOT** have mixed content except for white space (CONF:7296)
    - j. **SHALL** contain at least one and not more than 4 streetAddressLine (CONF:7291)
  - b. Such guardians **SHOULD** contain zero or one [0..1] **code** (CONF:5326)
  - c. Such guardians **MAY** contain zero or more [0..\*] **telecom** with @xsi:type="TEL"
    - a. **SHOULD** contain zero or one [0..1] **@use** (CONF:7993)
  - d. Such guardians **SHALL** contain exactly one [1..1] **guardianPerson**
    - a. This guardianPerson **SHALL** contain at least one [1..\*] **name**
    - b. This guardianPerson The content of name **SHALL** be a conformant US Realm Person Name (PTN.US.FIELDDED) (2.16.840.1.113883.10.20.22.5.1.1) (CONF:10414)
  - e. Such guardians The guardian code, if present, **SHALL** be selected from ValueSet PersonalRelationshipRoleType 2.16.840.1.113883.1.11.19563 DYNAMIC or ValueSet Responsible Party 2.16.840.1.113883.1.11.19830 DYNAMIC (CONF:5326)
- l. This patient **SHOULD** contain zero or more [0..\*] **languageCommunication** (CONF:5406)
  - a. Such languageCommunications **SHALL** contain exactly one [1..1] **languageCode**, which **SHALL** be selected from ValueSet *Language* 2.16.840.1.113883.1.11.11526 **DYNAMIC** (CONF:5407)
  - b. Such languageCommunications **MAY** contain zero or one [0..1] **modeCode**, which **SHALL** be selected from ValueSet *HL7 LanguageAbilityMode* 2.16.840.1.113883.1.11.12249 **STATIC** 1 (CONF:5409)
  - c. Such languageCommunications **MAY** contain zero or one [0..1] **preferenceInd** (CONF:5414)
  - d. Such languageCommunications **SHOULD** contain zero or one [0..1] **proficiencyLevelCode**, which **SHALL** be selected from ValueSet *LanguageAbilityProficiency* 2.16.840.1.113883.1.11.12199 **STATIC** (CONF:9965)
- e. This patientRole **MAY** contain zero or one [0..1] **providerOrganization** (CONF:5416)
  - a. This providerOrganization **SHALL** contain at least one [1..\*] **addr** with @xsi:type="USRealmAddress"
    - a. **SHALL** contain exactly one [1..1] **city** (CONF:7292)



- b. **SHOULD** contain zero or one [0..1] **country** (CONF:7295)
  - c. **SHOULD** contain zero or one [0..1] **postalCode** (CONF:7294)
  - d. **SHOULD** contain zero or one [0..1] **state** (CONF:7293)
  - e. **SHALL** contain at least one [1..\*] **streetAddressLine** (CONF:7291)
  - f. **SHOULD** contain zero or one [0..1] **@use** (CONF:7290), which **SHALL** be selected from ValueSet [PostalAddressUse 2.16.840.1.113883.1.11.10637](#) **STATIC**
  - g. State is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the state **MAY** be present but **MAY** be bound to different vocabularies (CONF:10024)
  - h. PostalCode is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the postalCode **MAY** be present but **MAY** be bound to different vocabularies (CONF:10025)
  - i. **SHALL NOT** have mixed content except for white space (CONF:7296)
  - j. **SHALL** contain at least one and not more than 4 streetAddressLine (CONF:7291)
- (CONF:5422)
- b. This providerOrganization **SHALL** contain at least one [1..\*] **id** (CONF:5417)
  - c. This providerOrganization **SHALL** contain at least one [1..\*] **name** (CONF:5419)
  - d. This providerOrganization **SHALL** contain at least one [1..\*] **telecom** with @xsi:type="TEL"
    - a. **SHOULD** contain zero or one [0..1] **@use** (CONF:7994)
- (CONF:5420)
- e. This providerOrganization The id **SHOULD** include zero or one [0..1] id where id/@root="2.16.840.1.113883.4.6" National Provider Identifier (CONF:9996) (CONF:9996)
- 11. SHALL** contain at least one [1..\*] **author** (CONF:10027)
- a. Such authors **SHALL** contain exactly one [1..1] **time** (CONF:5445)
- The content SHALL be a conformant US Realm Date and Time (DTM.US.FIELDDED) (2.16.840.1.113883.10.20.22.5.4) (CONF:16866).*
- b. Such authors **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:5448)
    - a. This assignedAuthor **SHALL** contain at least one [1..\*] **addr** with @xsi:type="USRealmAddress"
      - a. **SHALL** contain exactly one [1..1] **city** (CONF:7292)
      - b. **SHOULD** contain zero or one [0..1] **country** (CONF:7295)
      - c. **SHOULD** contain zero or one [0..1] **postalCode** (CONF:7294)
      - d. **SHOULD** contain zero or one [0..1] **state** (CONF:7293)
      - e. **SHALL** contain at least one [1..\*] **streetAddressLine** (CONF:7291)
      - f. **SHOULD** contain zero or one [0..1] **@use** (CONF:7290), which **SHALL** be selected from ValueSet [PostalAddressUse 2.16.840.1.113883.1.11.10637](#) **STATIC**
      - g. State is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the state **MAY** be present but **MAY** be bound to different vocabularies (CONF:10024)
      - h. PostalCode is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the postalCode **MAY** be present but **MAY** be bound to different vocabularies (CONF:10025)
      - i. **SHALL NOT** have mixed content except for white space (CONF:7296)
      - j. **SHALL** contain at least one and not more than 4 streetAddressLine (CONF:7291)
- (CONF:5452)
- b. This assignedAuthor **SHOULD** contain zero or one [0..1] **code** (CONF:16787), which **SHOULD** be selected from ValueSet [Healthcare Provider Taxonomy \(NUCC - HIPAA\) 2.16.840.1.114222.4.11.1066](#) **DYNAMIC** (CONF:16788)
  - c. This assignedAuthor **SHALL** contain at least one [1..\*] **id** (CONF:5449)
  - d. This assignedAuthor **SHALL** contain at least one [1..\*] **telecom** with @xsi:type="TEL"



- a. **SHOULD** contain zero or one [0..1] **@use** (CONF:7995)  
(CONF:5428)
- e. This assignedAuthor contain zero or one [0..1] **assignedAuthoringDevice**
  - a. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **manufacturerModelName** (CONF:16784)
  - b. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **softwareName** (CONF:16785)
- f. This assignedAuthor contain zero or one [0..1] **assignedPerson**
  - a. This assignedPerson **SHALL** contain at least one [1..\*] **name** (CONF:16789)
- g. This assignedAuthor **SHALL** contain exactly one [1..1] assignedPerson or assignedAuthoringDevice (CONF:16790)
- h. This assignedAuthor If this assignedAuthor is an assignedPerson, the assignedAuthor **SHOULD** contain zero to one [0..1] id such that it **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.4.6"** National Provider Identifier (CONF:31135, CONF:31694)
- c. Such authors **SHALL** contain exactly one [1..1] **assignedAuthor** (CONF:10879)
  - a. This assignedAuthor **SHALL** contain exactly one [1..1] **addr** with **@xsi:type="AD"** (CONF:10040)  
  
*Required for human author; may be null for a software device*  
*NEMESIS Trace*  
*DPersonnel.04. . . / AssignedAuthor/addr/streetAddressLine*  
*DPersonnel.05 . . . / AssignedAuthor/addr/city*  
*DPersonnel.06. . . / AssignedAuthor/addr/state*  
*DPersonnel.07. . . / AssignedAuthor/addr/postalCode*  
*DPersonnel.08. . . / AssignedAuthor/addr/country*
  - b. This assignedAuthor **SHOULD** contain zero or one [0..1] **code** (CONF:16787), which **SHOULD** be selected from ValueSet *Healthcare Provider Taxonomy (NUCC - HIPAA)* 2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:16788)
  - c. This assignedAuthor **SHALL** contain exactly one [1..1] **id** (CONF:10039)  
  
*NEMESIS Trace: EOther.08 for human author; may be null for a software device*
  - d. This assignedAuthor **SHALL** contain exactly one [1..1] **telecom** with **@xsi:type="TEL"** (CONF:10041)  
  
*Required for human author; may be null for a software device*  
*NEMESIS Trace: DPersonnel.09*
- e. This assignedAuthor contain zero or one [0..1] **assignedAuthoringDevice**
  - a. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **manufacturerModelName** (CONF:16784)
  - b. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **softwareName** (CONF:16785)
- f. This assignedAuthor contain zero or one [0..1] **assignedPerson**
  - a. This assignedPerson **SHALL** contain at least one [1..\*] **name** (CONF:16789)
- g. This assignedAuthor **MAY** contain zero or one [0..1] **assignedAuthoringDevice** (CONF:10881)  
  
*One authoring device is required for the document.*
  - a. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **manufacturerModelName** (CONF:9936)  
  
*NEMESIS Trace: ERecord.02*
  - b. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **softwareName** (CONF:9999)  
  
*NEMESIS Trace: ERecord.03 and ERecord.04 (version), concatenated with an intervening caret ("^")*  
  
*One authoring device is required for the document.*
- h. This assignedAuthor **MAY** contain zero or one [0..1] **assignedPerson** (CONF:10880)

- a. This assignedPerson **SHALL** contain at least one [1..\*] **name** (CONF:5470)

*NEMESIS Trace*

*DPersonnel.01 . . . Person/name/family*

*DPersonnel.02 . . . Person/name/given*

*DPersonnel.03 . . . Person/name/given*

## 12. **SHALL** contain exactly one [1..1] **custodian** (CONF:5519)

- a. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:5520)

- a. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:5521)

- a. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **addr** with `@xsi:type="USRealmAddress"`

- a. **SHALL** contain exactly one [1..1] **city** (CONF:7292)
- b. **SHOULD** contain zero or one [0..1] **country** (CONF:7295)
- c. **SHOULD** contain zero or one [0..1] **postalCode** (CONF:7294)
- d. **SHOULD** contain zero or one [0..1] **state** (CONF:7293)
- e. **SHALL** contain at least one [1..\*] **streetAddressLine** (CONF:7291)
- f. **SHOULD** contain zero or one [0..1] **@use** (CONF:7290), which **SHALL** be selected from ValueSet *PostalAddressUse* 2.16.840.1.113883.1.11.10637 **STATIC**
- g. State is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the state **MAY** be present but **MAY** be bound to different vocabularies (CONF:10024)
- h. PostalCode is required if the country is US. If country is not specified, its assumed to be US. If country is something other than US, the postalCode **MAY** be present but **MAY** be bound to different vocabularies (CONF:10025)
- i. **SHALL NOT** have mixed content except for white space (CONF:7296)
- j. **SHALL** contain at least one and not more than 4 streetAddressLine (CONF:7291)

(CONF:5559)

- b. This representedCustodianOrganization **SHALL** contain at least one [1..\*] **id** (CONF:5522)
- c. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name** (CONF:5524)
- d. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **telecom** with `@xsi:type="TEL"`

- a. **SHOULD** contain zero or one [0..1] **@use**

(CONF:5525)

- e. This representedCustodianOrganization The id **SHOULD** include zero or one [0..1] **@root** = "2.16.840.1.113883.4.6" National Provider Identifier (CONF:9996)

- b. This custodian **SHALL** contain exactly one [1..1] **assignedCustodian** (CONF:10884)

- a. This assignedCustodian **SHALL** contain exactly one [1..1] **representedCustodianOrganization** (CONF:10885)

- a. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **addr** (CONF:10886)

*NEMESIS Trace*

*DContact.05. . . / representedCustodianOrganization/addr/streetAddressLine*

*DContact.06. . . / representedCustodianOrganization/addr/city*

*DContact.07. . . / representedCustodianOrganization/addr/county*

*DContact.08. . . / representedCustodianOrganization/addr/state*

*DContact.09. . . / representedCustodianOrganization/addr/postalCode*

*DContact.10. . . / representedCustodianOrganization/addr/country*

- b. This representedCustodianOrganization **SHALL** contain at least one [1..\*] **id** (CONF:10887)

*NEMESIS Trace: EResponse.01*

*@extension is the Agency identifier; @root, if included, the OID of the assigning body*

- c. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **name** (CONF:10888)

*NEMESIS Trace: EResponse.02*

**13. SHALL** contain exactly one [1..1] **participant** (CONF:10030)

- a. This participant **SHALL** contain exactly one [1..1] **time** with @xsi:type="TS" (CONF:11328)

*NEMESIS Trace: eTimes.12 (Destination patient transfer of care date/time)*

- b. This participant **SHALL** contain exactly one [1..1] **@typeCode="DST"** (CONF:10054)
- c. This participant contain zero or one [0..1] **associatedEntity**

- a. This associatedEntity **SHOULD** contain zero or one [0..1] **addr** (CONF:10055)

*NEMESIS Trace: EDisposition.03-07*

- b. This associatedEntity **SHALL** contain exactly one [1..1] **@classCode="SDLOC"** , which **SHALL** be selected from ValueSet **STATIC** (CONF:10901)
- c. This associatedEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *DestinationType* 2.16.840.1.113883.17.3.11.69 **DYNAMIC** (CONF:10056)

*NEMESIS Trace: EDisposition.21*

- d. This associatedEntity contains zero or more [0..\*] **id1** with @xsi:type="II"

*NEMESIS Trace: EDisposition.02*

- e. This associatedEntity contain zero or one [0..1] **scopingOrganization**
  - a. This scopingOrganization **SHALL** contain exactly one [1..1] **name** (CONF:10057)

*NEMESIS Trace: EDisposition.01*

**14. SHALL** contain exactly one [1..1] **documentationOf** (CONF:10028)

- a. This documentationOf **SHALL** contain exactly one [1..1] **serviceEvent** (CONF:10889)

- a. This serviceEvent **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *ServiceType* 2.16.840.1.113883.17.3.11.79 **DYNAMIC** (CONF:10051)

*NEMESIS Trace: EResponse.05, type of service requested*

- b. This serviceEvent **SHALL** contain exactly one [1..1] **id** (CONF:10890)

*NEMESIS Trace: EReponse.03*

*id/@extension is the incident number assigned by the 911 Dispatch System, where the id/@root SHOULD be the OID of the dispatching organization*

- c. This serviceEvent **SHALL** contain at least one [1..\*] **performer** (CONF:10891)
  - a. Such performers **SHALL** contain exactly one [1..1] **functionCode**, which **SHALL** be selected from ValueSet *ProviderResponseRole* 2.16.840.1.113883.17.3.11.80 **DYNAMIC** (CONF:10052)

*NEMESIS Trace: ECrew.03*

- b. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:10892)
  - a. This assignedEntity **SHALL** contain exactly one [1..1] **addr** (CONF:10895)

*NEMESIS Trace*

*DPersonnel.04 . . . / assignedentity /addr/streetAddressLine*

*DPersonnel.05 . . . / assignedentity /addr/city*

*DPersonnel.06 . . . / assignedentity /addr/state*

*DPersonnel.07 . . . / assignedentity /addr/postalCode*

*DPersonnel.08 . . . / assignedentity /addr/country*

- b. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:10893), which **SHALL** be selected from ValueSet [CrewRoleLevel](#) 2.16.840.1.113883.17.3.11.81 **DYNAMIC** (CONF:10053)

*NEMESIS Trace: ECrew.02*

- c. This assignedEntity **SHALL** contain at least one [1..\*] **id** (CONF:10894)

*NEMESIS Trace: ECrew.01*

- d. This assignedEntity **SHALL** contain exactly one [1..1] **telecom** (CONF:10896)

*NEMESIS Trace: DPersonnel.09*

- e. This assignedEntity **SHALL** contain exactly one [1..1] **assignedPerson** (CONF:10897)

- a. This assignedPerson **SHALL** contain exactly one [1..1] **name** (CONF:10898)

*NEMESIS Trace*

*DPersonnel.01 Last: @ENXP="FAM"*

*DPersonnel.02 First: @ENXP="GIV"*

*DPersonnel.03 Middle: @ENXP="GIV"*

**15. MAY** contain zero or one [0..1] **relatedDocument** (CONF:10029)

- a. This relatedDocument contain exactly one [1..1] **@typeCode="RPLC"**
- b. This relatedDocument **MAY** contain zero or one [0..1] **parentDocument** (CONF:10899)
  - a. This parentDocument **SHALL** contain exactly one [1..1] **id** (CONF:10900)

*NEMESIS Trace: ERecord.01*

**16. SHALL** contain exactly one [1..1] **componentOf** (CONF:9955)

- a. This componentOf **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CONF:10042)
- b. This componentOf **SHALL** contain exactly one [1..1] **encompassingEncounter** (CONF:10882)
  - a. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10043)

*NEMESIS Trace: ETimes.03, the date the responding unit was notified by dispatch*

- b. This encompassingEncounter **SHALL** contain exactly one [1..1] **id** (CONF:11326)

*NEMESIS Trace: eResponse.04 (response number)*

- c. This encompassingEncounter **SHALL** contain exactly one [1..1] **location** (CONF:10883)
  - a. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:10044)
    - a. This healthCareFacility **SHALL** contain exactly one [1..1] **code** (CONF:11381), which **SHALL** be selected from ValueSet [UnitResponseRole](#) 2.16.840.1.113883.17.3.11.82 **DYNAMIC** (CONF:10047)

*NEMESIS Trace: EResponse.07*

- b. This healthCareFacility **SHALL** contain at least one [1..\*] **id** (CONF:10045)

*NEMESIS Trace: eResponse.13 (EMS vehicle/unit number), eResponse.14 (EMS unit call sign)*

- c. This healthCareFacility **SHALL** contain exactly one [1..1] **location** (CONF:10046)

- a. This location **MAY** contain zero or one [0..1] **addr** (CONF:10049)

*NEMESIS Trace: EScene.15-21*

- b. This location **SHALL** contain exactly one [1..1] **@classCode="PLC"** (CONF:10050)
- c. This location **MAY** contain zero or one [0..1] **name** (CONF:10048)

*NEMESIS Trace: EScene.13*

- d. This encompassingEncounter **MAY** contain zero or more [0..\*] **encounterParticipant** (CONF:11325)

- a. Such encounterParticipants **SHALL** contain exactly one [1..1] **@typeCode="CON"** , which **SHALL** be selected from (CONF:11327)
- b. Such encounterParticipants contain exactly one [1..1] **assignedEntity**
  - a. This assignedEntity contain exactly one [1..1] **@classCode="ASSIGNED"**
  - b. This assignedEntity contain exactly one [1..1] **representedOrganization** {subsets Assigned Entity::representedOrganization}
    - a. This representedOrganization contain exactly one [1..1] **name**

*NEMSIS Trace: eScene.02, other agency (ies) at scene*

**17. SHALL** contain [1..1] **component** (CONF:10008)

- a. Contains exactly one [1..1] *EMS Current Medication Section* (templateId: 2.16.840.1.113883.17.3.10.1.15)

**18. MAY** contain [0..1] **component** (CONF:10009)

- a. Contains exactly one [1..1] *EMS Cardiac Arrest Event Section* (templateId: 2.16.840.1.113883.17.3.10.1.14)

**19. SHOULD** contain [0..1] **component** (CONF:10010)

- a. Contains exactly one [1..1] *EMS Advance Directives Section* (templateId: 2.16.840.1.113883.17.3.10.1.12)

**20. SHALL** contain [1..1] **component** (CONF:10011)

- a. Contains exactly one [1..1] *EMS Allergies And Adverse Reactions Section* (templateId: 2.16.840.1.113883.17.3.10.1.13)

**21. SHALL** contain [1..1] **component** (CONF:10012)

- a. Contains exactly one [1..1] *EMS Past Medical History Section* (templateId: 2.16.840.1.113883.17.3.10.1.19)

**22. SHALL** contain [1..1] **component** (CONF:10013)

- a. Contains exactly one [1..1] *EMS Social History Section* (templateId: 2.16.840.1.113883.17.3.10.1.22)

**23. SHALL** contain [1..1] **component** (CONF:10014)

- a. Contains exactly one [1..1] *EMS Physical Assessment Section* (templateId: 2.16.840.1.113883.17.3.10.1.20)

**24. MAY** contain [0..1] **component** (CONF:10015)

- a. Contains exactly one [1..1] *EMS Medications Administered Section* (templateId: 2.16.840.1.113883.17.3.10.1.18)

**25. SHALL** contain [1..1] **component** (CONF:10016)

- a. Contains exactly one [1..1] *EMS Procedures Performed Section* (templateId: 2.16.840.1.113883.17.3.10.1.21)

**26. SHALL** contain [1..1] **component** (CONF:10017)

- a. Contains exactly one [1..1] *EMS Patient Care Narrative Section* (templateId: 2.16.840.1.113883.17.3.10.1.1)

**27. SHALL** contain [1..1] **component** (CONF:10018)

- a. Contains exactly one [1..1] *EMS Scene Section* (templateId: 2.16.840.1.113883.17.3.10.1.8)

**28. SHALL** contain [1..1] **component** (CONF:10019)

- a. Contains exactly one [1..1] *EMS Dispatch Section* (templateId: 2.16.840.1.113883.17.3.10.1.2)

**29. MAY** contain [0..1] **component** (CONF:10020)

- a. Contains exactly one [1..1] *EMS Disposition Section* (templateId: 2.16.840.1.113883.17.3.10.1.4)

**30. SHALL** contain [1..1] **component** (CONF:10021)

- a. Contains exactly one [1..1] *EMS Personnel Adverse Event Section* (templateId: 2.16.840.1.113883.17.3.10.1.6)
- 31. **SHALL** contain [1..1] **component** (CONF:10022)
  - a. Contains exactly one [1..1] *EMS Protocol Section* (templateId: 2.16.840.1.113883.17.3.10.1.7)
- 32. **SHALL** contain [1..1] **component** (CONF:10023)
  - a. Contains exactly one [1..1] *EMS Response Section* (templateId: 2.16.840.1.113883.17.3.10.1.3)
- 33. **SHALL** contain [1..1] **component** (CONF:10024)
  - a. Contains exactly one [1..1] *EMS Situation Section* (templateId: 2.16.840.1.113883.17.3.10.1.9)
- 34. **MAY** contain [0..1] **component** (CONF:10025)
  - a. Contains exactly one [1..1] *EMS Times Section* (templateId: 2.16.840.1.113883.17.3.10.1.10)
- 35. **SHALL** contain [1..1] **component** (CONF:10026)
  - a. Contains exactly one [1..1] *EMS Vital Signs Section* (templateId: 2.16.840.1.113883.17.3.10.1.23)
- 36. **SHALL** contain [1..1] **component** (CONF:10869)
  - a. Contains exactly one [1..1] *EMS Injury Incident Description Section* (templateId: 2.16.840.1.113883.17.3.10.1.17)
- 37. **SHOULD** contain [0..\*] **component** (CONF:11318)
  - a. Contains exactly one [1..1] *EMS Billing Section* (templateId: 2.16.840.1.113883.17.3.10.1.5)



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# Chapter

# 3

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## SECTION TEMPLATES

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### Topics:

- *EMS Advance Directives Section*
- *EMS Allergies And Adverse Reactions Section*
- *EMS Billing Section*
- *EMS Cardiac Arrest Event Section*
- *EMS Current Medication Section*
- *EMS Dispatch Section*
- *EMS Disposition Section*
- *EMS Injury Incident Description Section*
- *EMS Medications Administered Section*
- *EMS Past Medical History Section*
- *EMS Patient Care Narrative Section*
- *EMS Personnel Adverse Event Section*
- *EMS Physical Assessment Section*
- *EMS Procedures Performed Section*
- *EMS Protocol Section*
- *EMS Response Section*
- *EMS Scene Section*
- *EMS Situation Section*
- *EMS Social History Section*
- *EMS Times Section*
- *EMS Vital Signs Section*



## EMS Advance Directives Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.12]

*Information regarding patient advance directives*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.12"
2. **SHALL** contain exactly one [1..1] **code/@code**="67840-9" *EMS advance directives Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10191)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS advance directives Narrative NEMESIS" (CONF:10944)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10945)
5. If section/@nullFlavor is not present, **SHALL** contain [1..\*] **entry** (CONF:10946)
  - a. Contains exactly one [1..1] *Advance Directive Observation* (templateId: 2.16.840.1.113883.17.3.10.1.98)

## EMS Allergies And Adverse Reactions Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.13]

*Information regarding patient allergies and sensitivities*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.13"
2. **SHALL** contain exactly one [1..1] **code/@code**="48765-2" *Allergies and adverse reactions Document* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10196)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Allergies and Adverse Reactions" (CONF:10948)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10949)
5. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10953)
  - a. Contains exactly one [1..1] *Non Drug Allergy Organizer* (templateId: 2.16.840.1.113883.17.3.10.1.49)
6. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11319)
  - a. Contains exactly one [1..1] *Drug Allergy Organizer* (templateId: 2.16.840.1.113883.17.3.10.1.183)

## EMS Billing Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.5]

*Information pertinent to billing processes*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.5"
2. **SHALL** contain exactly one [1..1] **code/@code**="67659-3" *EMS billing Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10080)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Billing Section" (CONF:10907)

4. **SHALL** contain exactly one [1..1] **text** (CONF:10909)
5. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10910)
  - a. Contains exactly one [1..1] *Billing Condition* (templateId: 2.16.840.1.1133883.17.3.10.1.91)
6. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10912)
  - a. Contains exactly one [1..1] *Level Of Service Observation* (templateId: 2.16.840.1.1133883.17.3.10.1.92)

## EMS Cardiac Arrest Event Section

---

[Section: templateId 2.16.840.1.1133883.17.3.10.1.14]

*Information regarding a cardiac arrest*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.14"
2. **SHALL** contain exactly one [1..1] **code/@code**="67799-7" *EMS cardiac arrest event Narrative NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10134)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Cardiac Arrest Event" (CONF:10937)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10938)
5. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10939)
  - a. Contains exactly one [1..1] *Cardiac Arrest* (templateId: 2.16.840.1.1133883.17.3.10.1.27)

## EMS Current Medication Section

---

[Section: templateId 2.16.840.1.1133883.17.3.10.1.15]

*Information regarding a patient's current medications*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.15"
2. **SHALL** contain exactly one [1..1] **code/@code**="67844-1" *EMS current medications Narrative NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10955)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Current Medications Section" (CONF:10219)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10957)
5. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10958)
  - a. Contains exactly one [1..1] *Currently On Medication* (templateId: 2.16.840.1.1133883.17.3.10.1.75)
6. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10960)
  - a. Contains exactly one [1..1] *Patient On Anticoagulants* (templateId: 2.16.840.1.1133883.17.3.10.1.76)
7. If section/@nullFlavor is not present, **SHALL** contain [0..\*] **entry** (CONF:10962)
  - a. Contains exactly one [1..1] *Current Medication* (templateId: 2.16.840.1.1133883.17.3.10.1.77)

## EMS Dispatch Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.2]

*Information regarding the dispatch process*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.2"
2. **SHALL** contain exactly one [1..1] **code**/**@code**="67660-1" *EMS dispatch Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10556)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Dispatch" (CONF:10558)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10557)
5. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:10991)
  - a. Contains exactly one [1..1] *Emergency Medical Dispatch Observation* (templateId: 2.16.840.1.113883.17.3.10.1.73)
6. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:10993)
  - a. Contains exactly one [1..1] *Complaint Reported By Dispatch* (templateId: 2.16.840.1.113883.17.3.10.1.74)

## EMS Disposition Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.4]

*Information regarding the disposition of the patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.4"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10652)/**@code**="67661-9" *EMS disposition Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10651)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Disposition" (CONF:10654)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10653)
5. If section/**@nullFlavor** is not present, **SHALL** contain [0..1] **entry** (CONF:11003)
  - a. Contains exactly one [1..1] *Number Of Patients Transported Observation* (templateId: 2.16.840.1.113883.17.3.10.1.31)
6. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11005)
  - a. Contains exactly one [1..1] *Incident Disposition Observation* (templateId: 2.16.840.1.113883.17.3.10.1.32)
7. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11007)
  - a. Contains exactly one [1..1] *Transport Mode Observation* (templateId: 2.16.840.1.113883.17.3.10.1.33)
8. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11009)
  - a. Contains exactly one [1..1] *Transport Method Observation* (templateId: 2.16.840.1.113883.17.3.10.1.34)
9. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11011)
  - a. Contains exactly one [1..1] *Reason For Choosing Destination Observation* (templateId: 2.16.840.1.113883.17.3.10.1.35)
10. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11013)

- a. Contains exactly one [1..1] *Preadmission Activation Observation* (templateId: 2.16.840.1.1133883.17.3.10.1.36)
- 11. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11015)
  - a. Contains exactly one [1..1] *Patient Condition At Destination Observation* (templateId: 2.16.840.1.1133883.17.3.10.1.37)
- 12. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11330)
  - a. Contains exactly one [1..1] *Primary Destination Hospital Capability* (templateId: 2.16.840.1.1133883.17.3.10.1.104)
- 13. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11331)
  - a. Contains exactly one [1..1] *Destination Ward* (templateId: 2.16.840.1.1133883.17.3.10.1.186)

## EMS Injury Incident Description Section

---

[Section: templateId 2.16.840.1.1133883.17.3.10.1.17]

*Observations concerning a patient's injury mechanism*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.17"
2. **SHALL** contain exactly one [1..1] **code/@code**="67800-3" *EMS injury incident description Narrative NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10094)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "Injury Incident Description Section" (CONF:10914)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10916)
5. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10917)
  - a. Contains exactly one [1..1] *Injury Cause Category* (templateId: 2.16.840.1.1133883.17.3.10.1.50)
6. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10919)
  - a. Contains exactly one [1..1] *Injury Mechanism* (templateId: 2.16.840.1.1133883.17.3.10.1.51)
7. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10921)
  - a. Contains exactly one [1..1] *Trauma Center Criteria* (templateId: 2.16.840.1.1133883.17.3.10.1.52)
8. If section/@nullFlavor is not present, **SHALL** contain [1..\*] **entry** (CONF:10923)
  - a. Contains exactly one [1..1] *Injury Risk Factor* (templateId: 2.16.840.1.1133883.17.3.10.1.53)
9. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10925)
  - a. Contains exactly one [1..1] *Vehicle Impact Area* (templateId: 2.16.840.1.1133883.17.3.10.1.54)
10. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10927)
  - a. Contains exactly one [1..1] *Patient Location In Vehicle* (templateId: 2.16.840.1.1133883.17.3.10.1.55)
11. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10929)
  - a. Contains exactly one [1..1] *Vehicle Occupant Safety Equipment* (templateId: 2.16.840.1.1133883.17.3.10.1.56)
12. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10931)
  - a. Contains exactly one [1..1] *Airbag Deployment Status* (templateId: 2.16.840.1.1133883.17.3.10.1.57)
13. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10933)
  - a. Contains exactly one [1..1] *Height Of Fall* (templateId: 2.16.840.1.1133883.17.3.10.1.58)

14. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:10935)

- a. Contains exactly one [1..1] *Disaster Type* (templateId: 2.16.840.1.113883.17.3.10.1.59)

## EMS Medications Administered Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.18]

*Collection of information regarding the administration of medications*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.18"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10439)/**@code**="67849-0" *EMS medications administered Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10987)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "Medications Administered Section" (CONF:10442)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10441)
5. If section/@nullFlavor is not present, **SHALL** contain [0..\*] **entry** (CONF:10989)
  - a. Contains exactly one [1..1] *Medication Administered* (templateId: 2.16.840.1.113883.17.3.10.1.72)

## EMS Past Medical History Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.19]

*Collection of information regarding the patient's medical history*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.19"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10059)/**@code**="67842-5" *EMS past medical history Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10058)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Past Medical History" (CONF:10060)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10902)
5. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10903)
  - a. Contains exactly one [1..1] *Existence Of History Of Condition* (templateId: 2.16.840.1.113883.17.3.10.1.60)
6. If section/@nullFlavor is not present, **SHALL** contain [0..\*] **entry** (CONF:10905)
  - a. Contains exactly one [1..1] *History Of Condition* (templateId: 2.16.840.1.113883.17.3.10.1.61)

