Implementation Guide for CDA Release 2
Emergency Medical Services Patient Care Report
(US REALM)
Procedure Complication Type................................................................. 44
Protocol.................................................................................................. 44
Protocol Age Category........................................................................ 44
Provider Adverse Event Type............................................................. 44
Provider Response Role................................................................. 44
Provider Role..................................................................................... 44
Provider Role Level........................................................................ 44
Registry Type..................................................................................... 45
Response Delay Type........................................................................ 45
Resuscitation Attempted................................................................. 45
Resuscitation Discontinue Reason.................................................... 45
Return Of Spontaneous Circulation.................................................. 45
Safety Equipment Type...................................................................... 45
Scene Delay Type............................................................................. 45
Service Level................................................................................... 45
Service Type.................................................................................... 45
Skin Assessment............................................................................... 45
Stroke Scale.................................................................................... 46
Transport Delay Type........................................................................ 46
Transport Method............................................................................ 46
Transport Mode............................................................................... 46
Transportation Mode....................................................................... 46
Trauma Center Criteria................................................................. 46
Turn Around Delay Type................................................................. 46
Unit Response Role......................................................................... 46
Vehicle Impact Area......................................................................... 46
Vehicle Passenger Location............................................................ 46
REFERENCES.................................................................................... 47
Acknowledgments

This implementation guide was developed with the support and sponsorship of the National EMS Information System (NEMSIS), directed by Clay Mann. Additional clinical guidance was provided by Dr. Greg Mears. NEMSIS is supported by the US National Highway Traffic Safety Administration, the Centers for Disease Control, and the Health Resources and Services Administration, as well as dozens of other government agencies, universities, and professional organizations.

Shakir Consulting was instrumental in the creation of the domain analysis model and constrained model that inform this specification.

We leaned heavily on the work done by HL7’s Structured Documents committee, as well as exemplary guides produced by other teams, most notably the Healthcare Associated Infections team.

The work could not have been completed without the indefatigable assistance of Jaci Phillips and the support of the Regenstrief institute.

This demonstration document contains information from the following sources:

©2010 ANSI. This material may be copied without permission from ANSI only if and to the extent that the text is not altered in any fashion and ANSI’s copyright is clearly noted.

SNOMED CT® is the registered trademark of the International Health Terminology Standard Development Organization (IHTSDO).

This material contains content from LOINC® (http://loinc.org). The LOINC table, LOINC codes, and LOINC panels and forms file are copyright © 1995-2010, Regenstrief Institute, Inc. and the Logical Observation Identifiers Names and Codes (LOINC) Committee and available at no cost under the license at http://loinc.org/terms-of-use.

Certain materials contained in this Interoperability Specification are reproduced from Health Level Seven (HL7) HL7 Implementation Guide: CDA Release 2 – Continuity of Care Document (CCD), HL7 Implementation Guide for CDA Release 2: History and Physical (H&P) Notes, HL7 Implementation Guide for CDA Release 2: Consult Notes, or HL7 Implementation Guide for CDA Release 2: Operative Notes with permission of Health Level Seven, Inc. No part of the material may be copied or reproduced in any form outside of the Interoperability Specification documents, including an electronic retrieval system, or made available on the Internet without the prior written permission of Health Level Seven, Inc. Copies of standards included in this Interoperability Specification may be purchased from the Health Level Seven, Inc. Material drawn from these standards is credited where used.
## Revision History

<table>
<thead>
<tr>
<th>Rev</th>
<th>Date</th>
<th>By Whom</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>July 2010</td>
<td>Dave Carlson</td>
<td></td>
</tr>
<tr>
<td>First draft for posting</td>
<td>December 2010</td>
<td>Dave Carlson</td>
<td>Updated model content and publication format</td>
</tr>
</tbody>
</table>
Chapter 1

INTRODUCTION

Topics:

• Overview
• Approach
• Scope
• Audience
• Organization of This Guide
• Use of Templates
• Conventions Used in This Guide
Overview

This implementation guide 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.

Approach

Working with specifications generated from formal UML models provides the opportunity to work with the data from the perspective of the underlying model and electronic format and to explore many design issues thoroughly. Taking this as an initial step ensures that the data set developers and standards community can reach consensus prior to the larger commitment of time that would be required to bring the full data set into standard format.

This project supports reusability and ease of data collection through a standard data representation harmonized with work developed through Health Information Technology Expert Panel (HITEP), balloted through Health Level Seven (HL7) and/or recognized by the Health Information Technology Standards Panel (HITSP).

This implementation guide (IG) specifies a standard for electronic submission of NCRs in a Clinical Document Architecture (CDA), Release 2 format.

Scope

TODO: scope of this implementation guide.

Audience

The audience for this document includes software developers and implementers who wish to develop...

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 ).

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. See Templates by Containment for a listing of the higher level templates by containment; the appendix Templates Used in This Guide includes a table of all of the templates Organized Hierarchically.

Vocabulary and Value Sets

Vocabularies recommended in this guide are from standard vocabularies. When SNOMED codes are used, rules defined in Using SNOMED CT in HL7 Version 3 are adhered to. In many cases, these vocabularies are further constrained into value sets for use within this guide. Value set names and OIDs are summarized in the table Summary of Value Sets. Each named value set in this summary table is stored in a template database that will be maintained by CHCA.
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

