

**HL7 Implementation Guide  
for CDA<sup>®</sup> Release 2:  
Emergency Medical  
Services; Patient Care Report  
(Universal Realm)  
HL7 Draft Standard For Trial Use  
February 2013**



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# Chapter 1

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## INTRODUCTION

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### Topics:

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- [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. An EMS Patient Care Report is also known as a run report.

Further information about CDA is available at [HL7.org](http://hl7.org).

This guide constrains the NEMSIS data set 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 the University of Utah.

We expect this standard to change during the DSTU period. Issues should be reported on the HL7 Draft Standard for Trial Use (DSTU) comment page at <http://www.hl7.org/dstucomments>. For more information and status on the progress of this specification during the DSTU period, consult the HL7 wiki, EMS projects page.

## Overview

---

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.

## Audience

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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 NEMESIS elements to the CDA schema are included in this document. 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

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The NEMESIS 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 NEMESIS 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 in “level one” documents, or they may populate the structured sections as specified herein.

Because the NEMESIS data set is so broad, it extends beyond the Emergency Transfer of Care specified by Integrating the Healthcare Enterprise (IHE). These templates may be harmonized in the future; at this point, they are distinct.

## Approach

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We first converted the NEMESIS specification into an analysis model in 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. Both DAM and DIM are scheduled for publication in 2013, but they can be found on the HL7 Wiki.

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 iteration is no longer correct.

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. Similarly, harmonization with the Emergency Department specification *Data Elements for Emergency Department Systems*(DEEDS) involved use of extant LOINC codes for shared elements.

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 [www.terminology.hl7.org/UCUM](http://www.terminology.hl7.org/UCUM). 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 was not performed during the encounter or that it has never been performed on the patient. 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 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. Questions supporting observations about procedures can differentiate between encounter and patient history, letting assertions about the truth or existence of the knowledge obtain in the appropriate scope.

As a result, the medical history sections include, in addition to problems, procedures, medications, and allergies, observations regarding the existence of problems, procedures, medications, and allergies.

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 are 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 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.

This guide uses templates sparingly--primarily for section management. When requirements are identified to use templates for more granular elements (e.g., observations), the benefit of those requirements will be assessed against the burden of maintaining those templates.

## Vocabulary and Value Sets

Vocabularies recommended 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. We plan to submit these sets to the US extension of SNOMED CT. The LOINC answer codes will remain valid identifiers.

For properties bound to large value sets or 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 value set 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

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 various figures 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:h17-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]

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] **code** (CONF:5253)/**@code**="67796-3" *EMS Patient Care Report* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10002)
6. **SHALL** contain exactly one [1..1] **title** and **SHALL** equal "EMS Patient Care Report" (CONF:5254)
7. **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, it may be advantageous to default to "1" in the first instance.*
8. **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*
9. **SHALL** contain exactly one [1..1] **recordTarget** (CONF:10004)
  - a. This recordTarget **SHALL** conform to [Consol Record Target](#)
  - b. This recordTarget **SHALL** contain exactly one [1..1] **patientRole**
    - a. This patientRole **SHALL** conform to [Consol Patient Role](#)
    - b. 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*
  - c. This patientRole **SHALL** contain at least one [1..\*] **id**

*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.*
  - d. This patientRole Contains zero or more [0..\*] **telecom**

*NEMESIS Trace: EPatient.18*
  - e. This patientRole **SHALL** contain exactly one [1..1] **patient**
    - a. This patient **SHALL** conform to [Consol Patient](#)
    - b. This patient **SHOULD** contain zero or one [0..1] **birthTime**

*NEMESIS Trace*  
*EPatient.17*

- c. This patient **SHALL** contain zero or one [0..1] **ethnicGroupCode**, where the @code **SHALL** be selected from ValueSet **STATIC** (CONF:10032)

*NEMESIS Trace: EPatient.14*

- d. This patient **SHALL** contain zero or more [0..\*] **name**

*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.*

- e. This patient **SHALL** contain zero or one [0..1] **raceCode**, where the @code **SHALL** be selected from ValueSet **RaceCategory** 2.16.840.1.114222.4.11.836 **STATIC** (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.*

- f. This patient **SHALL** contain zero or more [0..\*] **sDTCRaceCode**, where the @code **SHALL** be selected from ValueSet **RaceCategory** 2.16.840.1.114222.4.11.836 **STATIC** (CONF:10034)

*NEMESIS Trace: EPatient.14*

- g. This patient **SHALL** contain exactly one [1..1] **administrativeGenderCode** (CONF:10035), where the @code **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.5.1 AdministrativeGenderCode) (CONF:10036)

*NEMESIS Trace: EPatient.13*

**10. SHALL** contain exactly one [1..1] **component** (CONF:10006)

- a. Contains exactly one [1..1] **EMS Billing Section** (templateId: 2.16.840.1.113883.17.3.10.1.5)

**11. MAY** contain zero or one [0..1] **component** (CONF:10007)

- a. Contains exactly one [1..1] **EMS Injury Incident Description Section** (templateId: 2.16.840.1.113883.17.3.10.1.17)

**12. SHALL** contain exactly one [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)

**13. MAY** contain zero or one [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)

**14. SHOULD** contain exactly one [1..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)

**15. SHALL** contain exactly one [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)

- 16. SHALL** contain exactly one [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)
- 17. SHALL** contain exactly one [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)
- 18. SHALL** contain exactly one [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)
- 19. MAY** contain zero or one [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)
- 20. SHALL** contain exactly one [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)
- 21. SHALL** contain exactly one [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)
- 22. SHALL** contain exactly one [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)
- 23. SHALL** contain exactly one [1..1] **componentOf** (CONF:9955)
- a. This componentOf **SHALL** contain zero or one [0..1] **@typeCode="COMP"** (CONF:10042)
  - b. This componentOf **SHALL** contain zero or one [0..1] **encompassingEncounter**
    - a. This encompassingEncounter **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10043)  
*NEMSIS Trace: ETimes.03, the date the responding unit was notified by dispatch*
    - b. This encompassingEncounter Contains zero or one [0..1] **location**
      - a. This location **SHALL** contain exactly one [1..1] **healthCareFacility** (CONF:10044)
        - a. This healthCareFacility **SHALL** contain exactly one [1..1] **id** (CONF:10045)  
*NEMSIS Trace: EResponse.04*
        - b. This healthCareFacility **SHALL** contain exactly one [1..1] **location** (CONF:10046)
          - a. This location **SHALL** contain zero or one [0..1] **@classCode="PLC"** (CONF:10050)
          - b. This location **MAY** contain zero or one [0..1] **name** (CONF:10048)  
*NEMSIS Trace: EScene.13*
          - c. This location **MAY** contain zero or one [0..1] **addr** (CONF:10049)  
*NEMSIS Trace: EScene.15-21*
        - c. This healthCareFacility **SHALL** contain exactly one [1..1] **code**, where the **@code** **SHALL** be selected from ValueSet *UnitResponseRole* 2.16.840.1.113883.17.3.5.82 **STATIC** (CONF:10047)  
*NEMSIS Trace: EResponse.07*
- 24. SHALL** contain exactly one [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)
- 25. MAY** contain zero or one [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)
- 26. SHALL** contain exactly one [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)
- 27. **SHALL** contain exactly one [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)
- 28. **SHALL** contain exactly one [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)
- 29. **SHALL** contain exactly one [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)
- 30. **MAY** contain zero or one [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)
- 31. **SHALL** contain exactly one [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)
- 32. **SHOULD** contain exactly one [1..1] **author** (CONF:10027)
  - a. This author **SHALL** conform to *Consol Author*
  - b. This author **SHALL** contain at least one [1..\*] **assignedAuthor**
    - a. Such assignedAuthors **SHALL** conform to *Consol Assigned Author*
    - b. Such assignedAuthors **SHALL** contain zero or one [0..1] **id** (CONF:10039)
 

*NEMESIS Trace: EOther.08 for human author*
    - c. Such assignedAuthors **SHALL** contain zero or one [0..1] **addr** (CONF:10040)
 

*Required for human author; not for 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*
    - d. Such assignedAuthors **SHALL** contain zero or one [0..1] **telecom** (CONF:10041)
 

*Required for human author; not for device*  
*NEMESIS Trace: DPersonnel.09*
    - e. Such assignedAuthors **SHALL** contain zero or more [0..\*] **assignedPerson**
      - a. Such assignedPersons **SHALL** conform to *Consol Person*
      - b. Such assignedPersons **SHALL** contain exactly one [1..1] **name** (CONF:9406)
 

*NEMESIS Trace*  
*DPersonnel.01 . . . Person/name/family*  
*DPersonnel.02 . . . Person/name/given*  
*DPersonnel.03 . . . Person/name/given*
    - f. Such assignedAuthors **SHALL** contain exactly one [1..1] **assignedAuthoringDevice**
      - a. This assignedAuthoringDevice **SHALL** conform to *Consol Authoring Device*
      - b. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **manufacturerModelName** (CONF:9936)
 

*NEMESIS Trace: ERecord.02*
      - c. This assignedAuthoringDevice **SHALL** contain exactly one [1..1] **softwareName** (CONF:9999)
 

*NEMESIS Trace: ERecord.03 and ERecord.04 (version), concatenated with an intervening caret ("^")*
- 33. **SHALL** contain exactly one [1..1] **custodian** (iv., CONF:5519)
  - a. This custodian **SHALL** conform to *Consol Custodian*



- b. This custodian **SHALL** contain zero or one [0..1] **assignedCustodian**
  - a. This assignedCustodian **SHALL** contain zero or one [0..1] **representedCustodianOrganization**
    - a. This representedCustodianOrganization **SHALL** contain exactly one [1..1] **addr**

*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**

*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**

*NEMESIS Trace: EResponse.02*

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

- a. This documentationOf **SHALL** contain zero or one [0..1] **serviceEvent**
  - a. This serviceEvent **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from ValueSet *ServiceType* 2.16.840.1.113883.17.3.5.79 **STATIC** (CONF:10051)

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

- b. This serviceEvent **SHALL** contain exactly one [1..1] **id**

*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 zero or one [0..1] **performer**
  - a. This performer **SHALL** contain zero or one [0..1] **functionCode**, where the @code **SHALL** be selected from ValueSet *ProviderResponseRole* 2.16.840.1.113883.17.3.5.80 **STATIC** (CONF:10052)

*NEMESIS Trace: ECrew.03*

- b. This performer **SHALL** contain zero or one [0..1] **assignedEntity**

- a. This assignedEntity **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from ValueSet *ProviderRoleLevel* 2.16.840.1.113883.17.3.5.81 **STATIC** (CONF:10053)

*NEMESIS Trace: ECrew.02*

- b. This assignedEntity **SHALL** contain at least one [1..\*] **id**

*NEMESIS Trace: ECrew.01*

- c. This assignedEntity **SHALL** contain exactly one [1..1] **addr**

*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*

- d. This assignedEntity **SHALL** contain exactly one [1..1] **telecom**

*NEMESIS Trace: DPersonnel.09*

- e. This assignedEntity **SHALL** contain zero or one [0..1] **assignedPerson**
  - a. This assignedPerson **SHALL** contain exactly one [1..1] **name**

*NEMESIS Trace*

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

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

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

**35. SHALL** contain exactly one [1..1] **relatedDocument** (CONF:10029)

- a. This relatedDocument Contains exactly one [1..1] **@typeCode="RPLC"**
- b. This relatedDocument **MAY** contain zero or one [0..1] **parentDocument**
  - a. This parentDocument **SHALL** contain exactly one [1..1] **id**

*NEMESIS Trace: ERecord.01*

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

- a. This participant **SHALL** contain exactly one [1..1] **@typeCode="DST"** (CONF:10054)
- b. This participant Contains 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] **code**, where the **@code** **SHALL** be selected from ValueSet *DestinationType* 2.16.840.1.113883.17.3.5.69 **STATIC** (CONF:10056)

*NEMESIS Trace: EDisposition.21*

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

*NEMESIS Trace: EDisposition.01*

**37. SHALL** contain exactly one [1..1] **confidentialityCode**, where the **@code** **SHALL** be selected from ValueSet HL7 BasicConfidentialityKind 2.16.840.1.113883.1.11.16926 **STATIC** (CONF:5259)

- *Default value is "N" (normal)*

#### Patient Care Report example

Error: Missing Runtime Class



---

# Chapter

# 3

---

## SECTION TEMPLATES

---

### 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]

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 Section* (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 Section"
  4. **SHALL** contain exactly one [1..1] **text**
  5. Contains zero or more [0..\*] **entry**
    - a. Such entrys **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. Such entrys **SHALL** contain zero or more [0..\*] **observation**
      - a. Such observations **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. Such observations **SHALL** contain exactly one [1..1] **code/@code**="67516-5" *Advanced directive* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10194)
- NEMSIS Trace: EHistory.05*
- c. Such observations **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *AdvanceDirectiveType* 2.16.840.1.113883.17.3.5.63 **STATIC**

### EMS Advance Directives Section example

Error: Missing Runtime Class

## EMS Allergies And Adverse Reactions Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.13]

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 Section* (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"
4. **SHALL** contain exactly one [1..1] **text**
5. **SHALL** contain exactly one [1..1] **entry** (CONF:10198)
  - a. This entry **SHALL** contain exactly one [1..1] **act**
    - a. This act **SHALL** conform to *Consol Allergy Problem Act* template (templateId: 2.16.840.1.113883.10.20.22.4.30)
    - b. This act **SHALL** contain exactly one [1..1] **participant**
      - 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 Contains exactly one [1..1] **code**

*NEMSIS Trace: EHistory.06*

6. **SHALL** contain exactly one [1..1] **entry** (CONF:10199)

- a. This entry **SHALL** conform to [Derived Entry](#) template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **organizer** (CONF:10211)
  - a. This organizer **SHALL** contain exactly one [1..1] **component** (CONF:10212)
    - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This component **SHALL** contain exactly one [1..1] **code/@code**="69747-4" *EMS Existence of environmental allergy* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10214)
    - c. This component **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10215)

*If NEMESIS EHistory.07 has no values, this is FALSE; otherwise it is TRUE.*

- b. This organizer **MAY** contain zero or more [0..\*] **component** (CONF:10213)
  - a. Such components **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. Such components **SHALL** contain exactly one [1..1] **code/@code**="69748-2" *Known allergies to food or environmental agents* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10216)

*Required if Existence is True*

- c. Such components **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet [EnvironmentalAllergyType](#) 2.16.840.1.113883.17.3.5.83 **STATIC** (CONF:10217)

7. **SHALL** contain exactly one [1..1] **entry**

- a. This entry **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This entry **SHALL** contain exactly one [1..1] **code/@code**="67794-8" *Existence of drug allergy* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10203)
- c. This entry **SHALL** contain exactly one [1..1] **value** with data 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.*

**EMS Allergies And Adverse Reactions Section example**

Error: Missing Runtime Class

## EMS Billing Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.5]

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 Section* (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"
4. **SHALL** contain exactly one [1..1] **text**
5. **SHALL** contain exactly one [1..1] **entry** (CONF:10081)
  - a. This entry **SHALL** conform to [Derived Entry](#) template (templateId: 2.16.840.1.113883.17.3.10.1.24)

- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10083)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10084)/**@code**="67556-1" *Billing condition* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10086)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10087), where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM)

*NEMESIS Trace: EPayment.51*

- 6. **SHALL** contain exactly one [1..1] **entry** (CONF:10082)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10089)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10090)/**@code**="69464-6" *EMS level of service* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10091)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10092), where the **@code** **SHALL** be selected from ValueSet *EMSLevelOfService* 2.16.840.1.113883.17.3.5.70 **STATIC** (CONF:10093)