## EMS Patient Care Narrative Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.1]

*A narrative description of the EMS encounter*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.1"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10551)/**@code**="67781-5" *Summarization of encounter note Narrative* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10552)

3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Patient Care Report Narrative" (CONF:10554)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10553)
  - *NEMESIS Trace: ENarrative.01*

## EMS Personnel Adverse Event Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.6]

*Information regarding adverse events affecting EMS personnel*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.6"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10698)/**@code**="67658-5" *EMS exposures or injuries of EMS personnel Provider Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10697)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "Exposures or Injuries of EMS Personnel" (CONF:10700)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10699)
5. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11017)
  - a. Contains exactly one [1..1] *Adverse Event Indicator* (templateId: 2.16.840.1.113883.17.3.10.1.89)
6. If section/**@nullFlavor** is not present, **SHALL** contain [0..\*] **entry** (CONF:11019)
  - a. Contains exactly one [1..1] *Adverse Event Type Observation* (templateId: 2.16.840.1.113883.17.3.10.1.90)

## EMS Physical Assessment Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.20]

*A collection of qualitative assessments of the patient's physical condition and other facts*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.20"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10337)/**@code**="29545-1" *Physical findings Narrative* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10336)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Physical Assessment Section" (CONF:10339)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10338)
5. If section/**@nullFlavor** is not present, **SHALL** contain [0..\*] **entry** (CONF:10975)
  - a. Contains exactly one [1..1] *Physical Assessment Organizer* (templateId: 2.16.840.1.113883.17.3.10.1.78)
6. If section/**@nullFlavor** is not present, **SHALL** contain [0..1] **entry** (CONF:10977)
  - a. Contains exactly one [1..1] *Patient Pregnancy* (templateId: 2.16.840.1.113883.17.3.10.1.79)
7. If section/**@nullFlavor** is not present, **SHALL** contain [0..1] **entry** (CONF:10979)
  - a. Contains exactly one [1..1] *Last Oral Intake* (templateId: 2.16.840.1.113883.17.3.10.1.80)
8. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:10981)



- a. Contains exactly one [1..1] *Patient Age* (templateId: 2.16.840.1.1133883.17.3.10.1.81)
- 9. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10983)
  - a. Contains exactly one [1..1] *Thrombolytic Contraindications* (templateId: 2.16.840.1.1133883.17.3.10.1.82)
- 10. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10985)
  - a. Contains exactly one [1..1] *Barriers To Patient Care* (templateId: 2.16.840.1.1133883.17.3.10.1.83)
- 11. contain zero or one [0..1] **bodyWeight** {subsets Section::entry}
  - a. This bodyWeight **SHALL** contain exactly one [1..1] **observation**, where its type is *Patient Body Weight* (CONF:11099)
- 12. contain zero or one [0..1] **lengthBasedBodyWeight** {subsets Section::entry}
  - a. This lengthBasedBodyWeight **SHALL** contain exactly one [1..1] **observation**, where its type is *Length Based Patient Body Weight Class* (CONF:11100)

## EMS Procedures Performed Section

---

[Section: templateId 2.16.840.1.1133883.17.3.10.1.21]

*Information regarding procedures performed by the EMS personnel or by others prior to EMS unit arrival*

- 1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.21"
- 2. **SHALL** contain exactly one [1..1] **code** (CONF:10490)/**@code**="29554-3" *Procedure Narrative* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10489)
- 3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Procedures Performed" (CONF:10492)
- 4. **SHALL** contain exactly one [1..1] **text** (CONF:10491)
- 5. If section/@nullFlavor is not present, **MAY** contain [0..\*] **entry** (CONF:6277)
  - a. Contains exactly one [1..1] *Procedure* (templateId: 2.16.840.1.1133883.17.3.10.1.181)

## EMS Protocol Section

---

[Section: templateId 2.16.840.1.1133883.17.3.10.1.7]

*Information about the protocol used by EMS personnel to direct the clinical care of the patient*

- 1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.7"
- 2. **SHALL** contain exactly one [1..1] **code**/**@code**="67663-5" *EMS protocol Narrative NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10713)
- 3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Protocol Section" (CONF:11021)
- 4. **SHALL** contain exactly one [1..1] **text** (CONF:11023)
- 5. If section/@nullFlavor is not present, **SHALL** contain [1..\*] **entry** (CONF:11024)
  - a. Contains exactly one [1..1] *Protocol Observation* (templateId: 2.16.840.1.1133883.17.3.10.1.93)
- 6. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:11026)
  - a. Contains exactly one [1..1] *Candidate Patient Registry Type* (templateId: 2.16.840.1.1133883.17.3.10.1.94)

## EMS Response Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.3]

*Information regarding the EMS crew's response to dispatch*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.3"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10573)/**@code**="67664-3" *EMS response Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10572)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Response" (CONF:10575)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10574)
5. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:10995)
  - a. Contains exactly one [1..1] *Delay Organizer* (templateId: 2.16.840.1.113883.17.3.10.1.95)
6. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:10997)
  - a. Contains exactly one [1..1] *Dispatch Location Organizer* (templateId: 2.16.840.1.113883.17.3.10.1.96)
7. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:10999)
  - a. Contains exactly one [1..1] *Response Odometer Reading Organizer* (templateId: 2.16.840.1.113883.17.3.10.1.97)
8. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11001)
  - a. Contains exactly one [1..1] *Response Mode To Scene* (templateId: 2.16.840.1.113883.17.3.10.1.182)
9. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11329)
  - a. Contains exactly one [1..1] *Unit Level Of Care Capability* (templateId: 2.16.840.1.113883.17.3.10.1.190)

## EMS Scene Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.8]

*Information about the environment in which the patient is found*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.8"
2. **SHALL** contain exactly one [1..1] **code**/**@code**="67665-0" *EMS scene Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10732)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Scene" (CONF:10734)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10733)
5. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11028)
  - a. Contains exactly one [1..1] *First Unit Indicator* (templateId: 2.16.840.1.113883.17.3.10.1.84)
6. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11032)
  - a. Contains exactly one [1..1] *Scene Patient Count* (templateId: 2.16.840.1.113883.17.3.10.1.86)
7. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11034)
  - a. Contains exactly one [1..1] *Mass Casualty Indicator* (templateId: 2.16.840.1.113883.17.3.10.1.87)
8. If section/**@nullFlavor** is not present, **SHALL** contain [1..1] **entry** (CONF:11036)



- a. Contains exactly one [1..1] *Location Type Observation* (templateId: 2.16.840.1.113883.17.3.10.1.88)

## EMS Situation Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.9]

*Information about patient symptoms and complaints*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.9"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10755)/**@code**="67666-8" *EMS situation Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10756)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Situation Section" (CONF:10758)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10757)
5. If section/@nullFlavor is not present, **SHALL** contain [1..\*] **entry** (CONF:11039)
  - a. Contains exactly one [1..1] *Complaint* (templateId: 2.16.840.1.113883.17.3.10.1.63)
6. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11041)
  - a. Contains exactly one [1..1] *Possible Injury* (templateId: 2.16.840.1.113883.17.3.10.1.64)
7. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11043)
  - a. Contains exactly one [1..1] *Provider Primary Impression* (templateId: 2.16.840.1.113883.17.3.10.1.65)
8. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11045)
  - a. Contains exactly one [1..1] *Primary Symptom* (templateId: 2.16.840.1.113883.17.3.10.1.66)
9. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11047)
  - a. Contains exactly one [1..1] *Other Symptoms* (templateId: 2.16.840.1.113883.17.3.10.1.67)
10. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11049)
  - a. Contains exactly one [1..1] *Provider Secondary Impressions* (templateId: 2.16.840.1.113883.17.3.10.1.68)
11. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11051)
  - a. Contains exactly one [1..1] *Initial Patient Acuity* (templateId: 2.16.840.1.113883.17.3.10.1.69)

## EMS Social History Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.22]

*Information about the patient's social environment*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.22"
2. **SHALL** contain exactly one [1..1] **code** (CONF:10241)/**@code**="67843-3" *EMS social history Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10240)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Social History" (CONF:10243)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10964)
5. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:10965)

- a. Contains exactly one [1..1] *Existence Of Drug Use Indication* (templateId: 2.16.840.1.113883.17.3.10.1.70)
- 6. If section/@nullFlavor is not present, **SHALL** contain [0..\*] **entry** (CONF:10967)
  - a. Contains exactly one [1..1] *Drug Use Indication* (templateId: 2.16.840.1.113883.17.3.10.1.71)

## EMS Times Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.10]

*Set of times for defined events in the EMS trip*

Contained By	Contains
<i>Patient Care Report</i>	<i>Call Time</i>
	<i>Dispatch Notified Time</i>
	<i>Patient Arrived At Destination Time</i>
	<i>Unit At Patient Time</i>
	<i>Unit Back In Service Time</i>
	<i>Unit En Route Time</i>
	<i>Unit Left Scene Time</i>
	<i>Unit Notified Time</i>
	<i>Unit On Scene Time</i>

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.10"
2. **SHALL** contain exactly one [1..1] **code/@code**="67667-6" *EMS times Narrative NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10820)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Times" (CONF:10822)
4. **SHALL** contain exactly one [1..1] **text** (CONF:10821)
5. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11053)
  - a. Contains exactly one [1..1] *Call Time* (templateId: 2.16.840.1.113883.17.3.10.1.38)
6. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11055)
  - a. Contains exactly one [1..1] *Unit Notified Time* (templateId: 2.16.840.1.113883.17.3.10.1.39)
7. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11057)
  - a. Contains exactly one [1..1] *Unit En Route Time* (templateId: 2.16.840.1.113883.17.3.10.1.40)
8. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11059)
  - a. Contains exactly one [1..1] *Unit On Scene Time* (templateId: 2.16.840.1.113883.17.3.10.1.41)
9. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11061)
  - a. Contains exactly one [1..1] *Unit At Patient Time* (templateId: 2.16.840.1.113883.17.3.10.1.42)
10. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11063)
  - a. Contains exactly one [1..1] *Unit Left Scene Time* (templateId: 2.16.840.1.113883.17.3.10.1.43)
11. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11065)
  - a. Contains exactly one [1..1] *Patient Arrived At Destination Time* (templateId: 2.16.840.1.113883.17.3.10.1.44)

12. If section/@nullFlavor is not present, **SHALL** contain [1..1] **entry** (CONF:11067)

- a. Contains exactly one [1..1] *Unit Back In Service Time* (templateId: 2.16.840.1.113883.17.3.10.1.45)

13. If section/@nullFlavor is not present, **SHALL** contain [0..1] **entry** (CONF:11069)

- a. Contains exactly one [1..1] *Dispatch Notified Time* (templateId: 2.16.840.1.113883.17.3.10.1.46)

#### EMS Times Section example

```
Error: Missing Runtime Class
```

## EMS Vital Signs Section

---

[Section: templateId 2.16.840.1.113883.17.3.10.1.23]

*Collection of vital signs and other observations about the patient's status*

1. **SHALL** contain exactly one [1..1] templateId such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.23"

2. **SHALL** contain exactly one [1..1] **code/@code**="8716-3" *Vital Signs* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10252)

3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Vital Signs" (CONF:10254)

4. **SHALL** contain exactly one [1..1] **text** (CONF:10969)

5. If section/@nullFlavor is not present, **SHALL** contain [1..\*] **entry** (CONF:10970)

- a. Contains exactly one [1..1] *Vital Signs Organizer* (templateId: 2.16.840.1.113883.17.3.10.1.28)

---

# Chapter

# 4

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## CLINICAL STATEMENT TEMPLATES

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### Topics:

- *Abandoned Procedure Reason Observation*
- *Abdomen Assessment*
- *Advance Directive Observation*
- *Adverse Event Indicator*
- *Adverse Event Type Observation*
- *Airbag Deployment Status*
- *Airway Confirmation Observation*
- *Arrest Rhythm*
- *Back And Spine Assessment*
- *Barriers To Patient Care*
- *Billing Condition*
- *Blood Glucose*
- *Body Temperature*
- *Call Time*
- *Candidate Patient Registry Type*
- *Carbon Dioxide*
- *Carbon Monoxide*
- *Cardiac Arrest*
- *Cardiac Arrest Cause*
- *Cardiac Arrest Outcome*
- *Cardiac Arrest Timing*
- *Cardiac Rhythm*
- *Chest And Lungs Assessment*
- *Complaint*
- *Complaint Duration*
- *Complaint Organ System*
- *Complaint Reported By Dispatch*
- *Complaint Type*
- *Current Medication*
- *Currently On Medication*
- *Delay Organizer*
- *Destination Rhythm*

This section of the Implementation Guide details the clinical statement entries referenced in the document section templates. The clinical statement entry templates are arranged alphabetically.

- *Destination Ward*
- *Diastolic Blood Pressure*
- *Disaster Type*
- *Dispatch Delay*
- *Dispatch Location Latitude*
- *Dispatch Location Longitude*
- *Dispatch Location Name*
- *Dispatch Location Organizer*
- *Dispatch Notified Time*
- *Drug Allergy*
- *Drug Allergy Organizer*
- *Drug Use Indication*
- *Emergency Medical Dispatch Observation*
- *Existence Of Drug Allergy Observation*
- *Existence Of Drug Use Indication*
- *Existence Of History Of Condition*
- *Existence Of Non Drug Allergy*
- *Extremities Assessment*
- *Eye Assessment*
- *Face Assessment*
- *First Unit Indicator*
- *Glasgow Coma Score Organizer*
- *Glasgow Eye*
- *Glasgow Motor*
- *Glasgow Qualifier*
- *Glasgow Total*
- *Glasgow Verbal*
- *Head Assessment*
- *Heart Assessment*
- *Heart Rate*
- *Height Of Fall*
- *History Of Condition*
- *Incident Disposition Observation*
- *Initial Patient Acuity*
- *Injury Cause Category*
- *Injury Mechanism*
- *Injury Risk Factor*
- *Last Oral Intake*
- *Length Based Patient Body Weight Class*
- *Level Of Responsiveness*
- *Level Of Service Observation*
- *Location Type Observation*

- *Mass Casualty Indicator*
- *Medication Administered*
- *Medication Complication Observation*
- *Medication Not Administered Reason Observation*
- *Medication Prior Administration Observation*
- *Medication Response Observation*
- *Mental Status Assessment*
- *Neck Assessment*
- *Neurological Assessment*
- *Non Drug Allergy*
- *Non Drug Allergy Organizer*
- *Number Of Patients Transported Observation*
- *Other Symptoms*
- *Oxygen Saturation*
- *Pain Score*
- *Patient Age*
- *Patient Arrived At Destination Time*
- *Patient Body Weight*
- *Patient Condition At Destination Observation*
- *Patient Location In Vehicle*
- *Patient On Anticoagulants*
- *Patient Pregnancy*
- *Pelvic And Genitourinary Assessment*
- *Physical Assessment Organizer*
- *Possible Injury*
- *Preadmission Activation Observation*
- *Primary Destination Hospital Capability*
- *Primary Symptom*
- *Prior AED Use*
- *Prior Aid Vitals*
- *Prior CPR*
- *Procedure*
- *Procedure Complications Observation*
- *Procedure Number Of Attempts Observation*
- *Procedure Patient Response Observation*
- *Procedure Prior Indicator*

- *Procedure Successful Observation*
- *Protocol Age Category*
- *Protocol Observation*
- *Provider Primary Impression*
- *Provider Secondary Impressions*
- *Reason For Choosing Destination Observation*
- *Reason Procedure Not Attempted Observation*
- *Respiratory Rate*
- *Response Beginning Odometer Reading*
- *Response Delay*
- *Response Destination Odometer Reading*
- *Response Ending Odometer Reading*
- *Response Mode Qualifier*
- *Response Mode To Scene*
- *Response Odometer Reading Organizer*
- *Response On Scene Odometer Reading*
- *Return Of Spontaneous Circulation*
- *Scene Delay*
- *Scene Patient Count*
- *Skin Assessment*
- *Stroke Score*
- *Systolic Blood Pressure*
- *Thrombolytic Contraindications*
- *Transport Delay*
- *Transport Method Observation*
- *Transport Mode Observation*
- *Transport Mode Qualifier*
- *Trauma Center Criteria*
- *Turnaround Delay*
- *Unit At Patient Time*
- *Unit Back In Service Time*
- *Unit En Route Time*
- *Unit Left Scene Time*
- *Unit Level Of Care Capability*
- *Unit Notified Time*
- *Unit On Scene Time*
- *Vehicle Impact Area*
- *Vehicle Occupant Safety Equipment*

- *Vital Signs Organizer* |



## Abandoned Procedure Reason Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.130]

*An explanation of why efforts to conduct a procedure were abandoned*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.130"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11255)
3. **SHALL** contain exactly one [1..1] code (CONF:10512)/@code="ASSERTION" *Assertion* (CodeSystem: 2.16.840.1.1133883.5.4 HL7ActCode) (CONF:10511)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10514), which **SHALL** be selected from ValueSet [ResuscitationDiscontinueReason](#) 2.16.840.1.1133883.17.3.11.62 **DYNAMIC** (CONF:10513)
  - NEMESIS Trace: EArrest.16 (Reason CPR/resuscitation discontinued)

## Abdomen Assessment

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.117]

*Qualitative assessment of condition of patient's abdomen*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.117"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11234)
3. **SHALL** contain exactly one [1..1] code/@code="67530-6" *Physical findings of Abdomen NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10387)
4. **SHALL** contain exactly one [1..1] effectiveTime (CONF:11235)
  - NEMESIS Trace: EExam.03
5. **SHALL** contain zero or more [0..\*] value with @xsi:type="CD", which **SHALL** be selected from ValueSet [AbdomenAssessmentFinding](#) 2.16.840.1.1133883.17.3.11.31 **DYNAMIC** (CONF:10388)
  - NEMESIS Trace: EExam.11
6. **SHALL** contain zero or one [0..1] targetSiteCode, which **SHALL** be selected from ValueSet [AbdominalFindingLocation](#) 2.16.840.1.1133883.17.3.11.32 **DYNAMIC** (CONF:10389)
  - NEMESIS Trace: EExam.10

## Advance Directive Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.98]

*Whether an advance directive exists and how it is expressed*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.98"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11152)

3. **SHALL** contain exactly one [1..1] **code**/**@code**="67516-5" *Advance directive NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10194)
  - *NEMESIS Trace: EHistory:05*
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:11153), which **SHALL** be selected from ValueSet *AdvanceDirectiveType* 2.16.840.1.113883.17.3.11.63 **DYNAMIC** (CONF:11154)

## Adverse Event Indicator

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.89]

*Indication of whether an adverse event occurred involving EMS personnel*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.89"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11204)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10705)/**@code**="67554-6" *Work related exposure, injury, or death Provider NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10706)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10707)
  - *NEMESIS Trace: EOther:05*

## Adverse Event Type Observation

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.90]

*Kind of adverse event involving EMS personnel*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.90"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11205)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10710)/**@code**="67555-3" *Work related exposure, injury, or death Provider NEMESIS type* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10709)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10711), which **SHALL** be selected from ValueSet *ProviderAdverseEventType* 2.16.840.1.113883.17.3.11.72 **DYNAMIC** (CONF:10712)
  - *NEMESIS Trace: EOther:06*

## Airbag Deployment Status

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.57]

*Airbag presence, deployment, and location*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.57"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11162)

3. **SHALL** contain exactly one [1..1] **code/@code**="67500-9" *Airbag deployment NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10126)
4. **SHALL** contain at least one [1..\*] **value** with @xsi:type="CD" (CONF:11163), which **SHALL** be selected from ValueSet *AirbagStatus* 2.16.840.1.113883.17.3.11.8 **DYNAMIC** (CONF:10127)
  - *NEMESIS Trace: EInjury.08*

## Airway Confirmation Observation

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.175]

*Whether airway placement was confirmed, including time and method*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.175"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11261)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10542)/**@code**="71576-3" *Airway device placement confirmation NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10541)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10546)
  - *NEMESIS Trace: EAirway.02. If the confirmation is negated, this SHALL be "NA."*
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="BL" (CONF:10545)
  - *NEMESIS Trace: if EAirway.02 is populated, this is TRUE*
6. **SHALL** contain exactly one [1..1] **methodCode** (CONF:10544), which **SHALL** be selected from ValueSet *AirwayDeviceConfirmationMethod* 2.16.840.1.113883.17.3.11.60 **DYNAMIC** (CONF:10543)
  - *NEMESIS Trace: EAirway.04*

## Arrest Rhythm

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.127]

*First measurement of cardiac rhythm during or shortly after cardiac arrest*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.127"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11251)
3. **SHALL** contain exactly one [1..1] **code/@code**="67512-4" *First monitored rhythm NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10179)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", which **SHALL** be selected from ValueSet *FirstMonitoredRhythm* 2.16.840.1.113883.17.3.11.14 **DYNAMIC** (CONF:10180)
  - *NEMESIS Trace: EArrest.11*

## Back And Spine Assessment

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.119]

*Qualitative assessment of condition of patient's back and spine*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.119"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11238)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10394)/**@code**="67532-2" *Physical findings of Back +Spine NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10393)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11239)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain zero or more [0..\*] **value** with **@xsi:type**="CD" (CONF:10397), which **SHALL** be selected from ValueSet *BackSpineAssessmentFinding* 2.16.840.1.1133883.17.3.11.34 **DYNAMIC** (CONF:10398)
  - *NEMESIS Trace: EExam.14*
6. **SHALL** contain zero or one [0..1] **targetSiteCode** (CONF:10396), which **SHALL** be selected from ValueSet *BackSpineFindingLocation* 2.16.840.1.1133883.17.3.11.35 **DYNAMIC** (CONF:10395)
  - *NEMESIS Trace: EExam.13*

## Barriers To Patient Care

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.83]

*Kinds of circumstances limiting provision of care*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.83"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11196)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10435)/**@code**="67515-7" *Barriers to patient care NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10436)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10437), which **SHALL** be selected from ValueSet *BarrierToCare* 2.16.840.1.1133883.17.3.11.85 **DYNAMIC** (CONF:10438)
  - *NEMESIS Trace: EHistory.01*

## Billing Condition

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.91]

*Patient condition classified by billing category*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.91"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11207)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10084)/**@code**="67556-1" *EMS condition code NEMESIS (Billing condition)* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10086)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10087), which **SHALL** be selected from (CodeSystem: 2.16.840.1.1133883.6.90 ICD-10 CM) (CONF:11206)

- *NEMESIS Trace: EPayment.51*

## Blood Glucose

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.166]

*Patient blood glucose measured as a mass concentration*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.166"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11303)
3. **SHALL** contain exactly one [1..1] code (CONF:10300)/@code="2339-0" *Glucose [Mass/?volume] in Blood* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10299)
4. **MAY** contain zero or one [0..1] effectiveTime (CONF:11304)
  - *NEMESIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] value with @xsi:type="PQ" (CONF:10301)
  - *NEMESIS Trace: EVitals.18*  
*UCUM units will typically be "mg/dl".*

## Body Temperature

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.176]

*Patient's body temperature*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.176"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11278)
3. **SHALL** contain exactly one [1..1] code/@code="8310-5" *Body temperature* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10289)
4. **MAY** contain zero or one [0..1] effectiveTime (CONF:11279)
  - *NEMESIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] value with @xsi:type="PQ" (CONF:10290)
  - *NEMESIS Trace: EVitals.24*  
*UCUM units SHOULD be "Cel".*

## Call Time

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.38]

*Time at which the public safety answering point call center is notified of an emergency*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.38"

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11143)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10835)/**@code**="69469-5" *911 call to public safety answering point or other designated entity requesting EMS services [Date and time] Facility NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10834)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="TS" (CONF:10836)
  - *NEMSIS Trace: ETimes.01*

## Candidate Patient Registry Type

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.94]

*Kind of patient registry in which it may be appropriate to include the patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.94"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11210)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10728)/**@code**="67553-8" *Condition indicating eligibility for illness or injury registry NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10729)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10730), which **SHALL** be selected from ValueSet *RegistryType* 2.16.840.1.113883.17.3.11.74 **DYNAMIC** (CONF:10731)
  - *NEMSIS Trace: EOther.02*

## Carbon Dioxide

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.168]

*Measurement of end tidal carbon dioxide*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.168"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11307)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10294)/**@code**="19889-5" *Carbon dioxide/Gas.total.at end expiration in Exhaled gas* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10293)
4. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:11308)
  - *NEMSIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10295)
  - *NEMSIS Trace: EVitals.16*  
*UCUM units will typically be "%".*

## Carbon Monoxide

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.167]

*Measurement of carbon monoxide in patient's bloodstream*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.167"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11305)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10297)/**@code**="20563-3" *Carboxyhemoglobin/? Hemoglobin.total in Blood* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10296)
4. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:11306)
  - *NEMESIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10298)
  - *NEMESIS Trace: EVitals.17*  
*UCUM units will typically be "%".*

## Cardiac Arrest

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.27]

*Characteristics of a patient's cardiac arrest*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.27"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11130)
3. **SHOULD** contain zero or one [0..1] **@negationInd** (CONF:10141)
  - *Populate as true if NEMESIS EArrest.01 = "No"*
4. **SHALL** contain exactly one [1..1] **code**/**@code**="ASSERTION" *ASSERTION* (CodeSystem: 2.16.840.1.1133883.5.4 HL7ActCode) (CONF:10138)
5. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:10139)
  - *NEMESIS Trace: EArrest.14*
6. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD"/**@code**="410429000" *cardiac arrest* (CodeSystem: 2.16.840.1.1133883.6.96 SNOMEDCT) (CONF:10140)
  - *NEMESIS Trace: EArrest.01*
7. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10142)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd**="TRUE" (CONF:10154)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CONF:10155)
  - c. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Cardiac Arrest Cause* (CONF:10941)
8. **SHALL** contain at least one [1..\*] **informant** (CONF:10144)
  - a. Such informants **SHALL** contain exactly one [1..1] **@typeCode**="INF" (CONF:10158)
  - b. Such informants **SHALL** contain exactly one [1..1] **relatedEntity** (CONF:11071)
    - a. This relatedEntity **SHALL** contain exactly one [1..1] **@classCode**="AGNT" (CONF:10159)
    - b. This relatedEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *CardiacArrestWitnessRole* 2.16.840.1.1133883.17.3.11.11 **DYNAMIC** (CONF:10160)
      - *NEMESIS Trace: EArrest.04*
9. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10145)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd**="TRUE" (CONF:10161)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode**="SUBJ" (CONF:10162)



- c. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Prior CPR* (CONF:10942)
- 10. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10146)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd="TRUE"** (CONF:10168)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CONF:10169)
  - c. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Prior AED Use* (CONF:10170)
- 11. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:10147)
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] **@inversionInd="TRUE"** (CONF:10181)
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CONF:10182)
  - c. Such entryRelationships **SHALL** contain exactly one [1..1] **observation**, where its type is *Return Of Spontaneous Circulation* (CONF:10183)
- 12. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:10148)
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] **@inversionInd="TRUE"** (CONF:10186)
  - b. Such entryRelationships **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CONF:10187)
  - c. Such entryRelationships **SHALL** contain exactly one [1..1] **observation**, where its type is *Destination Rhythm* (CONF:10188)
- 13. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:11072)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd="TRUE"** (CONF:10176)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CONF:10177)
  - c. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Arrest Rhythm* (CONF:10178)
- 14. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:11377)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd="TRUE"** (CONF:10149)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CONF:10151)
  - c. This entryRelationship contains zero or more [0..\*] **observation**, where its type is *Cardiac Arrest Timing*
- 15. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:11332)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode="COMP"** (CONF:11333)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Cardiac Arrest Outcome* (CONF:11334)

## Cardiac Arrest Cause

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.124]

*Kind of event or condition causing cardiac arrest*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.1133883.17.3.10.1.124"**
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11246)
3. **SHALL** contain exactly one [1..1] **code/@code="67503-3"** *Cardiac arrest cause NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10156)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"**, which **SHALL** be selected from ValueSet *CardiacArrestCause* 2.16.840.1.1133883.17.3.11.10 **DYNAMIC** (CONF:10157)
  - *NEMESIS Trace: EArrest.02*



## Cardiac Arrest Outcome

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.184]

*How the arrest was resolved in the experience of the EMS crew*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.184"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11376)
3. **SHALL** contain exactly one [1..1] code (CONF:11350)/@code="77152-7" *Cardiac arrest event outcome* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:11351)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", which **SHALL** be selected from ValueSet [CardiacArrestOutcome](#) 2.16.840.1.1133883.17.3.11.101 **STATIC** (CONF:11352)
  - *NEMESIS trace: eArrest.18 (end of arrest event)*

### Cardiac Arrest Outcome example

```
Error: Missing Runtime Class
```

## Cardiac Arrest Timing

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.123]

*Whether a cardiac arrest occurred before or after arrival of EMS crew*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.123"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11245)
3. **SHALL** contain exactly one [1..1] code/@code="67502-5" *Cardiac arrest NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10152)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", which **SHALL** be selected from ValueSet [CardiacArrestTiming](#) 2.16.840.1.1133883.17.3.11.91 **DYNAMIC** (CONF:10153)
  - *NEMESIS Trace: EArrest.01*

## Cardiac Rhythm

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.169]

*Patient's cardiac rhythm classification*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.169"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11309)
3. **SHALL** contain exactly one [1..1] code (CONF:10275)/@code="67519-9" *Cardiac rhythm NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10274)
4. **MAY** contain zero or one [0..1] effectiveTime (CONF:11310)

- *NEMESIS Trace: EVitals.01*
- 5. **SHALL** contain at least one [1..\*] **value** with @xsi:type="CD" (CONF:10278), which **SHALL** be selected from ValueSet *CardiacRhythmReading* 2.16.840.1.113883.17.3.11.16 **DYNAMIC** (CONF:10279)
  - *NEMESIS Trace: EVitals.03*
- 6. **SHALL** contain at least one [1..\*] **methodCode** (CONF:10277), which **SHALL** be selected from ValueSet *MethodOfECGInterpretation* 2.16.840.1.113883.17.3.11.20 **DYNAMIC** (CONF:10276)
  - *NEMESIS Trace: EVitals.05*
- 7. **SHALL** contain exactly one [1..1] **participant** {subsets Observation::participant} (CONF:11127)
  - a. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:11128)
    - a. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:11129)
      - a. This playingDevice contain zero or one [0..1] **@classCode**="DEV"
      - b. This playingDevice **SHALL** contain exactly one [1..1] **code** (CONF:11311), which **SHALL** be selected from ValueSet *ECGType* 2.16.840.1.113883.17.3.11.19 **DYNAMIC** (CONF:11312)
    - c. This playingDevice contain zero or one [0..1] **@determinerCode**="INSTANCE"

*NEMESIS Trace: EVitals.04*

## Chest And Lungs Assessment

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.115]

*Qualitative assessment of condition of patient's chest and lungs*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.115"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11230)
3. **SHALL** contain exactly one [1..1] **code/@code**="67528-0" *Physical findings of Chest+Lungs NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10381)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11231)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain at least one [1..\*] **value** with @xsi:type="CD", which **SHALL** be selected from ValueSet *ChestLungAssessmentFinding* 2.16.840.1.113883.17.3.11.29 **DYNAMIC** (CONF:10382)
  - *NEMESIS Trace: EExam.08*

## Complaint

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.63]

*Statement of the problem by the patient or provider, including duration, system, and whether it is the chief complaint*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.63"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11169)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10768)/**@code**="10154-3" *Chief complaint Narrative - Reported* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10769)

4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11170)
  - *effectiveTime.low = NEMESIS Trace: ESituation.01*
5. **MAY** contain zero or one [0..1] **value** with @xsi:type="ST" (CONF:10770)
  - *NEMESIS Trace: ESituation.04*
6. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10771)
  - a. This entryRelationship contain exactly one [1..1] **observation**, where its type is *Complaint Duration*
7. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10772)
  - a. This entryRelationship contains at least one [1..\*] **observation**, where its type is *Complaint Type*
8. **SHALL** contain exactly one [1..1] **targetSiteCode** (CONF:10773), which **SHALL** be selected from ValueSet *AnatomicLocation* 2.16.840.1.113883.17.3.11.76 **DYNAMIC** (CONF:10774)
  - *NEMESIS Trace: ESituation.07*  
*Complaint site is required if complaint is type "Chief complaint"*
9. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:10775)
 