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 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).
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.

```xml
<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 2.16.840.1.113883.17.3.10.1]

1. SHALL conform to Consol General Header Constraints template (templateId: 2.16.840.1.113883.10.20.22.1.1)
2. SHALL contain exactly one [1..1] @classCode="DOCCLIN" (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass)
3. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)
4. 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)
5. Contains zero or one [0..1] author
   a. This author SHALL contain zero or one [0..1] @typeCode="AUT"
   b. This author Contains zero or one [0..1] assignedAuthor
      a. This assignedAuthor SHALL contain zero or one [0..1] @classCode="ASSIGNED"
      b. This assignedAuthor Contains zero or one [0..1] assignedAuthoringDevice
         a. This assignedAuthoringDevice SHALL conform to Consol Authoring Device
         b. This assignedAuthoringDevice SHALL contain exactly one [1..1] manufacturerModelName
            (CONF:9936)
            NEMSIS Trace: ERecord.02
         c. This assignedAuthoringDevice SHALL contain exactly one [1..1] softwareName (CONF:9999)
            NEMSIS Trace: ERecord.03 and ERecord.04 (version), concatenated with an intervening space
6. Contains zero or one [0..1] recordTarget
   a. This recordTarget SHALL conform to Consol Record Target
   b. This recordTarget Contains zero or one [0..1] patientRole
      a. This patientRole SHALL contain at least one [1..*] addr
         NEMSIS Trace EPatient.05 . . . /PatientRole/addr/streetAddressLine EPatient.06 . . . /PatientRole/addr/city EPatient.07 . . . /PatientRole/addr/county EPatient.08 . . . /PatientRole/addr/state Paatient.09 . . . /PatientRole/addr/postalCode EPatient.10 . . . /PatientRole/addr/country
      b. This patientRole Contains at least one [1..*] id
         NEMSIS Trace EPatient.01: root= the OID for the generating EMS agency, or "NI" EPatient.12: root="2.16.840.1.113883.3.184" (Social Security Administration) EPatient.20 and EPatient.21: root= the OID for the state department of motor vehicles, found at HL7.org, and reproduced as found in March of 2011 in appendix A.
      c. This patientRole Contains zero or more [0..*] telecom
         NEMSIS Trace: EPatient.18
   d. This patientRole Contains zero or one [0..1] patient
      a. This patient Contains zero or one [0..1] birthTime
         NEMSIS Trace EPatient.17
   b. This patient SHALL contain zero or one [0..1] ethnicGroupCode, where the @code SHALL be selected from (CodeSystem: 2.16.840.1.113883.6.238 Race and Ethnicity – CDC)
      NEMSIS Trace: EPatient.14
   c. This patient Contains zero or more [0..*] name
      NEMSIS 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.

d. This patient SHALL contain zero or one [0..1] raceCode, where the @code SHALL be selected from (CodeSystem: 2.16.840.1.113883.6.238 Race and Ethnicity - CDC)

_NEMSIS Trace: EPatient.14_ NEMSIS collects race and ethnicity in the one-question format (see guidance at 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 NEMSIS 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.

e. This patient SHALL contain zero or more [0..*] sDTCRaceCode, where the @code SHALL be selected from (CodeSystem: 2.16.840.1.113883.6.238 Race and Ethnicity - CDC)

_NEMSIS Trace: EPatient.14_

f. This patient SHALL contain exactly one [1..1] administrativeGenderCode, where the @code SHALL be selected from (CodeSystem: 2.16.840.1.113883.5.1 AdministrativeGenderCode)

_NEMSIS Trace: EPatient.13_

7. MAY contain zero or one [0..1] author

a. This author Contains zero or one [0..1] assignedAuthor

   a. This assignedAuthor SHALL contain exactly one [1..1] id

   _NEMSIS Trace: EOther.08_

b. This assignedAuthor SHALL contain zero or more [0..*] addr

   _NEMSIS Trace DProfessional.04 / AssignedAuthor/addr/streetAddressLine DProfessional.05 / AssignedAuthor/addr/city DProfessional.06 / AssignedAuthor/addr/state DProfessional.07 / AssignedAuthor/addr/postalCode DProfessional.08 / AssignedAuthor/addr/country_

c. This assignedAuthor SHALL contain exactly one [1..1] telecom

   _NEMSIS Trace: DProfessional.09_

d. This assignedAuthor Contains zero or one [0..1] assignedPerson

   a. This assignedPerson SHALL conform to _Consol Person_

   b. This assignedPerson SHALL contain exactly one [1..1] name (CONF:9406)

   _NEMSIS Trace DProfessional.01 / Person/name/family DProfessional.02 / Person/name/given DProfessional.03 / Person/name/given_

8. MAY contain exactly one [1..1] componentOf (CONF:9955)

a. This componentOf SHALL contain exactly one [1..1] encompassingEncounter (CONF:9956)

   a. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime (CONF:9958)

   b. This encompassingEncounter SHALL contain at least one [1..*] id (CONF:9959)

9. Contains zero or one [0..1] componentOf

a. This componentOf SHALL contain zero or one [0..1] @typeCode="COMP"

b. This componentOf Contains zero or one [0..1] encompassingEncounter

   a. This encompassingEncounter SHALL contain exactly one [1..1] effectiveTime

   _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
a. This healthCareFacility SHALL contain exactly one [1..1] id

   NEMSIS Trace: EResponse.04

b. This healthCareFacility SHALL contain exactly one [1..1] location

   a. This location SHALL contain exactly one [1..1] @classCode="PLC", where the @code SHALL be selected from (CodeSystem: 2.16.840.1.113883.6.3 ICD-10)

   NEMSIS Trace: EScene.09; Code under ICD-10 Y92

   b. This location MAY contain zero or one [0..1] name

   NEMSIS Trace: EScene.13

c. This location MAY contain zero or one [0..1] addr

   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

   NEMSIS Trace: EResponse.07

10. SHALL contain exactly one [1..1] component

   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] 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.

12. SHALL contain exactly one [1..1] id (CONF:5363)

   • NEMSIS trace: ERecord.01

13. SHALL contain exactly one [1..1] title = "EMS Patient Care Report" (CONF:5254)

14. MAY contain zero or one [0..1] component

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

15. SHALL contain exactly one [1..1] component

   a. This component Contains zero or one [0..1] @negationInd

       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"

   b. This component Contains zero or one [0..1] @nullFlavor

       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"

   c. This component Contains zero or one [0..1] doseQuantity

       NEMSIS Trace: EHistory.13, EHistory.14

   d. This component SHALL contain zero or one [0..1] routeCode, where the @code SHALL be selected from ValueSet CurrentMedicationAdministrationRoute 2.16.840.1.113883.17.3.5.17

       STATIC

       NEMSIS Trace: EMedication.15

16. MAY contain zero or one [0..1] component

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

17. SHOULD contain zero or one [0..1] component

   a. Contains exactly one [1..1] EMS Advance Directives Section (templateId: 2.16.840.1.113883.17.3.10.1.12)
18. SHALL contain exactly one [1..1] component
   a. Contains exactly one [1..1] **EMS Allergies And Adverse Reactions Section** (templateId: 2.16.840.1.113883.17.3.10.1.13)

19. SHALL contain exactly one [1..1] component
   a. Contains exactly one [1..1] **EMS Past Medical History** (templateId: 2.16.840.1.113883.17.3.10.1.19)

20. SHALL contain exactly one [1..1] component
   a. Contains exactly one [1..1] **EMS Social History** (templateId: 2.16.840.1.113883.17.3.10.1.22)

Patient Care Report example