*NEMESIS Trace: EPayment.50*

#### EMS Billing Section example

Error: Missing Runtime Class

## EMS Cardiac Arrest Event Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.14]

- 1. **SHALL** contain exactly one [1..1] **templateId** ( ) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.14"
- 2. **SHALL** contain exactly one [1..1] **code**/**@code**="67799-7" *EMS Cardiac Arrest Section* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10134)
- 3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Cardiac Arrest Event"
- 4. **SHALL** contain exactly one [1..1] **text**
- 5. **SHALL** contain exactly one [1..1] **entry** (CONF:10136)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10137)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHOULD** contain zero or one [0..1] **@negationInd** (CONF:10141)

*Populate as true if NEMESIS EArrest.01 = "No"*

- c. This observation **SHALL** contain exactly one [1..1] **code**/**@code**="ASSERTION" *ASSERTION* (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode) (CONF:10138)
- d. This observation **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:10139)

*NEMESIS Trace: EArrest.14*

- e. This observation **SHALL** contain exactly one [1..1] **value** with data type CD/**@code**="410429000" *cardiac arrest* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) (CONF:10140)

*NEMESIS Trace: EArrest.01*

- f. This observation **MAY** contain zero or one [0..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**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67503-3" *Cardiac arrest cause* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10156)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *CardiacArrestCause* 2.16.840.1.113883.17.3.5.10 **STATIC** (CONF:10157)

*NEMESIS Trace: EArrest.02*

- g. This observation **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10143)
  - 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 **SHALL** contain exactly one [1..1] **observation** (CONF:10150)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67502-5" *Cardiac arrest occurrence* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10152)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *CardiacArrestTiming* 2.16.840.1.113883.17.3.5.91 **STATIC** (CONF:10153)

*NEMESIS Trace: EArrest.01*

- h. This observation **MAY** contain zero or one [0..1] **informant** (CONF:10144)
  - a. This informant **SHALL** contain exactly one [1..1] **@typeCode**="INF" (CONF:10158)
  - b. This informant **SHALL** contain zero or one [0..1] **relatedEntity**
    - a. This relatedEntity **SHALL** contain exactly one [1..1] **@classCode**="AGNT" (CONF:10159)
    - b. This relatedEntity **SHALL** contain exactly one [1..1] **code**, where the **@code** **SHALL** be selected from ValueSet *CardiacArrestWitnessRole* 2.16.840.1.113883.17.3.5.11 **STATIC** (CONF:10160)

*NEMESIS Trace: EArrest.04*

- i. This observation **MAY** contain zero or one [0..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**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67506-6" *CPR prior to EMS arrival* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10163)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10164)



*NEMESIS Trace: EArrest.05*

- d. This observation **MAY** contain zero or one [0..1] **participant** (CONF:10165)
  - a. This participant **MAY** contain exactly one [1..1] **@typeCode="RESP"** (CONF:10166)
  - b. This participant **SHALL** contain zero or one [0..1] **participantRole**
    - a. This participantRole **SHALL** contain exactly one [1..1] **code**, where the **@code** **SHALL** be selected from ValueSet [PriorCareProviderRole](#) 2.16.840.1.113883.17.3.5.12 **STATIC** (CONF:10167)

*NEMESIS Trace: eArrest.06*

- j. This observation **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10146)
  - a. This entryRelationship **SHALL** contain zero or one [0..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** (CONF:10170)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code="67508-2"** *AED use prior to EMS arrival* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10171)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet [AEDUsePriorToEMSArrival](#) 2.16.840.1.113883.17.3.5.13 **STATIC** (CONF:10172)

*NEMESIS Trace: EArrest.07*

- d. This observation **SHALL** contain zero or one [0..1] **participant** (CONF:10173)
  - a. This participant Contains exactly one [1..1] **@typeCode="RESP"**
  - b. This participant **SHALL** contain zero or one [0..1] **participantRole** (CONF:10174)
    - a. This participantRole **SHALL** contain exactly one [1..1] **code**, where the **@code** **SHALL** be selected from ValueSet [PriorCareProviderRole](#) 2.16.840.1.113883.17.3.5.12 **STATIC** (CONF:10175)

*NEMESIS Trace: EArrest.08*

- k. This observation **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10147)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd="TRUE"** (CONF:10181)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode="SUBJ"** (CONF:10182)
  - c. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10183)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code="67513-2"** *Return of spontaneous circulation* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10184)
    - c. This observation **SHALL** contain zero or more [0..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet [ReturnOfSpontaneousCirculation](#) 2.16.840.1.113883.17.3.5.15 **STATIC** (CONF:10185)

*NEMESIS Trace: EArrest.12*

- l. This observation **MAY** contain zero or more [0..\*] **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** (CONF:10188)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67519-9" *Cardiac rhythm* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10189)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *CardiacRhythmReading* 2.16.840.1.113883.17.3.5.16 **STATIC** (CONF:10190)

*NEMESIS Trace: EArrest.17*

- m. This observation **MAY** contain zero or one [0..1] **entryRelationship**
  - 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** (CONF:10178)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67512-4" *First monitored rhythm* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10179)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *FirstMonitoredRhythm* 2.16.840.1.113883.17.3.5.14 **STATIC** (CONF:10180)

*NEMESIS Trace: EArrest.11*

- 6. **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *AdvanceDirectiveType* 2.16.840.1.113883.17.3.5.63 **STATIC** (CONF:10195)

#### EMS Cardiac Arrest Event Section example

```
Error: Missing Runtime Class
```

## EMS Current Medication Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.15]

*NEMESIS Trace: EHistory.12*

- 1. **SHALL** contain exactly one [1..1] **templateId** ( ) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.15"
- 2. **SHALL** conform to *Consol Medications Section* template (templateId: 2.16.840.1.113883.10.20.22.2.1.1)
- 3. Contains exactly one [1..1] **code**
- 4. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Current Medications Section" (CONF:10219)
- 5. **SHALL** contain exactly one [1..1] **text**
- 6. **SHALL** contain exactly one [1..1] **entry** (CONF:10220)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10223)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)

- b. This observation **SHALL** contain exactly one [1..1] **code/@code="67791-4"** *Currently on medication* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10224)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data 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.*

7. **SHALL** contain exactly one [1..1] **entry** (CONF:10221)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10226)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code="69749-0"** *Patient on anticoagulants* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10227)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10228)

*NEMESIS Trace: If EHistory.12 has the value "No anticoagulants," the value is False*

8. **SHALL** contain exactly one [1..1] **entry** (CONF:10222)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **MAY** contain zero or more [0..\*] **substanceAdministration** (CONF:10229)
  - a. Such substanceAdministrations **SHALL** conform to *Consol Medication Activity* template (templateId: 2.16.840.1.113883.10.20.22.4.16)
  - b. Such substanceAdministrations **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"*

- c. Such substanceAdministrations **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"*

- d. Such substanceAdministrations **SHOULD** contain zero or one [0..1] **doseQuantity** (CONF:10230)

*NEMESIS Trace: EHistory.13, EHistory.14*

- e. Such substanceAdministrations **SHOULD** contain zero or one [0..1] **routeCode** (CONF:10232), where the **@code** **SHALL** be selected from ValueSet *MedicationAdministrationRoute* 2.16.840.1.113883.17.3.5.43 **STATIC** (CONF:10231)

*NEMESIS Trace: EMedication.15*

- f. Such substanceAdministrations **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** conform to *Consol Medication Information* template (templateId: 2.16.840.1.113883.10.20.22.4.23)
    - b. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:10237)
      - a. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code** (CONF:10239), where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.88 RxNorm) (CONF:10238)

*NEMESIS Trace: EHistory.12*

Note: all of RxNorm is legal in this field, but NEMESIS provides a selected list at <http://www.nemesis.org/v3/resources.html>

### EMS Current Medication Section example

Error: Missing Runtime Class

## EMS Dispatch Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.2]

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 Section* (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. **SHALL** contain exactly one [1..1] **entry** (CONF:10560)
    - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. This entry **MAY** contain zero or one [0..1] **observation** (CONF:10562)
      - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10564)/**@code**="67488-7" *EMDPerformed* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10563)
      - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10566), where the **@code** **SHALL** be selected from ValueSet *EMDPerformed* 2.16.840.1.113883.17.3.5.48 **STATIC** (CONF:10565)
- NEMESIS Trace: EDispatch.02*
6. **SHALL** contain exactly one [1..1] **entry** (CONF:10561)
    - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. This entry **MAY** contain zero or one [0..1] **observation** (CONF:10567)
      - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10568)/**@code**="67570-2" *Complaint reported by dispatch* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10569)
      - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10571), where the **@code** **SHALL** be selected from ValueSet *Complaint* 2.16.840.1.113883.17.3.5.49 **STATIC** (CONF:10570)

*NEMESIS Trace: EDispatch.01*

### EMS Dispatch Section example

Error: Missing Runtime Class

## EMS Disposition Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.4]

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**="67796-3" *EMS Disposition Section* (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. **MAY** contain exactly one [1..1] **entry** (CONF:10656)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10663)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10665)/**@code**="67547-0" *EMS Number of patients* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10664)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type INT (CONF:10666)

*NEMESIS Trace: eScene.06*
6. **MAY** contain exactly one [1..1] **entry** (CONF:10657)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10667)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10669)/**@code**="67548-8" *EMS incident disposition* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10668)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10670), where the **@code** **SHALL** be selected from ValueSet *IncidentOutcome* (CONF:10671)

*NEMESIS Trace: EDisposition.12*
7. **MAY** contain exactly one [1..1] **entry** (CONF:10658)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10672)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10674)/**@code**="67550-4" *EMS transport mode* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10673)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10675), where the **@code** **SHALL** be selected from ValueSet **STATIC** (CONF:10676)

*NEMESIS Trace: EDisposition.17*
8. **MAY** contain exactly one [1..1] **entry** (CONF:10659)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10682)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10684)/**@code**="67552-0" *EMS reason for choosing destination* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10683)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10685), where the **@code** **SHALL** be selected from ValueSet *DestinationChoiceReason* 2.16.840.1.113883.17.3.5.68 **STATIC** (CONF:10686)

*NEMESIS Trace: EDisposition.20*

**9. MAY** contain exactly one [1..1] **entry** (CONF:10660)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10687)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10689)/**@code**="69462-0" *EMS prearrival activation performed* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10688)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10690)

*NEMESIS Trace: EDisposition.24*

- d. This observation **SHALL** contain zero or one [0..1] **effectiveTime** (CONF:10691)

*NEMESIS Trace: EDisposition.25*

*Required if value is TRUE*

**10. MAY** contain exactly one [1..1] **entry** (CONF:10661)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10692)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10694)/**@code**="67551-2" *EMS patient condition change at destination* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10693)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10695), where the **@code** **SHALL** be selected from ValueSet *PatientConditionChange* 2.16.840.1.113883.17.3.5.59 **STATIC** (CONF:10696)

*NEMESIS Trace: EDisposition.19*

**11. MAY** contain exactly one [1..1] **entry** (CONF:10662)

- a. This entry **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This entry **SHALL** contain exactly one [1..1] **code** (CONF:10679)/**@code**="67549-6" *EMS transport method* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10678)
- c. This entry **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10680), where the **@code** **SHALL** be selected from ValueSet *TransportMethod* 2.16.840.1.113883.17.3.5.65 **STATIC** (CONF:10681)

*NEMESIS Trace: EDisposition.16*

**EMS Disposition Section example**

Error: Missing Runtime Class



## EMS Injury Incident Description Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.17]

Known Subclasses:

1. **SHALL** contain exactly one [1..1] **templateId** ( ) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.17"
2. **SHALL** contain exactly one [1..1] **code/@code**="11374-6" *Injury Incident Description Section* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10094)
3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "Injury Incident Description Section"
4. **SHALL** contain exactly one [1..1] **text**
5. **MAY** contain exactly one [1..1] **entry** (CONF:10095)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10105)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="69543-7" *Injury Cause* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10106)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.3.1 ICD-10) (CONF:10108)

*NEMESIS Trace: EInjury.01*  
*Causes are in ICD-10 chapter XX*
6. **MAY** contain exactly one [1..1] **entry** (CONF:10096)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain zero or one [0..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67494-5" *Injury Mechanism* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10109)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *MechanismOfInjury* 2.16.840.1.113883.17.3.5.1 **STATIC** (CONF:10110)

*NEMESIS Trace: EInjury.02*
7. **MAY** contain exactly one [1..1] **entry** (CONF:10097)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain zero or one [0..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67495-2" *Trauma Center Criteria* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10111)
    - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *TraumaCenterCriteria* 2.16.840.1.113883.17.3.5.3 **STATIC** (CONF:10112)

*NEMESIS Trace: EInjury.03*

**8. MAY** contain exactly one [1..1] **entry** (CONF:10098)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10113)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67496-0" *Other injury risk factors* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10114)
  - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *InjuryRiskFactor* 2.16.840.1.113883.17.3.5.4 **STATIC** (CONF:10115)

*NEMESIS Trace: EInjury.04***9. MAY** contain exactly one [1..1] **entry** (CONF:10099)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10116)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67497-8" *Location of impact on the vehicle* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10117)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *VehicleImpactArea* 2.16.840.1.113883.17.3.5.5 **STATIC** (CONF:10118)

*NEMESIS Trace: EInjury.05***10. MAY** contain exactly one [1..1] **entry** (CONF:10100)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10119)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67498-6" *Location of patient in vehicle* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10120)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *VehiclePassengerLocation* 2.16.840.1.113883.17.3.5.6 **STATIC** (CONF:10121)

*NEMESIS Trace: EInjury.06***11. MAY** contain exactly one [1..1] **entry** (CONF:10101)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10122)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67499-4" *Safety equipment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10123)
  - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *SafetyEquipmentType* 2.16.840.1.113883.17.3.5.7 **STATIC** (CONF:10124)



*NEMESIS Trace: EInjury.07*

**12. MAY** contain exactly one [1..1] **entry** (CONF:10102)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10125)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67500-9" *Airbag deployment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10126)
  - c. This observation **SHALL** contain zero or more [0..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *AirbagStatus* 2.16.840.1.113883.17.3.5.8 **STATIC** (CONF:10127)

*NEMESIS Trace: EInjury.08*

**13. MAY** contain exactly one [1..1] **entry** (CONF:10103)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10128)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67501-7" *Height of fall* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10129)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ

*NEMESIS Trace: EInjury.09*

**14. MAY** contain exactly one [1..1] **entry** (CONF:10104)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10131)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="69463-8" *Suspected intentional or unintentional disaster* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10132)
  - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *DisasterType* 2.16.840.1.113883.17.3.5.9 **STATIC** (CONF:10133)

*NEMESIS Trace: EOther.07*

#### EMS Injury Incident Description Section example

```
Error: Missing Runtime Class
```

## EMS Medications Administered Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.18]

- 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** conform to *Consol Medications Administered Section* template (templateId: 2.16.840.1.113883.10.20.22.2.38)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10439)
4. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "Medications Administered Section" (CONF:10442)
5. **SHALL** contain exactly one [1..1] **text** (CONF:10441)
6. **SHALL** contain exactly one [1..1] **entry** (CONF:10443)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **MAY** contain zero or more [0..\*] **substanceAdministration** (CONF:10444)
    - a. Such substanceAdministrations **SHALL** conform to *Consol Medication Activity* template (templateId: 2.16.840.1.113883.10.20.22.4.16)
    - b. Such substanceAdministrations **SHALL** contain exactly one [1..1] **@classCode="SBADM"** (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:10445)
    - c. Such substanceAdministrations **MAY** contain zero or one [0..1] **@negationInd** (CONF:10448)