*The organ system is required if the complaint is of type "Chief complaint"*

  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Complaint Organ System* (CONF:10782)

## Complaint Duration

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.139]

*How long a complaint has lasted*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.139"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11268)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10779)/@code="67491-1" *Duration of chief complaint NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10780)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:10781)
  - *NEMESIS Trace: ESituation.05, 06*  
*Units SHALL be selected from UCUM time units (i.e., s, min, h, d, wk, mo, a)*

## Complaint Organ System

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.140]

*The system that a complaint seems to affect*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.140"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11269)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10784)/@code="69468-7" *Primary anatomic organ system of chief complaint NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10783)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:10786), which **SHALL** be selected from ValueSet *OrganSystem* 2.16.840.1.113883.17.3.11.77 **DYNAMIC** (CONF:10785)

- *NEMESIS Trace: ESituation.08*

## Complaint Reported By Dispatch

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.74]

*The complaint that dispatch reported to the responding unit*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.74"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11187)
3. **SHALL** contain exactly one [1..1] code (CONF:10568)/@code="67570-2" *Chief complaint per dispatch Reported.dispatch* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10569)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10571), which **SHALL** be selected from ValueSet *Complaint* 2.16.840.1.1133883.17.3.11.49 **DYNAMIC** (CONF:10570)
  - *NEMESIS Trace: EDispatch.01*

## Complaint Type

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.138]

*Whether a complaint is a chief complaint*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.138"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11266)
3. **SHALL** contain exactly one [1..1] code (CONF:10777)/@code="72114-2" *Complaint NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10776)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10778), which **SHALL** be selected from ValueSet *Complaint Type* 2.16.840.1.1133883.17.3.11.94 **DYNAMIC** (CONF:11267)
  - *NEMESIS Trace: ESituation.03*

## Current Medication

---

[SubstanceAdministration: templateId 2.16.840.1.1133883.17.3.10.1.77]

*A medication a patient is currently taking*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.77"
2. **MAY** contain zero or one [0..1] @negationInd (CONF:10233)
  - *If EHistory.12 has the value "None Reported," the value is "True"*  
*This negation of a notional class is parallel to the explicit question "patient on medication"*
3. **MAY** contain zero or one [0..1] @nullFlavor (CONF:10234)
  - *If EHistory.12 has the value "Refused" or "Unable to Complete," the value is "NI"; the*

*original value may be recorded in SubstanceAdministration.text.*

*This nulled notional class is parallel to the explicit question "patient on medication"*

4. **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:10230)
  - *NEMESIS Trace: EHistory.13, EHistory.14*
5. **SHOULD** contain zero or one [0..1] **routeCode** (CONF:10232), which **SHALL** be selected from ValueSet [MedicationAdministrationRoute](#) 2.16.840.1.113883.17.3.11.43 **DYNAMIC** (CONF:10231)
  - *NEMESIS Trace: EHistory.15*
6. **SHALL** contain exactly one [1..1] **consumable** (CONF:10235)
  - a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:10236)
    - a. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:10237)
      - a. This manufacturedMaterial **SHALL** contain zero or one [0..1] **code** (CONF:11191), which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.88 RxNorm) (CONF:11190)

## Currently On Medication

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.75]

*Whether a patient is currently taking medication*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.75"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11188)
3. **SHALL** contain exactly one [1..1] **code/@code**="67791-4" *Does the patient take any medications NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10224)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10225)
  - *If EHistory.12 has the value "None Reported," the value is "False"*  
*If EHistory.12 has the value "Refused" or "Unable to Complete," the value is "NI"; the original value may be recorded in Observation.text.*

## Delay Organizer

---

[Organizer: templateId 2.16.840.1.113883.17.3.10.1.95]

*Kinds of delays experienced by a responder*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.95"
2. **SHALL** contain exactly one [1..1] **component** (CONF:10583)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Dispatch Delay](#) (CONF:10588)
 

*NEMESIS Trace: EResponse.08*
3. **SHALL** contain exactly one [1..1] **component** (CONF:10584)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Response Delay](#) (CONF:10593)

4. **SHALL** contain exactly one [1..1] **component** (CONF:10585)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Scene Delay* (CONF:10598)
5. **SHALL** contain exactly one [1..1] **component** (CONF:10586)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Transport Delay* (CONF:10603)
6. **SHALL** contain exactly one [1..1] **component** (CONF:10587)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Turnaround Delay* (CONF:10608)

## Destination Rhythm

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.129]

*Patient's cardiac rhythm classification at destination*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.129"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11254)
3. **SHALL** contain exactly one [1..1] **code/@code**="67519-9" *Cardiac rhythm NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10189)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet *CardiacRhythmReading* 2.16.840.1.1133883.17.3.11.16 **DYNAMIC** (CONF:10190)
  - *NEMESIS Trace: EArrest.17*

## Destination Ward

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.186]

*The location within the hospital that the patient was taken directly by EMS*

Contained By	Contains
<i>EMS Disposition Section</i>	

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.186"
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.1133883.5.6 HL7ActClass) (CONF:11363)
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11380)
4. **SHALL** contain exactly one [1..1] **code** (CONF:11364)/**@code**="77154-3" *Hospital inpatient destination* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:11365)
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet *DestinationWardKind* 2.16.840.1.1133883.17.3.11.103 **STATIC** (CONF:11366)
  - *NEMESIS trace: eDisposition.22 (Hospital In-Patient Destination)*

**Destination Ward example**

```
Error: Missing Runtime Class
```

**Diastolic Blood Pressure**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.144]

*Patient's diastolic blood pressure*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.144"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11272)
3. **SHALL** contain exactly one [1..1] **code/@code**="8462-4" *Diastolic blood pressure* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10282)
4. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:11273)
  - *NEMESIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10283)
  - *NEMESIS Trace: EVitals.07*  
*UCUM units SHOULD be "mm[Hg]"*.
6. **SHALL** contain exactly one [1..1] **methodCode** (CONF:11346), which **SHALL** be selected from ValueSet [BloodPressureMeasurementMethod](#) 2.16.840.1.1133883.17.3.11.107 **STATIC** (CONF:11347)
  - *NEMESIS Trace: eVitals.08 (method of blood pressure measurement)*

**Disaster Type**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.159]

*Kind of disaster causing or contributing to the patient's complaint*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.159"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11166)
3. **SHALL** contain exactly one [1..1] **code/@code**="69463-8" *Suspected intentional or unintentional disaster NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10132)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet [DisasterType](#) 2.16.840.1.1133883.17.3.11.9 **DYNAMIC** (CONF:10133)
  - *NEMESIS Trace: EOther.07*

**Dispatch Delay**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.153]

*Causes of delay to the dispatch process*



1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.153"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11286)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10590)/**@code**="67480-4" *Dispatch delay NEMSIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10589)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10592), which **SHALL** be selected from ValueSet *DispatchDelayType* 2.16.840.1.1133883.17.3.11.50 **DYNAMIC** (CONF:10591)
  - *NEMSIS Trace: EResponse.08*

## Dispatch Location Latitude

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.151]

*Latitude of the unit when dispatched*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.151"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11284)
3. **SHALL** contain exactly one [1..1] **code**/**@code**="52002-3" *Ambulance transport, Destination site latitude coordinate* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10620)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10621)
  - *NEMSIS Trace: EResponse.17*  
*UCUM units SHOULD be "deg". This may require conversion from a parsed "degree + minutes" representation to a decimal representation.*

## Dispatch Location Longitude

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.152]

*Longitude of the unit when dispatched*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.152"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11285)
3. **SHALL** contain exactly one [1..1] **code**/**@code**="52003-1" *Ambulance transport, Destination site longitude coordinate* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10623)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10624)
  - *NEMSIS Trace: EResponse.17*  
*UCUM units SHOULD be "deg". This may require conversion from a parsed "degree + minutes" representation to a decimal representation.*

## Dispatch Location Name

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.150]



*The name or ID of the dispatch center requesting service from the EMS agency*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.150"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11283)
3. **SHALL** contain exactly one [1..1] **code/@code**="69466-1" *Vehicle location Vehicle NEMSIS --at dispatch* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10617)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="ST" (CONF:10618)
  - *NEMSIS Trace: EResponse.16*

## Dispatch Location Organizer

---

[Organizer: templateId 2.16.840.1.1133883.17.3.10.1.96]

*Information about the location of the unit when dispatched*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.96"
2. **MAY** contain zero or one [0..1] **component** (CONF:10613)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Dispatch Location Name* (CONF:10616)
3. **MAY** contain zero or one [0..1] **component** (CONF:10614)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Dispatch Location Latitude* (CONF:10619)
4. **MAY** contain zero or one [0..1] **component** (CONF:10615)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Dispatch Location Longitude* (CONF:10622)

## Dispatch Notified Time

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.46]

*The time the dispatching organization was notified of an emergency*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.46"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11151)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10867)/**@code**="69470-3" *Dispatch was notified by the 911 call taker [Date and time] Facility NEMSIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10866)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="TS" (CONF:10868)
  - *NEMSIS Trace: ETimes.02*

## Drug Allergy

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.48]

*An allergy or sensitivity to a drug.*

*This statement follows the pattern of the Consolidated allergy observation, without the intervening "problem act" class.*

*In this observation, as the Consolidated guide specifies, the code is "ASSERTION," and the value selected from 2.16.840.1.1133883.3.88.12.3221.6.2. In this case, the value should be 416098002 (Drug allergy (disorder)), System = SNOMED CT, 2.16.840.1.1133883.6.5.*

*The drug, to be placed in the participating product, is encoded in RxNorm.*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.48"
2. contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood)
3. **SHALL** contain exactly one [1..1] **participant** {subsets Act::participant} (CONF:11126)
  - a. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:10208)
    - a. This participantRole **SHALL** contain exactly one [1..1] **playingEntity** (CONF:10209)
      - a. This playingEntity **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from (CodeSystem: 2.16.840.1.1133883.6.88 RxNorm) (CONF:11320)

*NEMESIS Trace: EHistory.06*

4. **SHALL** contain exactly one [1..1] **code/@code**="ASSERTION" *ASSERTION* (CodeSystem: 2.16.840.1.1133883.5.4 ActCode) (CONF:11340)
5. **SHALL** contain exactly one [1..1] **value1** with **@xsi:type**="CD"/**@code**="416098002" *Drug allergy (disorder)* (CodeSystem: 2.16.840.1.1133883.6.96 SNOMEDCT) (CONF:11341)

## Drug Allergy Organizer

[Organizer: templateId 2.16.840.1.1133883.17.3.10.1.183]

*This organizer contains a set of discrete drug allergy observations or an assertion that there are no such allergies.*

Contained By	Contains
<a href="#">EMS Allergies And Adverse Reactions Section</a>	<a href="#">Drug Allergy</a>
	<a href="#">Existence Of Drug Allergy Observation</a>

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.183"
2. **MAY** contain [0..\*] **component** (CONF:11323)
  - a. Contains exactly one [1..1] [Drug Allergy](#) (templateId: 2.16.840.1.1133883.17.3.10.1.48)
3. **SHALL** contain [1..1] **component** (CONF:11324)
  - a. Contains exactly one [1..1] [Existence Of Drug Allergy Observation](#) (templateId: 2.16.840.1.1133883.17.3.10.1.102)

**Drug Allergy Organizer example**

Error: Missing Runtime Class

**Drug Use Indication**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.71]

*Evidence that a patient has been using alcohol or illicit drugs*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.71"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11179)
3. **SHALL** contain exactly one [1..1] code/@code="67669-2" Alcohol - drug use NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10250)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", which **SHALL** be selected from ValueSet [AlcoholDrugUseIndicator](#) 2.16.840.1.1133883.17.3.11.18 **DYNAMIC** (CONF:10251)
  - NEMESIS Trace: EHistory.17, proper values

**Emergency Medical Dispatch Observation**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.73]

*Whether and how emergency medical dispatch was performed*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.73"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11186)
3. **SHALL** contain exactly one [1..1] code (CONF:10564)/@code="67488-7" Emergency medical dispatch performed NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10563)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10566), which **SHALL** be selected from ValueSet [EMDPerformed](#) 2.16.840.1.1133883.17.3.11.48 **DYNAMIC** (CONF:10565)
  - NEMESIS Trace: EDispatch.02

**Existence Of Drug Allergy Observation**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.102]

*Indicator of whether patient has any allergies or sensitivities to drugs*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.102"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11213)
3. **SHALL** contain exactly one [1..1] code/@code="67794-8" Does the patient have any medication allergies NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10203)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="BL" (CONF:10204)

- If NEMESIS EHistory.06 is "No Known Drug Allergies," the value should be FALSE. If it is a proper value, the value should be TRUE. If it is a flavor of null, the appropriate flavor should be used here. See the null table to translate NEMESIS flavors into HL7; original values may be stored in Observation.text.

## Existence Of Drug Use Indication

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[Observation: templateId 2.16.840.1.1133883.17.3.10.1.70]

*Indicator of whether there are indications of alcohol or illicit drug use*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.70"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11177)
3. **SHALL** contain exactly one [1..1] code (CONF:10248)/@code="69757-3" Indications of drug or alcohol use by the patient NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10247)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="BL" (CONF:11178)
  - NEMESIS Trace: EHistory.17, positive, negative, or null values

## Existence Of History Of Condition

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.60]

*Indicator of whether patient has a history of significant medical conditions*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.60"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11167)
3. **SHALL** contain exactly one [1..1] code/@code="67793-0" Has the patient had any significant medical conditions NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10067)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="BL" (CONF:10068)
  - If NEMESIS EHistory.08 is "Refused " or "Unable to Complete," the value should be "NI"; the original value may be recorded in Observation.text.
  - If NEMESIS EHistory.08 is "None Reported," the value should be FALSE.
  - If NEMESIS EHistory.08 has proper values, the value should be TRUE.

## Existence Of Non Drug Allergy

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.103]

*Indicator of whether patient has any allergies or sensitivities to materials other than drugs*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.103"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11214)

3. **SHALL** contain exactly one [1..1] **code/@code**="69747-4" *Does the patient have any environmental allergies NEMESIS (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10214)*
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10215)
  - *If NEMESIS EHistory.07 has no values, this is FALSE; otherwise it is TRUE.*

## Extremities Assessment

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.120]

*Qualitative assessment of condition of patient's extremities*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.120"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11240)*
3. **SHALL** contain exactly one [1..1] **code** (CONF:10399)/**@code**="67533-0" *Physical findings of Extremity NEMESIS (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10400)*
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11241)
  - *NEMESIS Trace: EExam.03*
5. **SHOULD** contain zero or more [0..\*] **value** with **@xsi:type**="CD" (CONF:11385), which **SHALL** be selected from ValueSet [ExtremitiesAssessmentFinding](#) 2.16.840.1.113883.17.3.11.36 **DYNAMIC** (CONF:10403)
  - *NEMESIS Trace: EExam.16*
6. **MAY** contain zero or one [0..1] **targetSiteCode** (CONF:10402), which **SHALL** be selected from ValueSet [ExtremityFindingLocation](#) 2.16.840.1.113883.17.3.11.37 **DYNAMIC** (CONF:10401)
  - *NEMESIS Trace: EExam.15*

## Eye Assessment

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.121]

*Qualitative assessment of condition of patient's eyes*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.121"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11242)*
3. **SHALL** contain exactly one [1..1] **code** (CONF:10405)/**@code**="67534-8" *Physical findings of Eye NEMESIS (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10404)*
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11243)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain zero or more [0..\*] **value** with **@xsi:type**="CD" (CONF:10408), which **SHALL** be selected from ValueSet [EyeAssessmentFinding](#) 2.16.840.1.113883.17.3.11.38 **DYNAMIC** (CONF:10409)
  - *NEMESIS Trace: EExam.18*
6. **SHALL** contain zero or one [0..1] **targetSiteCode** (CONF:10406), which **SHALL** be selected from ValueSet [EyeFindingLocation](#) 2.16.840.1.113883.17.3.11.39 **DYNAMIC** (CONF:10407)
  - *NEMESIS Trace: EExam.17*

## Face Assessment

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.112]

*Qualitative assessment of condition of patient's face*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.112"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11224)
3. **SHALL** contain exactly one [1..1] code (CONF:10376)/@code="67526-4" *Physical findings of Face NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10375)
4. **SHALL** contain exactly one [1..1] effectiveTime (CONF:11225)
  - NEMESIS Trace: EExam.03
5. **SHALL** contain at least one [1..\*] value with @xsi:type="CD" (CONF:10377), which **SHALL** be selected from ValueSet *FaceAssessmentFinding* 2.16.840.1.113883.17.3.11.27 **DYNAMIC** (CONF:10378)
  - NEMESIS Trace: EExam.06

## First Unit Indicator

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.84]

*Indicator of whether reporter of PCR is the first unit to arrive at the scene*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.84"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11197)
3. **SHALL** contain exactly one [1..1] code (CONF:10741)/@code="67481-2" *First EMS unit on scene NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10742)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="BL" (CONF:10743)
  - NEMESIS Trace: EScene.01

## Glasgow Coma Score Organizer

---

[Organizer: templateId 2.16.840.1.113883.17.3.10.1.170]

*Collection of Glasgow Coma Score observations*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.170"
2. **SHALL** contain [1..1] component (CONF:10313)
  - a. Contains exactly one [1..1] *Glasgow Eye* (templateId: 2.16.840.1.113883.17.3.10.1.160)
3. **SHALL** contain [1..1] component (CONF:10314)
  - a. Contains exactly one [1..1] *Glasgow Motor* (templateId: 2.16.840.1.113883.17.3.10.1.192)
4. **MAY** contain [0..\*] component (CONF:10315)

- a. Contains exactly one [1..1] *Glasgow Qualifier* (templateId: 2.16.840.1.1133883.17.3.10.1.159)
- 5. **SHOULD** contain [0..1] **component** (CONF:10316)
  - a. Contains exactly one [1..1] *Glasgow Total* (templateId: 2.16.840.1.1133883.17.3.10.1.158)
- 6. **SHALL** contain [1..1] **component** (CONF:10317)
  - a. Contains exactly one [1..1] *Glasgow Verbal* (templateId: 2.16.840.1.1133883.17.3.10.1.162)
- 7. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:11313)
  - *NEMESIS Trace: EVitals.01*

## Glasgow Eye

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.160]

*Glasgow Coma eye score*

- 1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.160"
- 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11294)
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:10325)/**@code**="9267-6" *Glasgow coma score. eye opening* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10324)
- 4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="INT" (CONF:10326)
  - *NEMESIS Trace: EVitals.19*

## Glasgow Motor

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.192]

*Glasgow Coma motor score*

- 1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.192"
- 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11295)
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:10328)/**@code**="9268-4" *Glasgow coma score. motor* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10329)
- 4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="INT" (CONF:10330)
  - *NEMESIS Trace: EVitals. 21*

## Glasgow Qualifier

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.159]

*Qualifier for Glasgow Coma score*

- 1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.159"

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11292)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10322)/**@code**="55285-1" *Glasgow coma score special circumstances* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10321)
4. **MAY** contain zero or more [0..\*] **value** with **@xsi:type**="CD" (CONF:10323), which **SHALL** be selected from ValueSet [GlasgowComaScoreSpecialCircumstances](#) 2.16.840.1.113883.17.3.11.89 **DYNAMIC** (CONF:11293)
  - *NEMESIS Trace: EVitals.22*

## Glasgow Total

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.158]

*Total Glasgow Coma score*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.158"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11291)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10319)/**@code**="9269-2" *Glasgow coma score.total* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10318)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="INT" (CONF:10320)
  - *NEMESIS Trace: EVitals.23*  
*Integer value equal to the sum of verbal, motor, and eye*

## Glasgow Verbal

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.162]

*Glasgow Coma verbal score*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.162"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11296)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10332)/**@code**="9270-0" *Glasgow coma score.verbal* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10333)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="INT" (CONF:10334)
  - *NEMESIS Trace: EVitals.20*

## Head Assessment

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.113]

*Qualitative assessment of condition of patient's head*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.113"



2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11226)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10373)/**@code**="67525-6" *Physical findings of Head NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10372)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11227)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet [HeadAssessmentFinding](#) 2.16.840.1.113883.17.3.11.26 **DYNAMIC** (CONF:10374)
  - *NEMESIS Trace: EExam.05*

## Heart Assessment

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.116]

*Qualitative assessment of condition of patient's heart*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.116"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11232)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10384)/**@code**="67529-8" *Physical findings of Heart NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10383)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11233)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10385), which **SHALL** be selected from ValueSet [HeartAssessmentFinding](#) 2.16.840.1.113883.17.3.11.30 **DYNAMIC** (CONF:10386)
  - *NEMESIS Trace: EExam.09*

## Heart Rate

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.145]

*Measurement of rate of heartbeat*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.145"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11274)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10285)/**@code**="8867-4" *Heart rate* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10284)
4. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:11275)
  - *NEMESIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10286)
  - *NEMESIS Trace: EVitals.10*  
*UCUM units SHOULD be "/min".*

## Height Of Fall

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.58]

*Distance patient fell, if injury is fall-related*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.58"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11164)
3. **SHALL** contain exactly one [1..1] code/@code="67501-7" *Height of fall NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10129)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="PQ" (CONF:11165)
  - *NEMESIS Trace: EInjury.09*  
*Units SHOULD be in feet ('ft\_i')*

## History Of Condition

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.61]

*Medical conditions the patient has or has had*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.61"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11168)
3. **SHALL** contain exactly one [1..1] code (CONF:10070)/@code="68487-8" *Medical - surgical history - ICD-9 and 10 codes* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10069)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10072), which **SHALL** be selected from (CodeSystem: 2.16.840.1.1133883.6.90 ICD-10 CM) (CONF:10071)
  - *NEMESIS Trace: EHistory.08*  
*If NEMESIS EHistory.08 is "No bleeding disorder," the value should be the appropriate ICD-10 code (D66, D67, D68) and negationIndicator should be TRUE.*

## Incident Disposition Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.32]

*Outcome of incident, including disposition of patient and other outcomes*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.32"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11137)
3. **SHALL** contain exactly one [1..1] code (CONF:10669)/@code="67548-8" *Incident - patient disposition NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10668)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10670), which **SHALL** be selected from ValueSet [IncidentOutcome](#) 2.16.840.1.1133883.17.3.11.64 **DYNAMIC** (CONF:10671)
  - *NEMESIS Trace: EDisposition.12*

## Initial Patient Acuity

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.69]

*Patient condition indicating urgency of treatment on arrival at patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.69"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11176)
3. **SHALL** contain exactly one [1..1] code (CONF:10816)/@code="67493-7" *Initial patient acuity NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10817)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10818), which **SHALL** be selected from ValueSet *PatientCondition* 2.16.840.1.1133883.17.3.11.59 **DYNAMIC** (CONF:10819)
  - *NEMESIS Trace: ESituation.13*

## Injury Cause Category

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.50]

*The category of the reported/suspected external cause of the injury*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.50"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11155)
3. **SHALL** contain exactly one [1..1] code/@code="69543-7" *Cause of injury NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10106)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", which **SHALL** be selected from (CodeSystem: 2.16.840.1.1133883.6.90 ICD-10 CM) (CONF:10108)
  - *NEMESIS Trace: EInjury.01*  
*Causes are in ICD-10 chapter XX*

## Injury Mechanism

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.51]

*General classification of physical force causing injury*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.51"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11156)
3. **SHALL** contain exactly one [1..1] code/@code="67494-5" *General mechanism of the forces which caused the injury NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10109)
4. **SHALL** contain at least one [1..\*] value with @xsi:type="CD", which **SHALL** be selected from ValueSet *MechanismOfInjury* 2.16.840.1.1133883.17.3.11.1 **DYNAMIC** (CONF:10110)
  - *NEMESIS Trace: EInjury.02*

## Injury Risk Factor

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.53]

*Factors predictive of need for trauma center care*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.53"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11158)
3. **SHALL** contain exactly one [1..1] code (CONF:11383)/@code="67496-0" *Other injury risk factors NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10114)
4. **SHALL** contain at least one [1..\*] value with @xsi:type="CD" (CONF:11382), which **SHALL** be selected from ValueSet *InjuryRiskFactor* 2.16.840.1.1133883.17.3.11.4 **DYNAMIC** (CONF:10115)
  - *NEMESIS Trace: EInjury.04*

## Last Oral Intake

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.80]

*Time of patient's last oral intake*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.80"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11193)
3. **SHALL** contain exactly one [1..1] code (CONF:10423)/@code="67517-3" *Last oral intake [Date and time] NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10424)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="TS" (CONF:10425)
  - *NEMESIS Trace: EHistory.19*

## Length Based Patient Body Weight Class

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.110]

*Classification of patient weight based on length*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.110"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11221)
3. **SHALL** contain exactly one [1..1] code (CONF:10366)/@code="67670-0" *Length-based tape measure category NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10365)
4. **SHALL** contain exactly one [1..1] effectiveTime (CONF:11222)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", which **SHALL** be selected from ValueSet *LengthBasedWeightClass* 2.16.840.1.1133883.17.3.11.24 **DYNAMIC** (CONF:10367)

- *NEMESIS Trace: EExam.02.*  
*Note: a license is required to implement the Broselow-Luten measure.*

## Level Of Responsiveness

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[Observation: templateId 2.16.840.1.1133883.17.3.10.1.165]

*Patient's responsiveness*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.165"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11301)
3. **SHALL** contain exactly one [1..1] code (CONF:10303)/@code="67775-7" *Level of responsiveness NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10302)
4. **MAY** contain zero or one [0..1] effectiveTime (CONF:11302)
  - *NEMESIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10305), which **SHALL** be selected from ValueSet *LevelOfResponsiveness* 2.16.840.1.1133883.17.3.11.21 **DYNAMIC** (CONF:10304)
  - *NEMESIS Trace: EVitals.26*

## Level Of Service Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.92]

*CMS classification of service level for billing purposes*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.92"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11208)
3. **SHALL** contain exactly one [1..1] code (CONF:10090)/@code="69464-6" *Centers for medicare - medicaid, CMS, service level NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10091)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10092), which **SHALL** be selected from ValueSet *EMSLevelOfService* 2.16.840.1.1133883.17.3.11.70 **DYNAMIC** (CONF:10093)
  - *NEMESIS Trace: EPayment.50*

## Location Type Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.88]

*Kind of location where the incident occurred*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.88"
2. **SHALL** contain exactly one [1..1] code/@code="74496-1" *Injury location ICD code* (CodeSystem: ) (CONF:11202)

3. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:11387), which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM) (CONF:11203)
  - *NEMESIS trace: eScene.09 (Incident location type)*  
See NEMESIS recommended subset at <http://nemesis.org/v3/resources.html>. ICD-10 CM contains "place of occurrence of external cause" under code Y92.

## Mass Casualty Indicator

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[Observation: templateId 2.16.840.1.113883.17.3.10.1.87]

*Indicator of whether the patient injury is part of a mass casualty event*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.87"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11200)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10753)/@code="67490-3" *Mass casualty incident NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:11201)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="BL" (CONF:10754)
  - *NEMESIS Trace: EScene.07*

## Medication Administered

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## Medication Complication Observation

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[Observation: templateId 2.16.840.1.113883.17.3.10.1.107]

*Complications associated with the administration of a medication*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.107"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11218)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10473)/@code="67541-3" *Medication complication NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10474)
4. **SHALL** contain at least one [1..\*] **value** with @xsi:type="CD" (CONF:10475), which **SHALL** be selected from ValueSet *MedicationComplication* 2.16.840.1.113883.17.3.11.45 **DYNAMIC** (CONF:10476)
  - *NEMESIS Trace: EMedications.08*

## Medication Not Administered Reason Observation

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.105]

*Reason for declining to administer a medication*

1. **SHALL** contain exactly one [1..1] templateId such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.105"
- 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11216)
- 3. **SHALL** contain exactly one [1..1] **code**/**@code**="ASSERTION" *Assertion* (CodeSystem: 2.16.840.1.1133883.5.4 HL7ActCode) (CONF:10462)
- 4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10463), which **SHALL** be selected from ValueSet *MedicationNotGivenReason* 2.16.840.1.1133883.17.3.11.92 **DYNAMIC** (CONF:10464)
  - *EMedications.03*

## Medication Prior Administration Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.108]

*Indicator of whether a medication was administered prior to the arrival of the EMS crew*

- 1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.108"
- 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11219)
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:10478)/**@code**="67539-7" *Medication administered prior to this unit's EMS care NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10479)
- 4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10480)
  - *NEMESIS Trace: EMedications.02*

## Medication Response Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.106]

*Whether the patient's condition improved after medication administration*

- 1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.106"
- 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11217)
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:10469)/**@code**="67540-5" *Response to medication NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10470)
- 4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:11384), which **SHALL** be selected from ValueSet *ChangeInPatientStatus* 2.16.840.1.1133883.17.3.11.78 **DYNAMIC** (CONF:10471)
  - *NEMESIS Trace: EMedications.07*

## Mental Status Assessment

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.122]

*Qualitative assessment of condition of patient's mental status*



1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.122"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11244)
3. **MAY** contain exactly one [1..1] **code** (CONF:10410)/**@code**="67535-5" *Mental status assessment NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10411)
4. contain exactly one [1..1] **effectiveTime**
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet [MentalStatusFinding](#) 2.16.840.1.113883.17.3.11.84 **DYNAMIC** (CONF:10412)
  - *NEMESIS Trace: EExam.19*

## Neck Assessment

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[Observation: **templateId** 2.16.840.1.113883.17.3.10.1.114]

*Qualitative assessment of condition of patient's neck*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.114"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11228)
3. **SHALL** contain exactly one [1..1] **code**/ **@code**="67527-2" *Physical findings of Neck NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10379)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11229)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet [NeckAssessmentFinding](#) 2.16.840.1.113883.17.3.11.28 **DYNAMIC** (CONF:10380)
  - *NEMESIS Trace: EExam.07*

## Neurological Assessment

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[Observation: **templateId** 2.16.840.1.113883.17.3.10.1.141]

*Qualitative assessment of condition of patient's neurological response*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.141"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11270)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10414)/**@code**="67536-3" *Neurological assessment Nervous system NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10413)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10415), which **SHALL** be selected from ValueSet [NeurologicalAssessmentFinding](#) 2.16.840.1.113883.17.3.11.40 **DYNAMIC** (CONF:10416)
  - *NEMESIS Trace: EExam.20*



## Non Drug Allergy

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[Observation: templateId 2.16.840.1.1133883.17.3.10.1.104]

*Patient allergies and sensitivities to materials other than drugs*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.104"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11215)
3. **SHALL** contain exactly one [1..1] code/@code="69748-2" *Known allergies to food or environmental agents Narrative NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10216)
  - *Required if Existence is True*
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", which **SHALL** be selected from ValueSet [NonDrugAllergyType](#) 2.16.840.1.1133883.17.3.11.83 **DYNAMIC** (CONF:10217)
  - *NEMESIS Trace: EHistory.07*

## Non Drug Allergy Organizer

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[Organizer: templateId 2.16.840.1.1133883.17.3.10.1.49]

*Information regarding patient allergies and sensitivities to materials other than drugs*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.49"
2. **SHALL** contain [1..1] **component** (CONF:10212)
  - a. Contains exactly one [1..1] [Existence Of Non Drug Allergy](#) (templateId: 2.16.840.1.1133883.17.3.10.1.103)
3. **MAY** contain [0..\*] **component** (CONF:10213)
  - a. Contains exactly one [1..1] [Non Drug Allergy](#) (templateId: 2.16.840.1.1133883.17.3.10.1.104)

## Number Of Patients Transported Observation

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[Observation: templateId 2.16.840.1.1133883.17.3.10.1.31]

*The number of patients transported by this EMS crew and unit*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.31"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11136)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10665)/@code="67547-0" *Patients transported in EMS unit [#] NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10664)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="INT" (CONF:10666)
  - *NEMESIS Trace: eDisposition.11*