```xml
<?xml version="1.0" encoding="UTF-8"?>
  <realmCode code="US"/>
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId root="2.16.840.1.113883.17.3.10.1"/>
  <id root="1886509440" extension="MDHT"/>
  <code code="67796-3" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" displayName="EMS Patient Care Report"/>
  <title>TEXT FOR TITLE</title>
  <effectiveTime/>
  <confidentialityCode codeSystem="2.16.840.1.113883.5.25" codeSystemName="ConfidentialityCode"/>
  <setId root="347c41b0-0819-427e-bcbd-cc7acab3cb58" extension="MDHT"/>
  <versionNumber value="1"/>
  <recordTarget>
    <patientRole/>
  </recordTarget>
  <author typeCode="AUT">
    <time/>
    <assignedAuthor classCode="ASSIGNED"/>
  </author>
  <author>
    <time/>
    <assignedAuthor/>
  </author>
  <author>
    <time/>
    <assignedAuthor/>
  </author>
  <custodian/>
  <componentOf typeCode="COMP">
    <encompassingEncounter/>
  </componentOf>
  <component>
    <structuredBody>
      <component>
        <section/>
      </component>
      <component>
        <section/>
      </component>
      <component>
        <section/>
      </component>
      <component>
        <section/>
      </component>
      <component>
        <section/>
      </component>
      <component>
        <section/>
      </component>
    </structuredBody>
  </component>
</ClinicalDocument>
```
Chapter 3

SECTION TEMPLATES

Topics:

• Derived CDA Section
• EMS Advance Directives Section
• EMS Allergies And Adverse Reactions Section
• EMS Billing Section
• EMS Cardiac Arrest Event Section
• EMS Current Medication Section
• EMS Injury Incident Description Section
• EMS Past Medical History
• EMS Social History
• EMS Vital Signs Section
Derived CDA Section

[Section: templateId null]

1. Derived CDA Section example

EMS Advance Directives Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.12]

1. SHALL conform to Derived CDA Section
2. SHALL contain zero or one [0..1] code/@code="67840-9" EMS Advance Directives (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. SHOULD contain zero or one [0..1] title = "EMS Advance Directives"

EMS Advance Directives Section example

EMS Allergies And Adverse Reactions Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.13]

1. SHALL conform to Derived CDA Section
2. SHALL contain exactly one [1..1] code/@code="67841?7" EMS Allergies and Adverse Reactions
   (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. SHOULD contain zero or one [0..1] title = "EMS Allergies and Adverse Reactions"
4. SHALL contain exactly one [1..1] entry
   a. This entry SHALL contain exactly one [1..1] component
      a. This component SHALL contain exactly one [1..1] code/@code="67794?8" Existence of drug allergy (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. This component Contains zero or more [0..*] value with data type BL
         If NEMSIS 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 NEMSIS flavors into HL7; original values may be stored in Observation.text.
   b. This entry MAY contain zero or more [0..*] component
      a. Such components Contains exactly one [1..1] code
      b. Such components SHALL contain exactly one [1..1] value with data type CD/@code="106190000" allergy (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)
      c. Such components Contains exactly one [1..1] eMSDrugAllergyParticipation
         a. This eMSDrugAllergyParticipation Contains exactly one [1..1] eMSDrugAllergyParticipantRole
            a. This eMSDrugAllergyParticipantRole Contains exactly one [1..1] playingEntity
               a. This playingEntity SHALL contain exactly one [1..1] code, where the @code SHALL be selected from (CodeSystem: 2.16.840.1.113883.6.88 RxNorm)
               NEMSIS Trace: EHistory.06
   5. Contains exactly one [1..1] entry
      a. This entry SHALL contain exactly one [1..1] component
a. This component SHALL contain exactly one [1..1] code/@code="69747" "EMS Existence of environmental allergy" (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component Contains zero or one [0..1] value with data type BL

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

b. This entry MAY contain zero or more [0..*] component
   a. Such components SHALL contain exactly one [1..1] code/@code="69748" "Known allergies to food or environmental agents" (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   b. 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

EMS Allergies And Adverse Reactions Section example

EMS Billing Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.5]

1. SHALL conform to Derived CDA Section
2. SHALL contain zero or one [0..1] code/@code="67659-3" (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. SHALL contain exactly one [1..1] entry
   a. This entry SHALL contain exactly one [1..1] code/@code="69464-6" "EMS level of service" (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   b. This entry SHALL contain zero or more [0..*] value with data type CD, where the @code SHALL be selected from ValueSet EMSLevelOfService 2.16.840.1.113883.17.3.5.70
4. Contains zero or one [0..1] entry
   a. This entry SHALL contain exactly one [1..1] code/@code="67556-1" (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   b. This entry SHALL contain zero or more [0..*] value with data type CD, where the @code SHALL be selected from ValueSet EMSBillingCondition 2.16.840.1.113883.17.3.5.71

EMS Billing Section example

EMS Cardiac Arrest Event Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.14]

1. SHALL conform to Derived CDA Section
2. SHALL contain zero or one [0..1] code/@code="67799-7" "EMS CARDIAC ARREST EVENT" (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. SHOULD contain exactly one [1..1] title = "EMS Cardiac Arrest Event"