*NEMESIS Trace: EMedications.03 negative action values*

*If a substance is recorded as not given, it shall be recorded with a negationInd =True, and with an entryRelationship such that it*

*SHALL contain exactly one [1..1] @typeCode="RSON" Has reason (CodeSystem: HL7ActRelationshipType 2.16.840.1.113883.5.1002)*

*SHALL contain exactly one [1..1] @inversionInd="true" True*

*SHALL contain exactly one /Observation with code drawn from 2.16.840.1.113883.17.3.5.42 Medication omission reason and value = "Assertion."*

- d. Such substanceAdministrations **SHALL** contain exactly one [1..1] **doseQuantity** (CONF:10446)
 

*NEMESIS Trace: EMedications.05, 06*
- e. Such substanceAdministrations **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10447)
 

*NEMESIS Trace: EMedications.01*
- f. Such substanceAdministrations **SHALL** contain zero or one [0..1] **routeCode** (CONF:10450), where the **@code** **SHALL** be selected from ValueSet *MedicationAdministrationRoute* 2.16.840.1.113883.17.3.5.43 **STATIC** (CONF:10449)

*NEMESIS Trace: EMedications.04*

*See appendix for mapping NEMESIS values to FDA values and for postcoordination of device information.*

- g. Such substanceAdministrations **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10451)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **@inversionInd="TRUE"** (CONF:10458)
  - b. This entryRelationship **SHALL** contain exactly one [1..1] **@typeCode** (CONF:10460)/ **@code="RSON" Reason** (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) (CONF:10459)
  - c. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10461)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN" Event** (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code="ASSERTION" Assertion** (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode) (CONF:10462)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10463), where the **@code** **SHALL** be selected from ValueSet *MedicationNotGivenReason* 2.16.840.1.113883.17.3.5.92 **STATIC** (CONF:10464)

*EMedications.03*

- h. Such substanceAdministrations **SHALL** contain exactly one [1..1] **consumable** (CONF:10452)

- a. This consumable **SHALL** contain exactly one [1..1] **manufacturedProduct** (CONF:10465)
  - a. This manufacturedProduct **SHALL** conform to *Consol Medication Information* template (templateId: 2.16.840.1.113883.10.20.22.4.23)
  - b. This manufacturedProduct **SHALL** contain exactly one [1..1] **manufacturedMaterial** (CONF:10466)
    - a. This manufacturedMaterial **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.88 RxNorm) (CONF:10467)
 

*NEMESIS Trace: EMedications.03*  
*Note: all of RxNorm is legal in this field, but NEMESIS provides a selected list at <http://www.nemesis.org/v3/resources.html>*
- i. Such substanceAdministrations **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10453)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10468)
    - a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10469)/@code="67540-5" *Response to medication* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10470)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the @code **SHALL** be selected from ValueSet *PatientConditionChange* 2.16.840.1.113883.17.3.5.59 **STATIC** (CONF:10471)
 

*NEMESIS Trace: EMedications.07*
  - j. Such substanceAdministrations **MAY** contain at least one [1..\*] **entryRelationship** (CONF:10454)
    - a. Such entryRelationships **SHALL** contain exactly one [1..1] **observation** (CONF:10472)
      - a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10473)/@code="67541-3" *Medication complication* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10474)
      - c. This observation **SHALL** contain zero or more [0..\*] **value** with data type CD (CONF:10475), where the @code **SHALL** be selected from ValueSet *MedicationComplication* 2.16.840.1.113883.17.3.5.45 **STATIC** (CONF:10476)
 

*NEMESIS Trace: EMedications.08*
    - k. Such substanceAdministrations **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10455)
      - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10477)
 

*NEMESIS Trace: EMedications.02*

        - a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
        - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10478)/@code="67539-7" *Prior administration* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10479)
        - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10480)
 

*NEMESIS Trace: EMedications.02*
    - l. Such substanceAdministrations **MAY** contain zero or one [0..1] **performer** (CONF:10456)
 

*This participation is required if the medication is administered by the crew; i.e., if EMSMedicationPriorAdministrationObservation is FALSE.*

- a. This performer **SHALL** contain exactly one [1..1] **assignedEntity** (CONF:10481)
  - a. This assignedEntity **SHALL** contain exactly one [1..1] **code** (CONF:10482), where the @code **SHALL** be selected from ValueSet *ProviderRole* 2.16.840.1.113883.17.3.5.46 **STATIC** (CONF:10483)

*NEMESIS Trace: EMedications.10*

- b. This assignedEntity **SHALL** contain exactly one [1..1] **id** (CONF:10484)

*NEMESIS Trace: EMedications.09*

*This participation is required if the medication is administered by the crew; i.e., if EMSMedicationPriorAdministrationObservation is FALSE.*

- m. Such substanceAdministrations **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10457)

*This relationship is required if the medication is administered by the crew; i.e., if EMSMedicationPriorAdministrationObservation is FALSE.*

- a. This entryRelationship **SHALL** contain exactly one [1..1] **act** (CONF:10485)
  - a. This act **SHALL** contain exactly one [1..1] **@classCode** (CONF:10486)/**@code**="INFRM" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:10487)
  - b. This act **SHALL** contain exactly one [1..1] **code**, where the @code **SHALL** be selected from ValueSet *MedicationAuthorizationType* 2.16.840.1.113883.17.3.5.47 **STATIC** (CONF:10488)

*NEMESIS Trace: EMedications.11*

*This relationship is required if the medication is administered by the crew; i.e., if EMSMedicationPriorAdministrationObservation is FALSE.*

- n. Such substanceAdministrations **MAY** contain zero or one [0..1] **approachSiteCode/** **@code**="15562006" *structure of respiratory region of nose* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)

*If route is "endotracheal," to be used to specify nasal approach for "nasotracheal tube"*

- o. Such substanceAdministrations **MAY** contain zero or one [0..1] **participant**
  - a. This participant **SHALL** contain exactly one [1..1] **@typeCode**="DEV"
  - b. This participant **SHALL** contain zero or one [0..1] **participantRole**
    - a. This participantRole **SHALL** contain zero or one [0..1] **@classCode**="MANU"
    - b. This participantRole Contains zero or one [0..1] **playingDevice**
      - a. This playingDevice **SHALL** contain zero or one [0..1] **code**, where the @code **SHALL** be selected from

*For NEMESIS codes that imply devices:*

*@ value = "39849001" @codeSystem = "2.16.840.1.113883.6.5" @displayName="nasal oxygen cannula"*

*@ value = "427591007" @codeSystem = "2.16.840.1.113883.6.5"*

*@displayName="nonrebreather oxygen mask"*

*@ value = "425926003" @codeSystem = "2.16.840.1.113883.6.5" @displayName="partial rebreather oxygen mask"*

*@ value = "428285009" @codeSystem = "2.16.840.1.113883.6.5" @displayName="Venturi mask"*

#### EMS Medications Administered Section example

Error: Missing Runtime Class

## EMS Past Medical History Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.19]

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 Section* (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**
5. **SHALL** contain exactly one [1..1] **entry** (CONF:10062)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code**/ **@code**="67793-0" *Has the patient had any significant medical conditions* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10067)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data 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.*
  - c. This entry **MAY** contain zero or more [0..\*] **observation**
    - a. Such observations **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. Such observations **SHALL** contain exactly one [1..1] **code** (CONF:10070)/ **@code**="68487-8" *EMS History of Condition* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10069)
    - c. Such observations **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10072), where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 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.*
6. **SHALL** contain exactly one [1..1] **entry** (CONF:10063)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry Contains exactly one [1..1] **organizer**
    - a. This organizer **SHALL** contain zero or one [0..1] **component** (CONF:10073)
      - a. This component **SHALL** contain exactly one [1..1] **procedure** (CONF:10077)
        - a. This procedure **SHALL** contain exactly one [1..1] **code**, where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.4 ICD-10 PCS) (CONF:10076)
 

*NEMESIS Trace: EHistory. 08*
    - b. This organizer **MAY** contain zero or more [0..\*] **component**
      - a. Such components **SHALL** contain zero or one [0..1] **procedure**

- a. This procedure **SHALL** contain exactly one [1..1] **code**, where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.4 ICD-10 PCS) (CONF:10076)

*NEMESIS Trace: EHistory.08*

#### EMS Past Medical History Section example

Error: Missing Runtime Class

## EMS Patient Care Narrative Section

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[Section: templateId 2.16.840.1.113883.17.3.10.1.1]

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" *EMS Patient Care Report Narrative Section* (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 Patient Care Narrative Section example

Error: Missing Runtime Class

## EMS Personnel Adverse Event Section

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[Section: templateId 2.16.840.1.113883.17.3.10.1.6]

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" *Exposures or Injuries of EMS Personnel Section* (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. **SHALL** contain exactly one [1..1] **entry** (CONF:10702)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10704)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10705)/**@code**="67554-6" *EMS personnel exposed or injured* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10706)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10707)

*NEMESIS Trace: EOther.05*

6. **MAY** contain exactly one [1..1] **entry** (CONF:10703)



- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10708)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10710)/**@code**="67555-3" *EMS personnel adverse event type* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10709)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10711), where the **@code** **SHALL** be selected from ValueSet *ProviderAdverseEventType* 2.16.840.1.113883.17.3.5.72 **STATIC** (CONF:10712)

*NEMESIS Trace: EOther.06*

#### EMS Personnel Adverse Event Section example

Error: Missing Runtime Class

## EMS Physical Assessment Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.20]

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** conform to *Consol Physical Exam Section* template (templateId: 2.16.840.1.113883.10.20.2.10)
  3. **SHALL** contain exactly one [1..1] **code** (CONF:10337)/**@code**="29545-1" *Physical Assessment Section* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10336)
  4. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Physical Assessment Section" (CONF:10339)
  5. **SHALL** contain exactly one [1..1] **text** (CONF:10338)
  6. **SHALL** contain exactly one [1..1] **entry** (CONF:10340)
    - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. This entry **SHALL** contain at least one [1..\*] **organizer** (CONF:10346)
      - a. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
        - a. This component **SHALL** contain exactly one [1..1] **observation**
          - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
          - b. This observation **SHALL** contain exactly one [1..1] **code**/ **@code**="8335-2" (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10363)
          - c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10364)
        - d. This observation Contains exactly one [1..1] **effectiveTime**
- NEMESIS Trace: EExam.01*  
*UCUM units should be 'kg'*
- a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)

- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10366)/@code="67670-0" (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10365)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the @code **SHALL** be selected from ValueSet [LengthBasedWeightClass](#) 2.16.840.1.113883.17.3.5.24 **STATIC** (CONF:10367)

*NEMESIS Trace: EExam.02.*

*Note: a license is required to implement the Broselow-Luten measure.*

- d. This observation **SHALL** contain exactly one [1..1] **effectiveTime**

*NEMESIS Trace: EExam.03*

- c. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}

- a. This component **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10368)/@code="67524-9" (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10369)
- c. This component **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10370), where the @code **SHALL** be selected from ValueSet [SkinAssessment](#) 2.16.840.1.113883.17.3.5.25 **STATIC** (CONF:10371)

*NEMESIS Trace: EExam.04*

- d. This component Contains exactly one [1..1] **effectiveTime**

*NEMESIS Trace: EExam.03*

- d. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}

- a. This component **SHALL** contain exactly one [1..1] **observation**

- a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10373)/@code="67525-6" (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10372)
- c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the @code **SHALL** be selected from ValueSet [HeadAssessmentFinding](#) 2.16.840.1.113883.17.3.5.26 **STATIC** (CONF:10374)

*NEMESIS Trace: EExam.05*

- d. This observation **SHALL** contain exactly one [1..1] **effectiveTime**

*NEMESIS Trace: EExam.03*

- e. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}

- a. This component **SHALL** contain exactly one [1..1] **observation**

- a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10376)/@code="67526-4" (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10375)
- c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10377), where the @code **SHALL** be selected from ValueSet [FaceAssessmentFinding](#) 2.16.840.1.113883.17.3.5.27 **STATIC** (CONF:10378)

*NEMESIS Trace: EExam.06*

- d. This observation **SHALL** contain exactly one [1..1] **effectiveTime**

*NEMESIS Trace: EExam.03*

- f. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}

- a. This component **SHALL** contain exactly one [1..1] **observation**



- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67527-2" *Neck assessment finding* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10379)
- c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet [NeckAssessmentFinding](#) 2.16.840.1.113883.17.3.5.28 **STATIC** (CONF:10380)  
  
*NEMESIS Trace: EExam.07*
- d. This observation **SHALL** contain exactly one [1..1] **effectiveTime**  
  
*NEMESIS Trace: EExam.03*
- g. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67528-0" *Chest and lungs assessment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10381)
    - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet [ChestLungAssessmentFinding](#) 2.16.840.1.113883.17.3.5.29 **STATIC** (CONF:10382)  
  
*NEMESIS Trace: EExam.08*
    - d. This observation **SHALL** contain exactly one [1..1] **effectiveTime**  
  
*NEMESIS Trace: EExam.03*
  - h. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
    - a. This component **SHALL** contain exactly one [1..1] **observation**
      - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10384)/**@code**="67529-8" *Heart assessment finding* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10383)
      - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10385), where the **@code** **SHALL** be selected from ValueSet [HeartAssessmentFinding](#) 2.16.840.1.113883.17.3.5.30 **STATIC** (CONF:10386)  
  
*NEMESIS Trace: EExam.09*
      - d. This observation **SHALL** contain exactly one [1..1] **effectiveTime**  
  
*NEMESIS Trace: EExam.03*
    - i. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
      - a. This component **SHALL** contain exactly one [1..1] **observation**
        - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
        - b. This observation **SHALL** contain exactly one [1..1] **code/@code**="67530-6" *Abdomen assessment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10387)
        - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet [AbdomenAssessmentFinding](#) 2.16.840.1.113883.17.3.5.31 **STATIC** (CONF:10388)  
  
*NEMESIS Trace: EExam.11*

- d. This observation **SHALL** contain exactly one [1..1] **targetSiteCode**, where the @code **SHALL** be selected from ValueSet [AbdominalFindingLocation](#) 2.16.840.1.113883.17.3.5.32 **STATIC** (CONF:10389)  
*NEMESIS Trace: EExam.10*
- e. This observation **SHALL** contain exactly one [1..1] **effectiveTime**  
*NEMESIS Trace: EExam.03*
- j. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code**/@code="67531-4" *Pelvic and genitourinary assessment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10390)
    - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10392), where the @code **SHALL** be selected from ValueSet [PelvisGenitourinaryAssessment](#) 2.16.840.1.113883.17.3.5.33 **STATIC** (CONF:10391)
    - d. This observation **SHALL** contain exactly one [1..1] **effectiveTime**  
*NEMESIS Trace: EExam.03*
- k. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10394)/@code="67532-2" *Back and spine assessment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10393)
    - c. This observation **SHALL** contain exactly one [1..1] **targetSiteCode** (CONF:10396), where the @code **SHALL** be selected from ValueSet [BackSpineFindingLocation](#) 2.16.840.1.113883.17.3.5.35 **STATIC** (CONF:10395)  
*NEMESIS Trace: EExam.14*
    - d. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10397), where the @code **SHALL** be selected from ValueSet [BackSpineAssessmentFinding](#) 2.16.840.1.113883.17.3.5.34 **STATIC** (CONF:10398)  
*NEMESIS Trace: EExam.14*
    - e. This observation **SHALL** contain exactly one [1..1] **effectiveTime**  
*NEMESIS Trace: EExam.03*
- l. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] @moodCode="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10399)/@code="67533-0" *Extremities assessment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10400)
    - c. This observation **MAY** contain exactly one [1..1] **targetSiteCode** (CONF:10402), where the @code **SHALL** be selected from ValueSet [ExtremityFindingLocation](#) 2.16.840.1.113883.17.3.5.37 **STATIC** (CONF:10401)  
*NEMESIS Trace: EExam.15*
    - d. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the @code **SHALL** be selected from ValueSet [ExtremitiesAssessmentFinding](#) 2.16.840.1.113883.17.3.5.36 **STATIC** (CONF:10403)