## Other Symptoms

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.67]

*Symptoms other than the primary symptom*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.67"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11174)
3. **SHALL** contain exactly one [1..1] code (CONF:10806)/@code="67776-5" *Other symptoms NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10807)
4. **MAY** contain zero or more [0..\*] value with @xsi:type="CD" (CONF:10808), which **SHALL** be selected from (CodeSystem: 2.16.840.1.1133883.6.90 ICD-10 CM) (CONF:10809)
  - *NEMESIS Trace: ESituation.10*

## Oxygen Saturation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.177]

*Measurement of the patient's arterial blood oxygen saturation*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.177"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11281)
3. **SHALL** contain exactly one [1..1] code/@code="2708-6" *Oxygen saturation in Arterial blood* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10291)
4. **MAY** contain zero or one [0..1] effectiveTime (CONF:11348)
5. **SHALL** contain exactly one [1..1] value with @xsi:type="PQ" (CONF:10292)
  - *NEMESIS Trace: EVitals.12*  
*UCUM units will typically be "%".*

## Pain Score

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.164]

*Assessment of the patient's level of pain*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.164"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11299)
3. **SHALL** contain exactly one [1..1] code/@code="56840-2" *Pain severity verbal numeric scale* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10306)
4. **MAY** contain zero or one [0..1] effectiveTime (CONF:11300)
  - *NEMESIS Trace: EVitals.01*
5. contain exactly one [1..1] value with @xsi:type="INT"

- *NEMESIS Trace: EVitals.27*  
*An ordinal value between 0 and 10, inclusive. There are three scales, but the values are equivalent.*

## Patient Age

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.81]

*The age of the patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.81"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11194)
3. **SHALL** contain exactly one [1..1] code (CONF:10427)/@code="30525-0" Age (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10428)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="PQ" (CONF:10429)
  - *NEMESIS Trace: EPatient.15, 16*  
*UCUM units SHOULD be 'min' 'h' 'd' 'wk' 'mo' or 'a'*

## Patient Arrived At Destination Time

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[Observation: templateId 2.16.840.1.1133883.17.3.10.1.44]

*The time the EMS crew delivered the patient to the destination*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.44"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11149)
3. **SHALL** contain exactly one [1..1] code (CONF:10859)/@code="69476-0" Responding unit arrived with the patient at the destination or transfer point [Date and time] Vehicle NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10858)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="TS" (CONF:10860)
  - *NEMESIS Trace: ETimes.11*

## Patient Body Weight

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[Observation: templateId 2.16.840.1.1133883.17.3.10.1.178]

*Patient's body weight*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.178"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11220)
  - *NEMESIS Trace: EExam.03*
3. **SHALL** contain exactly one [1..1] code/@code="8335-2" Body weight Estimated (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10363)

4. contain exactly one [1..1] **effectiveTime**
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:10364)
  - *NEMESIS Trace: EExam.01*  
*UCUM units should be 'kg'*

## Patient Condition At Destination Observation

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.37]

*Whether the patient's condition had changed on arrival at destination*

Contained By	Contains
<i>EMS Disposition Section</i>	

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.37"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11142)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10694)/**@code**="77941-3" *Final patient acuity NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10693)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:10695), which **SHALL** be selected from ValueSet *PatientCondition* 2.16.840.1.1133883.17.3.11.59 **DYNAMIC** (CONF:10696)
  - *NEMESIS Trace: EDisposition.19*

### Patient Condition At Destination Observation example

Error: Missing Runtime Class

## Patient Location In Vehicle

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.55]

*Patient's location in a vehicle during a vehicle collision*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.55"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11160)
3. **SHALL** contain exactly one [1..1] **code**/**@code**="67498-6" *Location of patient in vehicle NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10120)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", which **SHALL** be selected from ValueSet *VehiclePassengerLocation* 2.16.840.1.1133883.17.3.11.6 **DYNAMIC** (CONF:10121)
  - *NEMESIS Trace: EInjury.06*

## Patient On Anticoagulants

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.76]

*Indication of whether patient is on anticoagulant medication*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.76"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11189)
3. **SHALL** contain exactly one [1..1] **code/@code**="69749-0" *Is the patient on anticoagulants NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10227)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10228)
  - *NEMESIS Trace: If EHistory.12 has the value "No anticoagulants," the value is False*

## Patient Pregnancy

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[Observation: **templateId** 2.16.840.1.113883.17.3.10.1.79]

*Indication of whether the patient is pregnant*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.79"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11192)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10418)/**@code**="67471-3" *Pregnancy* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10419)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10420), which **SHALL** be selected from ValueSet [Pregnancy](#) 2.16.840.1.113883.17.3.11.42 **DYNAMIC** (CONF:10421)
  - *NEMESIS Trace: EHistory.18*

## Pelvic And Genitourinary Assessment

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[Observation: **templateId** 2.16.840.1.113883.17.3.10.1.118]

*Qualitative assessment of condition of patient's pelvic and genitourinary region*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.118"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11236)
3. **SHALL** contain exactly one [1..1] **code/@code**="67531-4" *Physical findings of Pelvis+Genitourinary NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10390)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:11237)
  - *NEMESIS Trace: EExam.03*
5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10392), which **SHALL** be selected from ValueSet [PelvisGenitourinaryAssessment](#) 2.16.840.1.113883.17.3.11.33 **DYNAMIC** (CONF:10391)
  - *NEMESIS Trace: EExam.12*

## Physical Assessment Organizer

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[Organizer: templateId 2.16.840.1.1133883.17.3.10.1.78]

*A collection of qualitative assessments of the patient's physical condition*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.78"
2. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11103)
  - a. This component contains zero or more [0..\*] **observation**, where its type is [Skin Assessment](#)
3. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11105)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Head Assessment](#) (CONF:11104)
4. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11342)
  - a. This component contain exactly one [1..1] **observation**, where its type is [Neurological Assessment](#)
5. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11107)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Face Assessment](#) (CONF:11106)
6. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11109)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Neck Assessment](#) (CONF:11108)
7. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11111)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Chest And Lungs Assessment](#) (CONF:11110)
8. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11113)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Heart Assessment](#) (CONF:11112)
9. **MAY** contain zero or more [0..\*] **component** {subsets Organizer::component} (CONF:11115)
  - a. Such components **SHALL** contain exactly one [1..1] **observation**, where its type is [Abdomen Assessment](#) (CONF:11114)
10. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11117)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is [Pelvic And Genitourinary Assessment](#) (CONF:11116)
11. **MAY** contain zero or more [0..\*] **component** {subsets Organizer::component} (CONF:11119)
  - a. Such components **SHALL** contain exactly one [1..1] **observation**, where its type is [Back And Spine Assessment](#) (CONF:11118)
12. **MAY** contain zero or more [0..\*] **component** {subsets Organizer::component} (CONF:11121)
  - a. Such components **SHALL** contain exactly one [1..1] **observation**, where its type is [Extremities Assessment](#) (CONF:11120)
13. **MAY** contain zero or more [0..\*] **component** {subsets Organizer::component} (CONF:11123)
  - a. Such components **MAY** contain exactly one [1..1] **observation**, where its type is [Eye Assessment](#) (CONF:11122)
14. **MAY** contain zero or one [0..1] **component** {subsets Organizer::component} (CONF:11125)
  - a. This component **MAY** contain exactly one [1..1] **observation**, where its type is [Mental Status Assessment](#) (CONF:11124)

## Possible Injury

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.64]

*Indicator of whether a patient may have an injury*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.64"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11171)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10792)/**@code**="69467-9" *Possible injury NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10793)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10794)
  - *NEMESIS Trace: ESituation.02*

## Prearrival Activation Observation

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.36]

*Indication of whether destination was activated prior to patient arrival*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.36"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11141)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10689)/**@code**="69462-0" *Activation of the destination healthcare facility team NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10688)
4. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10691)
  - *NEMESIS Trace: EDisposition.25*  
*Required if value is TRUE*
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10690)
  - *NEMESIS Trace: EDisposition.24*

## Primary Destination Hospital Capability

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.104]

*The primary hospital capability associated with the patient's condition for this transport*

Contained By	Contains
<i>EMS Disposition Section</i>	

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.104"
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.1133883.5.6 HL7ActClass) (CONF:11357)
3. **SHALL** contain exactly one [1..1] **@moodCode** (CONF:11360)

4. **SHALL** contain exactly one [1..1] **code** (CONF:11358)/@code="77155-0" *Hospital designation capability* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:11359)
5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:11361), which **SHALL** be selected from ValueSet [PrimaryHospitalCapability](#) 2.16.840.1.113883.17.3.11.104 **STATIC** (CONF:11362)
  - *NEMESIS trace: eDisposition.23 (Hospital Capability)*

#### Primary Destination Hospital Capability example

Error: Missing Runtime Class

## Primary Symptom

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.66]

*The primary symptom present in the patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.66"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11173)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10801)/@code="67774-0" *Primary sign and symptom NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10802)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:10803), which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM) (CONF:10804)
  - *NEMESIS Trace: ESituation.09*

## Prior AED Use

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.126]

*Indication of whether an automated external defibrillator was used on the patient prior to EMS arrival*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.126"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11249)
3. **SHALL** contain exactly one [1..1] **code**/@code="67508-2" *AED use prior to EMS arrival NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10171)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", which **SHALL** be selected from ValueSet [AEDUsePriorToEMSArrival](#) 2.16.840.1.113883.17.3.11.13 **DYNAMIC** (CONF:10172)
  - *NEMESIS Trace: EArrest.07*
5. **MAY** contain zero or one [0..1] **participant** (CONF:10173)
  - a. This participant **SHALL** contain exactly one [1..1] @typeCode="RESP" (CONF:11250)
  - b. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:10174)
    - a. This participantRole **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [PriorCareProviderRole](#) 2.16.840.1.113883.17.3.11.12 **DYNAMIC** (CONF:10175)
      - *NEMESIS Trace: EArrest.08*



## Prior Aid Vitals

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.29]

*Indication of whether this set of vital signs was obtained prior to the documenting EMS unit's care*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.29"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11131)
3. **SHALL** contain exactly one [1..1] **code/@code**="67518-1" *Obtained prior to units EMS care NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10273)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:11132)
  - *NEMESIS Trace: EVitals.02*

## Prior CPR

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.125]

*Indication of whether CPR was provided prior to the documenting EMS unit's care*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.125"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11247)
3. **SHALL** contain exactly one [1..1] **code/@code**="67506-6" *CPR prior to EMS arrival NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10163)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10164)
  - *NEMESIS Trace: EArrest.05*
5. **MAY** contain zero or one [0..1] **participant** (CONF:10165)
  - a. This participant **SHALL** contain exactly one [1..1] **@typeCode**="RESP" (CONF:11248)
  - b. This participant **SHALL** contain exactly one [1..1] **participantRole** (CONF:10943)
    - a. This participantRole **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [PriorCareProviderRole](#) 2.16.840.1.113883.17.3.11.12 **DYNAMIC** (CONF:10167)
      - *NEMESIS Trace: eArrest.06*

## Procedure

---

[Procedure: templateId 2.16.840.1.1133883.17.3.10.1.181]

*Procedure performed by EMS unit*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.181"
2. **MAY** contain zero or one [0..1] **@negationInd** (CONF:11212)
  - *Required to document a procedure not performed, with required "reason not performed" observation*
3. **SHALL** contain exactly one [1..1] **code** (CONF:10496)

- *NEMESIS Trace: EProcedures.03, for which use ICD10-PCS and EArrest.09, for which use Cardiopulmonary Resuscitation type (VS 2.16.840.1.113883.17.3.11.57) and EArrest.10 (therapeutic hypothermia); include here as ICD-10 PCS "6A4" using negation indicator if not done and EArrest.03:*  
*3003001 Attempted Defibrillation = ICD10-PCS Defibrillation 5A2204Z*  
*3003005 Initiated Chest Compressions: use more detailed Cardiopulmonary Resuscitation Type (2.16.840.1.113883.17.3.11.57); reader may infer from this value if necessary*  
*3003003 Attempted Ventilation: use more detailed Cardiopulmonary Resuscitation Type (2.16.840.1.113883.17.3.11.57); reader may infer from this value if necessary*  
*3003007 Not Attempted-Considered Futile = Assistance 5A0; procedure negation = True; ReasonNotAttempted required*  
*3003009 Not Attempted-DNR Orders = Assistance 5A0; procedure negation = True; ReasonNotAttempted required*  
*3003011 Not Attempted-Signs of Circulation = Assistance 5A0; procedure negation = True; ReasonNotAttempted required*
- 4. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10498)  
*Required for cardiac resuscitation procedures (eArrest.16)*
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Abandoned Procedure Reason Observation* (CONF:10510)
- 5. **MAY** contain zero or one [0..1] **statusCode** (CONF:10499), which **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:10500)
  - *NEMESIS Trace: EArrest.15*  
*Use value "aborted" for discontinued resuscitation (eArrest.15)*
- 6. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10497)
  - *NEMESIS Trace: EProcedures.01 goes in effectiveTime.low*  
*If an abandoned time is recorded, EArrest.15 goes in effectiveTime.high*
- 7. **MAY** contain zero or one [0..1] **approachSiteCode** (CONF:10502), which **SHALL** be selected from ValueSet *Infusion Site* 2.16.840.1.113883.17.3.11.56 **DYNAMIC** (CONF:10501)
  - *NEMESIS Trace: EProcedures.13*  
*Required conditionally if procedure code is insertion of an infusion device*  
*Some NEMESIS values require additional information: see Appendix for details.*
- 8. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10503)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Procedure Prior Indicator* (CONF:10515)
- 9. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10504)  
*Important for airway insertion*
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Procedure Number Of Attempts Observation* (CONF:10519)  
*NEMESIS Trace: EProcedures.05*
- 10. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10505)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Procedure Successful Observation* (CONF:10523)
- 11. **SHALL** contain at least one [1..\*] **entryRelationship** (CONF:10506)
  - a. Such entryRelationships **SHALL** contain exactly one [1..1] **observation**, where its type is *Procedure Complications Observation* (CONF:10527)
- 12. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10507)

- a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Procedure Patient Response Observation* (CONF:10531)
- 13. **SHALL** contain at least one [1..\*] **performer** (CONF:10508)
  - a. Such performers **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:10536)
    - a. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:10537), which **SHALL** be selected from ValueSet *ProviderRole* 2.16.840.1.113883.17.3.11.46 **DYNAMIC** (CONF:10538)  
*NEMESIS Trace: EProcedures.10*
    - b. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:10539)  
*NEMESIS Trace: EProcedures.09, ID equal to the EMS professional's agency ID number*
- 14. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10509)  
*NEMESIS Trace: EAirway.04; required if procedure code is airway placement, i.e., 0CHY7BZ*
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Airway Confirmation Observation* (CONF:10540)
- 15. **MAY** contain zero or one [0..1] **entryRelationship** (CONF:11089)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**, where its type is *Reason Procedure Not Attempted Observation* (CONF:11088)
- 16. **SHALL** contain zero or more [0..\*] **participant** {subsets Procedure::participant} (CONF:11387)
  - a. Such participants **SHALL** contain exactly one [1..1] **participantRole** (CONF:10548)
    - a. This participantRole **SHALL** contain exactly one [1..1] **playingDevice** (CONF:10549)
      - a. This playingDevice **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet *AirwayDeviceType* 2.16.840.1.113883.17.3.11.61 **DYNAMIC** (CONF:10550)  
*NEMESIS Trace: EAirway.03*

## Procedure Complications Observation

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.179]

*Complications associated with a procedure performed by the EMS unit*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.179"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11259)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10528)/**@code**="67545-4" *Procedure complication* *NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10529)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet *ProcedureComplicationType* 2.16.840.1.113883.17.3.11.58 **DYNAMIC** (CONF:10530)
  - *NEMESIS Trace: EProcedures.07*

## Procedure Number Of Attempts Observation

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.132]

*How many times the EMS unit attempted a procedure*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.132"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11257)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10520)/**@code**="67543-9" *Procedure attempts [#]* NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10521)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="INT" (CONF:10522)
  - NEMESIS Trace: EProcedures.05

## Procedure Patient Response Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.135]

*How a patient responded to a procedure*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.135"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11260)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10532)/**@code**="67546-2" *Response to procedure NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10533)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10534), which **SHALL** be selected from ValueSet [ChangeInPatientStatus](#) 2.16.840.1.1133883.17.3.11.78 **DYNAMIC** (CONF:10535)
  - NEMESIS Trace: EProcedures.08

## Procedure Prior Indicator

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.131]

*Indication of whether a procedure was provided prior to the documenting EMS unit's care*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.131"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11256)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10516)/**@code**="67542-1" *Procedure performed prior to this units EMS care NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10517)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10518)
  - NEMESIS Trace: EProcedures.02

## Procedure Successful Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.133]

*Indication of whether a procedure was successful*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.133"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11258)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10524)/**@code**="67544-7" *Procedure successful NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10525)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="BL" (CONF:10526)
  - *NEMESIS Trace: EProcedures.06*

## Protocol Age Category

---

[Observation: **templateId** 2.16.840.1.1133883.17.3.10.1.149]

*Age range for which a protocol is appropriate*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.149"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11282)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10723)/**@code**="67538-9" *Protocol age category NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10724)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10725), which **SHALL** be selected from ValueSet [ProtocolAgeCategory](#) 2.16.840.1.1133883.17.3.11.86 **DYNAMIC** (CONF:10726)
  - *NEMESIS Trace: EProtocols.02*

## Protocol Observation

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[Observation: **templateId** 2.16.840.1.1133883.17.3.10.1.93]

*The protocol used by EMS personnel to direct the clinical care of the patient*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.93"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11209)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10719)/**@code**="67537-1" *Protocol used NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10718)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10720), which **SHALL** be selected from ValueSet [Protocol](#) 2.16.840.1.1133883.17.3.11.73 **DYNAMIC** (CONF:10721)
  - *NEMESIS Trace: EProtocols.01*
5. contain exactly one [1..1] **entryRelationship**
  - a. This **entryRelationship** **SHALL** contain exactly one [1..1] **observation**, where its type is [Protocol Age Category](#) (CONF:11073)

## Provider Primary Impression

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.65]

*The EMS personnel's impression of the patient's primary problem or most significant condition*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.65"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11172)
3. **SHALL** contain exactly one [1..1] code (CONF:10796)/@code="67492-9" Primary problem NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10797)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:10798), which **SHALL** be selected from (CodeSystem: 2.16.840.1.1133883.6.90 ICD-10 CM) (CONF:10799)
  - NEMESIS Trace: ESituation.11

## Provider Secondary Impressions

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.68]

*The EMS personnel's impression of the patient's secondary problems or conditions*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.68"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11175)
3. **SHALL** contain exactly one [1..1] code (CONF:10811)/@code="69542-9" Secondary problem NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10812)
4. **SHALL** contain at least one [1..\*] value with @xsi:type="CD" (CONF:10813), which **SHALL** be selected from (CodeSystem: 2.16.840.1.1133883.6.90 ICD-10 CM) (CONF:10814)
  - NEMESIS Trace: ESituation.12

## Reason For Choosing Destination Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.35]

*The reason the unit chose to deliver the patient to the destination*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.35"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11140)
3. **SHALL** contain exactly one [1..1] code (CONF:10684)/@code="67552-0" Reason for choosing destination NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10683)
4. **SHALL** contain at least one [1..\*] value with @xsi:type="CD" (CONF:10685), which **SHALL** be selected from ValueSet [DestinationChoiceReason](#) 2.16.840.1.1133883.17.3.11.68 **DYNAMIC** (CONF:10686)
  - NEMESIS Trace: EDisposition.20



## Reason Procedure Not Attempted Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.137]

*Why the EMS crew did not attempt to perform a procedure*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.137"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11262)
3. **SHALL** contain exactly one [1..1] code/@code="67504-1" Reason resuscitation not attempted NEMESIS (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:11263)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD" (CONF:11264), which **SHALL** be selected from ValueSet Reason Procedure not Performed Superset 2.16.840.1.1133883.17.3.11.100 DYNAMIC (CONF:11265)
  - NEMESIS Trace: EProcedures.03 pertinent negatives, EArrest.03 negative values  
This is a superset of both value sets: the question is the same, even if the .90 values are appropriate only for CPR and the .95 for all other procedures.  
Note: CPR procedures have appropriate values "Not Attempted-Considered Futile," "Not Attempted-DNR Orders," "Not Attempted-Signs of Circulation"; other procedures have values "Contraindication Noted," "Denied By Order," "Refused," "Unable to Complete"

## Respiratory Rate

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.146]

*Patient's rate of respiration*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.146"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11276)
3. **SHALL** contain exactly one [1..1] code/@code="9279-1" Respiratory rate (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10287)
4. **MAY** contain zero or one [0..1] effectiveTime (CONF:11277)
  - NEMESIS Trace: EVitals.01
5. **SHALL** contain exactly one [1..1] value with @xsi:type="PQ" (CONF:10288)
  - NEMESIS Trace: EVitals.14  
UCUM units SHOULD be "/min".

## Response Beginning Odometer Reading

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.171]

*Odometer reading for the EMS vehicle when dispatched*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.171"

2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11314)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10631)/**@code**="67484-6" *Counter or odometer reading NEMSIS --beginning of call* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10632)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10633)
  - *NEMSIS Trace: EResponse.19*  
*UCUM units SHOULD be "[mi\_i]"*

## Response Delay

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.154]

*Causes of delay to the response process*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.154"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11287)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10595)/**@code**="67557-9" *Response delay NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10594)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10597), which **SHALL** be selected from ValueSet [ResponseDelayType](#) 2.16.840.1.113883.17.3.11.51 **DYNAMIC** (CONF:10596)
  - *NEMSIS Trace: EResponse.09*

## Response Destination Odometer Reading

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.173]

*Odometer reading for the EMS vehicle at patient destination*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.173"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11316)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10639)/**@code**="67486-1" *Counter or odometer reading NEMSIS --patient destination* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10640)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10641)
  - *NEMSIS Trace: EResponse.21*  
*UCUM units SHOULD be "[mi\_i]"*

## Response Ending Odometer Reading

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.174]

*Odometer reading for the EMS vehicle when call is complete*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.174"



2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11317)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10643)/**@code**="67487-9" *Counter or odometer reading NEMSIS --end of call* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10644)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10645)
  - *NEMSIS Trace: EResponse.22*  
*UCUM units SHOULD be "[mi\_i]"*

## Response Mode Qualifier

[Observation: templateId 2.16.840.1.113883.17.3.10.1.191]

*Characteristics of the response mode*

Contained By	Contains
<a href="#">Response Mode To Scene</a>	

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.191"
2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:11371)
3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11374)
4. **SHALL** contain exactly one [1..1] **code** (CONF:11372)/**@code**="77157-6" *Response mode descriptors* (CONF:11373)
5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:11376), which **SHALL** be selected from ValueSet [ResponseModeQualifier](#) 2.16.840.1.113883.17.3.11.106 **DYNAMIC** (CONF:11375)
  - *NEMSIS Trace: eResponse.24 (Additional Response Mode Descriptors)*

### Response Mode Qualifier example

```
Error: Missing Runtime Class
```

## Response Mode To Scene

[Observation: templateId 2.16.840.1.113883.17.3.10.1.182]

*Indication of whether the response was emergent or non-emergent*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.182"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11211)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10647)/**@code**="67482-0" *Response mode to scene NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10648)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10650), which **SHALL** be selected from ValueSet [TransportationMode](#) 2.16.840.1.113883.17.3.11.66 **DYNAMIC** (CONF:10649)

- NEMESIS Trace: EResponse.23
- 5. **SHALL** contain [1..1] **entryRelationship** (CONF:11343)
  - a. Contains exactly one [1..1] *Response Mode Qualifier* (templateId: 2.16.840.1.1133883.17.3.10.1.191)

## Response Odometer Reading Organizer

---

[Organizer: templateId 2.16.840.1.1133883.17.3.10.1.97]

*Collection of odometer readings at various points in an EMS crew's trip*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.97"
2. **MAY** contain zero or one [0..1] **component** (CONF:10626)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Response Beginning Odometer Reading* (CONF:10630)
3. **MAY** contain zero or one [0..1] **component** (CONF:10627)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Response On Scene Odometer Reading* (CONF:10634)
4. **MAY** contain zero or one [0..1] **component** (CONF:10628)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Response Destination Odometer Reading* (CONF:10638)
5. **MAY** contain zero or one [0..1] **component** (CONF:10629)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Response Ending Odometer Reading* (CONF:10642)

## Response On Scene Odometer Reading

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.172]

*Odometer reading for the EMS vehicle when the unit arrives at the patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.172"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11315)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10635)/**@code**="67485-3" *Counter or odometer reading NEMESIS --patient arrival* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10636)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="PQ" (CONF:10637)
  - NEMESIS Trace: EResponse.20  
UCUM units SHOULD be "[mi\_i]"

## Return Of Spontaneous Circulation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.128]

*Indication whether or not there was any return of spontaneous circulation, and if so, when*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.128"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11252)
3. **SHALL** contain exactly one [1..1] **code/@code**="67513-2" *Return of spontaneous circulation NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10184)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:11253), which **SHALL** be selected from ValueSet [ReturnOfSpontaneousCirculation](#) 2.16.840.1.1133883.17.3.11.15 **DYNAMIC** (CONF:10185)
  - *NEMESIS Trace: EArrest.12*

## Scene Delay

---

[Observation: **templateId** 2.16.840.1.1133883.17.3.10.1.155]

*Causes of delay at the event scene*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.155"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11288)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10600)/**@code**="67558-7" *Scene delay NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10599)
4. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10602), which **SHALL** be selected from ValueSet [SceneDelayType](#) 2.16.840.1.1133883.17.3.11.52 **DYNAMIC** (CONF:10601)
  - *NEMESIS Trace: EResponse.10*

## Scene Patient Count

---

[Observation: **templateId** 2.16.840.1.1133883.17.3.10.1.86]

*How many patients were at the scene*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.86"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11199)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10750)/**@code**="67489-5" *Total patients at the scene NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10749)
4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="INT" (CONF:10751)
  - *NEMESIS Trace: EScene.06*

## Skin Assessment

---

[Observation: **templateId** 2.16.840.1.1133883.17.3.10.1.180]

*Qualitative assessment of condition of patient's skin*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.180"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11223)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10368)/**@code**="67524-9" *Physical findings of Skin NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10369)
4. **MAY** contain exactly one [1..1] **effectiveTime** (CONF:11386)
  - *NEMSIS Trace: EExam.03*
5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD" (CONF:10370), which **SHALL** be selected from ValueSet *SkinAssessment* 2.16.840.1.113883.17.3.11.25 **DYNAMIC** (CONF:10371)
  - *NEMSIS Trace: EExam.04*

## Stroke Score

---

[Observation: **templateId** 2.16.840.1.113883.17.3.10.1.163]

*Result of a stroke scale instrument*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.163"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11297)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10308)/**@code**="67520-7" *Stroke scale overall interpretation NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10307)
4. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:11298)
  - *NEMSIS Trace: EVitals.01*
5. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10310), which **SHALL** be selected from ValueSet *Stroke Scale Interpretation* 2.16.840.1.113883.17.3.11.93 **DYNAMIC** (CONF:10309)
  - *NEMSIS Trace: EVitals.29*
6. **SHALL** contain exactly one [1..1] **methodCode** (CONF:10312), which **SHALL** be selected from ValueSet *StrokeScale* 2.16.840.1.113883.17.3.11.88 **DYNAMIC** (CONF:10311)
  - *NEMSIS Trace: EVitals.30*

## Systolic Blood Pressure

---

[Observation: **templateId** 2.16.840.1.113883.17.3.10.1.23.1]

*Measurement of the patient's systolic blood pressure*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.23.1"
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11271)
3. **SHALL** contain exactly one [1..1] **code**/ **@code**="8480-6" *Systolic blood pressure* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10280)
4. **MAY** contain zero or one [0..1] **effectiveTime** (CONF:7304)
  - *NEMSIS Trace: EVitals.01*

5. **SHALL** contain exactly one [1..1] **value** with @xsi:type="PQ" (CONF:10281)
  - *NEMESIS Trace: EVitals.06*  
*UCUM units SHOULD be "mm[Hg]"*.
6. **SHALL** contain zero or more [0..\*] **methodCode** (CONF:11344), which **SHALL** be selected from ValueSet *BloodPressureMeasurementMethod* 2.16.840.1.113883.17.3.11.107 **STATIC** (CONF:11345)
  - *NEMESIS Trace: eVitals.08 (method of blood pressure measurement)*

## Thrombolytic Contraindications

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.82]

*Indicator of contraindications to thrombolytic use*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.82"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11195)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10431)/@code="67523-1" *Contraindication for thrombolytic use NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10432)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD", which **SHALL** be selected from ValueSet *ExistenceOfContraindicationsToThrombolyticUse* 2.16.840.1.113883.17.3.11.41 **DYNAMIC** (CONF:10433)
  - *NEMESIS Trace: EVitals.31*

## Transport Delay

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.156]

*Causes of delay to the transport process*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.156"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11289)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10605)/@code="67559-5" *Transport delay NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10604)
4. **SHALL** contain at least one [1..\*] **value** with @xsi:type="CD" (CONF:10607), which **SHALL** be selected from ValueSet *TransportDelayType* 2.16.840.1.113883.17.3.11.53 **DYNAMIC** (CONF:10606)
  - *NEMESIS Trace: EResponse.11*

## Transport Method Observation

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.34]

*Vehicle or device used to transport patient*

1. **SHALL** contain exactly one [1..1] templateId such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.34"
- 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11139)
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:10679)/**@code**="67549-6" *Transport method NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10678)
- 4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10680), which **SHALL** be selected from ValueSet *TransportMethod* 2.16.840.1.1133883.17.3.11.65 **DYNAMIC** (CONF:10681)
  - *NEMESIS Trace: EDisposition.16*

## Transport Mode Observation

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.33]

*Indication of whether the transport was emergent or non-emergent*

- 1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.33"
- 2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11138)
- 3. **SHALL** contain exactly one [1..1] **code** (CONF:10674)/**@code**="67550-4" *Transport mode from scene NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10673)
- 4. **SHALL** contain exactly one [1..1] **value** with **@xsi:type**="CD" (CONF:10675), which **SHALL** be selected from ValueSet *TransportationMode* 2.16.840.1.1133883.17.3.11.66 **DYNAMIC** (CONF:10676)
  - *NEMESIS Trace: EDisposition.17 (disposition transport mode)*
- 5. **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:11379)
  - a. This **entryRelationship** contain exactly one [1..1] **@typeCode**="COMP"
  - b. This **entryRelationship** **SHALL** contain exactly one [1..1] **observation**, where its type is *Transport Mode Qualifier* (CONF:11339)

## Transport Mode Qualifier

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.193]

*Characteristics of the transport mode*

- 1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.193"
- 2. **SHALL** contain exactly one [1..1] **@classCode**="OBS" *Observation* (CodeSystem: 2.16.840.1.1133883.5.6 HL7ActClass) (CONF:11353)
- 3. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11378)
- 4. **SHALL** contain exactly one [1..1] **code** (CONF:11354)/**@code**="77153-5" *Transport Mode Descriptors* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:11355)
- 5. **SHALL** contain at least one [1..\*] **value** with **@xsi:type**="CD", which **SHALL** be selected from ValueSet *TransportModeQualifier* 2.16.840.1.1133883.17.3.11.102 **DYNAMIC** (CONF:11356)
  - *NEMESIS Trace: eDisposition.18 (additional transport mode descriptors)*

**Transport Mode Qualifier example**

```
Error: Missing Runtime Class
```

**Trauma Center Criteria**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.52]

*Field Triage Criteria for transport to a trauma center as defined by the Centers for Disease Control and Prevention and the American College of Surgeons-Committee on Trauma*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.52"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11157)
3. **SHALL** contain exactly one [1..1] code/@code="67495-2" *CDC field triage criteria NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10111)
4. **SHALL** contain at least one [1..\*] value with @xsi:type="CD", which **SHALL** be selected from ValueSet [TraumaCenterCriteria](#) 2.16.840.1.1133883.17.3.11.3 **DYNAMIC** (CONF:10112)
  - *NEMESIS Trace: EInjury.03*