4. SHALL contain zero or one [0..1] entry
   a. This entry Contains zero or one [0..1] @negationInd
      Populate as true if NEMSIS EArrest.01 = "No"
   b. This entry SHALL contain exactly one [1..1] code/@code="ASSERTION" ASSERTION (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode)
   c. This entry Contains zero or one [0..1] effectiveTime
      NEMSIS Trace: EArrest.14
   d. This entry SHALL contain exactly one [1..1] value with data type CD/@code="410429000" "cardiac arrest" (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)
**NEMSIS Trace: EArest.01**

e. This entry Contains zero or one [0..1] entryRelationship

   a. This entryRelationship Contains exactly one [1..1] @inversionInd="TRUE"
   b. This entryRelationship Contains exactly one [1..1] @typeCode="SUBJ"
   c. This entryRelationship Contains exactly one [1..1] observation

      a. This observation SHALL contain exactly one [1..1] code/@code="67503-3" *Cardiac arrest cause* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. 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

**NEMSIS Trace: EArest.02**

f. This entry Contains zero or one [0..1] entryRelationship

   a. This entryRelationship SHALL contain exactly one [1..1] @inversionInd="TRUE"
   b. This entryRelationship Contains exactly one [1..1] @typeCode="SUBJ"
   c. This entryRelationship Contains exactly one [1..1] observation

      a. This observation SHALL contain exactly one [1..1] code/@code="67502-5" (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. 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

**NEMSIS Trace: EArest.01**

g. This entry Contains zero or one [0..1] informant

   a. This informant Contains exactly one [1..1] @typeCode="INF"

h. This entry Contains zero or one [0..1] entryRelationship

   a. This entryRelationship Contains exactly one [1..1] @inversionInd="TRUE"
   b. This entryRelationship Contains exactly one [1..1] @typeCode="SUBJ"
   c. This entryRelationship Contains exactly one [1..1] observation

      a. 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)
      b. This observation Contains zero or more [0..*] value with data type BL

**NEMSIS Trace: EArest.05**

c. This observation Contains zero or one [0..1] participant

   a. This participant Contains exactly one [1..1] @typeCode="RESP"
   b. This participant Contains zero or one [0..1] participantRole

      a. This participantRole SHALL contain zero or one [0..1] code, where the @code SHALL be selected from ValueSet *PriorCareProviderRole* 2.16.840.1.113883.17.3.5.12 STATIC

i. This entry Contains zero or one [0..1] entryRelationship

   a. This entryRelationship Contains zero or one [0..1] @inversionInd="TRUE"
   b. This entryRelationship Contains exactly one [1..1] @typeCode="SUBJ"
   c. This entryRelationship Contains exactly one [1..1] observation

      a. 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)
b. This observation **SHALL** contain zero or more [0..*] `value` with data type CD, where the `@code` **SHALL** be selected from ValueSet `AEDUsePriorToEMSArrival` 2.16.840.1.113883.17.3.5.13 \textit{STATIC}

\textit{NEMSIS Trace: EArest.07}

c. This observation Contains zero or one [0..1] `participant`

\begin{itemize}
  \item a. This participant Contains exactly one [1..1] `@typeCode`="\textit{RESP}"
  \item b. This participant Contains exactly one [1..1] `participantRole`

\end{itemize}

\begin{itemize}
  \item a. This participantRole **SHALL** contain zero or one [0..1] `code`, where the `@code` **SHALL** be selected from ValueSet `PriorCareProviderRole` 2.16.840.1.113883.17.3.5.12 \textit{STATIC}

\textit{NEMSIS Trace: EArest.08}

j. This entry Contains zero or one [0..1] `entryRelationship`

\begin{itemize}
  \item a. This entryRelationship Contains zero or one [0..1] `@inversionInd`="TRUE"
  \item b. This entryRelationship Contains exactly one [1..1] `@typeCode`="\textit{SUBJ}"
  \item c. This entryRelationship Contains exactly one [1..1] `observation`

\end{itemize}

\begin{itemize}
  \item a. This observation **SHALL** contain exactly one [1..1] `code/@code`="67513-2" \textit{Return of spontaneous circulation} (CodeSystem: 2.16.840.1.113883.6.1 \textit{LOINC})
  \item b. 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 \textit{STATIC}

\textit{NEMSIS Trace: EArest.12}

k. This entry Contains zero or more [0..*] `entryRelationship`

\begin{itemize}
  \item a. Such entryRelationships Contains exactly one [1..1] `@inversionInd`="TRUE"
  \item b. Such entryRelationships Contains exactly one [1..1] `@typeCode`="\textit{SUBJ}"
  \item c. Such entryRelationships Contains exactly one [1..1] `observation`

\end{itemize}

\begin{itemize}
  \item a. This observation **SHALL** contain exactly one [1..1] `code/@code`="67519-9" \textit{Cardiac rhythm} (CodeSystem: 2.16.840.1.113883.6.1 \textit{LOINC})
  \item b. 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 \textit{STATIC}

\textit{NEMSIS Trace: EArest.17}

\textbf{EMS Cardiac Arrest Event Section example}

\begin{verbatim}
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">

\textbf{EMS Current Medication Section}

[Section: templateId 2.16.840.1.113883.17.3.10.1.15]

\textit{NEMSIS Trace: EHistory.12}

1. **SHALL** conform to Derived CDA Section

2. **SHALL** contain zero or one [0..1] `code/@code`="67844-1" \textit{EMS Current Medications} (CodeSystem: 2.16.840.1.113883.6.1 \textit{LOINC})

3. Contains zero or one [0..1] `title`

\textbf{EMS Current Medication Section example}

\texttt{<?xml version="1.0" encoding="UTF-8"?>
<section xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">}