*NEMESIS Trace: EExam.16*

- e. This observation **SHALL** contain exactly one [1..1] **effectiveTime**

*NEMESIS Trace: EExam.03*

- m. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}

- a. This component **MAY** contain exactly one [1..1] **observation**

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10405)/**@code**="67534-8" *Eye assessment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10404)
- c. This observation **SHALL** contain exactly one [1..1] **targetSiteCode** (CONF:10406), where the **@code** **SHALL** be selected from ValueSet *EyeFindingLocation* 2.16.840.1.113883.17.3.5.39 **STATIC** (CONF:10407)

*NEMESIS Trace: EExam.17*

- d. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10408), where the **@code** **SHALL** be selected from ValueSet *EyeAssessmentFinding* 2.16.840.1.113883.17.3.5.38 **STATIC** (CONF:10409)

*NEMESIS Trace: EExam.18*

- e. This observation **SHALL** contain exactly one [1..1] **effectiveTime**

*NEMESIS Trace: EExam.03*

- n. Such organizers **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}

- a. This component **MAY** contain exactly one [1..1] **observation**

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **MAY** contain exactly one [1..1] **code** (CONF:10410)/**@code**="67535-5" *Mental status assessment* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10411)
- c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *MentalStatusFinding* 2.16.840.1.113883.17.3.5.84 **STATIC** (CONF:10412)

*NEMESIS Trace: EExam.19*

- d. This observation Contains exactly one [1..1] **effectiveTime**

- 7. **SHALL** contain exactly one [1..1] **entry** (CONF:10341)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **MAY** contain zero or one [0..1] **observation** (CONF:10417)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10418)/**@code**="67471-3" *Patient Pregnancy* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10419)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10420), where the **@code** **SHALL** be selected from ValueSet *Pregnancy* 2.16.840.1.113883.17.3.5.42 **STATIC** (CONF:10421)

*NEMESIS Trace: EHistory.18*

- 8. **SHALL** contain exactly one [1..1] **entry** (CONF:10342)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **MAY** contain zero or one [0..1] **observation** (CONF:10422)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10423)/**@code**="67517-3" *Last oral intake* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10424)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10425)

*NEMESIS Trace: EHistory.19*

**9. SHALL** contain exactly one [1..1] **entry** (CONF:10343)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10426)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10427)/**@code**="30525-0" *Patient age* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10428)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10429)

*NEMESIS Trace: EPatient.15, 16*

*UCUM units SHOULD be 'a'*

**10. SHALL** contain exactly one [1..1] **entry** (CONF:10344)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **MAY** contain zero or one [0..1] **observation** (CONF:10430)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10431)/**@code**="67523-1" *Contraindications to thrombolytic use* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10432)
  - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *ExistenceOfContraindicationsToThrombolyticUse* 2.16.840.1.113883.17.3.5.41 **STATIC** (CONF:10433)

*NEMESIS Trace: EVitals.31*

**11. SHALL** contain exactly one [1..1] **entry** (CONF:10345)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10434)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10435)/**@code**="67523-1" *Barriers to patient care* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10436)
  - c. This observation **SHALL** contain zero or more [0..\*] **value** with data type CD (CONF:10437), where the **@code** **SHALL** be selected from ValueSet *BarrierToCare* 2.16.840.1.113883.17.3.5.85 **STATIC** (CONF:10438)

*NEMESIS Trace: EHistory.01*

**EMS Physical Assessment Section example**

Error: Missing Runtime Class

## EMS Procedures Performed Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.21]

1. **SHALL** contain exactly one [1..1] **templateId** ( ) such that it
  - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.21"
2. **SHALL** conform to [Consol Procedure Description Section](#) template (templateId: 2.16.840.1.113883.10.20.22.2.27)
3. **SHALL** contain exactly one [1..1] **code** (CONF:10490)/**@code**="29554-3" *EMS Procedures Performed Section* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10489)
4. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Procedures Performed" (CONF:10492)
5. **SHALL** contain exactly one [1..1] **text** (CONF:10491)
6. **MAY** contain zero or more [0..\*] **entry** (CONF:6277, CONF:8534)

- a. Such entries **SHALL** conform to [Consol Procedure Activity Procedure](#) template (templateId: 2.16.840.1.113883.10.20.22.4.14)

- b. Such entries **MAY** contain zero or one [0..1] **@negationInd**

*Required to document a procedure not performed, with required "reason not performed" observation*

- c. Such entries **SHALL** contain exactly one [1..1] **code** (CONF:10496)

*NEMESIS Trace: EProcedures.03*

*If EArrest.10 (therapeutic hypothermia) = true, include here as ICD-10 PCS "6A4"*

*For EArrest.03, use either ICD-10 procedure codes listed below or more granular NEMESIS value set Cardiopulmonary Resuscitation Type (2.16.840.1.113883.17.3.5.57)*

*3003001 Attempted Defibrillation = Defibrillation 5A2204Z*

*3003005 Initiated Chest Compressions: use more detailed Cardiopulmonary Resuscitation Type (2.16.840.1.113883.17.3.5.57); reader may infer from these values if necessary*

*3003003 Attempted Ventilation: use more detailed Cardiopulmonary Resuscitation Type (2.16.840.1.113883.17.3.5.57); reader may infer from these values 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*

- d. Such entries **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*

- e. Such entries **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10498)

- a. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10510)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)

- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10512)/**@code**="ASSERTION" *Assertion* (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode) (CONF:10511)

- c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10514), where the **@code** **SHALL** be selected from ValueSet [ResuscitationDiscontinueReason](#) 2.16.840.1.113883.17.3.5.62 **STATIC** (CONF:10513)

*NEMESIS Trace: EArrest.16*

- f. Such entries **MAY** contain zero or one [0..1] **statusCode** (CONF:10499)/**@code**="Aborted" *Aborted* (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:10500)



*NEMESIS Trace: EArrest.15*

- g. Such entries **MAY** contain zero or one [0..1] **approachSiteCode** (CONF:10502), where the @code **SHALL** be selected from ValueSet *IVSite* 2.16.840.1.113883.17.3.5.56 **STATIC** (CONF:10501)

*NEMESIS Trace: EProcedures.13**Required conditionally if procedure code is intravenous catheterization (E303)*

- h. Such entries **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10503)
  - a. This entryRelationship **SHALL** contain zero or one [0..1] **observation** (CONF:10515)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10516)/**@code**="67542-1" *Procedure performed prior to EMS arrival* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10517)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10518)

*NEMESIS Trace: EProcedures.02*

- i. Such entries **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10504)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10519)

*NEMESIS Trace: EProcedures.05*

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10520)/**@code**="67543-9" *Number of procedure attempts* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10521)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type INT (CONF:10522)

*NEMESIS Trace: EProcedures.05**NEMESIS Trace: EProcedures.05*

- j. Such entries **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10505)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10523)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10524)/**@code**="67544-7" *Procedure successful indicator* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10525)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10526)

*NEMESIS Trace: EProcedures.06*

- k. Such entries **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10506)
  - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10527)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10528)/**@code**="67545-4" *Procedure complication* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10529)
    - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the @code **SHALL** be selected from ValueSet *ProcedureComplicationType* 2.16.840.1.113883.17.3.5.58 **STATIC** (CONF:10530)

*NEMESIS Trace: EProcedures.07*

- l. Such entries **SHALL** contain exactly one [1..1] **entryRelationship** (CONF:10507)

- a. This entryRelationship **SHALL** contain exactly one [1..1] **observation** (CONF:10531)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10532)/**@code**="67546-2" *Procedure patient response* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10533)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10534), where the **@code** **SHALL** be selected from ValueSet *PatientConditionChange* 2.16.840.1.113883.17.3.5.59 **STATIC** (CONF:10535)

*NEMESIS Trace: EProcedures.08*

- m. Such entries **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), where the **@code** **SHALL** be selected from ValueSet *ProviderRole* 2.16.840.1.113883.17.3.5.46 **STATIC** (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*
- n. Such entries **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** (CONF:10540)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10542)/**@code**="71576-3" (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10541)
  - c. This observation **SHALL** contain exactly one [1..1] **methodCode** (CONF:10544), where the **@code** **SHALL** be selected from ValueSet *AirwayDeviceConfirmationMethod* 2.16.840.1.113883.17.3.5.60 **STATIC** (CONF:10543)

*NEMESIS Trace: EAirway.04*

- d. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10545)
 

*NEMESIS Trace: if EAirway.02 is populated, this is TRUE*
- e. This observation **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10546)

*NEMESIS Trace: EAirway.02. If the confirmation is negated, this SHALL be "NA."*

*NEMESIS Trace: EAirway.04; required if procedure code is airway placement, i.e., 0CHY7BZ*

- o. Such entries **MAY** contain zero or one [0..1] **eMSReasonProcedureNotAttemptedRelationship**
  - a. This eMSReasonProcedureNotAttemptedRelationship **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code**/ **@code**="67504-1" *Reason Not Attempted* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *Reason Procedure not Performed Superset* 2.16.840.1.113883.17.3.5.100 **STATIC**

**EMS Procedures Performed Section example**

Error: Missing Runtime Class

**EMS Protocol Section**

[Section: templateId 2.16.840.1.113883.17.3.10.1.7]

1. **SHALL** contain exactly one [1..1] **templateId** ( ) such that it
    - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.17.3.10.1.7"
  2. **SHALL** contain exactly one [1..1] **code**/**@code**="67537-1" *EMS Protocol Section* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10713)
  3. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Protocol Section"
  4. **SHALL** contain exactly one [1..1] **text**
  5. **SHALL** contain exactly one [1..1] **entry** (CONF:10714)
    - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10717)
      - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10719)/**@code**="67537-1" *EMS protocol* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10718)
      - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10720), where the **@code** **SHALL** be selected from ValueSet *Protocol* 2.16.840.1.113883.17.3.5.73 **STATIC** (CONF:10721)
- NEMESIS Trace: EProtocols.01*
- d. This observation Contains zero or one [0..1] **entryRelationship**
    - a. This entryRelationship **SHALL** contain exactly one [1..1] **observation**
      - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10723)/**@code**="67538-9" *EMS Protocol age category* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10724)
      - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10725), where the **@code** **SHALL** be selected from ValueSet *ProtocolAgeCategory* 2.16.840.1.113883.17.3.5.86 **STATIC** (CONF:10726)
- NEMESIS Trace: EProtocols.02*
6. **SHALL** contain zero or more [0..\*] **entry** (CONF:10716)
    - a. Such entries **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. Such entries **SHALL** contain exactly one [1..1] **observation** (CONF:10727)
      - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10728)/**@code**="67553-8" *EMS candidate patient registry* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10729)
      - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10730), where the **@code** **SHALL** be selected from ValueSet *RegistryType* 2.16.840.1.113883.17.3.5.74 **STATIC** (CONF:10731)



NEMESIS Trace: EOther.02

## EMS Protocol Section example

Error: Missing Runtime Class

## EMS Response Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.3]

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 Section* (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. **SHALL** contain exactly one [1..1] **entry** (CONF:10577)
    - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. This entry **SHALL** contain exactly one [1..1] **organizer** (CONF:10581)
      - a. This organizer **SHALL** contain exactly one [1..1] **component** (CONF:10583)
        - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10588)
 

NEMESIS Trace: EResponse.08

          - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
          - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10590)/**@code**="67480-4" *Dispatch delay* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10589)
          - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10592), where the **@code** **SHALL** be selected from ValueSet *DispatchDelayType* 2.16.840.1.113883.17.3.5.50 **STATIC** (CONF:10591)

NEMESIS Trace: EResponse.08
- b. This organizer **SHALL** contain exactly one [1..1] **component** (CONF:10584)
  - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10593)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10595)/**@code**="67557-9" *Response delay* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10594)
    - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10597), where the **@code** **SHALL** be selected from ValueSet *ResponseDelayType* 2.16.840.1.113883.17.3.5.51 **STATIC** (CONF:10596)

NEMESIS Trace: EResponse.09
- c. This organizer **SHALL** contain exactly one [1..1] **component** (CONF:10585)
  - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10598)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10600)/**@code**="67558-7" *Scene delay* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10599)
- c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10602), where the **@code** **SHALL** be selected from ValueSet *SceneDelayType* 2.16.840.1.113883.17.3.5.52 **STATIC** (CONF:10601)

*NEMESIS Trace: EResponse.10*

- d. This organizer **SHALL** contain exactly one [1..1] **component** (CONF:10586)
  - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10603)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10605)/**@code**="67559-5" *Transport delay* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10604)
    - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10607), where the **@code** **SHALL** be selected from ValueSet *TransportDelayType* 2.16.840.1.113883.17.3.5.53 **STATIC** (CONF:10606)

*NEMESIS Trace: EResponse.11*

- e. This organizer **SHALL** contain exactly one [1..1] **component** (CONF:10587)
  - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10608)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10610)/**@code**="67560-3" *Turnaround delay* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10609)
    - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10612), where the **@code** **SHALL** be selected from ValueSet *TurnAroundDelayType* 2.16.840.1.113883.17.3.5.54 **STATIC** (CONF:10611)

*NEMESIS Trace: EResponse.12*

- 6. **SHALL** contain exactly one [1..1] **entry** (CONF:10578)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry Contains zero or one [0..1] **organizer**
    - a. This organizer **MAY** contain zero or one [0..1] **component** (CONF:10613)
      - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10616)
        - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
        - b. This observation **SHALL** contain exactly one [1..1] **code**/**@code**="69466-1" *Dispatch Location Name* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10617)
        - c. This observation **SHALL** contain exactly one [1..1] **value** with data type ST (CONF:10618)

*NEMESIS Trace: EResponse.16*

- b. This organizer **MAY** contain zero or one [0..1] **component** (CONF:10614)
  - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10619)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code**/**@code**="52002-3" *Dispatch Location Latitude* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10620)

- c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10621)

*NEMESIS Trace: EResponse.17*

*UCUM units SHOULD be "deg". This may require conversion from a parsed "degree + minutes" representation to a decimal representation.*

- c. This organizer **MAY** contain zero or one [0..1] **component** (CONF:10615)

- a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10622)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code**/**@code**="52003-1" *Dispatch Location Longitude* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10623)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10624)

*NEMESIS Trace: EResponse.17*

*UCUM units SHOULD be "deg". This may require conversion from a parsed "degree + minutes" representation to a decimal representation.*

- 7. **SHALL** contain exactly one [1..1] **entry** (CONF:10579)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId:

2.16.840.1.113883.17.3.10.1.24)

- b. This entry **SHALL** contain exactly one [1..1] **organizer** (CONF:10625)

- a. This organizer **MAY** contain zero or one [0..1] **component** (CONF:10626)

- a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10630)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10631)/**@code**="67484-6" *EMS Response odometer beginning reading* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10632)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10633)

*NEMESIS Trace: EResponse.19*

*UCUM units SHOULD be "[mi\_i]"*

- b. This organizer **MAY** contain zero or one [0..1] **component** (CONF:10627)

- a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10634)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10635)/**@code**="67485-3" *EMS Response odometer on-scene reading* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10636)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10637)