**Turnaround Delay**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.157]

*Causes of delay to the unit turnaround process*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.157"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11290)
3. **SHALL** contain exactly one [1..1] code (CONF:10610)/@code="67560-3" *Turn-around delay NEMESIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10609)
4. **SHALL** contain at least one [1..\*] value with @xsi:type="CD" (CONF:10612), which **SHALL** be selected from ValueSet [TurnAroundDelayType](#) 2.16.840.1.1133883.17.3.11.54 **DYNAMIC** (CONF:10611)
  - *NEMESIS Trace: EResponse.12*

**Unit At Patient Time**

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.42]

*Time the unit arrived at the patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.42"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11147)



3. **SHALL** contain exactly one [1..1] **code** (CONF:10851)/@**code**="69474-5" *Responding unit arrived at the patient's side [Date and time] Vehicle NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10850)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="TS" (CONF:10852)
  - *NEMESIS Trace: ETimes.07*

## Unit Back In Service Time

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.45]

*Time the unit is back in service*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @**root**="2.16.840.1.113883.17.3.10.1.45"
2. **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11150)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10863)/@**code**="69477-8" *Unit was back in service and available for response [Date and time] Vehicle NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10862)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="TS" (CONF:10864)
  - *NEMESIS Trace: ETimes.13*

## Unit En Route Time

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.40]

*Time unit begins moving toward the patient*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @**root**="2.16.840.1.113883.17.3.10.1.40"
2. **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11145)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10843)/@**code**="69472-9" *Unit responded [Date and time] Vehicle NEMESIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10842)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="TS" (CONF:10844)
  - *NEMESIS Trace: ETimes.05*

## Unit Left Scene Time

---

[Observation: templateId 2.16.840.1.113883.17.3.10.1.43]

*Time the unit left the incident scene*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @**root**="2.16.840.1.113883.17.3.10.1.43"
2. **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11148)



3. **SHALL** contain exactly one [1..1] **code** (CONF:10855)/@code="69475-2" *Responding unit left the scene with a patient [Date and time] Vehicle NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10854)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="TS" (CONF:10856)
  - *NEMSIS Trace: ETimes.09*

## Unit Level Of Care Capability

[Observation: templateId 2.16.840.1.113883.17.3.10.1.190]

*The level of care the unit is able to provide*

Contained By	Contains
<a href="#">EMS Response Section</a>	

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.190"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11368)
3. **SHALL** contain exactly one [1..1] **code** (CONF:11382)/@code="77156-8" *EMS level of care capability* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:11367)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="CD" (CONF:11369), which **SHALL** be selected from ValueSet [UnitLevelOfCare](#) 2.16.840.1.113883.17.3.11.105 **STATIC** (CONF:11370)
  - *NEMSIS Trace: eResponse.15 (Unit level of care)*

### Unit Level Of Care Capability example

Error: Missing Runtime Class

## Unit Notified Time

[Observation: templateId 2.16.840.1.113883.17.3.10.1.39]

*Time the unit was dispatched*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.113883.17.3.10.1.39"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:11144)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10839)/@code="69471-1" *Responding unit was notified by dispatch [Date and time] Vehicle NEMSIS* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10838)
4. **SHALL** contain exactly one [1..1] **value** with @xsi:type="TS" (CONF:10840)
  - *NEMSIS Trace: ETimes.03*  
*This is the value represented in the header for the encompassing encounter*

## Unit On Scene Time

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.41]

*Time the unit arrived at the incident scene*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.41"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11146)
3. **SHALL** contain exactly one [1..1] code (CONF:10847)/@code="69473-7" *Responding unit arrived on the scene [Date and time] Vehicle NEMSIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10846)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="TS" (CONF:10848)
  - *NEMSIS Trace: ETimes.06*

## Vehicle Impact Area

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.54]

*Area of vehicle struck in a vehicle collision*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.54"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11159)
3. **SHALL** contain exactly one [1..1] code/@code="67497-8" *Location of impact on the vehicle NEMSIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10117)
4. **SHALL** contain exactly one [1..1] value with @xsi:type="CD", which **SHALL** be selected from ValueSet [VehicleImpactArea](#) 2.16.840.1.1133883.17.3.11.5 **DYNAMIC** (CONF:10118)
  - *NEMSIS Trace: EInjury.05*

## Vehicle Occupant Safety Equipment

---

[Observation: templateId 2.16.840.1.1133883.17.3.10.1.56]

*Safety equipment in use by the patient at the time of the injury*

1. **SHALL** contain exactly one [1..1] templateId such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.56"
2. **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11161)
3. **SHALL** contain exactly one [1..1] code/@code="67499-4" *Safety equipment NEMSIS* (CodeSystem: 2.16.840.1.1133883.6.1 LOINC) (CONF:10123)
4. **SHALL** contain at least one [1..\*] value with @xsi:type="CD", which **SHALL** be selected from ValueSet [SafetyEquipmentType](#) 2.16.840.1.1133883.17.3.11.7 **DYNAMIC** (CONF:10124)
  - *NEMSIS Trace: EInjury.07*

## Vital Signs Organizer

[Organizer: templateId 2.16.840.1.1133883.17.3.10.1.28]

*A collection vital signs observations*

*For any observation within the organizer, if the NEMESIS value is "Refused," the value SHALL be "NI;" the string "Refused" MAY be recorded in Observation.text.*

*Note that NEMESIS collects times at the vitals cluster level, whereas systems may record them at the observation level. No preference is indicated regarding how close individual observation timestamps must be to allow their inclusion in a cluster or how the cluster effectiveTime is determined. effectiveTime is modeled on the observations to support unanticipated uses and to conform more closely to the Consolidated CDA pattern, though the exclusion of the id property makes it impossible to assert compliance to the Consolidated template in this guide (though it remains possible to do so in an implementation).*

1. **SHALL** contain exactly one [1..1] **templateId** such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.1133883.17.3.10.1.28"
2. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10257)
  - *NEMESIS Trace: EVitals.01*
3. **SHALL** contain exactly one [1..1] **component** (CONF:11078)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Systolic Blood Pressure* (CONF:11077)
4. **SHOULD** contain zero or one [0..1] **component** (CONF:11080)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Diastolic Blood Pressure* (CONF:11079)
5. **SHALL** contain exactly one [1..1] **component** (CONF:11082)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Heart Rate* (CONF:11081)
6. **SHALL** contain exactly one [1..1] **component** (CONF:11084)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Respiratory Rate* (CONF:11083)
7. **SHOULD** contain zero or one [0..1] **component** (CONF:11086)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Body Temperature* (CONF:11085)
8. **SHALL** contain exactly one [1..1] **component** {subsets Organizer::component} (CONF:11090)
  - a. This component **SHALL** contain exactly one [1..1] **observation**, where its type is *Oxygen Saturation* (CONF:11087)
9. **SHALL** contain [1..1] **component** (CONF:11335)
  - a. Contains exactly one [1..1] *Prior Aid Vitals* (templateId: 2.16.840.1.1133883.17.3.10.1.29)
10. **SHALL** contain exactly one [1..1] **component** (CONF:11336)
  - a. This component **MAY** contain zero or one [0..1] **effectiveTime** (CONF:11134)
 

*NEMESIS Trace: EVitals.01*
  - b. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.1133883.5.1001 HL7ActMood) (CONF:11133)
  - c. This component **MAY** contain [1..1] **component** (CONF:11094)
  - d. This component **MAY** contain [1..1] **component** (CONF:11096)
  - e. This component **MAY** contain [0..1] **component** (CONF:11095)
  - f. This component **MAY** contain [1..1] **component** (CONF:11097)
  - g. This component **SHALL** contain [1..1] **component** (CONF:11135)

- h. This component **MAY** contain [1..1] **component** (CONF:11093)
- i. This component **MAY** contain [1..1] **component** (CONF:11092)
- j. This component **MAY** contain [1..1] **component** (CONF:11091)
- 11. **SHALL** contain zero or one [0..1] **code** (CONF:11338)/@**code**="46680005" *Vital signs* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) (CONF:11337)
  - *May also use LOINC 74728-7 "Vital signs, weight, height, head circumference, oximetry, BMI, and BSA panel - HL7.CCDAr1.1"*



# Chapter

# 5

## VALUE SETS (Non-normative)

### Topics:

- [\*AED Use Prior To EMS Arrival\*](#)
- [\*Abdomen Assessment Finding\*](#)
- [\*Abdominal Finding Location\*](#)
- [\*Administrative Gender\*](#)
- [\*Administrative Gender Excluding Nulls\*](#)
- [\*Advance Directive Type\*](#)
- [\*Airbag Status\*](#)
- [\*Airway Device Confirmation Method\*](#)
- [\*Airway Device Type\*](#)
- [\*Alcohol Drug Use Indicator\*](#)
- [\*Anatomic Location\*](#)
- [\*Back Spine Assessment Finding\*](#)
- [\*Back Spine Finding Location\*](#)
- [\*Barrier To Care\*](#)
- [\*Blood Pressure Measurement Method\*](#)
- [\*Cardiac Arrest Cause\*](#)
- [\*Cardiac Arrest Outcome\*](#)
- [\*Cardiac Arrest Timing\*](#)
- [\*Cardiac Arrest Witness Role\*](#)
- [\*Cardiac Rhythm Reading\*](#)
- [\*Cardiopulmonary Resuscitation Type\*](#)
- [\*Change In Patient Status\*](#)
- [\*Chest Lung Assessment Finding\*](#)
- [\*Complaint\*](#)
- [\*Complaint Type\*](#)
- [\*Confidentiality\*](#)
- [\*Crew Role Level\*](#)
- [\*Destination Choice Reason\*](#)
- [\*Destination Prearrival Activation\*](#)
- [\*Destination Type\*](#)
- [\*Destination Ward Kind\*](#)
- [\*Disaster Type\*](#)

The following tables summarize the value sets used in this Implementation Guide. Note that for dynamically bound properties, these values may change, so they should be obtained from their source publications. Up-to-date distributions may also be found at NEMESIS.org.

- *Dispatch Delay Type*
- *ECG Type*
- *EMD Performed*
- *EMS Level Of Service*
- *EMS Medication Administration Device*
- *Ethnicity*
- *Ethnicity Group*
- *Existence Of Contraindications To Thrombolytic Use*
- *Extremities Assessment Finding*
- *Extremity Finding Location*
- *Eye Assessment Finding*
- *Eye Finding Location*
- *FDA Route of Administration*
- *Face Assessment Finding*
- *First Monitored Rhythm*
- *Glasgow Coma Score Special Circumstances*
- *HL7 Administrative Gender*
- *HL7 Confidentiality*
- *HL7 Human Language*
- *Head Assessment Finding*
- *Heart Assessment Finding*
- *Human language*
- *IC D-10*
- *ICD-10 CM*
- *ICD-10 PCS*
- *Incident Outcome*
- *Infusion Site*
- *Injury Risk Factor*
- *LOINC*
- *Length Based Weight Class*
- *Level Of Responsiveness*
- *Mechanism Of Injury*
- *Medication Administration Route*
- *Medication Administration Site*
- *Medication Authorization Type*
- *Medication Complication*
- *Medication Not Given Reason*
- *Mental Status Finding*
- *Method Of ECG Interpretation*
- *Neck Assessment Finding*
- *Neurological Assessment Finding*
- *Non Drug Allergy Type*
- *Organ System*

- *Pelvis Genitourinary Assessment*
- *Pregnancy*
- *Primary Hospital Capability*
- *Prior Care Provider Role*
- *Procedure Complication Type*
- *Protocol*
- *Protocol Age Category*
- *Provider Adverse Event Type*
- *Provider Response Role*
- *Provider Role*
- *Race and Ethnicity - CDC*
- *Race Category*
- *Reason Procedure not Performed*
- *Reason Procedure not Performed Superset*
- *Reason Resuscitation Not Attempted*
- *Registry Type*
- *Response Delay Type*
- *Response Mode Qualifier*
- *Resuscitation Discontinue Reason*
- *Return Of Spontaneous Circulation*
- *Rx Norm*
- *Safety Equipment Type*
- *Scene Delay Type*
- *Service Type*
- *Stroke Scale*
- *Stroke Scale Interpretation*
- *Transport Delay Type*
- *Transport Method*
- *Transport Mode Qualifier*
- *Transportation Mode*
- *Trauma Center Criteria*
- *Turn Around Delay Type*
- *Unit Level Of Care*
- *Unit Response Role*
- *Vehicle Impact Area*
- *Vehicle Passenger Location*



## AED Use Prior To EMS Arrival

Value Set	AEDUsePriorToEMSArrival - 2.16.840.1.113883.17.3.11.13
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Use of automated electronic defibrillator, with or without defibrillation

Code	Code System	Print Name
LA17066-4	LOINC	Yes, with defibrillation
LA17067-2	LOINC	Yes, applied without defibrillation
LA32-8	LOINC	No

## Abdomen Assessment Finding

Value Set	AbdomenAssessmentFinding - 2.16.840.1.113883.17.3.11.31
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS abdominal assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17213-2	LOINC	Mass/lesion
LA17214-0	LOINC	Puncture/stab wound
LA17242-1	LOINC	Distention
LA17243-9	LOINC	Guarding
LA17212-4	LOINC	Gunshot wound
LA17246-2	LOINC	Mass-pulsating
LA17247-0	LOINC	Pregnant-palpable uterus
LA17709-9	LOINC	Tenderness
LA18220-6	LOINC	Avulsion
LA18221-4	LOINC	Burn, blistering
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18226-3	LOINC	Foreign body
LA18247-9	LOINC	Bowel sounds-absent
LA18248-7	LOINC	Bowel sounds-present
LA6626-1	LOINC	Normal

Code	Code System	Print Name
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain
LA23814-9	LOINC	Rebound Tenderness
LA23815-6	LOINC	Rigidity
LA17229-8	LOINC	Crush injury
LA22440-4	LOINC	Swelling
LA7423-2	LOINC	Contusion
LA18225-5	LOINC	Deformity

## Abdominal Finding Location

Value Set	AbdominalFindingLocation - 2.16.840.1.113883.17.3.11.32
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Location of finding resulting from EMS abdominal assessment

Code	Code System	Print Name
LA12698-9	LOINC	Left upper quadrant
LA18721-3	LOINC	Generalized
LA18722-1	LOINC	Left lower quadrant
LA18723-9	LOINC	Right upper quadrant
LA18724-7	LOINC	Periumbilical
LA18725-4	LOINC	Right lower quadrant

## Administrative Gender

Value Set	Administrative Gender - 2.16.840.1.113883.1.11.1
Code System	HL7 Administrative Gender - 2.16.840.1.113883.5.1
Definition	Gender of the patient for administrative purposes

## Administrative Gender Excluding Nulls

Value Set	Administrative Gender Excluding Nulls - 2.16.840.1.113883.3.2074.1.1.5
Definition	Gender of the patient for administrative purposes, excluding the problematic value UN

Code	Code System	Print Name
M	AdministrativeGenderCode	Male
F	AdministrativeGenderCode	Female

## Advance Directive Type

Value Set	AdvanceDirectiveType - 2.16.840.1.113883.17.3.11.63
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Type of advance directive documentation

Code	Code System	Print Name
LA137-2	LOINC	None
LA17059-9	LOINC	Other (not listed)
LA17319-7	LOINC	State EMS DNR or medical order form
LA17320-5	LOINC	Other healthcare advanced directive form
LA17321-3	LOINC	Living will
LA17322-1	LOINC	Family/guardian request DNR (but no documentation)

## Airbag Status

Value Set	AirbagStatus - 2.16.840.1.113883.17.3.11.8
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Configuration of airbag deployment

Code	Code System	Print Name
LA17384-1	LOINC	Airbag deployed front
LA17385-8	LOINC	Airbag deployed side
LA17386-6	LOINC	Airbag deployed other (knee, airbelt, etc.)
LA17387-4	LOINC	No airbag deployed
LA17388-2	LOINC	No airbag present
LA46-8	LOINC	Other

## Airway Device Confirmation Method

Value Set	AirwayDeviceConfirmationMethod - 2.16.840.1.113883.17.3.11.60
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Procedure for confirming airway device placement

Code	Code System	Print Name
LA18672-8	LOINC	Auscultation
LA18673-6	LOINC	Bulb syringe aspiration
LA18674-4	LOINC	Colorimetric ETCO2
LA18675-1	LOINC	Condensation in tube
LA18676-9	LOINC	Digital (numeric) ETCO2
LA18677-7	LOINC	Direct re-visualization of tube in place
LA18678-5	LOINC	Endotracheal tube whistle (BAAM, etc)
LA18680-1	LOINC	Visualization of vocal cords
LA18681-9	LOINC	Waveform ETCO2

## Airway Device Type

Value Set	AirwayDeviceType - 2.16.840.1.113883.17.3.11.61
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of airway device

Code	Code System	Print Name
LA18004-4	LOINC	Tracheostomy tube
LA18657-9	LOINC	Cricothyrotomy tube
LA18658-7	LOINC	Endotrachial tube
LA18659-5	LOINC	Other invasive airway
LA18660-3	LOINC	Supraglottic airway device-combitube
LA18661-1	LOINC	Supraglottic airway device-king
LA18662-9	LOINC	Supraglottic airway device-LMA
LA18663-7	LOINC	Supraglottic airway device-other

## Alcohol Drug Use Indicator

Value Set	AlcoholDrugUseIndicator - 2.16.840.1.113883.17.3.11.18
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Indications that a patient may have engaged in alcohol or drug use

Code	Code System	Print Name
LA17323-9	LOINC	Alcohol containers/paraphernalia at scene
LA17324-7	LOINC	Drug paraphernalia at scene
LA17325-4	LOINC	Patient admits to alcohol use

Code	Code System	Print Name
LA17326-2	LOINC	Patient admits to drug use
LA17327-0	LOINC	Positive level known from law enforcement or hospital record
LA17328-8	LOINC	Smell of alcohol on breath

## Anatomic Location

Value Set	AnatomicLocation - 2.16.840.1.113883.17.3.11.76
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Part of the patient body

Code	Code System	Print Name
LA12703-7	LOINC	Neck
LA12705-2	LOINC	Back
LA12706-0	LOINC	Abdomen
LA18111-7	LOINC	Chest
LA18112-5	LOINC	Extremity-lower
LA18113-3	LOINC	Extremity-upper
LA18114-1	LOINC	General/global
LA18115-8	LOINC	Genitalia
LA18116-6	LOINC	Head

## Back Spine Assessment Finding

Value Set	BackSpineAssessmentFinding - 2.16.840.1.113883.17.3.11.34
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS back and spine assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17214-0	LOINC	Puncture/stab wound
LA17212-4	LOINC	Gunshot wound
LA17256-1	LOINC	Pain with range of motion
LA17257-9	LOINC	Tenderness costovertebral angle (CVA)
LA17258-7	LOINC	Tenderness midline spinous process
LA17259-5	LOINC	Tenderness paraspinous

Code	Code System	Print Name
LA18220-6	LOINC	Avulsion
LA18221-4	LOINC	Burn, blistering
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18225-5	LOINC	Deformity
LA18226-3	LOINC	Foreign body
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain
LA17709-9	LOINC	Tenderness
LA17229-8	LOINC	Crush injury
LA22440-4	LOINC	Swelling
LA7423-2	LOINC	Contusion

## Back Spine Finding Location

Value Set	BackSpineFindingLocation - 2.16.840.1.113883.17.3.11.35
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Location of finding resulting from EMS back and spine assessment

Code	Code System	Print Name
LA18726-2	LOINC	Back-general
LA18727-0	LOINC	Cervical-left
LA18728-8	LOINC	Cervical-midline
LA18729-6	LOINC	Cervical-right
LA18730-4	LOINC	Lumbar-left
LA18731-2	LOINC	Lumbar-right
LA18732-0	LOINC	Sacral-right
LA18733-8	LOINC	Sacral-left
LA18734-6	LOINC	Sacral-midline
LA18735-3	LOINC	Lumbar-midline
LA18736-1	LOINC	Thoracic-midline

Code	Code System	Print Name
LA18737-9	LOINC	Thoracic-left
LA18738-7	LOINC	Thoracic-right

## Barrier To Care

Value Set	BarrierToCare - 2.16.840.1.113883.17.3.11.85
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Circumstances limiting one's ability to provide care to a patient

Code	Code System	Print Name
LA17306-4	LOINC	Cultural, custom, religious
LA17307-2	LOINC	Developmentally impaired
LA17308-0	LOINC	Hearing impaired
LA17309-8	LOINC	Language
LA17310-6	LOINC	Physical barrier (unable to access patient)
LA17311-4	LOINC	Physically impaired
LA17312-2	LOINC	Physically restrained
LA17313-0	LOINC	Psychologically impaired
LA17314-8	LOINC	Sight impaired
LA17315-5	LOINC	Speech impaired
LA17316-3	LOINC	Unattended or unsupervised (including minors)
LA17317-1	LOINC	Uncooperative
LA17318-9	LOINC	None noted
LA17711-5	LOINC	Unconscious
LA6301-1	LOINC	Obesity
LA23824-8	LOINC	State of Emotional Distress

## Blood Pressure Measurement Method

Value Set	BloodPressureMeasurementMethod - 2.16.840.1.113883.17.3.11.107
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Technique for measuring blood pressure

Code	Code System	Print Name
LA24013-7	LOINC	Cuff-automated
LA24012-9	LOINC	Cuff-manual auscultated

## Cardiac Arrest Cause

Value Set	CardiacArrestCause - 2.16.840.1.113883.17.3.11.10
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Etiology of a cardiac arrest

Code	Code System	Print Name
LA17056-5	LOINC	Cardiac (presumed)
LA17058-1	LOINC	Trauma
LA17059-9	LOINC	Other (not listed)
LA17977-2	LOINC	Drowning/submersion
LA17978-0	LOINC	Drug overdose
LA17979-8	LOINC	Exsanguination
LA17980-6	LOINC	Respiratory/asphyxia
LA9539-3	LOINC	Electrocution

## Cardiac Arrest Outcome

Value Set	CardiacArrestOutcome - 2.16.840.1.113883.17.3.11.101
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Outcome of an EMS cardiac arrest event

Code	Code System	Print Name
LA22792-8	LOINC	Expired in ED
LA22793-6	LOINC	Expired in the field
LA22794-4	LOINC	Ongoing resuscitation in the ED
LA22795-1	LOINC	Return of spontaneous circulation in the field
LA22796-9	LOINC	Return of spontaneous circulation in the ED
LA22797-7	LOINC	Ongoing resuscitation by other EMS crew

## Cardiac Arrest Timing

Value Set	CardiacArrestTiming - 2.16.840.1.113883.17.3.11.91
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Whether cardiac arrest occurred before or after arrival of emergency medical service team

Code	Code System	Print Name
LA17054-0	LOINC	Prior to EMS arrival



Code	Code System	Print Name
LA17055-7	LOINC	After EMS arrival

## Cardiac Arrest Witness Role

Value Set	CardiacArrestWitnessRole - 2.16.840.1.113883.17.3.11.11
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of person who witnessed a cardiac arrest

Code	Code System	Print Name
LA18020-0	LOINC	Witnessed by family member
LA18021-8	LOINC	Witnessed by healthcare provider
LA18022-6	LOINC	Witnessed by lay person
LA18023-4	LOINC	Not witnessed

## Cardiac Rhythm Reading

Value Set	CardiacRhythmReading - 2.16.840.1.113883.17.3.11.16
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of rhythm found in a cardiac arrest patient

Code	Code System	Print Name
LA12904-1	LOINC	Artifact
LA17059-9	LOINC	Other (not listed)
LA17068-0	LOINC	Asystole
LA17070-6	LOINC	PEA
LA17071-4	LOINC	Unknown AED non-shockable rhythm
LA17072-2	LOINC	Unknown AED shockable rhythm
LA17073-0	LOINC	Ventricular fibrillation
LA17074-8	LOINC	Ventricular tachycardia-pulseless
LA17083-9	LOINC	Agonal/idioventricular
LA17084-7	LOINC	Atrial fibrillation
LA17085-4	LOINC	Atrial flutter
LA17086-2	LOINC	AV block-1st degree
LA17087-0	LOINC	AV block-2nd degree-type 1
LA17088-8	LOINC	AV block-2nd degree-type 2
LA17089-6	LOINC	AV block-3rd degree

Code	Code System	Print Name
LA17090-4	LOINC	Junctional
LA17091-2	LOINC	Left bundle branch block
LA17093-8	LOINC	Paced rhythm
LA17094-6	LOINC	Premature atrial contractions
LA17095-3	LOINC	Premature ventricular contractions
LA17096-1	LOINC	Right bundle branch block
LA17097-9	LOINC	Sinus arrhythmia
LA17394-0	LOINC	Bradycardia
LA17099-5	LOINC	Sinus tachycardia
LA17100-1	LOINC	Supraventricular tachycardia
LA17101-9	LOINC	Torsades de points
LA17703-2	LOINC	STEMI-anterior ischemia
LA17704-0	LOINC	STEMI-inferior ischemia
LA17705-7	LOINC	STEMI-lateral ischemia
LA17706-5	LOINC	STEMI-posterior ischemia
LA17708-1	LOINC	Ventricular tachycardia with pulse
LA17718-0	LOINC	Sinus rhythm
LA18205-7	LOINC	Non-STEMI anterior ischemia
LA18206-5	LOINC	Non-STEMI inferior ischemia
LA18207-3	LOINC	Non-STEMI lateral ischemia
LA18208-1	LOINC	Non-STEMI posterior ischemia

## Cardiopulmonary Resuscitation Type

Value Set	CardiopulmonaryResuscitationType - 2.16.840.1.113883.17.3.11.57
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of procedure used for cardiopulmonary resuscitation

Code	Code System	Print Name
LA17749-5	LOINC	Compressions-continuous
LA17750-3	LOINC	Compressions-external band type device
LA17751-1	LOINC	Compressions-external plunger type device
LA17752-9	LOINC	Compressions-external thumper type device
LA17753-7	LOINC	Compressions-intermittant with ventilation
LA17754-5	LOINC	Compressions-other device

Code	Code System	Print Name
LA17755-2	LOINC	Ventilation-bag valve mask
LA17756-0	LOINC	Ventilation-impedence threshold device
LA17757-8	LOINC	Ventilation-mouth to mouth
LA17758-6	LOINC	Ventilation-pocket mask

## Change In Patient Status

Value Set	ChangeInPatientStatus - 2.16.840.1.113883.17.3.11.78
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Patient condition indicating urgency of treatment

Code	Code System	Print Name
LA65-8	LOINC	Improved
LA17181-1	LOINC	Unchanged
LA11011-6	LOINC	Worse

## Chest Lung Assessment Finding

Value Set	ChestLungAssessmentFinding - 2.16.840.1.113883.17.3.11.29
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS chest and lung assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17214-0	LOINC	Puncture/stab wound
LA17222-3	LOINC	Accessory muscles used with breathing
LA17223-1	LOINC	Breath sounds-absent-left
LA17224-9	LOINC	Breath sounds-absent-right
LA17225-6	LOINC	Breath sounds-decreased-left
LA17226-4	LOINC	Breath sounds-decreased-right
LA17227-2	LOINC	Breath sounds-normal-left
LA17228-0	LOINC	Breath sounds-normal-right
LA17229-8	LOINC	Crush injury
LA17230-6	LOINC	Flail segment-left
LA17231-4	LOINC	Flail segment-right

Code	Code System	Print Name
LA17232-2	LOINC	Increased respiratory effort
LA17233-0	LOINC	Pain with inspiration/expiration-left
LA17234-8	LOINC	Pain with inspiration/expiration-right
LA17236-3	LOINC	Rhonchi/wheezing
LA17237-1	LOINC	Tenderness-left
LA17238-9	LOINC	Tenderness-right
LA17212-4	LOINC	Gunshot wound
LA18220-6	LOINC	Avulsion
LA18221-4	LOINC	Burn, blistering
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18225-5	LOINC	Deformity
LA18226-3	LOINC	Foreign body
LA18229-7	LOINC	Rales-left
LA18230-5	LOINC	Rales-right
LA18231-3	LOINC	Retraction
LA18232-1	LOINC	Rhonchi-left
LA18233-9	LOINC	Rhonchi-right
LA18234-7	LOINC	Stridor-left
LA18235-4	LOINC	Stridor-right
LA18236-2	LOINC	Implanted device
LA18237-0	LOINC	Wheezing-expiratory-right
LA18238-8	LOINC	Wheezing-expiratory-left
LA18239-6	LOINC	Wheezing-inspiratory-left
LA18240-4	LOINC	Wheezing-inspiratory-right
LA18402-0	LOINC	Breath sounds-equal
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain
LA22440-4	LOINC	Swelling
LA7423-2	LOINC	Contusion

Code	Code System	Print Name
LA23810-7	LOINC	Tenderness-general

## Complaint

Value Set	Complaint - 2.16.840.1.113883.17.3.11.49
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of medical problem or incident reported

Code	Code System	Print Name
LA23843-8	LOINC	Abdominal pain/problems
LA15903-0	LOINC	Headache
LA17117-5	LOINC	Allergic reaction/stings
LA17118-3	LOINC	Animal bite
LA17119-1	LOINC	Assault
LA17120-9	LOINC	Automated crash notification
LA17121-7	LOINC	Back pain (non-traumatic)
LA17122-5	LOINC	Breathing problems
LA17123-3	LOINC	Burns/explosion
LA17124-1	LOINC	Carbon monoxide poisoning/hazmat/inhalation/chemical/biological/radiological/nuclear
LA17125-8	LOINC	Cardiac arrest/death
LA17126-6	LOINC	Chest pain (non-traumatic)
LA17127-4	LOINC	Choking
LA17128-2	LOINC	Convulsions/seizure
LA17129-0	LOINC	Diabetic problem
LA17131-6	LOINC	Electrocution/lightning
LA17132-4	LOINC	Eye problem/injury
LA17133-2	LOINC	Falls
LA17134-0	LOINC	Healthcare professional/admission
LA17135-7	LOINC	Heart problems/AICD
LA17136-5	LOINC	Heat/cold exposure
LA17137-3	LOINC	Hemorrhage/lacerations
LA17138-1	LOINC	Industrial accident/inaccessible incident/other entrapments (non-vehicle)
LA17140-7	LOINC	Overdose/poisoning/ingestion
LA17141-5	LOINC	Pandemic/epidemic/outbreak

Code	Code System	Print Name
LA17142-3	LOINC	Pregnancy/childbirth/miscarriage
LA17143-1	LOINC	Psychiatric problem/abnormal behavior/suicide attempt
LA17144-9	LOINC	Sick person
LA17145-6	LOINC	Stab/gunshot wound/penetrating trauma
LA17146-4	LOINC	Traffic/transportation incident
LA17147-2	LOINC	Transfer/interfacility/palliative Care
LA17148-0	LOINC	Unconscious/fainting/near-fainting
LA17149-8	LOINC	Unknown problem person down
LA17150-6	LOINC	Standby
LA18093-7	LOINC	Fire
LA18209-9	LOINC	No other appropriate choice
LA18210-7	LOINC	Medical alarm
LA18211-5	LOINC	Well person check
LA9553-4	LOINC	Stroke/CVA
LA9555-9	LOINC	Traumatic injury
LA17130-8	LOINC	Drowning/Diving/SCUBA Accident
LA23800-8	LOINC	Air medical Transport

## Complaint Type

Value Set	Complaint Type - 2.16.840.1.113883.17.3.11.94
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Relative primacy of complaint

Code	Code System	Print Name
LA17059-9	LOINC	Other (not listed)
LA18923-5	LOINC	Chief - primary
LA18924-3	LOINC	Secondary

## Confidentiality

Value Set	Confidentiality - 2.16.840.1.113883.1.11.10228
Code System	HL7 Confidentiality - 2.16.840.1.113883.5.25
Definition	Appropriateness for disclosure of information