\end{verbatim}
EMS Injury Incident Description Section

[Section: templateId 2.16.840.1.113883.17.3.10.1.17]

1. SHALL conform to Derived CDA Section

2. SHALL contain exactly one [1..1] code/@code="11374-6" Injury incident description (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

3. Contains exactly one [1..1] entry
   - a. This entry SHALL contain exactly one [1..1] code/@code="69543-7" Injury Cause (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   - b. This entry SHALL contain exactly one [1..1] value with data type CD, where the @code SHALL be selected from

      Add binding to ICD-10 chapter XX

4. Contains zero or one [0..1] entry
   - a. This entry SHALL contain exactly one [1..1] code/@code="67494-5" Injury Mechanism (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   - b. This entry 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

5. Contains zero or one [0..1] entry
   - a. This entry SHALL contain exactly one [1..1] code/@code="67495-2" Trauma Center Criteria (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   - b. This entry 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

6. Contains zero or one [0..1] entry
   - a. This entry SHALL contain exactly one [1..1] code/@code="67496-0" Other injury risk factors (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   - b. This entry 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

7. Contains zero or one [0..1] entry
   - a. This entry 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)
   - b. This entry 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

8. Contains zero or one [0..1] entry
   - a. This entry SHALL contain exactly one [1..1] code/@code="67498-6" Location of patient in vehicle (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   - b. This entry 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

9. Contains zero or one [0..1] entry
   - a. This entry SHALL contain exactly one [1..1] code/@code="67499-4" Safety equipment (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   - b. This entry 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

10. Contains zero or one [0..1] entry
a. This entry SHALL contain exactly one [1..1] code/@code="67500-9" Airbag deployment (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
b. This entry 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

11. Contains zero or one [0..1] entry
   a. This entry SHALL contain exactly one [1..1] code/@code="67501-7" Height of fall (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   b. This entry SHALL contain exactly one [1..1] value with data type PQ, where the @code SHALL be selected from ValueSet STATIC

12. Contains zero or one [0..1] text
13. Contains zero or one [0..1] title

EMS Injury Incident Description Section example

EMS Past Medical History

[Section: templateId 2.16.840.1.113883.17.3.10.1.19]

1. SHALL conform to Derived CDA Section
2. SHALL contain exactly one [1..1] code/@code="67842?5" EMS past medical history (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. SHOULD contain zero or one [0..1] title = "EMS Past Medical History"
4. MAY contain zero or one [0..1] entry
   a. This entry SHALL contain exactly one [1..1] component
      a. This component 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)
      b. This component Contains zero or more [0..*] value with data type BL
         If NEMSIS EHistory.08 is "Refused" or "Unable to Complete," the value should be "NI"; the original value may be recorded in Observation.text. If NEMSIS EHistory.08 is "None Reported," the value should be FALSE. If NEMSIS EHistory.08 has proper values, the value should be TRUE.
   b. This entry MAY contain zero or more [0..*] component
      a. Such components SHALL contain exactly one [1..1] code/@code="68487?8" EMS History of Condition (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. Such components SHALL contain exactly one [1..1] value with data type CD, where the @code SHALL be selected from
         If NEMSIS EHistory.08 is "No bleeding disorder," the value should be the appropriate ICD?10 code (D66, D67, D68) and negationIndicator should be TRUE.

EMS Past Medical History example

EMS Social History

[Section: templateId 2.16.840.1.113883.17.3.10.1.22]

1. SHALL conform to Derived CDA Section
2. SHALL contain exactly one [1..1] code/@code="67843?3" EMS Social History (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. SHOULD contain zero or one [0..1] title = "EMS Social History"
4. SHALL contain exactly one [1..1] entry
   a. This entry SHALL contain exactly one [1..1] code/@code="69757?3"  *Indications of drug or alcohol use by the patient* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   b. This entry Contains zero or more [0..*] value with data type CD

5. MAY contain zero or more [0..*] entry
   a. Such entries SHALL contain exactly one [1..1] code/@code="67669?2"  *Alcohol - drug use* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   b. Such entries SHALL contain zero or more [0..*] value with data type CD, where the @code SHALL be selected from ValueSet AlcoholDrugUseIndicator 2.16.840.1.113883.17.3.5.18 STATIC

EMS Social History example

**EMS Vital Signs Section**

[Section: templateId null]

1. SHALL conform to *Derived CDA Section*
2. SHALL contain exactly one [1..1] code/@code="67801?1"  *EMS Vital Signs* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
3. SHOULD contain exactly one [1..1] title = "EMS Vital Signs"
4. SHALL contain at least one [1..*] entry
   a. Such entries SHALL contain exactly one [1..1] effectiveTime
      
      *NEMSIS Trace: EVitals.01*

   b. Such entries SHALL contain exactly one [1..1] component