*NEMESIS Trace: EResponse.20*

*UCUM units SHOULD be "[mi\_i]"*

- c. This organizer **MAY** contain zero or one [0..1] **component** (CONF:10628)

- a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10638)

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10639)/**@code**="67486-1" *EMS Response odometer destination reading* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10640)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10641)

*NEMESIS Trace: EResponse.21*

*UCUM units SHOULD be "[mi\_i]"*

- d. This organizer **MAY** contain zero or one [0..1] **component** (CONF:10629)
  - a. This component **SHALL** contain exactly one [1..1] **observation** (CONF:10642)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10643)/**@code**="67487-9" *EMS Response odometer ending reading* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10644)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10645)

*NEMESIS Trace: EResponse.22*

*UCUM units SHOULD be "[mi\_i]"*

- 8. **SHALL** contain exactly one [1..1] **entry** (CONF:10580)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10646)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10647)/**@code**="67482-0" *Response mode to scene* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10648)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10650), where the **@code** **SHALL** be selected from ValueSet *TransportationMode* 2.16.840.1.113883.17.3.5.66 **STATIC** (CONF:10649)

*NEMESIS Trace: EResponse.23*

### EMS Response Section example

```
Error: Missing Runtime Class
```

## EMS Scene Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.8]

- 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 Section* (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. **SHALL** contain exactly one [1..1] **entry** (CONF:10736)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10740)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10741)/**@code**="67481-2" *EMS reporter is first unit on scene* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10742)

- c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10743)

*NEMESIS Trace: EScene.01*

- c. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10746)/**@code**="67481-2" *Name of first unit on scene* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10745)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type ST (CONF:10747)

*NEMESIS Trace: EScene.02*

- 6. **SHALL** contain exactly one [1..1] **entry** (CONF:10738)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10748)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10750)/**@code**="67489-5" *EMS Count of patients at scene* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10749)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type INT (CONF:10751)

*NEMESIS Trace: EScene.06*

- c. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10753)/**@code**="67490-3" *Mass Casualty Incident Indicator* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10754)

*NEMESIS Trace: EScene.07*

- 7. **SHALL** contain exactly one [1..1] **entry**

- a. This entry **SHALL** contain exactly one [1..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] **code**/**@code**="eScene.09" *Location type* (CodeSystem: 2.16.840.1.113883.17.3.5 NEMESISCodeSystem)
  - b. This observation **SHALL** contain exactly one [1..1] **value1** with data type CD, where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM)

*See NEMESIS recommended subset at <http://nemis.org/v3/resources.html>*

### EMS Scene Section example

```
Error: Missing Runtime Class
```

## EMS Situation Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.9]

- 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 Section* (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. **SHALL** contain exactly one [1..1] **entry** (CONF:10759)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **MAY** contain zero or more [0..\*] **observation** (CONF:10767)
    - a. Such observations **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. Such observations **SHALL** contain exactly one [1..1] **code** (CONF:10768)/**@code**="10154-3" *EMS complaint* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10769)
    - c. Such observations **MAY** contain zero or one [0..1] **value** with data type ST (CONF:10770)

*NEMESIS Trace: ESituation.04*
  - d. Such observations **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10771)
    - a. This entryRelationship Contains exactly one [1..1] **observation**
      - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10779)/**@code**="67491-1" *Complaint duration* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10780)
      - c. This observation **SHALL** contain exactly one [1..1] **value** with data 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)
  - e. Such observations **MAY** contain zero or one [0..1] **entryRelationship** (CONF:10772)
    - a. This entryRelationship Contains at least one [1..\*] **observation**
      - a. Such observations **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. Such observations **SHALL** contain exactly one [1..1] **code** (CONF:10777)/**@code**="72114-2" *Complaint type* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10776)
      - c. Such observations **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10778), where the **@code** **SHALL** be selected from ValueSet *Complaint Type* 2.16.840.1.113883.17.3.5.94 **STATIC**

*NEMESIS Trace: ESituation.03*
  - f. Such observations **SHOULD** contain exactly one [1..1] **targetSiteCode** (CONF:10773), where the **@code** **SHALL** be selected from ValueSet *AnatomicLocation* 2.16.840.1.113883.17.3.5.76 **STATIC** (CONF:10774)

*NEMESIS Trace: ESituation.07*  
Complaint site is required if complaint is type "Chief complaint"
- g. Such observations **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** (CONF:10782)
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10784)/**@code**="69468-7" *Organ system* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10783)
    - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10786), where the **@code** **SHALL** be selected from ValueSet *OrganSystem* 2.16.840.1.113883.17.3.5.77 **STATIC** (CONF:10785)



*NEMESIS Trace: ESituation.08*

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

- h. Such observations **SHALL** contain zero or one [0..1] **effectiveTime**

*effectiveTime.low = NEMESIS Trace: ESituation.01*

6. **SHALL** contain exactly one [1..1] **entry** (CONF:10761)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10791)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10792)/**@code**="69467-9" *Possible injury* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10793)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL (CONF:10794)

*NEMESIS Trace: ESituation.02*

7. **SHALL** contain exactly one [1..1] **entry** (CONF:10762)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10800)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10801)/**@code**="67774-0" *EMS Primary Symptom* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10802)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10803), where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM) (CONF:10804)

8. **MAY** contain zero or one [0..1] **entry** (CONF:10763)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain zero or one [0..1] **observation** (CONF:10805)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10806)/**@code**="67776-5" *Other symptoms* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10807)
  - c. This observation **SHALL** contain zero or more [0..\*] **value** with data type CD (CONF:10808), where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM) (CONF:10809)

*NEMESIS Trace: ESituation.10*

9. **SHALL** contain exactly one [1..1] **entry** (CONF:10764)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10795)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10796)/**@code**="67492-9" *Provider Primary Impression* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10797)

- c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10798), where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM) (CONF:10799)

*NEMESIS Trace: ESituation.11*

**10. SHALL** contain exactly one [1..1] **entry** (CONF:10765)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **MAY** contain exactly one [1..1] **observation** (CONF:10810)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10811)/**@code**="69542-9" *Provider Secondary Impressions* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10812)
  - c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD (CONF:10813), where the **@code** **SHALL** be selected from (CodeSystem: 2.16.840.1.113883.6.90 ICD-10 CM) (CONF:10814)

*NEMESIS Trace: ESituation.12*

**11. SHALL** contain exactly one [1..1] **entry** (CONF:10766)

- a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
- b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10815)
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)

*NEMESIS Trace: ESituation.13*

- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10816)/**@code**="67493-7" *Initial Patient Acuity* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10817)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10818), where the **@code** **SHALL** be selected from ValueSet *PatientStatus* 2.16.840.1.113883.17.3.5.78 **STATIC** (CONF:10819)

**EMS Situation Section example**

Error: Missing Runtime Class

## EMS Social History Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.22]

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 Section* (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**
5. **SHALL** contain exactly one [1..1] **entry** (CONF:10244)
  - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. This entry **SHALL** contain exactly one [1..1] **observation** (CONF:10246)



- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10248)/**@code**="69757-3" *Indications of drug or alcohol use by the patient* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10247)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL

*NEMESIS Trace: EHistory.17, positive, negative, or null values*

- c. This entry **MAY** contain zero or one [0..1] **observation**

*Required if Existence of Drug Use Indicator (10246) is TRUE*

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code**/ **@code**="67669-2" *Alcohol - drug use* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10250)
- c. This observation **SHALL** contain at least one [1..\*] **value** with data type CD, where the **@code** **SHALL** be selected from ValueSet *AlcoholDrugUseIndicator* 2.16.840.1.113883.17.3.5.18 **STATIC** (CONF:10251)

*NEMESIS Trace: EHistory.17, proper values*

*Required if Existence of Drug Use Indicator (10246) is TRUE*

#### EMS Social History Section example

```
Error: Missing Runtime Class
```

## EMS Times Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.10]

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 Section* (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. **SHALL** contain exactly one [1..1] **entry** (CONF:10832)
    - a. This entry **SHALL** conform to *Derived Entry* template (templateId: 2.16.840.1.113883.17.3.10.1.24)
    - b. This entry **SHALL** contain zero or more [0..\*] **observation** (CONF:10833)
      - a. Such observations **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
      - b. Such observations **SHALL** contain exactly one [1..1] **code** (CONF:10835)/ **@code**="69469-5" *Call time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10834)
      - c. Such observations **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10836)
- NEMESIS Trace: ETimes.01*
- c. This entry **SHALL** contain zero or one [0..1] **observation**
    - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)

- b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10839)/@**code**="69471-1" *Unit notified time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10838)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10840)

*NEMESIS Trace: ETimes.03*

*This is the value represented in the header for the encompassing encounter*

- d. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10843)/@**code**="69472-9" *Unit en route time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10842)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10844)

*NEMESIS Trace: ETimes.05*
- e. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10847)/@**code**="69473-7" *Unit on scene time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10846)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10848)

*NEMESIS Trace: ETimes.06*
- f. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10851)/@**code**="69474-5" *Unit at patient time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10850)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10852)

*NEMESIS Trace: ETimes.07*
- g. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10855)/@**code**="69475-2" *Unit left scene time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10854)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10856)

*NEMESIS Trace: ETimes.09*
- h. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10859)/@**code**="69476-0" *Patient arrived at destination time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10858)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10860)

*NEMESIS Trace: ETimes.11*
- i. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] @**moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10863)/@**code**="69477-8" *Unit back in service time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10862)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10864)

*NEMESIS Trace: ETimes.13*

- j. This entry **SHALL** contain zero or one [0..1] **observation**
  - a. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This observation **SHALL** contain exactly one [1..1] **code** (CONF:10867)/**@code**="69470-3" *Dispatch notified time* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10866)
  - c. This observation **SHALL** contain exactly one [1..1] **value** with data type TS (CONF:10868)

*NEMESIS Trace: ETimes.02*

#### EMS Times Section example

```
Error: Missing Runtime Class
```

## EMS Vital Signs Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.23]

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** conform to [Consol Vital Signs Section](#) template (templateId: 2.16.840.1.113883.10.20.22.2.4.1)
3. **SHALL** contain exactly one [1..1] **code**/**@code**="8716-3" *Vital Signs* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10252)
4. **SHALL** contain exactly one [1..1] **title** and **SHOULD** equal "EMS Vital Signs" (CONF:10254)
5. **SHALL** contain exactly one [1..1] **text**
6. **SHALL** contain at least one [1..\*] **entry** (CONF:10255)
  - a. Such entrys **SHALL** conform to [Derived Entry](#) template (templateId: 2.16.840.1.113883.17.3.10.1.24)
  - b. Such entrys **SHALL** contain exactly one [1..1] **organizer** (CONF:10256)
    - a. This organizer **SHALL** conform to [Consol Vital Signs Organizer](#) template (templateId: 2.16.840.1.113883.10.20.22.4.26)
    - b. This organizer **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:10257)

*NEMESIS Trace: EVitals.01*

- c. This organizer **SHOULD** contain zero or one [0..1] **component**
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** conform to [Consol Vital Sign Observation](#) template (templateId: 2.16.840.1.113883.10.20.22.4.27)
    - b. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - c. This observation **SHALL** contain exactly one [1..1] **code**/**@code**="8480-6" *Intravascular systolic* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10280)
    - d. This observation **SHALL** contain exactly one [1..1] **value** (CONF:10281)

*NEMESIS Trace: EVitals.06*

*UCUM units SHOULD be "mm[Hg]"*.

- e. This observation **MAY** contain zero or one [0..1] **effectiveTime** (CONF:7304)

*NEMESIS Trace: EVitals.01*

- d. This organizer **SHOULD** contain zero or one [0..1] **component**
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** conform to *Consol Vital Sign Observation* template (templateId: 2.16.840.1.113883.10.20.22.4.27)
    - b. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - c. This observation **SHALL** contain exactly one [1..1] **code/@code**="8462-4" *Intravascular diastolic* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10282)
    - d. This observation **SHALL** contain exactly one [1..1] **value** (CONF:10283)  
*NEMESIS Trace: EVitals.07*  
*UCUM units SHOULD be "mm[Hg]"*.
  - e. This observation **MAY** contain zero or one [0..1] **effectiveTime**  
*NEMESIS Trace: EVitals.01*
- e. This organizer **SHOULD** contain zero or one [0..1] **component**
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** conform to *Consol Vital Sign Observation* template (templateId: 2.16.840.1.113883.10.20.22.4.27)
    - b. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - c. This observation **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)
    - d. This observation **SHALL** contain zero or more [0..\*] **value** (CONF:10286)  
*NEMESIS Trace: EVitals.10*  
*UCUM units SHOULD be "/min"*.
  - e. This observation **MAY** contain zero or one [0..1] **effectiveTime**  
*NEMESIS Trace: EVitals.01*
- f. This organizer **SHOULD** contain zero or one [0..1] **component**
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** conform to *Consol Vital Sign Observation* template (templateId: 2.16.840.1.113883.10.20.22.4.27)
    - b. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - c. This observation **SHALL** contain exactly one [1..1] **code/@code**="9279-1" *Breaths* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10287)
    - d. This observation **SHALL** contain exactly one [1..1] **value** (CONF:10288)  
*NEMESIS Trace: EVitals.14*  
*UCUM units SHOULD be "/min"*.
  - e. This observation **MAY** contain zero or one [0..1] **effectiveTime**  
*NEMESIS Trace: EVitals.01*
- g. This organizer **SHOULD** contain zero or one [0..1] **component**
  - a. This component **SHALL** contain exactly one [1..1] **observation**
    - a. This observation **SHALL** conform to *Consol Vital Sign Observation* template (templateId: 2.16.840.1.113883.10.20.22.4.27)
    - b. This observation **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)

- c. This observation **SHALL** contain exactly one [1..1] **code/@code="8310-5"** *Body temperature* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10289)
- d. This observation **SHALL** contain exactly one [1..1] **value** (CONF:10290)

*NEMESIS Trace: EVitals.24*

*UCUM units SHOULD be "Cel".*

- e. This observation **MAY** contain zero or one [0..1] **effectiveTime**

*NEMESIS Trace: EVitals.01*

- h. This organizer **SHOULD** contain zero or one [0..1] **component**

- a. This component **SHALL** contain exactly one [1..1] **observation**

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code/@code="2710-2"** *Oxygen saturation* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10291)
- c. This observation **SHALL** contain exactly one [1..1] **value** (CONF:10292)

*NEMESIS Trace: EVitals.12*

*UCUM units will typically be "%".*

- d. This observation Contains zero or one [0..1] **effectiveTime**

- c. Such entries **MAY** contain zero or one [0..1] **observation**

- a. This observation **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This observation **SHALL** contain exactly one [1..1] **code/@code="67518-1"** *Obtained prior to units EMS care* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10273)
- c. This observation **SHALL** contain exactly one [1..1] **value** with data type BL

*NEMESIS Trace: EVitals.02*

- d. Such entries **MAY** contain zero or one [0..1] **organizer**

- a. This organizer **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This organizer **MAY** contain zero or one [0..1] **effectiveTime**

*NEMESIS Trace: EVitals.01*

- c. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}

- a. This component **SHALL** contain exactly one [1..1] **component** (CONF:10313)

- a. This component **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10325)/**@code="9267-6"** *Glasgow coma score. eye opening* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10324)
- c. This component **SHALL** contain exactly one [1..1] **value** with data type INT (CONF:10326)

*NEMESIS Trace: EVitals.19*

- b. This component **SHALL** contain exactly one [1..1] **component** (CONF:10314)