## Crew Role Level

Value Set	CrewRoleLevel - 2.16.840.1.113883.17.3.11.81
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Class of person providing care to an EMS patient, excluding the patient

Code	Code System	Print Name
LA15276-1	LOINC	Student
LA18695-9	LOINC	Critical care paramedic
LA18696-7	LOINC	2009 advanced emergency medical technician (AEMT)
LA18697-5	LOINC	2009 emergency medical responder (EMR)
LA18698-3	LOINC	2009 emergency medical technician (EMT)
LA18699-1	LOINC	2009 paramedic
LA18700-7	LOINC	First responder
LA18701-5	LOINC	EMT-basic
LA18702-3	LOINC	EMT-intermediate
LA18703-1	LOINC	EMT-paramedic
LA18704-9	LOINC	Other healthcare professional
LA18705-6	LOINC	Other non-healthcare professional
LA18706-4	LOINC	Community paramedicine
LA4687-5	LOINC	Physician
LA9297-8	LOINC	Respiratory therapist

## Destination Choice Reason

Value Set	DestinationChoiceReason - 2.16.840.1.113883.17.3.11.68
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of rationale for selecting a patient destination

Code	Code System	Print Name
LA17059-9	LOINC	Other (not listed)
LA17182-9	LOINC	Closest facility
LA17184-5	LOINC	Family choice
LA17185-2	LOINC	Insurance status/requirement
LA17186-0	LOINC	Law enforcement choice
LA17187-8	LOINC	On-line medical direction
LA17188-6	LOINC	Patient's choice

Code	Code System	Print Name
LA17189-4	LOINC	Patient's physician's choice
LA17190-2	LOINC	Protocol
LA17191-0	LOINC	Regional specialty center
LA18301-4	LOINC	Diversion

## Destination Prearrival Activation

Value Set	DestinationPrearrivalActivation - 2.16.840.1.113883.17.3.11.87
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of preparation requested at destination prior to patient arrival

Code	Code System	Print Name
LA18117-4	LOINC	Yes, adult trauma
LA18118-2	LOINC	Yes, cardiac arrest
LA18119-0	LOINC	Yes, obstetrics
LA18120-8	LOINC	Yes, other
LA18121-6	LOINC	Yes, pediatric trauma
LA18122-4	LOINC	Yes, STEMI
LA18123-2	LOINC	Yes, stroke
LA32-8	LOINC	No

## Destination Type

Value Set	DestinationType - 2.16.840.1.113883.17.3.11.69
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of facility

Code	Code System	Print Name
LA11504-0	LOINC	Hospital emergency department
LA14084-0	LOINC	Home
LA18686-8	LOINC	Hospital non-emergency department bed
LA18687-6	LOINC	Medical office/clinic
LA18688-4	LOINC	Morgue/mortuary
LA18689-2	LOINC	Nursing home/assisted living facility
LA18690-0	LOINC	Other destination
LA18691-8	LOINC	Other EMS responder (air)



Code	Code System	Print Name
LA18692-6	LOINC	Other EMS responder (ground)
LA18693-4	LOINC	Police/jail

## Destination Ward Kind

Value Set	DestinationWardKind - 2.16.840.1.113883.17.3.11.103
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	The location within the hospital that the patient was taken directly by EMS

Code	Code System	Print Name
LA22808-2	LOINC	Hospital-burn
LA22809-0	LOINC	Hospital-cath lab
LA22810-8	LOINC	Hospital-CCU
LA22824-9	LOINC	Hospital-orthopedic
LA22811-6	LOINC	Hospital-endoscopy
LA22812-4	LOINC	Hospital-hospice
LA22813-2	LOINC	Hospital-hyperbaric oxygen treatment
LA22814-0	LOINC	Hospital-ICU
LA22815-7	LOINC	Hospital-labor and delivery
LA22816-5	LOINC	Hospital-medical/surgery
LA22817-3	LOINC	Hospital-mental health
LA22818-1	LOINC	Hospital-MICU
LA22819-9	LOINC	Hospital-NICU
LA22820-7	LOINC	Hospital-nursery
LA22821-5	LOINC	Hospital-peds (general)
LA22822-3	LOINC	Hospital-peds ICU
LA22823-1	LOINC	Hospital-OR
LA22825-6	LOINC	Hospital-other
LA22826-4	LOINC	Hospital-outpatient bed
LA22827-2	LOINC	Hospital-radiology services - MRI
LA22828-0	LOINC	Hospital-radiology services - CT/PET
LA22829-8	LOINC	Hospital-radiology services - x-ray
LA22830-6	LOINC	Hospital-radiation
LA22831-4	LOINC	Hospital-rehabilitation
LA22832-2	LOINC	Hospital-SICU

## Disaster Type

Value Set	DisasterType - 2.16.840.1.113883.17.3.11.9
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of incident resulting in or likely to result in injuries or clinically adverse events

Code	Code System	Print Name
LA17594-5	LOINC	Weather
LA18089-5	LOINC	Biologic agent
LA18090-3	LOINC	Building failure
LA18091-1	LOINC	Chemical agent
LA18092-9	LOINC	Explosive device
LA18093-7	LOINC	Fire
LA18094-5	LOINC	Hostage event
LA18095-2	LOINC	Mass gathering
LA18096-0	LOINC	Mass illness
LA18097-8	LOINC	Nuclear agent
LA18098-6	LOINC	Radioactive device
LA18099-4	LOINC	Secondary destructive device
LA18100-0	LOINC	Shooting/sniper
LA18101-8	LOINC	Vehicular

## Dispatch Delay Type

Value Set	DispatchDelayType - 2.16.840.1.113883.17.3.11.50
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of circumstance delaying an EMS dispatch

Code	Code System	Print Name
LA17059-9	LOINC	Other (not listed)
LA17183-7	LOINC	Diversion/failure (of previous unit)
LA17579-6	LOINC	Caller (uncooperative)
LA17580-4	LOINC	High call volume
LA17581-2	LOINC	Location (inability to obtain)
LA17582-0	LOINC	No EMS vehicles (units) available
LA17584-6	LOINC	Technical failure (computer, phone etc.)
LA18081-2	LOINC	None/no delay

Code	Code System	Print Name
LA7540-3	LOINC	Language barrier

## ECG Type

Value Set	ECGType - 2.16.840.1.113883.17.3.11.19
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of electrocardiogram equipment

Code	Code System	Print Name
LA18664-5	LOINC	3 lead
LA18665-2	LOINC	4 lead
LA18666-0	LOINC	5 lead
LA18667-8	LOINC	12 lead-left sided (normal)
LA18668-6	LOINC	12 lead-right sided
LA18669-4	LOINC	15 lead
LA18670-2	LOINC	18 lead
LA18671-0	LOINC	Other ECG device

## EMD Performed

Value Set	EMDPerformed - 2.16.840.1.113883.17.3.11.48
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Manner of performing emergency medical dispatch

Code	Code System	Print Name
LA17151-4	LOINC	Yes, with pre-arrival instructions
LA17152-2	LOINC	Yes, without pre-arrival instructions
LA17153-0	LOINC	Yes, unknown if pre-arrival instructions given
LA32-8	LOINC	No

## EMS Level Of Service

Value Set	EMSLevelOfService - 2.16.840.1.113883.17.3.11.70
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Level of service provided for an encounter (as defined by CMS)

Code	Code System	Print Name
LA18102-6	LOINC	ALS, level 1
LA18103-4	LOINC	ALS, level 1 emergency
LA18104-2	LOINC	ALS, level 2
LA18105-9	LOINC	BLS
LA18106-7	LOINC	BLS, emergency
LA18107-5	LOINC	Fixed wing (airplane)
LA18108-3	LOINC	Paramedic intercept
LA18109-1	LOINC	Specialty care transport
LA18110-9	LOINC	Rotary wing (helicopter)

## EMS Medication Administration Device

Value Set	EMSMedicationAdministrationDevice - 2.16.840.1.113883.17.3.11.108
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Definition	Kind of device used to administer a substance to a patient

Code	Code System	Print Name
39849001	SNOMEDCT	Nasal Oxygen Cannula
427591007	SNOMEDCT	Non-Rebreather Oxygen Mask
425926003	SNOMEDCT	Partial Rebreather Oxygen Mask
428285009	SNOMEDCT	Venturi Mask
398013009	SNOMEDCT	Subcutaneous port
425478008	SNOMEDCT	Blow by oxygen mask

## Ethnicity

Value Set	Ethnicity - 2.16.840.1.113883.1.11.15836
Code System	Race and Ethnicity - CDC - 2.16.840.1.113883.6.238
Definition	Person's ethnic background

## Ethnicity Group

Value Set	Ethnicity Group - 2.16.840.1.114222.4.11.837
Code System	Race and Ethnicity - CDC - 2.16.840.1.113883.6.238
Definition	Abbreviated set of ethnic backgrounds

Code	Code System	Print Name
2135-2	Race and Ethnicity - CDC	Hispanic or Latino
2186-5	Race and Ethnicity - CDC	Not Hispanic or Latino

## Existence Of Contraindications To Thrombolytic Use

Value Set	ExistenceOfContraindicationsToThrombolyticUse - 2.16.840.1.113883.17.3.11.41
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Confidence that contraindication to thrombolytic use exist

Code	Code System	Print Name
LA17114-2	LOINC	Definite contraindications to thrombolytic use
LA17115-9	LOINC	Possible contraindications to thrombolytic Use
LA17116-7	LOINC	No contraindications to thrombolytic Use

## Extremities Assessment Finding

Value Set	ExtremitiesAssessmentFinding - 2.16.840.1.113883.17.3.11.36
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS extremity assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17214-0	LOINC	Puncture/stab wound
LA17215-7	LOINC	Swelling/bruising/contusion with pain
LA17220-7	LOINC	Swelling/bruising/contusion without pain
LA17229-8	LOINC	Crush injury
LA17244-7	LOINC	Gunshot wound-entry
LA17245-4	LOINC	Gunshot wound-exit
LA17260-3	LOINC	Amputation-acute
LA17261-1	LOINC	Amputation-previous
LA17262-9	LOINC	Dislocation
LA17263-7	LOINC	Edema
LA17264-5	LOINC	Fracture-closed
LA17265-2	LOINC	Fracture-open
LA17266-0	LOINC	Motor function-abnormal/weakness

Code	Code System	Print Name
LA17267-8	LOINC	Motor function-absent
LA17268-6	LOINC	Motor function-normal
LA17269-4	LOINC	Pulse-abnormal
LA17270-2	LOINC	Pulse-absent
LA17271-0	LOINC	Pulse-normal
LA17272-8	LOINC	Sensation-abnormal
LA17273-6	LOINC	Sensation-absent
LA17274-4	LOINC	Sensation-normal
LA17344-5	LOINC	Paralysis
LA17709-9	LOINC	Tenderness
LA18220-6	LOINC	Avulsion
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18225-5	LOINC	Deformity
LA18226-3	LOINC	Foreign body
LA18249-5	LOINC	Clubbing of fingers
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain

## Extremity Finding Location

Value Set	ExtremityFindingLocation - 2.16.840.1.113883.17.3.11.37
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Location of finding resulting from EMS extremity assessment

Code	Code System	Print Name
LA18739-5	LOINC	Ankle-left
LA18740-3	LOINC	Ankle-right
LA18741-1	LOINC	Arm-upper-left
LA18742-9	LOINC	Arm-upper-right
LA18743-7	LOINC	Elbow-left

Code	Code System	Print Name
LA18744-5	LOINC	Elbow-right
LA18745-2	LOINC	Finger-2nd (index)-left
LA18746-0	LOINC	Finger-2nd (index)-right
LA18747-8	LOINC	Finger-3rd (middle)-left
LA18748-6	LOINC	Finger-3rd (middle)-right
LA18749-4	LOINC	Finger-4th (ring)-left
LA18750-2	LOINC	Finger-4th (ring)-right
LA18751-0	LOINC	Finger-5th (smallest)-left
LA18752-8	LOINC	Finger-5th (smallest)-right
LA18753-6	LOINC	Foot-dorsal-left
LA18754-4	LOINC	Foot-dorsal-right
LA18755-1	LOINC	Foot-plantar-right
LA18756-9	LOINC	Foot-plantar-left
LA18757-7	LOINC	Forearm-left
LA18758-5	LOINC	Forearm-right
LA18759-3	LOINC	Hand-dorsal-left
LA18760-1	LOINC	Hand-dorsal-right
LA18761-9	LOINC	Hand-palm-right
LA18762-7	LOINC	Hand-palm-left
LA18763-5	LOINC	Hip-left
LA18764-3	LOINC	Hip-right
LA18765-0	LOINC	Wrist-right
LA18766-8	LOINC	Wrist-left
LA18767-6	LOINC	Knee-left
LA18768-4	LOINC	Knee-right
LA18769-2	LOINC	Leg-lower-left
LA18770-0	LOINC	Leg-lower-right
LA18771-8	LOINC	Leg-upper-right
LA18772-6	LOINC	Leg-upper-left
LA18773-4	LOINC	Shoulder-left
LA18774-2	LOINC	Shoulder-right
LA18775-9	LOINC	Thumb-left
LA18776-7	LOINC	Thumb-right
LA18777-5	LOINC	Toe-1st (big)-left

Code	Code System	Print Name
LA18778-3	LOINC	Toe-1st (big)-right
LA18779-1	LOINC	Toe-2nd-left
LA18780-9	LOINC	Toe-2nd-right
LA18781-7	LOINC	Toe-3rd-left
LA18782-5	LOINC	Toe-3rd-right
LA18783-3	LOINC	Toe-4th-left
LA18784-1	LOINC	Toe-4th-right
LA18785-8	LOINC	Toe-5th (smallest)-left
LA18786-6	LOINC	Toe-5th (smallest)-right

## Eye Assessment Finding

Value Set	EyeAssessmentFinding - 2.16.840.1.113883.17.3.11.38
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS eye assessment

Code	Code System	Print Name
LA14698-7	LOINC	Missing
LA15255-5	LOINC	Reactive
LA15256-3	LOINC	Nonreactive
LA17275-1	LOINC	1 mm
LA17276-9	LOINC	2 mm
LA17277-7	LOINC	3 mm
LA17278-5	LOINC	4 mm
LA17279-3	LOINC	5 mm
LA17280-1	LOINC	6 mm
LA17281-9	LOINC	7 mm
LA17282-7	LOINC	Clouded
LA17283-5	LOINC	Hyphema
LA17284-3	LOINC	Open globe
LA17285-0	LOINC	Pupil-irregular/teardrop
LA17710-7	LOINC	Blind
LA18225-5	LOINC	Deformity
LA18226-3	LOINC	Foreign body
LA18250-3	LOINC	Cataract present



Code	Code System	Print Name
LA18251-1	LOINC	Dysconjugate gaze
LA18253-7	LOINC	Jaundiced sclera
LA18254-5	LOINC	Nonreactive prosthetic
LA18255-2	LOINC	Nystagmus noted
LA18256-0	LOINC	PERRL
LA18257-8	LOINC	Sluggish
LA18258-6	LOINC	8 mm or >
LA6630-3	LOINC	Not done

## Eye Finding Location

Value Set	EyeFindingLocation - 2.16.840.1.113883.17.3.11.39
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Location of finding resulting from EMS eye assessment

Code	Code System	Print Name
LA18787-4	LOINC	Eyes-bilateral
LA18788-2	LOINC	Eye-left
LA18789-0	LOINC	Eye-right

## FDA Route of Administration

Value Set	FDA Route of Administration
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## Face Assessment Finding

Value Set	FaceAssessmentFinding - 2.16.840.1.113883.17.3.11.27
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS face assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17211-6	LOINC	Drainage
LA17213-2	LOINC	Mass/lesion
LA17214-0	LOINC	Puncture/stab wound
LA17216-5	LOINC	Asymmetric smile or droop

Code	Code System	Print Name
LA17212-4	LOINC	Gunshot Wound
LA18220-6	LOINC	Avulsion
LA18221-4	LOINC	Burn, blistering
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18225-5	LOINC	Deformity
LA18226-3	LOINC	Foreign body
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain

## First Monitored Rhythm

Value Set	FirstMonitoredRhythm - 2.16.840.1.113883.17.3.11.14
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of rhythm found in a cardiac arrest patient on initial field examination

Code	Code System	Print Name
LA17068-0	LOINC	Asystole
LA17070-6	LOINC	PEA
LA17071-4	LOINC	Unknown AED non-shockable rhythm
LA17072-2	LOINC	Unknown AED shockable rhythm
LA17073-0	LOINC	Ventricular fibrillation
LA17074-8	LOINC	Ventricular tachycardia-pulseless

## Glasgow Coma Score Special Circumstances

Value Set	GlasgowComaScoreSpecialCircumstances - 2.16.840.1.113883.17.3.11.89
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Circumstance confounding the assessment of one or more Glasgow Coma Scale observations

Code	Code System	Print Name
LA17102-7	LOINC	Initial GCS has legitimate values without interventions such as intubation and sedation
LA17103-5	LOINC	Eye obstruction prevents eye assessment
LA17104-3	LOINC	Patient chemically sedated
LA17105-0	LOINC	Patient chemically paralyzed
LA17106-8	LOINC	Patient intubated

## HL7 Administrative Gender

Value Set	HL7 Administrative Gender
Description	The gender of a person used for administrative purposes (as opposed to clinical gender)

## HL7 Confidentiality

Value Set	HL7 Confidentiality
Description	Types of privacy metadata classifying an IT resource (data, information object, service, or system capability) according to its level of sensitivity, which is based on an analysis of applicable privacy policies and the risk of financial, reputational, or other harm to an individual or entity that could result if made available or disclosed to unauthorized individuals, entities, or processes.

## HL7 Human Language

Value Set	HL7 Human Language
Description	Codes for the Representation of Names of Languages

## Head Assessment Finding

Value Set	HeadAssessmentFinding - 2.16.840.1.113883.17.3.11.26
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS head assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17210-8	LOINC	Decapitation
LA17211-6	LOINC	Drainage
LA17213-2	LOINC	Mass/lesion

Code	Code System	Print Name
LA17214-0	LOINC	Puncture/stab wound
LA17212-4	LOINC	Gunshot Wound
LA18220-6	LOINC	Avulsion
LA18221-4	LOINC	Burn, blistering
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18225-5	LOINC	Deformity
LA18226-3	LOINC	Foreign body
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain

## Heart Assessment Finding

Value Set	HeartAssessmentFinding - 2.16.840.1.113883.17.3.11.30
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS heart assessment

Code	Code System	Print Name
LA17239-7	LOINC	Heart sounds decreased
LA17240-5	LOINC	Murmur-diastolic
LA17241-3	LOINC	Murmur-systolic
LA18241-2	LOINC	Clicks
LA18242-0	LOINC	S1
LA18243-8	LOINC	S2
LA18244-6	LOINC	S3
LA18245-3	LOINC	S4
LA18246-1	LOINC	Rubs
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done

## Human language

Value Set	Human language - 2.16.840.1.113883.1.11.11526
Code System	HL7 Human Language - 2.16.840.1.113883.6.121
Definition	Codes for the Representation of Names of Languages

## IC D-10

Value Set	ICD-10
Description	Classifications for diseases, signs and symptoms, abnormal findings, complaints, social circumstances, and external causes of injury or diseases

## ICD-10 CM

Value Set	ICD-10 CM
Description	International Classification of Diseases, 10th Revision, Clinical Modification

## ICD-10 PCS

Value Set	ICD-10 PCS
Description	ICD-10 Procedure Coding System

## Incident Outcome

Value Set	IncidentOutcome - 2.16.840.1.113883.17.3.11.64
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Outcome of an emergency medical services encounter

Code	Code System	Print Name
LA17154-8	LOINC	Patient treated, transported by EMS
LA17155-5	LOINC	Canceled (prior to arrival at scene)
LA17156-3	LOINC	No patient found (canceled on scene)
LA17159-7	LOINC	Patient evaluated, no treatment/transport required
LA17160-5	LOINC	Patient refused evaluation/care (with transport)
LA17161-3	LOINC	Patient treated, released (AMA)
LA17162-1	LOINC	Patient treated, transferred care to another EMS professional
LA17163-9	LOINC	Patient treated, transported by law enforcement

Code	Code System	Print Name
LA17164-7	LOINC	Patient treated, transported by private vehicle
LA17165-4	LOINC	Standby-no services or support provided
LA17166-2	LOINC	Standby-public safety, fire, or EMS operational support provided
LA17167-0	LOINC	Transport of body parts or organs only
LA18080-4	LOINC	Patient treated, released (per protocol)
LA18212-3	LOINC	Assist, agency
LA18213-1	LOINC	Assist, public
LA18214-9	LOINC	Assist, unit
LA18215-6	LOINC	No patient contact (canceled on scene)
LA18216-4	LOINC	Patient refused evaluation/care (without transport)

## Infusion Site

Value Set	Infusion Site - 2.16.840.1.113883.17.3.11.56
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Anatomical location of administered infusion, typically intravenous

Code	Code System	Print Name
LA18757-7	LOINC	Forearm-left
LA18758-5	LOINC	Forearm-right
LA18790-8	LOINC	Antecubital-left
LA18791-6	LOINC	Antecubital-right
LA18792-4	LOINC	External jugular-left
LA18793-2	LOINC	External jugular-right
LA18794-0	LOINC	Femoral-left
LA18795-7	LOINC	Femoral-right
LA18796-5	LOINC	Foot-left
LA18797-3	LOINC	Foot-right
LA18798-1	LOINC	Hand-right
LA18799-9	LOINC	Hand-left
LA18800-5	LOINC	Internal jugular-left
LA18801-3	LOINC	Internal jugular-right
LA18802-1	LOINC	IO-femur-left distal
LA18803-9	LOINC	IO-femur-right distal
LA18804-7	LOINC	IO-humerus-left

Code	Code System	Print Name
LA18805-4	LOINC	IO-humerus-right
LA18806-2	LOINC	IO-iliac crest-left
LA18807-0	LOINC	IO-iliac crest-right
LA18808-8	LOINC	IO-sternum
LA18809-6	LOINC	IO-tibia-left distal
LA18810-4	LOINC	IO-tibia-right distal
LA18811-2	LOINC	IO-tibia-left proximal
LA18812-0	LOINC	IO-tibia-right proximal
LA18813-8	LOINC	Other central access (PICC, portacath)
LA18814-6	LOINC	Other peripheral access
LA18815-3	LOINC	Scalp
LA18816-1	LOINC	Subclavian-left
LA18817-9	LOINC	Subclavian-right
LA18818-7	LOINC	Umbilical

## Injury Risk Factor

Value Set	InjuryRiskFactor - 2.16.840.1.113883.17.3.11.4
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Circumstance affecting likelihood of injury

Code	Code System	Print Name
LA17348-6	LOINC	Fall adults: > 20 ft. (one story is equal to 10 ft.)
LA17349-4	LOINC	Fall children: > 10 ft. or 2-3 times the height of the child
LA17350-2	LOINC	Motorcycle crash > 20 mph
LA17352-8	LOINC	Crash death in same passenger compartment
LA17353-6	LOINC	Crash ejection (partial or complete) from vehicle
LA17357-7	LOINC	Crash intrusion: > 12 in. occupant site; > 18 in. any site
LA17360-1	LOINC	Auto v. pedestrian/bicyclist thrown, run over, or > 20 MPH impact
LA18124-0	LOINC	Crash vehicle telemetry data (AACN) consistent with high risk of injury

## LOINC

Value Set	LOINC
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Description	Logical Observation Identifiers Names and Codes
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## Length Based Weight Class

Value Set	LengthBasedWeightClass - 2.16.840.1.113883.17.3.11.24
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Weight category estimated by length

Code	Code System	Print Name
LA15553-3	LOINC	Blue
LA15554-1	LOINC	Grey
LA15555-8	LOINC	Green
LA17192-8	LOINC	Pink
LA17193-6	LOINC	Red
LA17194-4	LOINC	Purple
LA17195-1	LOINC	Yellow
LA17196-9	LOINC	Orange
LA4457-3	LOINC	White

## Level Of Responsiveness

Value Set	LevelOfResponsiveness - 2.16.840.1.113883.17.3.11.21
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of stimulation necessary to elicit a patient reaction

Code	Code System	Print Name
LA17107-6	LOINC	Painful
LA17108-4	LOINC	Verbal
LA9340-6	LOINC	Alert
LA9343-0	LOINC	Unresponsive

## Mechanism Of Injury

Value Set	MechanismOfInjury - 2.16.840.1.113883.17.3.11.1
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of physical phenomenon causing an injury



Code	Code System	Print Name
LA17335-3	LOINC	Blunt
LA17336-1	LOINC	Penetrating
LA46-8	LOINC	Other
LA7318-4	LOINC	Burn

## Medication Administration Route

Value Set	MedicationAdministrationRoute - 2.16.840.1.113883.17.3.11.43
Code System	FDA Route of Administration - 2.16.840.1.113883.3.26.1.1.1
Definition	Physical route for introducing medications into a patient
Description	Subset of FDA routes of administration. Mappings to NEMESIS route codes, including modeling of orthogonal concepts (e.g., devices), is included in implementation guide text appendix.

Code	Code System	Print Name
C38208	FDA Route of Administration	Endotracheal
C38246	FDA Route of Administration	Intragastric
C38216	FDA Route of Administration	Respiratory (Inhalation)
C38222	FDA Route of Administration	Intra-Arterial
C38284	FDA Route of Administration	Nasal
C28161	FDA Route of Administration	Intramuscular
C38255	FDA Route of Administration	Intraocular
C38276	FDA Route of Administration	Intravenous
C38285	FDA Route of Administration	Nasogastric
C38287	FDA Route of Administration	Ophthalmic
C38288	FDA Route of Administration	Oral
C38290	FDA Route of Administration	Other
C38192	FDA Route of Administration	Auricular (Otic)

Code	Code System	Print Name
C38295	FDA Route of Administration	Rectal
C38299	FDA Route of Administration	Subcutaneous
C38300	FDA Route of Administration	Sublingual
C38304	FDA Route of Administration	Topical
C38305	FDA Route of Administration	Transdermal
C38271	FDA Route of Administration	Urethral
C38193	FDA Route of Administration	Buccal
C38238	FDA Route of Administration	Intradermal
C64987	FDA Route of Administration	Intraosseous
C38250	FDA Route of Administration	Intralesional

## Medication Administration Site

Value Set	MedicationAdministrationSite - 2.16.840.1.113883.17.3.11.109
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Definition	Specifications for site of substance administration when Route is insufficiently specific

Code	Code System	Print Name
280361007	SNOMEDCT	Tracheostomy stoma
15562006	SNOMEDCT	Structure of respiratory region of nose

## Medication Authorization Type

Value Set	MedicationAuthorizationType - 2.16.840.1.113883.17.3.11.47
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Channel or mode by which a medication administration is authorized by a licensed clinician

Code	Code System	Print Name
LA17187-8	LOINC	On-line medical direction
LA18654-6	LOINC	On-scene

Code	Code System	Print Name
LA18655-3	LOINC	Protocol (standing order)
LA18656-1	LOINC	Written orders (patient specific)

## Medication Complication

Value Set	MedicationComplication - 2.16.840.1.113883.17.3.11.45
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of abnormal effect associated with the administration of a medication

Code	Code System	Print Name
LA137-2	LOINC	None
LA15098-9	LOINC	Nausea
LA15099-7	LOINC	Vomiting
LA15424-7	LOINC	Diarrhea
LA17059-9	LOINC	Other (not listed)
LA17392-4	LOINC	Altered mental status
LA17393-2	LOINC	Apnea
LA17394-0	LOINC	Bradycardia
LA17396-5	LOINC	Hypoxia
LA20641-9	LOINC	Itching
LA17713-1	LOINC	Injury
LA17714-9	LOINC	Tachycardia
LA18266-9	LOINC	Bradypnea
LA18267-7	LOINC	Tachypnea
LA7418-2	LOINC	Bleeding
LA7434-9	LOINC	Extravasation
LA7443-0	LOINC	Hypotension
LA7444-8	LOINC	Hypertension
LA9540-1	LOINC	Hyperthermia
LA9541-9	LOINC	Hypothermia
LA9548-4	LOINC	Respiratory distress
LA20642-7	LOINC	Urticaria

## Medication Not Given Reason

Value Set	MedicationNotGivenReason - 2.16.840.1.113883.17.3.11.92
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Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Rationale for not administering an otherwise indicated medication

Code	Code System	Print Name
LA15185-4	LOINC	Unable to complete
LA18921-9	LOINC	Medication already taken
LA18922-7	LOINC	Medication allergy
LA18925-0	LOINC	Denied by order
LA4216-3	LOINC	Contraindicated
LA4389-8	LOINC	Refused

## Mental Status Finding

Value Set	MentalStatusFinding - 2.16.840.1.113883.17.3.11.84
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS mental assessment

Code	Code System	Print Name
LA17286-8	LOINC	Normal baseline for patient
LA17287-6	LOINC	Combative
LA17288-4	LOINC	Oriented-person
LA17289-2	LOINC	Oriented-place
LA17290-0	LOINC	Oriented-time
LA18259-4	LOINC	Oriented-event
LA18260-2	LOINC	Pharmacologically sedated/paralyzed
LA6560-2	LOINC	Confused
LA6630-3	LOINC	Not done
LA7438-0	LOINC	Hallucinations
LA9343-0	LOINC	Unresponsive
LA6150-2	LOINC	Agitation
LA23818-0	LOINC	Somnolent
LA17666-1	LOINC	Stupor

## Method Of ECG Interpretation

Value Set	MethodOfECGInterpretation - 2.16.840.1.113883.17.3.11.20
Code System	LOINC - 2.16.840.1.113883.6.1

Definition	Method for transforming ECG data into a clinical finding
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Code	Code System	Print Name
LA18682-7	LOINC	Computer interpretation
LA18683-5	LOINC	Manual interpretation
LA18684-3	LOINC	Transmission with no interpretation
LA18685-0	LOINC	Transmission with remote interpretation

## Neck Assessment Finding

Value Set	NeckAssessmentFinding - 2.16.840.1.113883.17.3.11.28
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS neck assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17210-8	LOINC	Decapitation
LA17214-0	LOINC	Puncture/stab wound
LA17217-3	LOINC	Jugular vein distention - JVD
LA17219-9	LOINC	Subcutaneous air
LA17212-4	LOINC	Gunshot wound
LA17612-5	LOINC	Stridor
LA18220-6	LOINC	Avulsion
LA18221-4	LOINC	Burn, blistering
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18226-3	LOINC	Foreign body
LA18227-1	LOINC	Tracheal deviation-right
LA18228-9	LOINC	Tracheal deviation-left
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain
LA17229-8	LOINC	Crush Injury

Code	Code System	Print Name
LA22440-4	LOINC	Swelling
LA7423-2	LOINC	Contusion
LA17709-9	LOINC	Tenderness

## Neurological Assessment Finding

Value Set	NeurologicalAssessmentFinding - 2.16.840.1.113883.17.3.11.40
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS neurological assessment

Code	Code System	Print Name
LA15899-0	LOINC	Seizures
LA17286-8	LOINC	Normal baseline for patient
LA17291-8	LOINC	Cerebellar function-abnormal
LA17292-6	LOINC	Cerebellar function-normal
LA17293-4	LOINC	Gait-abnormal
LA17294-2	LOINC	Gait-normal
LA17295-9	LOINC	Hemiplegia-left
LA17296-7	LOINC	Hemiplegia-right
LA17297-5	LOINC	Speech-normal
LA17298-3	LOINC	Speech-slurring
LA17299-1	LOINC	Strength-normal
LA17300-7	LOINC	Strength-symmetric
LA17301-5	LOINC	Tremors
LA17302-3	LOINC	Weakness-facial droop-left
LA17303-1	LOINC	Weakness-facial droop-right
LA17304-9	LOINC	Weakness-left sided
LA17305-6	LOINC	Weakness-right sided
LA18261-0	LOINC	Aphagia
LA18262-8	LOINC	Aphasia
LA18263-6	LOINC	Decerebrate posturing
LA18264-4	LOINC	Decorticate posturing
LA18265-1	LOINC	Strength-asymmetric
LA6630-3	LOINC	Not done
LA23822-2	LOINC	Arm Drift-Left