      a. This component 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)
      b. This component Contains zero or more [0..*] value with data type BL
      c. Such entries SHALL contain exactly one [1..1] component
         a. This component SHALL contain exactly one [1..1] code/@code="67519?9"  *Cardiac rhythm* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
         b. This component SHALL contain exactly one [1..1] methodCode, where the @code SHALL be selected from ValueSet MethodOfECGInterpretation 2.16.840.1.113883.17.3.5.20 STATIC
            *NEMSIS Trace: EVitals.05*
         c. This component SHALL contain exactly one [1..1] value with data type CD, where the @code SHALL be selected from ValueSet ECGType 2.16.840.1.113883.17.3.5.19 STATIC
            *NEMSIS Trace: EVitals.03*
         d. Such entries SHALL contain exactly one [1..1] component
            a. This component SHALL contain exactly one [1..1] code/@code="8480?6"  *Intravascular systolic* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
            b. This component SHALL contain exactly one [1..1] value with data type PQ
               *UCUM units SHOULD be "mm[Hg]".*
      e. Such entries MAY contain zero or one [0..1] component
         a. This component SHALL contain exactly one [1..1] code/@code="8462-4"  *Intravascular diastolic* (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
         b. This component SHALL contain exactly one [1..1] value with data type PQ
            *UCUM units SHOULD be "mm[Hg]".*
      f. Such entries SHOULD contain exactly one [1..1] component
This component SHALL contain exactly one [1..1] code/@code="8867?4" Heart rate (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain zero or more [0..*] value with data type PQ

UCUM units SHOULD be "/min".

g. Such entries SHALL contain exactly one [1..1] component

a. This component SHALL contain exactly one [1..1] code/@code="9279?1" Breaths (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain exactly one [1..1] value with data type PQ

UCUM units SHOULD be "/min".

h. Such entries MAY contain zero or one [0..1] component

a. This component SHALL contain exactly one [1..1] code/@code="8310?5" Body temperature (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain exactly one [1..1] value with data type PQ

UCUM units SHOULD be "Cel".

i. Such entries SHALL contain exactly one [1..1] component

a. This component SHALL contain exactly one [1..1] code/@code="2710?2" Oxygen saturation (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain exactly one [1..1] value

UCUM units will typically be "%".

j. Such entries SHALL contain exactly one [1..1] component

a. This component SHALL contain exactly one [1..1] code/@code="19889?5" Carbon dioxide/Gas.total.at end expiration (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain exactly one [1..1] value

UCUM units will typically be "[ppm]".

k. Such entries MAY contain zero or one [0..1] component

a. This component SHALL contain exactly one [1..1] code/@code="19911?7" Diffusion capacity.carbon monoxide (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain zero or more [0..*] value with data type PQ

UCUM units will typically be "[ppm]".

l. Such entries SHALL contain exactly one [1..1] component

a. This component SHALL contain exactly one [1..1] code/@code="2339?0" Glucose (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain zero or more [0..*] value with data type PQ

UCUM units will typically be "mg/dl".

m. Such entries SHALL contain exactly one [1..1] component

a. This component SHALL contain exactly one [1..1] code/@code="67775?7" Level of responsiveness (CodeSystem: 2.16.840.1.113883.6.1 LOINC)

b. This component SHALL contain exactly one [1..1] value with data type CD, where the @code SHALL be selected from ValueSet LevelOfResponsiveness 2.16.840.1.113883.17.3.5.21 STATIC

n. Such entries SHALL contain exactly one [1..1] component

a. 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)

b. This component Contains zero or more [0..*] value with data type INT

An ordinal value between 0 and 10, inclusive. There are three scales, but the values are equivalent.
o. Such entries SHALL contain exactly one [1..1] component
   a. This component SHALL contain exactly one [1..1] code/@code="67520?7" Stroke scale overall interpretation (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
   b. This component SHALL contain exactly one [1..1] value with data type CD, where the @code SHALL be selected from ValueSet STATIC
      NEMSIS Trace: EVitals.29
   c. This component SHALL contain exactly one [1..1] methodCode, where the @code SHALL be selected from ValueSet StrokeScale 2.16.840.1.113883.17.3.5.88 STATIC
      NEMSIS Trace: EVitals.30

p. Such entries SHALL contain exactly one [1..1] component
   a. This component SHALL contain exactly one [1..1] component
      a. This component SHALL contain exactly one [1..1] code/@code="9267?6" Glasgow coma score.eye opening (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. This component SHALL contain exactly one [1..1] value with data type INT
   b. This component SHALL contain exactly one [1..1] component
      a. This component SHALL contain exactly one [1..1] code/@code="9268?4" Glasgow coma score.motor (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. This component SHALL contain zero or more [0..*] value
   c. This component MAY contain zero or one [0..1] component
      a. This component SHALL contain exactly one [1..1] code/@code="55285?1" Glasgow coma score special circumstances (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. This component MAY contain zero or more [0..*] value with data type CD