- a. This component **SHALL** contain exactly one [1..1] **@moodCode="EVN"** *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
- b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10328)/**@code="9268-4"** *Glasgow coma score. motor* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10329)
- c. This component **SHALL** contain exactly one [1..1] **value** with data type INT (CONF:10330)

*NEMESIS Trace: EVitals. 21*

- c. This component **MAY** contain zero or one [0..1] **component** (CONF:10315)
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **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)
  - c. This component **MAY** contain zero or more [0..\*] **value** with data type CD (CONF:10323)
 

*NEMSIS Trace: EVitals.22*
- d. This component **SHOULD** contain zero or one [0..1] **component** (CONF:10316)
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **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)
  - c. This component **SHALL** contain exactly one [1..1] **value** with data type INT (CONF:10320)
 

*NEMSIS Trace: EVitals.23*  
Integer value equal to the sum of verbal, motor, and eye
- e. This component **SHALL** contain exactly one [1..1] **component** (CONF:10317)
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **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)
  - c. This component **SHALL** contain exactly one [1..1] **value** with data type INT (CONF:10334)
 

*NEMSIS Trace: EVitals.20*
- f. This component **MAY** contain zero or one [0..1] **effectiveTime**

*NEMSIS Trace: EVitals.01*
- d. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10308)/**@code**="67520-7" *Stroke scale overall interpretation* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10307)
  - c. This component **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10310), where the **@code** **SHALL** be selected from ValueSet *Stroke Scale Interpretation* 2.16.840.1.113883.17.3.5.93 **STATIC** (CONF:10309)
 

*NEMSIS Trace: EVitals.29*
  - d. This component **SHALL** contain exactly one [1..1] **methodCode** (CONF:10312), where the **@code** **SHALL** be selected from ValueSet *StrokeScale* 2.16.840.1.113883.17.3.5.88 **STATIC** (CONF:10311)
 

*NEMSIS Trace: EVitals.30*
  - e. This component **MAY** contain zero or one [0..1] **effectiveTime**

*NEMSIS Trace: EVitals.01*
- e. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **SHALL** contain exactly one [1..1] **code/@code**="56840-2" *Pain severity verbal numeric scale* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10306)

- c. This component Contains exactly one [1..1] **value** with data type INT  
*NEMESIS Trace: EVitals.27*  
*An ordinal value between 0 and 10, inclusive. There are three scales, but the values are equivalent.*
- d. This component **MAY** contain zero or one [0..1] **effectiveTime**  
*NEMESIS Trace: EVitals.01*
- f. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10303)/**@code**="67775-7" *Level of responsiveness* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10302)
  - c. This component **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10305), where the **@code** **SHALL** be selected from ValueSet *LevelOfResponsiveness* 2.16.840.1.113883.17.3.5.21 **STATIC** (CONF:10304)  
*NEMESIS Trace: EVitals.26*
  - d. This component **MAY** contain zero or one [0..1] **effectiveTime**  
*NEMESIS Trace: EVitals.01*
- g. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10300)/**@code**="2339-0" *Glucose* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10299)
  - c. This component **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10301)  
*NEMESIS Trace: EVitals.18*  
*UCUM units will typically be "mg/dl".*
  - d. This component **MAY** contain zero or one [0..1] **effectiveTime**  
*NEMESIS Trace: EVitals.01*
- h. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10297)/**@code**="19911-7" *Diffusion capacity.carbon monoxide* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10296)
  - c. This component **SHALL** contain exactly one [1..1] **value** with data type PQ (CONF:10298)  
*NEMESIS Trace: EVitals.17*  
*UCUM units will typically be "[ppm]".*
  - d. This component **MAY** contain zero or one [0..1] **effectiveTime**  
*NEMESIS Trace: EVitals.01*
- i. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
  - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
  - b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10294)/**@code**="19889-5" *Carbon dioxide/Gas.total.at end expiration* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10293)
  - c. This component **SHALL** contain exactly one [1..1] **value** (CONF:10295)  
*NEMESIS Trace: EVitals.16*  
*UCUM units will typically be "%".*



- d. This component **MAY** contain zero or one [0..1] **effectiveTime**

*NEMESIS Trace: EVitals.01*

- j. This organizer **MAY** contain zero or one [0..1] **component** {subsets Organizer::component}
    - a. This component **SHALL** contain exactly one [1..1] **@moodCode**="EVN" *Event* (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
    - b. This component **SHALL** contain exactly one [1..1] **code** (CONF:10275)/**@code**="67519-9" *Cardiac rhythm* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:10274)
    - c. This component **SHALL** contain exactly one [1..1] **methodCode** (CONF:10277), where the **@code** **SHALL** be selected from ValueSet [MethodOfECGInterpretation](#) 2.16.840.1.113883.17.3.5.20 **STATIC** (CONF:10276)
- NEMESIS Trace: EVitals.05*
- d. This component **SHALL** contain exactly one [1..1] **value** with data type CD (CONF:10278), where the **@code** **SHALL** be selected from ValueSet [ECGType](#) 2.16.840.1.113883.17.3.5.19 **STATIC** (CONF:10279)

*NEMESIS Trace: EVitals.03*

- e. This component **MAY** contain zero or one [0..1] **effectiveTime**

*NEMESIS Trace: EVitals.01*

#### EMS Vital Signs Section example

Error: Missing Runtime Class





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# Chapter

# 4

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## CLINICAL STATEMENT TEMPLATES

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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.



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# Chapter

# 5

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## OTHER CLASSES

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### Topics:

- [Derived Entry](#)

This section of the Implementation Guide describes other classes that are not CDA Clinical Documents, Sections, or Clinical Statements.

## Derived Entry

---

[Entry: templateId 2.16.840.1.1133883.17.3.10.1.24]

Known Subclasses:

*This class asserts that the section narrative is derived from the structured data contained in the section entries.*

1. **SHALL** contain exactly one [1..1] templateId ( ) such that it
  - a. **SHALL** contain exactly one [1..1] @root="2.16.840.1.1133883.17.3.10.1.24"
2. **SHALL** contain exactly one [1..1] @typeCode="DRIV" (CONF:10869)

### Derived Entry example

```
Error: Missing Runtime Class
```

# Chapter

# 6

## VALUE SETS

### Topics:

- *AED Use Prior To EMS Arrival*
- *Abdomen Assessment Finding*
- *Abdominal Finding Location*
- *Administrative Gender*
- *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*
- *Cardiac Arrest Cause*
- *Cardiac Arrest Timing*
- *Cardiac Arrest Witness Role*
- *Cardiac Rhythm Reading*
- *Cardiopulmonary Resuscitation Type*
- *Chest Lung Assessment Finding*
- *Complaint*
- *Complaint Type*
- *Confidentiality*
- *Destination Choice Reason*
- *Destination Prearrival Activation*
- *Destination Type*
- *Disaster Type*
- *Dispatch Delay Type*
- *ECG Type*
- *EMD Performed*
- *EMS Level Of Service*
- *EMS Medication Administration Device*
- *Environmental Allergy Type*

The following tables summarize the value sets used in this Implementation Guide.

- *Ethnicity*
- *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 Eye Response*
- *Glasgow Coma Score Motor Response*
- *Glasgow Coma Score Qualifier*
- *Glasgow Coma Score Verbal Response*
- *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*
- *IV Site*
- *Incident Outcome*
- *Injury Risk Factor*
- *LOINC*
- *Length Based Weight Class*
- *Level Of Responsiveness*
- *Mechanism Of Injury*
- *Medication Administration Route*
- *Medication Authorization Type*
- *Medication Complication*
- *Medication Not Given Reason*
- *Mental Status Finding*
- *Method Of ECG Interpretation*
- *Neck Assessment Finding*
- *Neurological Assessment Finding*
- *Organ System*
- *Patient Condition Change*
- *Patient Status*
- *Pelvis Genitourinary Assessment*

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



## AED Use Prior To EMS Arrival

|             |   |
|-------------|---|
| Value Set   | AEDUsePriorToEMSArrival - 2.16.840.1.113883.17.3.5.13                     |
| 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 - 2.16.840.1.113883.17.3.5.31 |
| 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                      |
| LA17215-7 | LOINC       | Swelling/bruising/contusion with pain    |
| LA17220-7 | LOINC       | Swelling/bruising/contusion without pain |
| LA17242-1 | LOINC       | Distention                               |
| LA17243-9 | LOINC       | Guarding                                 |
| LA17244-7 | LOINC       | Gunshot wound-entry                      |
| LA17245-4 | LOINC       | Gunshot wound-exit                       |
| 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                      |

| Code      | Code System | Print Name           |
|-----------|-------------|----------------------|
| LA18248-7 | LOINC       | Bowel sounds-present |
| LA6626-1  | LOINC       | Normal               |
| LA6630-3  | LOINC       | Not done             |
| LA7410-9  | LOINC       | Abrasion             |
| LA7452-1  | LOINC       | Laceration           |
| LA7460-4  | LOINC       | Pain                 |

## Abdominal Finding Location

|             |   |
|-------------|---|
| Value Set   | AbdominalFindingLocation - 2.16.840.1.113883.17.3.5.32      |
| 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 |

## Advance Directive Type

|             |  |
|-------------|--|
| Value Set   | AdvanceDirectiveType - 2.16.840.1.113883.17.3.5.63 |
| 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 |

| Code      | Code System | Print Name   |
|-----------|-------------|--|
| LA17321-3 | LOINC       | Living will  |
| LA17322-1 | LOINC       | Family/guardian request DNR (but no documentation) |

## Airbag Status

|             |   |
|-------------|---|
| Value Set   | AirbagStatus - 2.16.840.1.113883.17.3.5.8 |
| 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 - 2.16.840.1.113883.17.3.5.60 |
| 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)      |
| LA18679-3 | LOINC       | Other airway device placement confirmation |
| LA18680-1 | LOINC       | Visualization of vocal cords               |
| LA18681-9 | LOINC       | Waveform ETCO2                             |

## Airway Device Type

|           |  |
|-----------|--|
| Value Set | AirwayDeviceType - 2.16.840.1.113883.17.3.5.61 |
|-----------|--|

|             |                               |
|-------------|-------------------------------|
| 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 - 2.16.840.1.113883.17.3.5.18              |
| 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                                |
| 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 - 2.16.840.1.113883.17.3.5.76 |
| 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      |

| Code      | Code System | Print Name      |
|-----------|-------------|-----------------|
| 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 - 2.16.840.1.113883.17.3.5.34 |
| 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                      |
| LA17215-7 | LOINC       | Swelling/bruising/contusion with pain    |
| LA17220-7 | LOINC       | Swelling/bruising/contusion without pain |
| LA17244-7 | LOINC       | Gunshot wound-entry                      |
| LA17245-4 | LOINC       | Gunshot wound-exit                       |
| 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                   |
| 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                                     |

## Back Spine Finding Location

|             |  |
|-------------|--|
| Value Set   | BackSpineFindingLocation - 2.16.840.1.113883.17.3.5.35           |
| 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 |
| LA18737-9 | LOINC       | Thoracic-left    |
| LA18738-7 | LOINC       | Thoracic-right   |

## Barrier To Care

|             |   |
|-------------|---|
| Value Set   | BarrierToCare - 2.16.840.1.113883.17.3.5.85                       |
| 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                             |

| Code      | Code System | Print Name                                    |
|-----------|-------------|---|
| 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                                       |

## Cardiac Arrest Cause

|             |  |
|-------------|--|
| Value Set   | CardiacArrestCause - 2.16.840.1.113883.17.3.5.10 |
| 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 Timing

|             |   |
|-------------|---|
| Value Set   | CardiacArrestTiming - 2.16.840.1.113883.17.3.5.91   |
| 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       | Yes, prior to EMS arrival |
| LA17055-7 | LOINC       | Yes, after EMS arrival    |
| LA32-8    | LOINC       | No                        |

## Cardiac Arrest Witness Role

|             |  |
|-------------|--|
| Value Set   | CardiacArrestWitnessRole - 2.16.840.1.113883.17.3.5.11 |
| 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 - 2.16.840.1.113883.17.3.5.16 |
| 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                          |
| LA12904-1 | LOINC       | Artifact                          |
| LA17059-9 | LOINC       | Other (not listed)                |
| LA17059-9 | LOINC       | Other (not listed)                |
| LA17068-0 | LOINC       | Asystole                          |
| LA17068-0 | LOINC       | Asystole                          |
| LA17070-6 | LOINC       | PEA                               |
| LA17070-6 | LOINC       | PEA                               |
| LA17071-4 | LOINC       | Unknown AED non-shockable rhythm  |
| LA17071-4 | LOINC       | Unknown AED non-shockable rhythm  |
| LA17072-2 | LOINC       | Unknown AED shockable rhythm      |
| LA17072-2 | LOINC       | Unknown AED shockable rhythm      |
| LA17073-0 | LOINC       | Ventricular fibrillation          |
| LA17073-0 | LOINC       | Ventricular fibrillation          |
| LA17074-8 | LOINC       | Ventricular tachycardia-pulseless |
| LA17074-8 | LOINC       | Ventricular tachycardia-pulseless |
| LA17083-9 | LOINC       | Agonal/idioventricular            |
| LA17083-9 | LOINC       | Agonal/idioventricular            |
| LA17084-7 | LOINC       | Atrial fibrillation               |
| LA17084-7 | LOINC       | Atrial fibrillation               |
| LA17085-4 | LOINC       | Atrial flutter                    |
| LA17085-4 | LOINC       | Atrial flutter                    |
| LA17086-2 | LOINC       | AV block-1st degree               |
| LA17086-2 | LOINC       | AV block-1st degree               |
| LA17087-0 | LOINC       | AV block-2nd degree-type 1        |



| Code      | Code System | Print Name                         |
|-----------|-------------|------------------------------------|
| LA17087-0 | LOINC       | AV block-2nd degree-type 1         |
| LA17088-8 | LOINC       | AV block-2nd degree-type 2         |
| LA17088-8 | LOINC       | AV block-2nd degree-type 2         |
| LA17089-6 | LOINC       | AV block-3rd degree                |
| LA17089-6 | LOINC       | AV block-3rd degree                |
| LA17090-4 | LOINC       | Junctional                         |
| LA17090-4 | LOINC       | Junctional                         |
| LA17091-2 | LOINC       | Left bundle branch block           |
| LA17091-2 | LOINC       | Left bundle branch block           |
| LA17093-8 | LOINC       | Paced rhythm                       |
| LA17093-8 | LOINC       | Paced rhythm                       |
| LA17094-6 | LOINC       | Premature atrial contractions      |
| LA17094-6 | LOINC       | Premature atrial contractions      |
| LA17095-3 | LOINC       | Premature ventricular contractions |
| LA17095-3 | LOINC       | Premature ventricular contractions |
| LA17096-1 | LOINC       | Right bundle branch block          |
| LA17096-1 | LOINC       | Right bundle branch block          |
| LA17097-9 | LOINC       | Sinus arrhythmia                   |
| LA17097-9 | LOINC       | Sinus arrhythmia                   |
| LA17098-7 | LOINC       | Sinus bradycardia                  |
| LA17098-7 | LOINC       | Sinus bradycardia                  |
| LA17099-5 | LOINC       | Sinus tachycardia                  |
| LA17099-5 | LOINC       | Sinus tachycardia                  |
| LA17100-1 | LOINC       | Supraventricular tachycardia       |
| LA17100-1 | LOINC       | Supraventricular tachycardia       |
| LA17101-9 | LOINC       | Torsades de points                 |
| LA17101-9 | LOINC       | Torsades de points                 |
| LA17703-2 | LOINC       | STEMI-anterior ischemia            |
| LA17703-2 | LOINC       | STEMI-anterior ischemia            |
| LA17704-0 | LOINC       | STEMI-inferior ischemia            |
| LA17704-0 | LOINC       | STEMI-inferior ischemia            |
| LA17705-7 | LOINC       | STEMI-lateral ischemia             |
| LA17705-7 | LOINC       | STEMI-lateral ischemia             |
| LA17706-5 | LOINC       | STEMI-posterior ischemia           |
| LA17706-5 | LOINC       | STEMI-posterior ischemia           |
| LA17708-1 | LOINC       | Ventricular tachycardia with pulse |

| Code      | Code System | Print Name                         |
|-----------|-------------|------------------------------------|
| LA17708-1 | LOINC       | Ventricular tachycardia with pulse |
| LA17718-0 | LOINC       | Sinus rhythm                       |
| LA17718-0 | LOINC       | Sinus rhythm                       |
| LA18205-7 | LOINC       | Non-STEMI anterior ischemia        |
| LA18205-7 | LOINC       | Non-STEMI anterior ischemia        |
| LA18206-5 | LOINC       | Non-STEMI inferior ischemia        |
| LA18206-5 | LOINC       | Non-STEMI inferior ischemia        |
| LA18207-3 | LOINC       | Non-STEMI lateral ischemia         |
| LA18207-3 | LOINC       | Non-STEMI lateral ischemia         |
| LA18208-1 | LOINC       | Non-STEMI posterior ischemia       |
| LA18208-1 | LOINC       | Non-STEMI posterior ischemia       |