Code	Code System	Print Name
LA23823-0	LOINC	Arm Drift-Right

## Non Drug Allergy Type

Value Set	NonDrugAllergyType - 2.16.840.1.113883.17.3.11.83
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kinds of environmental allergens
Description	Valid values are SNOMED CT descendants of 419199007 Allergy to Substance or 258155009 photosensitization due to sun. Reference the NEMESIS Suggested Lists at: <a href="http://nemesis.org/v3/resources.html">http://nemesis.org/v3/resources.html</a>

## Organ System

Value Set	OrganSystem - 2.16.840.1.113883.17.3.11.77
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Biological systems for the classification of disorders

Code	Code System	Print Name
LA16968-2	LOINC	Gastrointestinal
LA18114-1	LOINC	General/global
LA18277-6	LOINC	Cardiovascular
LA18278-4	LOINC	CNS/neuro
LA18279-2	LOINC	Endocrine/metabolic
LA18281-8	LOINC	Lymphatic/immune
LA18282-6	LOINC	Musculoskeletal/skin
LA18283-4	LOINC	Pulmonary
LA18284-2	LOINC	Renal
LA18285-9	LOINC	Reproductive
LA9534-4	LOINC	Behavioral / psychiatric disorder

## Pelvis Genitourinary Assessment

Value Set	PelvisGenitourinaryAssessment - 2.16.840.1.113883.17.3.11.33
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding resulting from EMS pelvic and genitourinary assessment

Code	Code System	Print Name
LA17208-2	LOINC	Bleeding controlled
LA17209-0	LOINC	Bleeding uncontrolled
LA17213-2	LOINC	Mass/lesion
LA17214-0	LOINC	Puncture/stab wound
LA17212-4	LOINC	Gunshot wound
LA17248-8	LOINC	Bleeding-rectal
LA17249-6	LOINC	Bleeding-urethral
LA17250-4	LOINC	Bleeding-vaginal
LA17251-2	LOINC	Genital injury
LA17252-0	LOINC	Pelvic fracture
LA17253-8	LOINC	Pelvic instability
LA17254-6	LOINC	Penile priapism/erection
LA17255-3	LOINC	Pregnant-crowning
LA17709-9	LOINC	Tenderness
LA18220-6	LOINC	Avulsion
LA18221-4	LOINC	Burn, blistering
LA18222-2	LOINC	Burn, charring
LA18223-0	LOINC	Burn, redness
LA18224-8	LOINC	Burn, white/waxy
LA18225-5	LOINC	Deformity
LA18226-3	LOINC	Foreign body
LA6626-1	LOINC	Normal
LA6630-3	LOINC	Not done
LA7410-9	LOINC	Abrasion
LA7452-1	LOINC	Laceration
LA7460-4	LOINC	Pain
LA17229-8	LOINC	Crush Injury
LA7423-2	LOINC	Contusion

## Pregnancy

Value Set	Pregnancy - 2.16.840.1.113883.17.3.11.42
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Estimation of patient's pregnant status and maturity



Code	Code System	Print Name
LA17329-6	LOINC	Yes, confirmed less than 12 weeks
LA17330-4	LOINC	Yes, confirmed 12 to 20 weeks
LA17331-2	LOINC	Yes, confirmed greater than 20 weeks
LA17332-0	LOINC	Possible, unconfirmed
LA32-8	LOINC	No

## Primary Hospital Capability

Value Set	PrimaryHospitalCapability - 2.16.840.1.113883.17.3.11.104
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Characteristic hospital capabilities that might be germane to an EMS destination selection

Code	Code System	Print Name
LA22833-0	LOINC	Behavioral health
LA22834-8	LOINC	Burn center
LA22835-5	LOINC	Critical access hospital
LA22836-3	LOINC	Hospital - general
LA22837-1	LOINC	Neonatal center
LA22838-9	LOINC	Pediatric center
LA22841-3	LOINC	Stroke center
LA22842-1	LOINC	Rehabilitation center
LA22843-9	LOINC	Trauma center level 1
LA22844-7	LOINC	Trauma center level 2
LA22845-4	LOINC	Trauma center level 3
LA22846-2	LOINC	Trauma center level 4
LA22847-0	LOINC	Trauma center level 5
LA22848-8	LOINC	Cardiac-STEMI/PCI Capable
LA22849-6	LOINC	Cardiac-STEMI/PCI Capable (24/7)

## Prior Care Provider Role

Value Set	PriorCareProviderRole - 2.16.840.1.113883.17.3.11.12
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Role of person providing care to a patient before the arrival of EMS personnel

Code	Code System	Print Name
LA18016-8	LOINC	First responder-fire, law, EMS
LA18017-6	LOINC	Healthcare professional-non-EMS
LA18018-4	LOINC	Lay person-non-family
LA18019-2	LOINC	Other EMS professional - not part of dispatched response
LA9277-0	LOINC	Family member

## Procedure Complication Type

Value Set	ProcedureComplicationType - 2.16.840.1.113883.17.3.11.58
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of abnormal effect associated with the performance of a procedure

Code	Code System	Print Name
LA137-2	LOINC	None
LA15098-9	LOINC	Nausea
LA15099-7	LOINC	Vomiting
LA15424-7	LOINC	Diarrhea
LA17059-9	LOINC	Other (not listed)
LA17392-4	LOINC	Altered mental status
LA17393-2	LOINC	Apnea
LA17394-0	LOINC	Bradycardia
LA17396-5	LOINC	Hypoxia
LA20641-9	LOINC	Itching
LA17489-8	LOINC	Esophageal intubation-immediately
LA17490-6	LOINC	Esophageal intubation-other
LA17713-1	LOINC	Injury
LA17714-9	LOINC	Tachycardia
LA18267-7	LOINC	Tachypnea
LA7418-2	LOINC	Bleeding
LA7434-9	LOINC	Extravasation
LA7443-0	LOINC	Hypotension
LA7444-8	LOINC	Hypertension
LA9540-1	LOINC	Hyperthermia
LA9541-9	LOINC	Hypothermia
LA9548-4	LOINC	Respiratory distress

Code	Code System	Print Name
LA20642-7	LOINC	Urticaria
LA18266-9	LOINC	Bradypnea

## Protocol

Value Set	Protocol - 2.16.840.1.113883.17.3.11.73
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Clinical category of formal guideline used to direct care

Code	Code System	Print Name
LA17398-1	LOINC	Airway
LA17491-4	LOINC	Airway-failed
LA17492-2	LOINC	Airway-obstruction/foreign body
LA17494-8	LOINC	Airway-Rapid Sequence Induction (RSI-Paralytic)
LA17495-5	LOINC	Airway-sedation assisted (nonparalytic)
LA17496-3	LOINC	Cardiac arrest- asystole
LA17497-1	LOINC	Cardiac arrest- pulseless electrical activity
LA17498-9	LOINC	Cardiac arrest- ventricular fibrillation/pulseless ventricular tachycardia
LA17499-7	LOINC	Cardiac arrest-hypothermia-therapeutic
LA17500-2	LOINC	Cardiac arrest-post resuscitation care
LA17501-0	LOINC	Environmental-altitude sickness
LA17502-8	LOINC	Environmental-cold exposure
LA17503-6	LOINC	Environmental-frostbite/cold Injury
LA17504-4	LOINC	Environmental-heat exposure/exhaustion
LA17505-1	LOINC	Environmental-heat stroke/hyperthermia
LA17506-9	LOINC	Environmental-hypothermia
LA17507-7	LOINC	Exposure-airway/inhalation irritants
LA17508-5	LOINC	Exposure-biological/infectious
LA17509-3	LOINC	Exposure-blistering agents
LA17510-1	LOINC	Exposure-carbon monoxide/smoke inhalation
LA17511-9	LOINC	Exposure-chemicals to eye
LA17512-7	LOINC	Exposure-cyanide
LA17513-5	LOINC	Exposure-explosive/blast injury
LA17514-3	LOINC	Exposure-nerve agents
LA17515-0	LOINC	Exposure-radiologic agents

Code	Code System	Print Name
LA17516-8	LOINC	General-back pain
LA17517-6	LOINC	General-behavioral/patient restraint
LA17518-4	LOINC	General-dental problems
LA17519-2	LOINC	General-epistaxis
LA17520-0	LOINC	General-fever
LA17521-8	LOINC	General-individualized patient protocol
LA17522-6	LOINC	General-indwelling medical devices/equipment
LA17523-4	LOINC	General-IV access
LA17524-2	LOINC	General-medical device malfunction
LA17525-9	LOINC	General-pain control
LA17526-7	LOINC	General-spinal immobilization/clearance
LA17527-5	LOINC	General-universal patient care/initial patient contact
LA17528-3	LOINC	Injury-amputation
LA17529-1	LOINC	Injury-bites and envenomations-land
LA17530-9	LOINC	Injury-bites and envenomations-marine
LA17531-7	LOINC	Injury-bleeding/hemorrhage control
LA17532-5	LOINC	Injury-burns-thermal
LA17533-3	LOINC	Injury-cardiac arrest
LA17534-1	LOINC	Injury-crush syndrome
LA17535-8	LOINC	Injury-diving emergencies
LA17536-6	LOINC	Injury-drowning/near drowning
LA17537-4	LOINC	Injury-electrical injuries
LA17538-2	LOINC	Injury-extremity
LA17539-0	LOINC	Injury-eye
LA17540-8	LOINC	Injury-head
LA17541-6	LOINC	Injury-impaled object
LA17542-4	LOINC	Injury-multisystem
LA17543-2	LOINC	Injury-spinal cord
LA17544-0	LOINC	Medical-abdominal pain
LA17545-7	LOINC	Medical-allergic reaction/anaphylaxis
LA17546-5	LOINC	Medical-altered mental status
LA17547-3	LOINC	Medical-bradycardia
LA17548-1	LOINC	Medical-cardiac chest pain
LA17549-9	LOINC	Medical-diarrhea

Code	Code System	Print Name
LA17550-7	LOINC	Medical-hyperglycemia
LA17551-5	LOINC	Medical-hypertension
LA17552-3	LOINC	Medical-hypoglycemia/diabetic emergency
LA17553-1	LOINC	Medical-hypotension/shock (non-trauma)
LA17554-9	LOINC	Medical-influenza-like Illness/ upper respiratory infection
LA17555-6	LOINC	Medical-nausea/vomiting
LA17556-4	LOINC	Medical-newborn/ neonatal resuscitation
LA17557-2	LOINC	General-overdose/poisoning/toxic ingestion
LA17558-0	LOINC	Medical-pulmonary edema/CHF
LA17559-8	LOINC	Medical-respiratory distress/asthma/COPD/reactive airway disease
LA17560-6	LOINC	Medical-seizure
LA17561-4	LOINC	Medical-ST-elevation myocardial infarction (STEMI)
LA17562-2	LOINC	Medical-stroke/TIA
LA17563-0	LOINC	Medical-supraventricular tachycardia (including atrial fibrillation)
LA17564-8	LOINC	Medical-syncope
LA17565-5	LOINC	Medical-ventricular tachycardia (with pulse)
LA17566-3	LOINC	OB/GYN-childbirth/labor/delivery
LA17567-1	LOINC	OB/GYN-eclampsia
LA17568-9	LOINC	OB/GYN-gynecologic emergencies
LA17569-7	LOINC	OB/GYN-pregnancy related emergencies
LA17570-5	LOINC	OB/GYN-post-partum hemorrhage
LA18269-3	LOINC	General-cardiac arrest
LA46-8	LOINC	Other
LA6630-3	LOINC	Not done
LA23828-9	LOINC	Injury-Conducted Electrical Weapon (e.g., Taser)
LA23829-7	LOINC	Injury-Facial Trauma
LA23830-5	LOINC	Injury-General Trauma Management
LA23831-3	LOINC	Injury-Lightning/Lightning Strike
LA23832-1	LOINC	Injury-SCUBA Injury/Accidents
LA23833-9	LOINC	Injury-Topical Chemical Burn
LA23834-7	LOINC	Medical-Beta Blocker Poisoning/Overdose
LA23835-4	LOINC	Medical-Calcium Channel Blocker Poisoning/Overdose

Code	Code System	Print Name
LA23836-2	LOINC	Medical-Opioid Poisoning/Overdose
LA23837-0	LOINC	Medical-Respiratory Distress-Bronchiolitis
LA23838-8	LOINC	Medical-Respiratory Distress-Croup
LA23839-6	LOINC	Medical-Stimulant Poisoning/Overdose
LA24136-6	LOINC	Cardiac Arrest-Do Not Resuscitate
LA24137-4	LOINC	Cardiac Arrest-Special Resuscitate Orders
LA24139-0	LOINC	General-Community Paramedicine / Mobile Integrated Healthcare
LA24140-8	LOINC	General-Exception Protocol
LA24141-6	LOINC	General-Extended Care Guidelines
LA24142-4	LOINC	General-Interfacility Transfers
LA24143-2	LOINC	General-Law Enforcement - Blood for Legal Purposes
LA24144-0	LOINC	General-Law Enforcement - Assist with Law Enforcement Activity
LA24145-7	LOINC	General-Neglect or Abuse Suspected
LA24146-5	LOINC	General-Refusal of Care
LA24147-3	LOINC	Injury-Mass/Multiple Casualties
LA24148-1	LOINC	Injury-Thoracic
LA24149-9	LOINC	Medical-Adrenal Insufficiency
LA24150-7	LOINC	Medical-Apparent Life Threatening Event (ALTE)
LA24151-5	LOINC	Medical-Tachycardia
LA23827-1	LOINC	Cardiac Arrest-Determination of Death / Withholding Resuscitative Efforts

## Protocol Age Category

Value Set	ProtocolAgeCategory - 2.16.840.1.113883.17.3.11.86
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Group of patient ages

Code	Code System	Print Name
LA17571-3	LOINC	General
LA17572-1	LOINC	Adult only
LA17573-9	LOINC	Pediatric only

## Provider Adverse Event Type

Value Set	ProviderAdverseEventType - 2.16.840.1.113883.17.3.11.72
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of adverse event affecting a care provider

Code	Code System	Print Name
LA137-2	LOINC	None
LA17059-9	LOINC	Other (not listed)
LA17402-1	LOINC	Death-cardiac arrest
LA17403-9	LOINC	Death-injury related
LA17404-7	LOINC	Death-other (not listed)
LA17405-4	LOINC	Exposure-airborne respiratory/biological/aerosolized secretions
LA17406-2	LOINC	Exposure-body fluid contact to broken skin
LA17407-0	LOINC	Exposure-body fluid contact with eye
LA17408-8	LOINC	Exposure-body fluid contact with intact skin
LA17409-6	LOINC	Exposure-body fluid contact with mucosal surface
LA17410-4	LOINC	Exposure-needle stick with body fluid injection
LA17411-2	LOINC	Exposure-needle stick without body fluid injection
LA17412-0	LOINC	Exposure-toxin/chemical/hazmat
LA17413-8	LOINC	Injury-lifting/back/musculoskeletal
LA17414-6	LOINC	Injury-other (not listed)

## Provider Response Role

Value Set	ProviderResponseRole - 2.16.840.1.113883.17.3.11.80
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Role filled by an EMS professional

Code	Code System	Print Name
LA18707-2	LOINC	Driver/pilot-response
LA18708-0	LOINC	Driver/pilot-transport
LA18709-8	LOINC	Other crew member response role
LA18710-6	LOINC	Other patient caregiver-at scene
LA18711-4	LOINC	Other patient caregiver-transport
LA18712-2	LOINC	Primary patient caregiver-at scene

Code	Code System	Print Name
LA18713-0	LOINC	Primary patient caregiver-transport

## Provider Role

Value Set	ProviderRole - 2.16.840.1.113883.17.3.11.46
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Class of person providing care to an EMS patient, including the patient

Code	Code System	Print Name
LA15276-1	LOINC	Student
LA18695-9	LOINC	Critical care paramedic
LA18696-7	LOINC	2009 advanced emergency medical technician (AEMT)
LA18697-5	LOINC	2009 emergency medical responder (EMR)
LA18698-3	LOINC	2009 emergency medical technician (EMT)
LA18699-1	LOINC	2009 paramedic
LA18700-7	LOINC	First responder
LA18701-5	LOINC	EMT-basic
LA18702-3	LOINC	EMT-intermediate
LA18703-1	LOINC	EMT-paramedic
LA18704-9	LOINC	Other healthcare professional
LA18705-6	LOINC	Other non-healthcare professional
LA18706-4	LOINC	Community paramedicine
LA18714-8	LOINC	Patient/lay person
LA4687-5	LOINC	Physician
LA9297-8	LOINC	Respiratory therapist

## Race and Ethnicity - CDC

Value Set	Race and Ethnicity - CDC
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## Race Category

Value Set	RaceCategory - 2.16.840.1.114222.4.11.836
Source URL	<a href="https://phinvads.cdc.gov/vads/ViewValueSet.action?id=67D34BBC-617F-DD11-B38D-00188B398520">https://phinvads.cdc.gov/vads/ViewValueSet.action?id=67D34BBC-617F-DD11-B38D-00188B398520</a>



Code	Code System	Print Name
1002-5	Race and Ethnicity - CDC	American Indian or Alaska Native
2028-9	Race and Ethnicity - CDC	Asian
2054-5	Race and Ethnicity - CDC	Black or African American
2076-8	Race and Ethnicity - CDC	Native Hawaiian or Other Pacific Islander
2131-1	Race and Ethnicity - CDC	Other Race
2106-3	Race and Ethnicity - CDC	White

## Reason Procedure not Performed

Value Set	Reason Procedure not Performed - 2.16.840.1.113883.17.3.11.95
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Rationale for not completing an otherwise indicated procedure

Code	Code System	Print Name
LA15185-4	LOINC	Unable to complete
LA18925-0	LOINC	Denied by order
LA4216-3	LOINC	Contraindicated
LA4389-8	LOINC	Refused

## Reason Procedure not Performed Superset

Value Set	Reason Procedure not Performed Superset - 2.16.840.1.113883.17.3.11.100
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Rationale for not completing an otherwise indicated procedure, including CPR

Code	Code System	Print Name
LA15185-4	LOINC	Unable to complete
LA18925-0	LOINC	Denied by order
LA4216-3	LOINC	Contraindicated
LA4389-8	LOINC	Refused
LA17063-1	LOINC	Considered futile
LA17064-9	LOINC	DNR orders
LA17065-6	LOINC	Signs of circulation

## Reason Resuscitation Not Attempted

Value Set	ReasonResuscitationNotAttempted - 2.16.840.1.113883.17.3.11.90
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Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Rationale for not attempting to resuscitate a patient

Code	Code System	Print Name
LA17063-1	LOINC	Considered futile
LA17064-9	LOINC	DNR orders
LA17065-6	LOINC	Signs of circulation

## Registry Type

Value Set	RegistryType - 2.16.840.1.113883.17.3.11.74
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of research repository in which a patient record might be included

Code	Code System	Print Name
LA17057-3	LOINC	Drowning
LA17058-1	LOINC	Trauma
LA17059-9	LOINC	Other (not listed)
LA17398-1	LOINC	Airway
LA17399-9	LOINC	Spinal cord injury
LA17400-5	LOINC	STEMI/acute cardiac
LA17401-3	LOINC	Traumatic brain injury
LA7318-4	LOINC	Burn
LA9535-1	LOINC	Cardiac arrest
LA9553-4	LOINC	Stroke/CVA

## Response Delay Type

Value Set	ResponseDelayType - 2.16.840.1.113883.17.3.11.51
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of circumstance delaying an EMS response

Code	Code System	Print Name
LA17059-9	LOINC	Other (not listed)
LA17583-8	LOINC	Scene safety (not secure for EMS)
LA17585-3	LOINC	Crowd
LA17586-1	LOINC	Directions/unable to locate
LA17587-9	LOINC	Distance

Code	Code System	Print Name
LA17588-7	LOINC	HazMat
LA17590-3	LOINC	Staff delay
LA17591-1	LOINC	Traffic
LA17592-9	LOINC	Vehicle crash involving this unit
LA17593-7	LOINC	Vehicle failure of this unit
LA17594-5	LOINC	Weather
LA18081-2	LOINC	None/no delay
LA18270-1	LOINC	Rendezvous transport unavailable
LA18271-9	LOINC	Route obstruction (e.g., train)
LA18301-4	LOINC	Diversion

## Response Mode Qualifier

Value Set	ResponseModeQualifier - 2.16.840.1.113883.17.3.11.106
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Additional tactics or approaches used to support emergent response mode

Code	Code System	Print Name
LA22798-5	LOINC	Intersection Navigation-Against Normal Light Patterns
LA22799-3	LOINC	Intersection Navigation-With Automated Light Changing Technology
LA22800-9	LOINC	Intersection Navigation-With Normal Light Patterns
LA22801-7	LOINC	Speed-Enhanced per Local Policy
LA22802-5	LOINC	Speed-Normal Traffic
LA22803-3	LOINC	Lights and Sirens
LA22804-1	LOINC	Lights and No Sirens
LA22805-8	LOINC	No Lights or Sirens
LA22806-6	LOINC	Initial No Lights or Sirens, Upgraded to Lights and Sirens
LA22807-4	LOINC	Initial Lights and Sirens, Downgraded to No Lights or Sirens

## Resuscitation Discontinue Reason

Value Set	ResuscitationDiscontinueReason - 2.16.840.1.113883.17.3.11.62
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Rationale for aborting attempt to resuscitate a patient

Code	Code System	Print Name
LA17078-9	LOINC	DNR
LA17079-7	LOINC	Medical control order
LA17080-5	LOINC	Obvious signs of death
LA17081-3	LOINC	Protocol/policy requirements completed
LA17082-1	LOINC	Return of spontaneous circulation (pulse or BP noted)
LA18204-0	LOINC	Physically unable to perform

## Return Of Spontaneous Circulation

Value Set	ReturnOfSpontaneousCirculation - 2.16.840.1.113883.17.3.11.15
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Timeframe for return of circulation to a patient

Code	Code System	Print Name
LA17075-5	LOINC	Yes, prior to arrival at the ED
LA17076-3	LOINC	Yes, at arrival at the ED
LA17077-1	LOINC	Yes, sustained for 20 consecutive minutes
LA32-8	LOINC	No

## Rx Norm

Value Set	RxNorm
Description	Normalized names for clinical drugs

## Safety Equipment Type

Value Set	SafetyEquipmentType - 2.16.840.1.113883.17.3.11.7
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of safety equipment

Code	Code System	Print Name
LA137-2	LOINC	None
LA17375-9	LOINC	Child booster seat
LA17376-7	LOINC	Helmet worn
LA17377-5	LOINC	Infant car seat forward facing
LA17378-3	LOINC	Infant car seat rear facing
LA17379-1	LOINC	Lap belt with shoulder belt

Code	Code System	Print Name
LA17380-9	LOINC	Lap belt without shoulder belt
LA17382-5	LOINC	Protective non-clothing gear
LA46-8	LOINC	Other
LA9381-0	LOINC	Shoulder belt
LA9391-9	LOINC	Eye protection
LA9392-7	LOINC	Protective clothing
LA9393-5	LOINC	Personal flotation device

## Scene Delay Type

Value Set	SceneDelayType - 2.16.840.1.113883.17.3.11.52
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of circumstance delaying EMS operations on scene

Code	Code System	Print Name
LA17059-9	LOINC	Other (not listed)
LA17585-3	LOINC	Crowd
LA17586-1	LOINC	Directions/unable to locate
LA17587-9	LOINC	Distance
LA17588-7	LOINC	HazMat
LA17590-3	LOINC	Staff delay
LA17591-1	LOINC	Traffic
LA17592-9	LOINC	Vehicle crash involving this unit
LA17593-7	LOINC	Vehicle failure of this unit
LA17594-5	LOINC	Weather
LA17595-2	LOINC	Extrication
LA17596-0	LOINC	Safety-crew/staging
LA17597-8	LOINC	Safety-patient
LA18081-2	LOINC	None/no delay
LA18272-7	LOINC	Awaiting air unit
LA18273-5	LOINC	Awaiting ground unit
LA18275-0	LOINC	Patient access
LA18276-8	LOINC	Triage/multiple patients
LA7540-3	LOINC	Language barrier

## Service Type

Value Set	ServiceType - 2.16.840.1.113883.17.3.11.79
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Category of service requested of an EMS agency

Code	Code System	Print Name
LA17150-6	LOINC	Standby
LA18715-5	LOINC	911 response (scene)
LA18716-3	LOINC	Intercept
LA18717-1	LOINC	Interfacility transport
LA18718-9	LOINC	Medical transport
LA18719-7	LOINC	Mutual aid
LA18720-5	LOINC	Public assistance/other not listed

## Stroke Scale

Value Set	StrokeScale - 2.16.840.1.113883.17.3.11.88
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Type of instrument used to evaluate for stroke

Code	Code System	Print Name
LA17110-0	LOINC	Cincinnati
LA17111-8	LOINC	Los Angeles
LA17112-6	LOINC	Miami emergency neurologic deficit (MEND)
LA17113-4	LOINC	NIH
LA18300-6	LOINC	Other stroke scale type
LA3774-2	LOINC	Massachusetts

## Stroke Scale Interpretation

Value Set	Stroke Scale Interpretation - 2.16.840.1.113883.17.3.11.93
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Finding based on a stroke scale instrument

Code	Code System	Print Name
LA17109-2	LOINC	Non-conclusive
LA6576-8	LOINC	Positive

Code	Code System	Print Name
LA6577-6	LOINC	Negative

## Transport Delay Type

Value Set	TransportDelayType - 2.16.840.1.113883.17.3.11.53
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of circumstance delaying EMS transport

Code	Code System	Print Name
LA17059-9	LOINC	Other (not listed)
LA17585-3	LOINC	Crowd
LA17586-1	LOINC	Directions/unable to locate
LA17587-9	LOINC	Distance
LA17588-7	LOINC	HazMat
LA17589-5	LOINC	Safety
LA17590-3	LOINC	Staff delay
LA17591-1	LOINC	Traffic
LA17592-9	LOINC	Vehicle crash involving this unit
LA17593-7	LOINC	Vehicle failure of this unit
LA17594-5	LOINC	Weather
LA18081-2	LOINC	None/no delay
LA18270-1	LOINC	Rendezvous transport unavailable
LA18271-9	LOINC	Route obstruction (e.g., train)
LA18301-4	LOINC	Diversion

## Transport Method

Value Set	TransportMethod - 2.16.840.1.113883.17.3.11.65
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Physical mode of patient transport

Code	Code System	Print Name
LA17168-8	LOINC	Ground-ambulance
LA17169-6	LOINC	Air medical-fixed wing
LA17170-4	LOINC	Air medical-rotor craft
LA17171-2	LOINC	Ground-ATV or rescue vehicle

Code	Code System	Print Name
LA17172-0	LOINC	Ground-bariatric
LA17173-8	LOINC	Ground-mass casualty bus/vehicle
LA17174-6	LOINC	Ground-wheelchair van
LA17175-3	LOINC	Ground-other not listed
LA17176-1	LOINC	Water-boat

## Transport Mode Qualifier

Value Set	TransportModeQualifier - 2.16.840.1.113883.17.3.11.102
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Techniques for managing transport speed

Code	Code System	Print Name
LA22798-5	LOINC	Intersection Navigation-Against Normal Light Patterns
LA22799-3	LOINC	Intersection Navigation-With Automated Light Changing Technology
LA22800-9	LOINC	Intersection Navigation-With Normal Light Patterns
LA22801-7	LOINC	Speed-Enhanced per Local Policy
LA22802-5	LOINC	Speed-Normal Traffic
LA22803-3	LOINC	Lights and Sirens
LA22804-1	LOINC	Lights and No Sirens
LA22805-8	LOINC	No Lights or Sirens
LA22807-4	LOINC	Initial Lights and Sirens, Downgraded to No Lights or Sirens
LA22806-6	LOINC	Initial No Lights or Sirens, Upgraded to Lights and Sirens

## Transportation Mode

Value Set	TransportationMode - 2.16.840.1.113883.17.3.11.66
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Urgency of transport

Code	Code System	Print Name
LA17177-9	LOINC	Emergent (immediate response)
LA17178-7	LOINC	Emergent downgraded to non-emergent
LA17179-5	LOINC	Non-emergent upgraded to emergent



Code	Code System	Print Name
LA17180-3	LOINC	Non-emergent

## Trauma Center Criteria

Value Set	TraumaCenterCriteria - 2.16.840.1.113883.17.3.11.3
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Patient findings used to determine appropriate destination

Code	Code System	Print Name
LA17337-9	LOINC	Glasgow Coma Score less than or equal to 13
LA17338-7	LOINC	Respiratory rate < 10 or >29 or (<20 in infant < one year)
LA17339-5	LOINC	Systolic blood pressure less than 90
LA17340-3	LOINC	Amputation proximal to wrist and ankle
LA17341-1	LOINC	Crushed, degloved, or mangled extremity
LA17342-9	LOINC	Flail chest
LA17343-7	LOINC	Open or depressed skull fracture
LA17344-5	LOINC	Paralysis
LA17345-2	LOINC	Pelvic fracture(s)
LA17346-0	LOINC	Penetrating injury to head, neck, torso, and extremities proximal to elbow and knee
LA17347-8	LOINC	Two or more proximal long-bone fractures

## Turn Around Delay Type

Value Set	TurnAroundDelayType - 2.16.840.1.113883.17.3.11.54
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Kind of circumstance delaying EMS readiness after an incident

Code	Code System	Print Name
LA17059-9	LOINC	Other (not listed)
LA17587-9	LOINC	Distance
LA17590-3	LOINC	Staff delay
LA17592-9	LOINC	Vehicle crash involving this unit
LA17593-7	LOINC	Vehicle failure of this unit
LA17594-5	LOINC	Weather
LA17598-6	LOINC	Clean-up

Code	Code System	Print Name
LA17599-4	LOINC	Decontamination
LA17600-0	LOINC	Documentation
LA17601-8	LOINC	ED overcrowding/transfer of care
LA17602-6	LOINC	Equipment/supply replenishment
LA18081-2	LOINC	None/no delay
LA18270-1	LOINC	Rendezvous transport unavailable
LA18271-9	LOINC	Route obstruction (e.g., train)
LA7497-6	LOINC	Equipment failure

## Unit Level Of Care

Value Set	UnitLevelOfCare - 2.16.840.1.113883.17.3.11.105
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Levels of care a unit may be able to provide

Code	Code System	Print Name
LA22851-2	LOINC	BLS-First Responder/EMR
LA22852-0	LOINC	BLS-Basic /EMT
LA22854-6	LOINC	BLS-Intermediate
LA22862-9	LOINC	BLS-Community Paramedicine
LA22855-3	LOINC	ALS-AEMT
LA22856-1	LOINC	ALS-Intermediate
LA22857-9	LOINC	ALS-Paramedic
LA22858-7	LOINC	ALS-Community Paramedicine
LA22859-5	LOINC	ALS-Nurse
LA22860-3	LOINC	ALS-Physician
LA22861-1	LOINC	Specialty Critical Care

## Unit Response Role

Value Set	UnitResponseRole - 2.16.840.1.113883.17.3.11.82
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Role unit plays in response to an incident

Code	Code System	Print Name
LA17575-4	LOINC	Ground transport

Code	Code System	Print Name
LA17576-2	LOINC	Non-Transport Assistance
LA17577-0	LOINC	Non-Transport Rescue
LA17578-8	LOINC	Non-Transport Administrative (e.g., Supervisor)
LA23840-4	LOINC	Air Transport-Helicopter
LA23841-2	LOINC	Air Transport-Fixed Wing

## Vehicle Impact Area

Value Set	VehicleImpactArea - 2.16.840.1.113883.17.3.11.5
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Direction from which a vehicle is struck, expressed in terms of an analog clock face

Code	Code System	Print Name
LA10137-0	LOINC	5
LA10138-8	LOINC	6
LA10139-6	LOINC	7
LA10140-4	LOINC	8
LA10141-2	LOINC	9
LA13942-0	LOINC	10
LA14557-5	LOINC	11
LA14558-3	LOINC	12
LA6112-2	LOINC	1
LA6113-0	LOINC	2
LA6114-8	LOINC	3
LA6115-5	LOINC	4

## Vehicle Passenger Location

Value Set	VehiclePassengerLocation - 2.16.840.1.113883.17.3.11.6
Code System	LOINC - 2.16.840.1.113883.6.1
Definition	Location of a passenger within a vehicle

Code	Code System	Print Name
LA17361-9	LOINC	Front seat-left side (or motorcycle driver)
LA17362-7	LOINC	Front seat-right side
LA17363-5	LOINC	Front seat-middle

Code	Code System	Print Name
LA17364-3	LOINC	Second seat-left side (or motorcycle passenger)
LA17365-0	LOINC	Second seat-middle
LA17366-8	LOINC	Second seat-right side
LA17367-6	LOINC	Third row-left side (or motorcycle passenger)
LA17368-4	LOINC	Third row-right side
LA17369-2	LOINC	Third row-middle
LA17370-0	LOINC	Sleeper section of cab (truck)
LA17371-8	LOINC	Passenger in other enclosed passenger or cargo area (non-trailing unit such as a bus, etc.)
LA17372-6	LOINC	Passenger in unenclosed passenger or cargo area (non-trailing unit such as a pickup, etc.)
LA17373-4	LOINC	Trailing unit
LA17374-2	LOINC	Riding on vehicle exterior (non-trailing unit)
LA4489-6	LOINC	Unknown



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## Chapter

# 6

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## Appendices

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### Topics:

- *Object Identifiers for US State Departments of Motor Vehicles*
- *Nulls and Negative Action Values*
- *UCUM Unit Mapping*
- *NEMSIS Routes Mapped to FDA Routes of Administration*
- *Unresolved Ballot Comments*

## Object Identifiers for US State Departments of Motor Vehicles

These OIDs have been assigned to US state DMVs by HL7 for the purpose of providing namespaces for driver's license numbers.