   d. This component SHOULD contain zero or one [0..1] component
      a. This component SHALL contain exactly one [1..1] code/@code="9269?2" Glasgow coma score.total (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. This component SHALL contain exactly one [1..1] value with data type INT
         Integer value equal to the sum of verbal, motor, and eye
   e. This component SHALL contain exactly one [1..1] component
      a. This component SHALL contain exactly one [1..1] code/@code="9270?0" Glasgow coma score.verbal (CodeSystem: 2.16.840.1.113883.6.1 LOINC)
      b. This component SHALL contain exactly one [1..1] value

EMS Vital Signs Section example
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.
Chapter 5

OTHER CLASSES

This section of the Implementation Guide describes other classes that are not CDA Clinical Documents, Sections, or Clinical Statements.
Chapter 6

VALUE SETS

Topics:

- AED Use Prior To EMS Arrival
- Abdomen Assessment Finding
- Abdominal Finding Location
- 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
- Cardinality
- Cardiopulmonary Resuscitation Type
- Chest Lung Assessment Finding
- Complaint
- Current Medication Administration Route
- Destination Choice Reason
- Destination Prearrival Activation
- Destination Type
- Disaster Type
- Dispatch Delay Type
- ECG Type
- EMD Performed
- EMS Billing Condition
- EMS Condition Code
- EMS Level Of Service
- Environmental Allergy Type

The following tables summarize the value sets used in this Implementation Guide.
- Existence Of Contraindications To Thrombolytic Use
- Extremities Assessment Finding
- Extremity Finding Location
- Eye Assessment Finding
- Eye Finding Location
- Face Assessment Finding
- First Monitored Rhythm
- Glasgow Coma Score Qualifier
- Head Assessment Finding
- Heart Assessment Finding
- IV Site
- Incident Outcome
- Injury Risk Factor
- Length Based Tape Measure
- Level Of Responsiveness
- Mechanism Of Injury
- Medication Administered Route
- Medication Authorization Type
- Medication Complication
- 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
- Registry Type
- Response Delay Type
- Resuscitation Attempted
- Resuscitation Discontinue Reason
- Return Of Spontaneous Circulation
- Safety Equipment Type
- Scene Delay Type
- Service Level
- Service Type
- Skin Assessment
- Stroke Scale
- Transport Delay Type
- Transport Method
- Transport Mode
- 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 |

### Abdomen Assessment Finding

| Value Set | AbdomenAssessmentFinding - 2.16.840.1.113883.17.3.5.31 |

### Abdominal Finding Location

| Value Set | AbdominalFindingLocation - 2.16.840.1.113883.17.3.5.32 |

### Advance Directive Type

| Value Set | AdvanceDirectiveType - 2.16.840.1.113883.17.3.5.63 |

### Airbag Status

| Value Set | AirbagStatus - 2.16.840.1.113883.17.3.5.8 |

### Airway Device Confirmation Method

| Value Set | AirwayDeviceConfirmationMethod - 2.16.840.1.113883.17.3.5.60 |

### Airway Device Type

| Value Set | AirwayDeviceType - 2.16.840.1.113883.17.3.5.61 |

### Alcohol Drug Use Indicator

| Value Set | AlcoholDrugUseIndicator - 2.16.840.1.113883.17.3.5.18 |

### Anatomic Location

| Value Set | AnatomicLocation - 2.16.840.1.113883.17.3.5.76 |

### Back Spine Assessment Finding

<p>| Value Set | BackSpineAssessmentFinding - 2.16.840.1.113883.17.3.5.34 |</p>
<table>
<thead>
<tr>
<th>Back Spine Finding Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Barrier To Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardiac Arrest Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardiac Arrest Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardiac Arrest Witness Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardiac Rhythm Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardinality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cardiopulmonary Resuscitation Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chest Lung Assessment Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complaint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value Set</td>
</tr>
</tbody>
</table>
### Current Medication Administration Route

| Value Set                  | CurrentMedicationAdministrationRoute - 2.16.840.1.113883.17.3.5.17 |

### Destination Choice Reason

| Value Set                  | DestinationChoiceReason - 2.16.840.1.113883.17.3.5.68 |

### Destination Prearrival Activation

| Value Set                  | DestinationPrearrivalActivation - 2.16.840.1.113883.17.3.5.87 |

### Destination Type

| Value Set                  | DestinationType - 2.16.840.1.113883.17.3.5.69 |

### Disaster Type

| Value Set                  | DisasterType - 2.16.840.1.113883.17.3.5.9 |

### Dispatch Delay Type

| Value Set                  | DispatchDelayType - 2.16.840.1.113883.17.3.5.50 |

### ECG Type

| Value Set                  | ECGType - 2.16.840.1.113883.17.3.5.19 |

### EMD Performed

| Value Set                  | EMDPerformed - 2.16.840.1.113883.17.3.5.48 |

### EMS Billing Condition

| Value Set                  | EMSBillingCondition - 2.16.840.1.113883.17.3.5.71 |
| Code System                | LOINC - 2.16.840.1.113883.6.1 |
### EMS Condition Code

| Value Set                  | EMSConditionCode - 2.16.840.1.113883.17.3.5.71 |

### 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                      |

### Environmental Allergy Type

| Value Set                  | EnvironmentalAllergyType - 2.16.840.1.113883.17.3.5.83 |

### Existence Of Contraindications To Thrombolytic Use

| Value Set                  | ExistenceOfContraindicationsToThrombolyticUse - 2.16.840.1.113883.17.3.5.41 |