## Cardiopulmonary Resuscitation Type

|             |  |
|-------------|--|
| Value Set   | CardiopulmonaryResuscitationType - 2.16.840.1.113883.17.3.5.57 |
| 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 (not listed)     |
| 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                    |

## Chest Lung Assessment Finding

|             |  |
|-------------|--|
| Value Set   | ChestLungAssessmentFinding - 2.16.840.1.113883.17.3.5.29 |
| 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                      |
| LA17215-7 | LOINC       | Swelling/bruising/contusion with pain    |
| LA17220-7 | LOINC       | Swelling/bruising/contusion without pain |
| 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                      |
| 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                         |
| LA17244-7 | LOINC       | Gunshot wound-entry                      |
| LA17245-4 | LOINC       | Gunshot wound-exit                       |
| 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                             |

| Code      | Code System | Print Name                 |
|-----------|-------------|----------------------------|
| 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                       |

## Complaint

|             |  |
|-------------|--|
| Value Set   | Complaint - 2.16.840.1.113883.17.3.5.49      |
| Code System | LOINC - 2.16.840.1.113883.6.1                |
| Definition  | Kind of medical problem or incident reported |

| Code      | Code System | Print Name   |
|-----------|-------------|--|
| LA15468-4 | LOINC       | Abdominal pain   |
| 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  |

| Code      | Code System | Print Name  |
|-----------|-------------|---|
| 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  |
| 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  |

## Complaint Type

|             |  |
|-------------|--|
| Value Set   | Complaint Type - 2.16.840.1.113883.17.3.5.94 |
| 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  |

## Destination Choice Reason

|             |   |
|-------------|---|
| Value Set   | DestinationChoiceReason - 2.16.840.1.113883.17.3.5.68 |
| 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             |
| 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 - 2.16.840.1.113883.17.3.5.87         |
| 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            |

| Code      | Code System | Print Name  |
|-----------|-------------|-------------|
| LA18123-2 | LOINC       | Yes, stroke |
| LA32-8    | LOINC       | No          |

## Destination Type

|             |   |
|-------------|---|
| Value Set   | DestinationType - 2.16.840.1.113883.17.3.5.69 |
| 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)             |
| LA18692-6 | LOINC       | Other EMS responder (ground)          |
| LA18693-4 | LOINC       | Police/jail                           |

## Disaster Type

|             |  |
|-------------|--|
| Value Set   | DisasterType - 2.16.840.1.113883.17.3.5.9  |
| 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     |

| Code      | Code System | Print Name                   |
|-----------|-------------|------------------------------|
| 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 - 2.16.840.1.113883.17.3.5.50 |
| 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                            |
| LA7540-3  | LOINC       | Language barrier                         |

## ECG Type

|             |                                       |
|-------------|---------------------------------------|
| Value Set   | ECGType - 2.16.840.1.113883.17.3.5.19 |
| 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                     |



| Code      | Code System | Print Name       |
|-----------|-------------|------------------|
| LA18671-0 | LOINC       | Other ECG device |

## EMD Performed

|             |   |
|-------------|---|
| Value Set   | EMDPerformed - 2.16.840.1.113883.17.3.5.48      |
| 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 - 2.16.840.1.113883.17.3.5.70                |
| 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 - 2.16.840.1.113883.17.3.5.100 |
| 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                   |

## Environmental Allergy Type

|             |  |
|-------------|--|
| Value Set   | EnvironmentalAllergyType - 2.16.840.1.113883.17.3.5.83 |
| Code System | LOINC - 2.16.840.1.113883.6.1                          |
| Definition  | Kinds of environmental allergens                       |

| Code      | Code System | Print Name              |
|-----------|-------------|-------------------------|
| LA137-2   | LOINC       | None                    |
| LA17059-9 | LOINC       | Other (not listed)      |
| LA18356-8 | LOINC       | Chemical                |
| LA18357-6 | LOINC       | Dander/dust/mold/pollen |
| LA18358-4 | LOINC       | Food allergy            |
| LA18359-2 | LOINC       | Insect sting            |
| LA18360-0 | LOINC       | Latex                   |
| LA18361-8 | LOINC       | Plant                   |

## 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                         |

## Existence Of Contraindications To Thrombolytic Use

|             |   |
|-------------|---|
| Value Set   | ExistenceOfContraindicationsToThrombolyticUse - 2.16.840.1.113883.17.3.5.41 |
| 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 - 2.16.840.1.113883.17.3.5.36 |
| 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         |
| 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                             |

| Code      | Code System | Print Name          |
|-----------|-------------|---------------------|
| 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 - 2.16.840.1.113883.17.3.5.37      |
| 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                  |
| 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             |

| Code      | Code System | Print Name               |
|-----------|-------------|--------------------------|
| 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       |
| 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 - 2.16.840.1.113883.17.3.5.38 |
| 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        |

| Code      | Code System | Print Name               |
|-----------|-------------|--------------------------|
| 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         |
| 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 - 2.16.840.1.113883.17.3.5.39      |
| 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 |
|-----------|-----------------------------|

## Face Assessment Finding

|             |   |
|-------------|---|
| Value Set   | FaceAssessmentFinding - 2.16.840.1.113883.17.3.5.27 |
| 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                    |
| LA17210-8 | LOINC       | Decapitation                             |
| LA17211-6 | LOINC       | Drainage                                 |
| LA17213-2 | LOINC       | Mass/lesion                              |
| LA17214-0 | LOINC       | Puncture/stab wound                      |
| LA17215-7 | LOINC       | Swelling/bruising/contusion with pain    |
| LA17216-5 | LOINC       | Asymmetric smile or droop                |
| LA17220-7 | LOINC       | Swelling/bruising/contusion without pain |
| LA17244-7 | LOINC       | Gunshot wound-entry                      |
| LA17245-4 | LOINC       | Gunshot wound-exit                       |
| 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 - 2.16.840.1.113883.17.3.5.14                            |
| 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 |
| LA17394-0 | LOINC       | Bradycardia                       |

## Glasgow Coma Score Eye Response

|             |   |
|-------------|---|
| Value Set   | GlasgowComaScoreEyeResponse - 2.16.840.1.113883.17.3.5.99 |
| Code System | LOINC - 2.16.840.1.113883.6.1                             |
| Definition  | Patient's ocular response to stimulation                  |

| Code      | Code System | Print Name                                    |
|-----------|-------------|---|
| LA17798-2 | LOINC       | No eye movement when assessed                 |
| LA9345-5  | LOINC       | Opens eyes in response to painful stimulation |
| LA9346-3  | LOINC       | Opens eyes in response to verbal stimulation  |
| LA9347-1  | LOINC       | Opens eyes spontaneously                      |

## Glasgow Coma Score Motor Response

|             |   |
|-------------|---|
| Value Set   | GlasgowComaScoreMotorResponse - 2.16.840.1.113883.17.3.5.96 |
| Code System | LOINC - 2.16.840.1.113883.6.1                               |
| Definition  | Patient's motor response to stimulation                     |

| Code      | Code System | Print Name   |
|-----------|-------------|--|
| LA17727-1 | LOINC       | Withdrawal from pain   |
| LA17797-4 | LOINC       | Obeys commands (>2 yrs); Appropriate response to stimulation (<=2 yrs) |
| LA6562-8  | LOINC       | No motor response  |
| LA6563-6  | LOINC       | Extension to pain  |
| LA6564-4  | LOINC       | Flexion to pain  |
| LA6566-9  | LOINC       | Localizing pain  |

## Glasgow Coma Score Qualifier

|           |   |
|-----------|---|
| Value Set | GlasgowComaScoreQualifier - 2.16.840.1.113883.17.3.5.89 |
|-----------|---|



|             |  |
|-------------|--|
| 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   |

## Glasgow Coma Score Verbal Response

|             |  |
|-------------|--|
| Value Set   | GlasgowComaScoreVerbalResponse - 2.16.840.1.113883.17.3.5.98 |
| Code System | LOINC - 2.16.840.1.113883.6.1                                |
| Definition  | Patient's vocal response to stimulation                      |

| Code      | Code System | Print Name  |
|-----------|-------------|---|
| LA17793-3 | LOINC       | Incomprehensible sounds (>2 yrs); Inconsolable, agitated (<=2 yrs)                  |
| LA17794-1 | LOINC       | Inappropriate words (>2 yrs); Inconsistently consolable, moaning (<=2 yrs)          |
| LA17795-8 | LOINC       | Confused (>2 yrs); Cries but is consolable, inappropriate interactions (<=2 yrs)    |
| LA17796-6 | LOINC       | Oriented (>2 yrs); Smiles, oriented to sounds, follows objects, interacts (<=2 yrs) |
| LA6557-8  | LOINC       | No verbal response (>2 yrs); no vocal response (<=2 yrs)                            |

## HL7 Administrative Gender

|           |                           |
|-----------|---------------------------|
| Value Set | HL7 Administrative Gender |
|-----------|---------------------------|

## HL7 Confidentiality

|           |                     |
|-----------|---------------------|
| Value Set | HL7 Confidentiality |
|-----------|---------------------|

## HL7 Human Language

|           |                    |
|-----------|--------------------|
| Value Set | HL7 Human Language |
|-----------|--------------------|

## Head Assessment Finding

|             |   |
|-------------|---|
| Value Set   | HeadAssessmentFinding - 2.16.840.1.113883.17.3.5.26 |
| 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                              |
| LA17214-0 | LOINC       | Puncture/stab wound                      |
| LA17215-7 | LOINC       | Swelling/bruising/contusion with pain    |
| LA17220-7 | LOINC       | Swelling/bruising/contusion without pain |
| LA17244-7 | LOINC       | Gunshot wound-entry                      |
| LA17245-4 | LOINC       | Gunshot wound-exit                       |
| 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 - 2.16.840.1.113883.17.3.5.30 |
| 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 |

| Code      | Code System | Print Name       |
|-----------|-------------|------------------|
| 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  |

## IC D-10

|           |        |
|-----------|--------|
| Value Set | ICD-10 |
|-----------|--------|

## ICD-10 CM

|           |           |
|-----------|-----------|
| Value Set | ICD-10 CM |
|-----------|-----------|

## ICD-10 PCS

|           |            |
|-----------|------------|
| Value Set | ICD-10 PCS |
|-----------|------------|

## IV Site

|             |  |
|-------------|--|
| Value Set   | IVSite - 2.16.840.1.113883.17.3.5.56                               |
| Code System | LOINC - 2.16.840.1.113883.6.1                                      |
| Definition  | Body location of puncture for intravenous substance administration |

| Code      | Code System | Print Name      |
|-----------|-------------|-----------------|
| LA18112-5 | LOINC       | Extremity-lower |
| LA18113-3 | LOINC       | Extremity-upper |
| LA18757-7 | LOINC       | Forearm-left    |

| Code      | Code System | Print Name   |
|-----------|-------------|--|
| 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                                    |
| 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, not listed) |
| LA18814-6 | LOINC       | Other peripheral access (not listed)               |
| LA18815-3 | LOINC       | Scalp  |
| LA18816-1 | LOINC       | Subclavian-left                                    |
| LA18817-9 | LOINC       | Subclavian-right                                   |
| LA18818-7 | LOINC       | Umbilical  |

## Incident Outcome

|             |  |
|-------------|--|
| Value Set   | IncidentOutcome - 2.16.840.1.113883.17.3.5.64      |
| 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)                             |
| LA17157-1 | LOINC       | Patient dead at scene-no EMS transport                           |
| LA17158-9 | LOINC       | Patient dead at scene-transported by EMS                         |
| 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                  |
| 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)              |

## Injury Risk Factor

|             |   |
|-------------|---|
| Value Set   | InjuryRiskFactor - 2.16.840.1.113883.17.3.5.4 |
| 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 |

| Code      | Code System | Print Name  |
|-----------|-------------|---|
| LA18124-0 | LOINC       | Crash vehicle telemetry data (AACN) consistent with high risk of injury |

## LOINC

|           |       |
|-----------|-------|
| Value Set | LOINC |
|-----------|-------|

## Length Based Weight Class

|             |  |
|-------------|--|
| Value Set   | LengthBasedWeightClass - 2.16.840.1.113883.17.3.5.24 |
| 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 - 2.16.840.1.113883.17.3.5.21        |
| 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 - 2.16.840.1.113883.17.3.5.1 |
| 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 - 2.16.840.1.113883.17.3.5.43  |
| 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              |
| C38253 | FDA Route of Administration | Intramedullary           |
| C38276 | FDA Route of Administration | Intravenous              |
| C38285 | FDA Route of Administration | Nasogastric              |

| Code    | Code System                 | Print Name       |
|---------|-----------------------------|------------------|
| 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) |
| C38295  | FDA Route of Administration | Rectal           |
| C38299  | FDA Route of Administration | Subcutaneous     |
| C38300  | FDA Route of Administration | Sublingual       |
| C38304  | FDA Route of Administration | Topical          |
| C38308  | FDA Route of Administration | Transtracheal    |
| C38305  | FDA Route of Administration | Transdermal      |
| C38271  | FDA Route of Administration | Urethral         |
| NewCode | FDA Route of Administration |                  |
| C38250  | FDA Route of Administration | Intralesional    |

## Medication Authorization Type

|             |  |
|-------------|--|
| Value Set   | MedicationAuthorizationType - 2.16.840.1.113883.17.3.5.47                                  |
| 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                          |
| LA18655-3 | LOINC       | Protocol (standing order)         |
| LA18656-1 | LOINC       | Written orders (patient specific) |



## Medication Complication

|             |  |
|-------------|--|
| Value Set   | MedicationComplication - 2.16.840.1.113883.17.3.5.45                       |
| 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               |
| LA17397-3 | LOINC       | Itching/urticaria     |
| 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  |

## Medication Not Given Reason

|             |   |
|-------------|---|
| Value Set   | MedicationNotGivenReason - 2.16.840.1.113883.17.3.5.92            |
| 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 |

| Code      | Code System | Print Name         |
|-----------|-------------|--------------------|
| 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 - 2.16.840.1.113883.17.3.5.84 |
| 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                        |