<b>OID</b>	<b>State Administrator</b>
2.16.840.1.113883.4.3.1	Alabama Motor Vehicle Bureau
2.16.840.1.113883.4.3.2	Alaska Motor Vehicle Bureau
2.16.840.1.113883.4.3.4	Arizona Motor Vehicle Bureau
2.16.840.1.113883.4.3.5	Arkansas Motor Vehicle Bureau
2.16.840.1.113883.4.3.6	California Motor Vehicle Bureau
2.16.840.1.113883.4.3.8	Colorado Motor Vehicle Bureau
2.16.840.1.113883.4.3.9	Connecticut Motor Vehicle Bureau
2.16.840.1.113883.4.3.10	Delaware Motor Vehicle Bureau
2.16.840.1.113883.4.3.11	District of Columbia Motor Vehicle Bureau
2.16.840.1.113883.4.3.12	Florida Motor Vehicle Bureau
2.16.840.1.113883.4.3.13	Georgia Motor Vehicle Bureau
2.16.840.1.113883.4.3.15	Hawaii Motor Vehicle Bureau
2.16.840.1.113883.4.3.16	Idaho Motor Vehicle Bureau
2.16.840.1.113883.4.3.17	Illinois Motor Vehicle Bureau
2.16.840.1.113883.4.3.18	Indiana Bureau for Motor Vehicles (BMV)
2.16.840.1.113883.4.3.19	Iowa Motor Vehicle Bureau
2.16.840.1.113883.4.3.20	Kansas Motor Vehicle Bureau
2.16.840.1.113883.4.3.21	Kentucky Motor Vehicle Bureau
2.16.840.1.113883.4.3.22	Louisiana Motor Vehicle Bureau
2.16.840.1.113883.4.3.23	Maine Motor Vehicle Bureau
2.16.840.1.113883.4.3.24	Maryland Motor Vehicle Bureau
2.16.840.1.113883.4.3.25	Massachusetts Motor Vehicle Bureau
2.16.840.1.113883.4.3.26	Michigan Motor Vehicle Bureau
2.16.840.1.113883.4.3.27	Minnesota Motor Vehicle Bureau
2.16.840.1.113883.4.3.28	Mississippi Motor Vehicle Bureau
2.16.840.1.113883.4.3.29	Missouri Motor Vehicle Bureau
2.16.840.1.113883.4.3.30	Montana Motor Vehicle Bureau
2.16.840.1.113883.4.3.31	Nebraska Motor Vehicle Bureau
2.16.840.1.113883.4.3.32	Nevada Motor Vehicle Bureau
2.16.840.1.113883.4.3.33	New Hampshire Motor Vehicle Bureau
2.16.840.1.113883.4.3.34	New Jersey Motor Vehicle Bureau
2.16.840.1.113883.4.3.35	New Mexico Motor Vehicle Bureau
2.16.840.1.113883.4.3.36	New York Motor Vehicle Bureau

2.16.840.1.113883.4.3.37	North Carolina Motor Vehicle Bureau
2.16.840.1.113883.4.3.38	North Dakota Motor Vehicle Bureau
2.16.840.1.113883.4.3.39	Ohio Motor Vehicle Bureau
2.16.840.1.113883.4.3.40	Oklahoma Motor Vehicle Bureau
2.16.840.1.113883.4.3.41	Oregon Motor Vehicle Bureau
2.16.840.1.113883.4.3.42	Pennsylvania Motor Vehicle Bureau
2.16.840.1.113883.4.3.44	Rhode Island Motor Vehicle Bureau
2.16.840.1.113883.4.3.45	South Carolina Motor Vehicle Bureau
2.16.840.1.113883.4.3.46	South Dakota Motor Vehicle Bureau
2.16.840.1.113883.4.3.47	Tennessee Motor Vehicle Bureau
2.16.840.1.113883.4.3.48	Texas Motor Vehicle Bureau
2.16.840.1.113883.4.3.49	Utah Motor Vehicle Bureau
2.16.840.1.113883.4.3.50	Vermont Motor Vehicle Bureau
2.16.840.1.113883.4.3.51	Virginia Motor Vehicle Bureau
2.16.840.1.113883.4.3.53	Washington Motor Vehicle Bureau
2.16.840.1.113883.4.3.54	West Virginia Motor Vehicle Bureau
2.16.840.1.113883.4.3.55	Wisconsin Motor Vehicle Bureau
2.16.840.1.113883.4.3.56	Wyoming Motor Vehicle Bureau

## Nulls and Negative Action Values

This table maps NEMESIS null and negative action values to the appropriate values and structures in the HL7 CDA specification.

NEMESIS Negative Action Values	Type	NullFlavor	Case	Solution
1 Unable to Complete	null	NI	observation	Observation.value = null (NI); obs.text = "unable to complete"
2 Unable to Complete	null	NI	medication	SBADM.value = null (NI); SBADM.text = "unable to complete"
3 Unable to Complete	null	NI	procedure	PROC.value = null (NI); PROC.text = "unable to complete"
4 Refused	null	ASKU (NT)	observation (including history)	Observation.value = null (ASKU)
7 Refused	neg		medication given	negate specific medication; put "refused" value in MedicationNotAdministeredReason observation
9 Refused	neg		procedure performed	negate specific procedure; put "refused" value in ReasonProcedureNotAttempted observation
10 Exam finding not present	null	NAV	observation	Observation.value = null (NAV)



11	No known drug allergies	none	observation: negation value	Use Boolean observation ExistenceOfDrugAllergy
12	None reported	none	observation: alcohol	Use Boolean observation ExistenceOfDrugUseIndication
16	No anticoagulants or bleeding disorder	none	medication	Use Boolean observation PatientOnAnticoagulants; negate HistoryOfCondition observation for D66, D67, D68
18	Contraindication noted	neg	medication, procedure	negate specific procedure or medication; use related reason observation to record reason
19	Denied by order	neg	medication, procedure	negate specific procedure or medication; use related reason observation to record reason
20	Medication allergy	neg	medication	negate specific procedure or medication; use related reason observation to record reason
21	Medication already taken	neg	medication	negate specific procedure or medication; use related reason observation to record reason
<b>Null Values</b>				
22	Not Applicable	null NA		null: NA
23	Not Recorded	null NI		null: NI; add detail to obs.text or proc.text
24	Not Reported	null NI		null: NI; add detail to obs.text or proc.text

## UCUM Unit Mapping

This appendix provides UCUM codes for units provided by NEMSIS specifications. Note that "liters" is always uppercase "L": the character "l" signifies the numeral "one."

NEMSIS Question	NEMSIS Code	Description	PQ QTY	PQ Units (UCUM)	Supporting values
emedications.06	3706001	Grams	Yes	g	
emedications.06	3706003	Inches	Yes	[in_i]	
emedications.06	3706005	International Units	Yes	[iU]	
emedications.06	3706007	Keep Vein Open (To Keep Open)	No		substanceAdministration.value.nullFlavor = QS (sufficient quantity); codeSystem = 2.16.840.1.113883.5.1008
emedications.06	3706009	Liters	Yes	L	
emedications.06	3706011	Liters Per Minute	Yes	L/min	
emedications.06	3706013	MDI Puffs	Yes	1	substanceAdministration.administrationUnitCode = PUFF; codeSystem = 2.16.840.1.113883.1.11.14570
emedications.06	3706015	Micrograms	Yes	ug	
emedications.06	3706017	Micrograms per Kilogram per Minute	Yes	ug/kg/min	

emedications.06	3706019	Milliequivalents	Yes	meq	
emedications.06	3706021	Milligrams	Yes	mg	
emedications.06	3706023	Milligrams Per Kilogram Per Minute	Yes	mg/kg/min	
emedications.06	3706025	Milliliters	Yes	mL	
emedications.06	3706027	Milliliters Per Hour	Yes	mL/h	
emedications.06	3706029	Other	Yes	1	substanceAdministration.value.units = OTH; codeSystem = 2.16.840.1.113883.5.1008
ehistory.14	3114001	cm	Yes	cm	
ehistory.14	3114003	gms	Yes	g	
ehistory.14	3114005	gtts (drops)	Yes	1	substanceAdministration.administrationUnitCode = DROP; codeSystem = 2.16.840.1.113883.1.11.14420
ehistory.14	3114007	inches	Yes	[in_i]	
ehistory.14	3114009	iu	Yes	[iU]	
ehistory.14	3114011	kvo (keep vein open)	No		substanceAdministration.value.nullFlavor = QS (sufficient quantity); codeSystem = 2.16.840.1.113883.5.1008
ehistory.14	3114013	l/min (fluid administration)	Yes	L/min	
ehistory.14	3114015	liters	Yes	L	
ehistory.14	3114017	LPM (gas administration)	Yes	L/min	
ehistory.14	3114019	mcg	Yes	ug	
ehistory.14	3114021	mcg/kg/min	Yes	ug/kg/min	
ehistory.14	3114023	mcg/min	Yes	ug/min	
ehistory.14	3114025	meq	Yes	meq	
ehistory.14	3114027	metered dose	Yes	1	substanceAdministration.value.units = OTH; codeSystem = 2.16.840.1.113883.5.1008
ehistory.14	3114029	mg	Yes	mg	
ehistory.14	3114031	mg/kg	Yes	mg/kg	
ehistory.14	3114033	mg/kg/min	Yes	mg/kg/min	
ehistory.14	3114035	mg/min	Yes	mg/min	
ehistory.14	3114037	ml	Yes	mL	
ehistory.14	3114039	ml/hr	Yes	mL/h	
ehistory.14	3114041	other (Not Listed)	Yes	1	substanceAdministration.value.units = OTH; codeSystem = 2.16.840.1.113883.5.1008
ehistory.14	3114043	puffs	Yes	1	substanceAdministration.administrationUnitCode = PUFF; codeSystem =2.16.840.1.113883.1.11.14570

ehistory.14	3114045	units/hr	Yes	1/h
epatient.16	2516001	Days	Yes	d
epatient.16	2516003	Hours	Yes	h
epatient.16	2516005	Minutes	Yes	min
epatient.16	2516007	Months	Yes	mo
epatient.16	2516009	Years	Yes	a
esituation.06	2806001	Seconds	Yes	s
esituation.06	2806003	Minutes	Yes	min
esituation.06	2806005	Hours	Yes	h
esituation.06	2806007	Days	Yes	d
esituation.06	2806009	Weeks	Yes	wk
esituation.06	2806011	Months	Yes	mo
esituation.06	2806013	Years	Yes	a

## NEMESIS Routes Mapped to FDA Routes of Administration

This appendix maps NEMESIS routes of administration to FDA routes. It also specifies how information implicit in NEMESIS values but not specific to routes may be modeled in the CDA structure.

NEMESIS value	Standard System	Standard Code	Standard Text
Endotracheal tube	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38208	ENDOTRACHEAL
Gastrostomy/Feeding Tube	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38246	INTRAGASTRIC
Gastrostomy tube	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38246	INTRAGASTRIC
Inhalation	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38216	RESPIRATORY (INHALATION)
Intraarterial	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38222	INTRA-ARTERIAL
Intranasal	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38284	NASAL
Intramuscular	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C28161	INTRAMUSCULAR
Intraocular	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38255	INTRAOCULAR

NEMESIS value	Standard System	Standard Code	Standard Text	
Intraosseous	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38253	INTRAMEDULLARY	
Intravenous	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38276	INTRAVENOUS	
Nasal Cannula	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38216	RESPIRATORY (INHALATION)	SubstanceAdministration/ Participant/ typeCode=""DEV"" (device) SubstanceAdministration/ Participant/ ParticipantRole/ classCode=""MANU"" (manufacture product) SubstanceAdministration/ Participant/ ParticipantRole/ Device/code @ value = ""39849001"" @codeSystem = ""2.16.840.1.113883.6.5"" @displayName=""nasal oxygen cannula""
Nasal	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38284	NASAL	
Nasal prongs	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38216	RESPIRATORY (INHALATION)	Alternate SCT format for above explicitly modeled concept (same content): 405815000  procedure device (attribute)  = 39849001  nasal oxygen cannula (Type:= physical object)
Nasogastric	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38285	NASOGASTRIC	
Nasotracheal Tube	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38208	ENDOTRACHEAL	approachSiteCode @value = ""15562006"" @codeSystem = ""2.16.840.1.113883.6.5"" @displayName=""structure of respiratory region of nose""

NEMSIS value	Standard System	Standard Code	Standard Text	
Non-Rebreather Mask	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38216	RESPIRATORY (INHALATION)	SubstanceAdministration/ Participant/ typeCode=""DEV"" (device) SubstanceAdministration/ Participant/ ParticipantRole/ classCode=""MANU"" (manufacture product) SubstanceAdministration/ Participant/ ParticipantRole/ Device/code @ value = ""427591007"" @codeSystem = ""2.16.840.1.113883.6.5"" @displayName=""nonrebreather oxygen mask""
Ophthalmic	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38287	OPHTHALMIC	
Oral	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38288	ORAL	
Other/miscellaneous	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38290	OTHER	
Otic	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38192	AURICULAR (OTIC)	
Re-breather mask	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38216	RESPIRATORY (INHALATION)	SubstanceAdministration/ Participant/ typeCode=""DEV"" (device) SubstanceAdministration/ Participant/ ParticipantRole/ classCode=""MANU"" (manufacture product) SubstanceAdministration/ Participant/ ParticipantRole/ Device/code @ value = ""425926003"" @codeSystem = ""2.16.840.1.113883.6.5"" @displayName=""partial rebreather oxygen mask""
Rectal	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38295	RECTAL	

NEMESIS value	Standard System	Standard Code	Standard Text	
Subcutaneous	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38299	SUBCUTANEOUS	
Sublingual	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38300	SUBLINGUAL	
Topical	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38304	TOPICAL	
Tracheostomy	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38308	TRANSTRACHEAL	
Transdermal	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38305	TRANSDERMAL	
Urethral	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38271	URETHRAL	
Ventimask	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38216	RESPIRATORY (INHALATION)	SubstanceAdministration/ Participant/ typeCode=""DEV"" (device) SubstanceAdministration/ Participant/ ParticipantRole/ classCode=""MANU"" (manufacture product) SubstanceAdministration/ Participant/ ParticipantRole/ Device/code @ value = ""428285009"" @codeSystem = ""2.16.840.1.113883.6.5"" @displayName=""Venturi mask""
Wound	FDA Route of Administration: 2.16.840.1.113883.3.26.1.1.1	C38250	INTRALESIONAL	

## Unresolved Ballot Comments

The following negative comments were made during the balloting process. Although the document passed the ballot, the commenter felt that the comment was not adequately addressed.

- Comment: All the templates in this IG appear to be missing inline XML examples. Examples are the chief means for helping developers implement a standards. The presence of such inline examples is one of the Structured Documents CDA IG Quality Criteria. Please provide incline examples for all templates
- Disposition: Examples were not in scope for this ballot. We will consider adding inline examples in the future. It would be helpful if SD were to provide guidance to tool developers on how to parse macro examples into inline examples in order to avoid duplicative manual maintenance.



# SAMPLE

In this example, the agency is represented with the root OID "2.16.840.1.113883.19.1." This OID represents a node (".1") under the HL7 Example domain ("2.16.840.1.113883.19"). This hypothetical organization has assigned identifiers under six nodes: 1. documents 2. patients 3. events 4. document artifacts (sections, organizers, statements) 5. facilities 6. devices (including the software that generated the report) These OIDs are used in the Instance Identifier data type in the "root" attribute. Providers are identified using a National Provider Identifier (root = "2.16.840.1.113883.4.6"), but the NPI has no "example" namespace for fictitious providers. Actual NPI identifiers are numbers; we have used strings that do not fit the NPI pattern to avoid inadvertently identifying an actual provider. This example report does not demonstrate every statement specified in the guide, but it does cover every pattern required to construct a valid document.

```
<?xml version="1.0" encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl" href="CDA.xsl"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-org:v3" xmlns:sdtc="urn:hl7-org:sdtc" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd" classCode="DOCCLIN" moodCode="EVN">
  <!--This example is based on ALS test case #1 from the Minnesota EMS Regulatory Board, available at http://www.emsrb.state.mn.us. Example and guide developed by the National EMS Information System and OcKham Information Services LLC under the auspices of Health Level 7, with support from the US National Highway Traffic Safety Administration, the Centers for Disease Control, and the Health Resources and Services Administration, as well as dozens of other government agencies, universities, and professional organizations. Example prepared for 2014 publication of normative implementation guide.-->
  <realmCode code="US"/>
  <typeId extension="POCD_HD000040" root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.17.3.10.2"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <id root="2.16.840.1.113883.19.1" extension="2086823449"/>
  <!-- The EMS PCR specification template identifier -->
  <!-- We inherit constraints from the Consolidated General Header -->
  <!-- See notes for OID descriptions. 2.16.840.1.113883.19 is the example domain. -->
  <code code="67796-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="EMS Patient Care Report"/>
  <title>EMS Patient Care Report</title>
  <effectiveTime value="201201011650+0600"/>
  <confidentialityCode codeSystem="2.16.840.1.113883.5.25" codeSystemName="ConfidentialityCode" code="N"/>
  <versionNumber value="1"/>
  <recordTarget>
    <patientRole>
      <id root="2.16.840.1.113883.19.2" extension="1968859720"/>
      <addr>
        <streetAddressLine>20190 Holyoak Avenue</streetAddressLine>
        <city>Two Harbors</city>
        <state>MN</state>
        <country>US</country>
      </addr>
      <telecom value="tel:(218)555-1212"/>
      <patient>
        <name>
          <given>Paul</given>
          <family>Bearer</family>
        </name>
        <administrativeGenderCode code="M" codeSystem="2.16.840.1.113883.5.1" codeSystemName="AdministrativeGenderCode"/>
        <birthTime value="19830115"/>
        <raceCode code="2106-3" displayName="White" codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race and Ethnicity - CDC"/>
        <ethnicGroupCode code="2186-5" displayName="Not Hispanic or Latino" codeSystem="2.16.840.1.113883.6.238" codeSystemName="Race and Ethnicity - CDC"/>
      </patient>
    </patientRole>
  </recordTarget>
  <author>
    <time value="201201011650+0600"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.4.6" extension="hijklm"/>
      <addr>
        <streetAddressLine>1000 Provider Lane</streetAddressLine>
        <city>Duluth</city>
        <state>MN</state>
        <postalCode>55802</postalCode>
        <country>US</country>
      </addr>
      <telecom value="tel:(218)555-1212"/>
      <assignedPerson>
        <name>
          <given>Paul</given>
          <family>Paramedic</family>
        </name>
      </assignedPerson>
    </assignedAuthor>
  </author>
  <author>
    <time value="201201011650+0600"/>
    <assignedAuthor>
      <id root="2.16.840.1.113883.19.6" extension="1401065661"/>
      <addr nullFlavor="NI"/>
      <telecom nullFlavor="NI"/>
      <assignedAuthoringDevice>
        <manufacturerModelName>ACME EMT Device</manufacturerModelName>
        <softwareName>ACME EMT System 3.1</softwareName>
      </assignedAuthoringDevice>
    </assignedAuthor>
  </author>
  <custodian>
    <assignedCustodian>
      <representedCustodianOrganization>
        <id root="2.16.840.1.113883.19" extension="765588601"/>
        <name>Acme EMT Services</name>
        <telecom value="tel:(218)555-1212"/>
      </representedCustodianOrganization>
      <addr>
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        <city>Duluth</city>
        <state>MN</state>
        <postalCode>55803</postalCode>
        <country>US</country>
      </addr>
    </assignedCustodian>
  </custodian>
  <participant typeCode="DST">
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  <addr>
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    <state>MN</state>
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          <state>MN</state>
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        <telecom value="tel:(218) 555-1212"/>
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          <name>
            <given>Renee</given>
            <family>Responder</family>
          </name>
        </assignedPerson>
      </assignedEntity>
    </performer>
  </serviceEvent>
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        <location classCode="PLC">
          <name>Highway 50 and Ipava Ave</name>
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          <state>MN</state>
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        <text>
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            </thead>
            <tbody>
              <tr>
                <td>Billing Condition</td>
                <td>Puncture wound with foreign body of left front wall of thorax with penetration into thoracic cavity</td>
                <td></td>
              </tr>
              <tr>
                <td>EMS level of service</td>
                <td>ALS, level 1</td>
                <td></td>
              </tr>
            </tbody>
          </table>
        </text>
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  <templateId root="2.16.840.1.113883.10.20.22.2.1"/>
  <code code="10160-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="History of medication use"/>
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      <thead>
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      </thead>
      <tbody>
        <tr>
          <td>Currently on medication</td>
          <td>No information</td>
          <td></td>
        </tr>
      </tbody>
    </table>
  </text>

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```
|  |  |
| --- | --- |
| Patient on anticoagulants | No information |

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entry

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  <code code="67791-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Currently on medication"/>
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    <code code="69749-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Patient on anticoagulants"/>
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    <code code="48765-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Allergies and Adverse Reactions Section"/>
    <title>EMS Allergies and Adverse Reactions</title>
    <text>
      <table border="1" width="100%">
        <thead>
          <tr><th>property</th><th>value</th><th>Notes</th></tr>
        </thead>
        <tbody>
          <tr>
            <td>Existence of drug allergy</td>
            <td>No information</td>
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          </tr>
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    </text>
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    <code code="67842-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="EMS Past Medical History Section"/>
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    <text>No history known</text>
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    <code code="67843-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="EMS Social History Section"/>
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        </thead>
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            <td>true</td>
            <td></td>
          </tr>
          <tr>
            <td>Alcohol - drug use</td>
            <td>Smell of alcohol on breath</td>
            <td></td>
          </tr>
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    <id root="2.16.840.1.113883.19.4" extension="1059740514"/>
    <code code="29545-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="PHYSICAL EXAMINATION"/>
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          <tr>
            <td>HeadAssessmentFinding</td>
            <td>Normal</td>
            <td></td>
          </tr>
        </tbody>
      </table>
    </text>

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```
|  |  |
| --- | --- |
| <td>NeckAssessmentFinding</td> | <td>Normal</td> |
| </tr> |  |
| <td>ChestAndLungsAssessmentFinding</td> | <td>Bleeding - controlled</td> |
| </tr> |  |
| <td></td> | <td>ChestAndLungsAssessmentFinding</td> |
| <td>Gunshot wound - entry</td> |  |
| </tr> |  |
| <td>ChestAndLungsAssessmentFinding</td> | <td>Breath sounds-decreased-left</td> |
| <td></td> |  |
| </tr> |  |
| <td>Abdomen assessment</td> | <td>Normal</td> |
| <td>targetSiteCode: Generalized</td> |  |
| </tr> |  |
| <td>Abdomen assessment</td> | <td>Other</td> |
| <td>GI normal</td> |  |
| </tr> |  |
| <td>Pelvic and genitourinary assessment</td> | <td>Normal</td> |
| <td></td> |  |
| </tr> |  |
| <td>Extremities assessment</td> | <td>Normal</td> |
| <td></td> |  |
| </tr> |  |
| <td>Patient Pregnancy</td> | <td>Not Applicable</td> |
| <td></td> |  |
| </tr> |  |
| <td>Last Oral Intake</td> | <td>No Information</td> |
| <td></td> |  |
| </tr> |  |
| <td>Patient Age</td> | <td>28 years</td> |
| <td></td> |  |
| </tr> |  |
| <td>Contraindications to thrombolytic use</td> | <td>No Information</td> |
| <td></td> |  |
| </tr> |  |
| <td>Barrier to care</td> | <td>Unconscious</td> |
| <td></td> |  |
| </tr> |  |
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| </text> |  |
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| <templateId root="2.16.840.1.113883.17.3.10.1.113"/> |  |
| <code code="67525-6" displayName="HeadAssessmentFinding" codeSystem="2.16.840.1.113883.6.1"/> |  |
| <value xsi:type="CD" code="LA6626-1" displayName="Normal" codeSystem="2.16.840.1.113883.6.1"/> |  |
| </observation> |  |
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| <templateId root="2.16.840.1.113883.17.3.10.1.114"/> |  |
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| <value xsi:type="CD" code="LA6626-1" displayName="Normal" codeSystem="2.16.840.1.113883.6.1"/> |  |
| </observation> |  |
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| <templateId root="2.16.840.1.113883.17.3.10.1.115"/> |  |
| <code code="67528-0" displayName="ChestAndLungsAssessmentFinding" codeSystem="2.16.840.1.113883.6.1"/> |  |
| <value xsi:type="CD" code="LA17208-2" displayName="Bleeding controlled" codeSystem="2.16.840.1.113883.6.1"/> |  |
| <value xsi:type="CD" code="LA17244-7" displayName="Gunshot wound entry" codeSystem="2.16.840.1.113883.6.1"/> |  |
| </observation> |  |
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| <code code="67528-0" displayName="ChestAndLungsAssessmentFinding" codeSystem="2.16.840.1.113883.6.1"/> |  |
| <value xsi:type="CD" code="LA17225-6" displayName="Breath sounds-decreased-left" codeSystem="2.16.840.1.113883.6.1"/> |  |
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| <templateId root="2.16.840.1.113883.17.3.10.1.117"/> |  |
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| <value xsi:type="CD" code="LA6626-1" displayName="Normal" codeSystem="2.16.840.1.113883.6.1"/> |  |
| <targetSiteCode code="LA18721-3" displayName="Generalized" codeSystem="2.16.840.1.113883.6.1"/> |  |
| </observation> |  |
| </component> |  |
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| <value xsi:type="CD" nullFlavor="OTH"> |  |
| <originalText>GI normal</originalText> |  |
| </value> |  |
| <targetSiteCode code="LA18721-3" displayName="Generalized" codeSystem="2.16.840.1.113883.6.1"/> |  |
| </observation> |  |
| </component> |  |
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| <templateId root="2.16.840.1.113883.17.3.10.1.118"/> |  |
| <code code="67531-4" displayName="Pelvic and genitourinary assessment" codeSystem="2.16.840.1.113883.6.1"/> |  |
| <value xsi:type="CD" code="LA6626-1" displayName="Normal" codeSystem="2.16.840.1.113883.6.1"/> |  |
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| </component> |  |

```

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    <code code="67471-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Patient Pregnancy"/>
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<entry>
  <observation classCode="OBS" moodCode="EVN">
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    <id root="2.16.840.1.113883.19.4" extension="894353050"/>
    <code code="67517-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Last oral intake"/>
    <value xsi:type="TS" nullFlavor="NI"/>
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    <code code="30525-0" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Patient age"/>
    <value xsi:type="PQ" value="28" unit="a"/>
  </observation>
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<entry>
  <observation classCode="OBS" moodCode="EVN">
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    <code code="67523-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Contraindications to thrombolytic use"/>
    <value xsi:type="CD" nullFlavor="NI"/>
  </observation>
</entry>
<entry>
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    <code code="67523-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Barriers to patient care"/>
    <value xsi:type="CD" code="LA17711-5" displayName="Unconscious" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"/>
  </observation>
</entry>
</section>
</component>
<component>
  <section>
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    <code code="29549-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="Medications Administered"/>
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    <text>
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            <th>medication</th>
            <th>route</th>
            <th>site</th>
            <th>dose</th>
            <th>device</th>
            <th>performer</th>
            <th>response</th>
          </tr>
        </thead>
        <tbody>
          <tr>
            <td>2012 01 01 1604</td>
            <td>Oxygen</td>
            <td>Respiratory</td>
            <td>structure of respiratory region of nose</td>
            <td>15 L/min</td>
            <td>partial rebreather mask</td>
            <td>EMT-paramedic: 908786906</td>
            <td>Unchanged</td>
          </tr>
        </tbody>
      </table>
    </text>
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        <approachSiteCode code="15562006" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMEDCT" displayName="structure of respiratory region of nose"/>
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      <paragraph><content styleCode="Bold">S </content>Called for motor vehicle crash</paragraph>
      <paragraph><content styleCode="Bold">O </content>Restrained make patient found in driver's seat of 4-door sedan. Pt unresponsive. Law
enforcement holding c-spine and placed nasal airway for snoring respirations. Bystanders state vehicle swerved off road and came to stop. Exam showed Pt
suffered a gun shot wound to L side at 5th intercostal space. </paragraph>

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<paragraph><content styleCode="Bold">A </content>Patent with nasal airway</paragraph>
<paragraph><content styleCode="Bold">B </content>Labored at 22 with decreased lung sounds</paragraph>
<paragraph><content styleCode="Bold">C </content>Sinus tach rapid, regular 108-142</paragraph>
<paragraph><content styleCode="Bold">D </content>Decreased level of consciousness with GCS = 9, AVPU = P</paragraph>
<paragraph><content styleCode="Bold">E </content>HEENT: intact, no trauma noted. Neck: supple, no JVD; Trachea midline. Chest: GSW as noted; decreased LS to left side. ABD: soft nontender. Pelvis: intact. GI: intact. Ext: moves all extremities with pupose upon painful stimulation, no trauma noted. </paragraph>
<paragraph><content styleCode="Bold">PLAN </content>C collar, nasal airway with O2 @ 15 LPM via NRB, LSB, monitor. Sinus tach, no ectopy, occlusive dressing. Reassess: O2 sats decreased, labored breathing. Treatment: needle chest decompression L side. Transport lights and siren. Enroute two IVs established. Diverted to XXX hospital. Breathing improved. Care and report to ED staff.</paragraph>
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            <td>Transport</td>
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      <td>No information</td>
      <td>No information</td>
      <td>No information</td>
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      <paragraph>Safety equipment: Lap belt without shoulder belt</paragraph>
      <paragraph>Airbag deployment: No airbag deployed</paragraph>
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## REFERENCES

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- HL7 Implementation Guide for CDA Release 2 CDA for Public Health Case Reports (PHCR) Informative Standard October 2009. Available through [HL7](#).
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- [SNOMED CT®](#) : SNOMED Clinical Terms SNOMED International Organization.
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