### Extremities Assessment Finding

| Value Set                  | ExtremitiesAssessmentFinding - 2.16.840.1.113883.17.3.5.36 |

### Extremity Finding Location

| Value Set                  | ExtremityFindingLocation - 2.16.840.1.113883.17.3.5.37 |

### Eye Assessment Finding

| Value Set                  | EyeAssessmentFinding - 2.16.840.1.113883.17.3.5.38 |

### Eye Finding Location

| Value Set                  | EyeFindingLocation - 2.16.840.1.113883.17.3.5.39 |

### Face Assessment Finding

| Value Set                  | FaceAssessmentFinding - 2.16.840.1.113883.17.3.5.27 |
## First Monitored Rhythm

| Value Set          | FirstMonitoredRhythm - 2.16.840.1.113883.17.3.5.14 |

## Glasgow Coma Score Qualifier

| Value Set          | GlasgowComaScoreQualifier - 2.16.840.1.113883.17.3.5.89 |

## Head Assessment Finding

| Value Set          | HeadAssessmentFinding - 2.16.840.1.113883.17.3.5.26 |

## Heart Assessment Finding

| Value Set          | HeartAssessmentFinding - 2.16.840.1.113883.17.3.5.30 |

## IV Site

| Value Set          | IVSite - 2.16.840.1.113883.17.3.5.56 |

## Incident Outcome

| Value Set          | IncidentOutcome - 2.16.840.1.113883.17.3.5.64 |

## Injury Risk Factor

| Value Set          | InjuryRiskFactor - 2.16.840.1.113883.17.3.5.4 |

## Length Based Tape Measure

| Value Set          | LengthBasedTapeMeasure - 2.16.840.1.113883.17.3.5.24 |

## Level Of Responsiveness

| Value Set          | LevelOfResponsiveness - 2.16.840.1.113883.17.3.5.21 |

## Mechanism Of Injury

| Value Set          | MechanismOfInjury - 2.16.840.1.113883.17.3.5.1 |
### Medication Administered Route

| Value Set | MedicationAdministeredRoute - 2.16.840.1.113883.17.3.5.43 |

### Medication Authorization Type

| Value Set | MedicationAuthorizationType - 2.16.840.1.113883.17.3.5.47 |

### Medication Complication

| Value Set | MedicationComplication - 2.16.840.1.113883.17.3.5.45 |

### Mental Status Finding

| Value Set | MentalStatusFinding - 2.16.840.1.113883.17.3.5.84 |

### Method Of ECG Interpretation

| Value Set | MethodOfECGInterpretation - 2.16.840.1.113883.17.3.5.20 |

### Neck Assessment Finding

| Value Set | NeckAssessmentFinding - 2.16.840.1.113883.17.3.5.28 |

### Neurological Assessment Finding

| Value Set | NeurologicalAssessmentFinding - 2.16.840.1.113883.17.3.5.40 |

### Organ System

| Value Set | OrganSystem - 2.16.840.1.113883.17.3.5.77 |

### Patient Condition Change

| Value Set | PatientConditionChange - 2.16.840.1.113883.17.3.5.59 |

### Patient Status

<p>| Value Set | PatientStatus - 2.16.840.1.113883.17.3.5.78 |</p>
<table>
<thead>
<tr>
<th>Pelvis Genitourinary Assessment</th>
<th>Value Set PelvisGenitourinaryAssessment - 2.16.840.1.113883.17.3.5.33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>Value Set Pregnancy - 2.16.840.1.113883.17.3.5.42</td>
</tr>
<tr>
<td>Prior Care Provider Role</td>
<td>Value Set PriorCareProviderRole - 2.16.840.1.113883.17.3.5.12</td>
</tr>
<tr>
<td>Procedure Complication Type</td>
<td>Value Set ProcedureComplicationType - 2.16.840.1.113883.17.3.5.58</td>
</tr>
<tr>
<td>Protocol</td>
<td>Value Set Protocol - 2.16.840.1.113883.17.3.5.73</td>
</tr>
<tr>
<td>Protocol Age Category</td>
<td>Value Set ProtocolAgeCategory - 2.16.840.1.113883.17.3.5.86</td>
</tr>
<tr>
<td>Provider Adverse Event Type</td>
<td>Value Set ProviderAdverseEventType - 2.16.840.1.113883.17.3.5.72</td>
</tr>
<tr>
<td>Provider Response Role</td>
<td>Value Set ProviderResponseRole - 2.16.840.1.113883.17.3.5.80</td>
</tr>
<tr>
<td>Provider Role</td>
<td>Value Set ProviderRole - 2.16.840.1.113883.17.3.5.46</td>
</tr>
<tr>
<td>Provider Role Level</td>
<td>Value Set ProviderRoleLevel - 2.16.840.1.113883.17.3.5.81</td>
</tr>
<tr>
<td>Registry Type</td>
<td>Value Set</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Response Delay Type</td>
<td>Value Set</td>
</tr>
<tr>
<td>Resuscitation Attempted</td>
<td>Value Set</td>
</tr>
<tr>
<td>Resusctitation Discontinue Reason</td>
<td>Value Set</td>
</tr>
<tr>
<td>Return Of Spontaneous Circulation</td>
<td>Value Set</td>
</tr>
<tr>
<td>Safety Equipment Type</td>
<td>Value Set</td>
</tr>
<tr>
<td>Scene Delay Type</td>
<td>Value Set</td>
</tr>
<tr>
<td>Service Level</td>
<td>Value Set</td>
</tr>
<tr>
<td>Service Type</td>
<td>Value Set</td>
</tr>
<tr>
<td>Skin Assessment</td>
<td>Value Set</td>
</tr>
</tbody>
</table>
### Stroke Scale

| Value Set          | StrokeScale - 2.16.840.1.113883.17.3.5.88 |

### Transport Delay Type

| Value Set          | TransportDelayType - 2.16.840.1.113883.17.3.5.53 |

### Transport Method

| Value Set          | TransportMethod - 2.16.840.1.113883.17.3.5.65 |

### Transport Mode

| Value Set          | TransportMode - 2.16.840.1.113883.17.3.5.66 |

### Transportation Mode

| Value Set          | TransportationMode - 2.16.840.1.113883.17.3.5.66 |

### Trauma Center Criteria

| Value Set          | TraumaCenterCriteria - 2.16.840.1.113883.17.3.5.3 |

### Turn Around Delay Type

| Value Set          | TurnAroundDelayType - 2.16.840.1.113883.17.3.5.54 |

### Unit Response Role

| Value Set          | UnitResponseRole - 2.16.840.1.113883.17.3.5.82 |

### Vehicle Impact Area

| Value Set          | VehicleImpactArea - 2.16.840.1.113883.17.3.5.5 |

### Vehicle Passenger Location

| Value Set          | VehiclePassengerLocation - 2.16.840.1.113883.17.3.5.6 |
REFERENCES

- LOINC®: Logical Observation Identifiers Names and Codes, Regenstrief Institute.
- SNOMED CT®: SNOMED Clinical Terms SNOMED International Organization.
- Extensible Markup Language, www.w3.org/XML.
- Using SNOMED CT in HL7 Version 3; Implementation Guide, Release 1.5. Available through HL7 or if an HL7 member with the following link: Using SNOMED CT in HL7 Version 3.