## Method Of ECG Interpretation

|             |  |
|-------------|--|
| Value Set   | MethodOfECGInterpretation - 2.16.840.1.113883.17.3.5.20  |
| Code System | LOINC - 2.16.840.1.113883.6.1                            |
| Definition  | Method for transforming ECG data into a clinical finding |

| 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 - 2.16.840.1.113883.17.3.5.28 |
| 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                      |
| LA17215-7 | LOINC       | Swelling/bruising/contusion with pain    |
| LA17217-3 | LOINC       | Jugular vein distention - JVD            |
| LA17219-9 | LOINC       | Subcutaneous air                         |
| LA17220-7 | LOINC       | Swelling/bruising/contusion without pain |
| LA17244-7 | LOINC       | Gunshot wound-entry                      |
| LA17245-4 | LOINC       | Gunshot wound-exit                       |
| 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                                     |

## Neurological Assessment Finding

|             |   |
|-------------|---|
| Value Set   | NeurologicalAssessmentFinding - 2.16.840.1.113883.17.3.5.40 |
| 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                     |

## Organ System

|             |  |
|-------------|--|
| Value Set   | OrganSystem - 2.16.840.1.113883.17.3.5.77              |
| 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    |

| Code      | Code System | Print Name                        |
|-----------|-------------|-----------------------------------|
| LA18282-6 | LOINC       | Musculoskeletal/skin              |
| LA18283-4 | LOINC       | Pulmonary                         |
| LA18284-2 | LOINC       | Renal                             |
| LA18285-9 | LOINC       | Reproductive                      |
| LA9534-4  | LOINC       | Behavioral / psychiatric disorder |

## Patient Condition Change

|             |  |
|-------------|--|
| Value Set   | PatientConditionChange - 2.16.840.1.113883.17.3.5.59 |
| Code System | LOINC - 2.16.840.1.113883.6.1                        |
| Definition  | Change in acuity of patient condition                |

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

## Patient Status

|             |   |
|-------------|---|
| Value Set   | PatientStatus - 2.16.840.1.113883.17.3.5.78       |
| Code System | LOINC - 2.16.840.1.113883.6.1                     |
| Definition  | Patient condition indicating urgency of treatment |

| Code      | Code System | Print Name                                 |
|-----------|-------------|--|
| LA17694-3 | LOINC       | Lower acuity (green)                       |
| LA17695-0 | LOINC       | Emergent (yellow)                          |
| LA17696-8 | LOINC       | Critical (red)                             |
| LA17697-6 | LOINC       | Dead without resuscitation efforts (black) |

## Pelvis Genitourinary Assessment

|             |  |
|-------------|--|
| Value Set   | PelvisGenitourinaryAssessment - 2.16.840.1.113883.17.3.5.33    |
| Code System | LOINC - 2.16.840.1.113883.6.1                                  |
| Definition  | Finding resulting from EMS pelvic and genitourinary assessment |

| Code      | Code System | Print Name          |
|-----------|-------------|---------------------|
| LA14123-6 | LOINC       | Unstable            |
| LA17208-2 | LOINC       | Bleeding controlled |

| Code      | Code System | Print Name                               |
|-----------|-------------|--|
| LA17209-0 | LOINC       | Bleeding uncontrolled                    |
| LA17213-2 | LOINC       | Mass/lesion                              |
| LA17214-0 | LOINC       | Puncture/stab wound                      |
| LA17215-7 | LOINC       | Swelling/bruising/contusion with pain    |
| LA17220-7 | LOINC       | Swelling/bruising/contusion without pain |
| LA17244-7 | LOINC       | Gunshot wound-entry                      |
| LA17245-4 | LOINC       | Gunshot wound-exit                       |
| 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                                     |

## Pregnancy

|             |  |
|-------------|--|
| Value Set   | Pregnancy - 2.16.840.1.113883.17.3.5.42              |
| 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 |

| Code      | Code System | Print Name                           |
|-----------|-------------|--------------------------------------|
| 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                                   |

## Prior Care Provider Role

|             |  |
|-------------|--|
| Value Set   | PriorCareProviderRole - 2.16.840.1.113883.17.3.5.12                            |
| 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 - 2.16.840.1.113883.17.3.5.58                |
| 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                           |
| LA17397-3 | LOINC       | Itching/urticaria                 |
| LA17489-8 | LOINC       | Esophageal intubation-immediately |
| LA17490-6 | LOINC       | Esophageal intubation-other       |

| Code      | Code System | Print Name           |
|-----------|-------------|----------------------|
| LA17713-1 | LOINC       | Injury               |
| LA17714-9 | LOINC       | Tachycardia          |
| LA18267-7 | LOINC       | Tachypnea            |
| LA18268-5 | LOINC       | Portacath            |
| 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 |

## Protocol

|             |   |
|-------------|---|
| Value Set   | Protocol - 2.16.840.1.113883.17.3.5.73                    |
| 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                                       |



| Code      | Code System | Print Name   |
|-----------|-------------|--|
| 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                             |
| 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                                     |

| Code      | Code System | Print Name  |
|-----------|-------------|---|
| 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  |
| 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       | Medical-overdose/poisoning/toxic ingestion                              |
| LA17558-0 | LOINC       | Medical-pulmonary edema/CHF   |
| LA17559-8 | LOINC       | Medical-respiratory distress/asthma/COPD/croup/ 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  |

## Protocol Age Category

|           |   |
|-----------|---|
| Value Set | ProtocolAgeCategory - 2.16.840.1.113883.17.3.5.86 |
|-----------|---|

|             |                               |
|-------------|-------------------------------|
| 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 - 2.16.840.1.113883.17.3.5.72 |
| 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 - 2.16.840.1.113883.17.3.5.80 |
| 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  |
| LA18713-0 | LOINC       | Primary patient caregiver-transport |

## Provider Role

|             |   |
|-------------|---|
| Value Set   | ProviderRole - 2.16.840.1.113883.17.3.5.46                              |
| 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                             |
| LA9401-6  | LOINC       | Nurse   |

## Provider Role Level

|             |   |
|-------------|---|
| Value Set   | ProviderRoleLevel - 2.16.840.1.113883.17.3.5.81 |
| 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                             |
| LA9401-6  | LOINC       | Nurse   |

## Race

|             |  |
|-------------|--|
| Value Set   | Race - 2.16.840.1.113883.1.11.14914                |
| Code System | Race and Ethnicity - CDC - 2.16.840.1.113883.6.238 |

## Race and Ethnicity

|           |                    |
|-----------|--------------------|
| Value Set | Race and Ethnicity |
|-----------|--------------------|

## Race Category

|           |   |
|-----------|---|
| Value Set | RaceCategory - 2.16.840.1.114222.4.11.836 |
|-----------|---|

| 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                                |

| Code   | Code System              | Print Name |
|--------|--------------------------|------------|
| 2106-3 | Race and Ethnicity - CDC | White      |

## Reason Procedure not Performed

|             |   |  |
|-------------|---|--|
| Value Set   | Reason Procedure not Performed - 2.16.840.1.113883.17.3.5.95  |  |
| 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 - 2.16.840.1.113883.17.3.5.100       |  |
| 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 |

## Registry Type

|             |   |  |
|-------------|---|--|
| Value Set   | RegistryType - 2.16.840.1.113883.17.3.5.74                              |  |
| 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     |

| Code      | Code System | Print Name             |
|-----------|-------------|------------------------|
| 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 - 2.16.840.1.113883.17.3.5.51 |
| 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                          |
| 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                         |

## Resuscitation Not Attempted Reason

|            |   |
|------------|---|
| Value Set  | ResuscitationNotAttemptedReason - 2.16.840.1.113883.17.3.5.90 |
| Definition | Rationale for not attempting to resuscitate a patient         |

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

## Resuscitation Discontinue Reason

|             |  |
|-------------|--|
| Value Set   | ResuscitationDiscontinueReason - 2.16.840.1.113883.17.3.5.62 |
| 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 - 2.16.840.1.113883.17.3.5.15 |
| 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 |
|-----------|--------|

## Safety Equipment Type

|             |  |
|-------------|--|
| Value Set   | SafetyEquipmentType - 2.16.840.1.113883.17.3.5.7 |
| 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    |
| 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 - 2.16.840.1.113883.17.3.5.52          |
| 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                     |

| Code      | Code System | Print Name               |
|-----------|-------------|--------------------------|
| 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 Level

|             |  |
|-------------|--|
| Value Set   | ServiceLevel - 2.16.840.1.113883.17.3.5.70 |
| Code System | LOINC - 2.16.840.1.113883.6.1              |
| Definition  | Level of EMS service 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) |

## Service Type

|             |  |
|-------------|--|
| Value Set   | ServiceType - 2.16.840.1.113883.17.3.5.79      |
| 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 |

## Skin Assessment

|             |  |
|-------------|--|
| Value Set   | SkinAssessment - 2.16.840.1.113883.17.3.5.25 |
| Code System | LOINC - 2.16.840.1.113883.6.1                |
| Definition  | Finding resulting from EMS skin assessment   |

| Code      | Code System | Print Name         |
|-----------|-------------|--------------------|
| LA15475-9 | LOINC       | Cold               |
| LA17197-7 | LOINC       | Clammy             |
| LA17198-5 | LOINC       | Cyanotic           |
| LA17199-3 | LOINC       | Dry                |
| LA17200-9 | LOINC       | Red (erythematous) |
| LA17201-7 | LOINC       | Flushed            |
| LA17202-5 | LOINC       | Hot                |
| LA17203-3 | LOINC       | Jaundiced          |
| LA17204-1 | LOINC       | Lividity           |
| LA17205-8 | LOINC       | Mottled            |
| LA17206-6 | LOINC       | Pale               |
| LA17207-4 | LOINC       | Warm               |
| LA18217-2 | LOINC       | Diaphoretic        |
| LA18218-0 | LOINC       | Poor turgor        |
| LA18219-8 | LOINC       | Tenting            |
| LA6626-1  | LOINC       | Normal             |
| LA6630-3  | LOINC       | Not done           |

## Stroke Scale

|             |  |
|-------------|--|
| Value Set   | StrokeScale - 2.16.840.1.113883.17.3.5.88      |
| 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 - 2.16.840.1.113883.17.3.5.93 |
| 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       |
| LA6577-6  | LOINC       | Negative       |

## Transport Delay Type

|             |  |
|-------------|--|
| Value Set   | TransportDelayType - 2.16.840.1.113883.17.3.5.53 |
| 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 - 2.16.840.1.113883.17.3.5.65 |
| 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     |
| 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                       |

## Transportation Mode

|             |  |  |
|-------------|--|--|
| Value Set   | TransportationMode - 2.16.840.1.113883.17.3.5.66 |  |
| 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   |
| LA17180-3 | LOINC       | Non-emergent                        |

## Trauma Center Criteria

|             |  |  |
|-------------|--|--|
| Value Set   | TraumaCenterCriteria - 2.16.840.1.113883.17.3.5.3          |  |
| 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 14                            |
| 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                           |

| Code      | Code System | Print Name  |
|-----------|-------------|---|
| 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 - 2.16.840.1.113883.17.3.5.54             |
| 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                          |
| LA17599-4 | LOINC       | Decontamination                   |
| LA17600-0 | LOINC       | Documentation                     |
| LA17601-8 | LOINC       | ED overcrowding/transfer of care  |
| LA17602-6 | LOINC       | Equipment/supply replenishment    |
| LA17603-4 | LOINC       | Transport unavailable             |
| 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 Response Role

|             |  |
|-------------|--|
| Value Set   | UnitResponseRole - 2.16.840.1.113883.17.3.5.82 |
| Code System | LOINC - 2.16.840.1.113883.6.1                  |
| Definition  | Role unit plays in response to an incident     |

| Code      | Code System | Print Name    |
|-----------|-------------|---------------|
| LA17574-7 | LOINC       | Air transport |

| Code      | Code System | Print Name                         |
|-----------|-------------|------------------------------------|
| LA17575-4 | LOINC       | Ground transport                   |
| LA17576-2 | LOINC       | Non-transport (care or assistance) |
| LA17577-0 | LOINC       | Rescue                             |
| LA17578-8 | LOINC       | Supervisor (administrative only)   |

## Vehicle Impact Area

|             |  |
|-------------|--|
| Value Set   | VehicleImpactArea - 2.16.840.1.113883.17.3.5.5 |
| Code System | LOINC - 2.16.840.1.113883.6.1                  |
| Definition  | Direction from which a vehicle is struck       |

| 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 - 2.16.840.1.113883.17.3.5.6 |
| 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                               |
| LA17364-3 | LOINC       | Second seat-left side (or motorcycle passenger) |
| LA17365-0 | LOINC       | Second seat-middle                              |

| Code      | Code System | Print Name  |
|-----------|-------------|---|
| 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 7

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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*

## 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         | Add Boolean observation; put null value in observation.text = "unable to complete" |
| 3 | Unable to Complete             | null | NI         | procedure          | Add Boolean observation; put null value in observation.text = "unable to complete" |
| 4 | Refused                        | null | ASKU (NT)  | observation        | Observation.value = null (ASKU)  |
| 5 | Refused                        | neg  |            | observation        | Observation.value = null (ASKU); with a relationship to an act with this code      |
| 6 | Refused                        | null | ASKU (NT)  | medication history | Add Boolean observation; Observation.value = null (ASKU)                           |
| 7 | Refused                        | neg  |            | medication given   | negate specific medication with a relationship to an act with this code (refused)  |
| 8 | Refused                        | null | ASKU (NT)  | procedure history  | Add Boolean observation; Observation.value = null (ASKU)                           |

|                    |  |      |     |  |  |
|--------------------|--|------|-----|--|--|
| 9                  | Refused                                | neg  |     | procedure performed                    | negate specific procedure with a relationship to an act with this code   |
| 10                 | Exam finding not present               | null | NAV | observation                            | Observation.value = null (NAV)   |
| 11                 | No known drug allergies                | none |     | observation:<br>negation<br>value      | q= allergy; negate; a="no known drug allergies"  |
| 12                 | None reported                          | none |     | observation:<br>alcohol                | q= alcohol/drug ind; a="none"  |
| 13                 | None reported                          | none |     | observation:<br>history<br>(condition) | Add Boolean observation; observation.value = "none"  |
| 14                 | None reported                          | none |     | medication                             | Add Boolean observation; observation.value = "none"  |
| 15                 | None reported                          | none |     | procedure                              | Add Boolean observation; observation.value = "none"  |
| 16                 | No anticoagulants or bleeding disorder | none |     | medication                             | Negate med code = 372862008 anticoagulant (Type:= substance) or 81839001 anticoagulant (Type:= pharmaceutical / biologic product)              |
| 17                 | No anticoagulants or bleeding disorder | none |     | observation                            | Negate observation value = 64779008 bleeding disorder (Type:= clinical finding). There is no single coherent IDC-10 code for bleeding disorder |
| 18                 | Contraindication noted                 | neg  |     | medication,<br>procedure               | negate specific procedure or medication with a relationship to an act with this code   |
| 19                 | Denied by order                        | neg  |     | medication,<br>procedure               | negate specific procedure or medication with a relationship to an act with this code   |
| 20                 | Medication allergy                     | neg  |     | medication                             | negate specific medication with a relationship to an act with this code  |
| 21                 | Medication already taken               | neg  |     | medication                             | negate specific medication with a relationship to an act with this code  |
| <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 NEMESIS specifications.

| NEMESIS Question | NEMESIS 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;<br>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;<br>codeSystem = 2.16.840.1.113883.5.1008                   |
| ehistory.14   | 3114043 | puffs              | Yes | 1         | substanceAdministration.administrationUnitCode<br>= PUFF; codeSystem<br>=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         |   |

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