CDAR2\_IG\_EMSRUNRPT\_R1\_D1\_2011MAY

HL7 Implementation Guide for CDA R2:

Emergency Medical Services Patient Care Report (PCR)

(US Realm)

Ballot for Draft Standard for Trial Use

May, 2011

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## Acknowledgements

This document is the result of the efforts of many people. Clay Mann and Greg Mears of NEMSIS provided guidance and support. Anita Walden of Duke University and the Clinical Interoperability Council provided procedural assistance and support. Sarah Ryan provided vocabulary analysis, with assistance from Russ Hamm and Jerry Sable. Jay Lyle provided project management, modeling, and editorial services. Abdul-Malik Shakir provided both modeling and procedural guidance, and Salimah Shakir provided modeling assistance. Rob Hausam and Keith Boone provided advice on implementing structured documents. Several members of the Clinical Interoperability Council, Emergency Care, and Public Health and Emergency Response provided feedback on the model in its various iterations.

## About this document

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.

CDA, or Clinical Document Architecture, 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.

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, the Health Resources and Services Administration, the University of Utah, and the University of North Carolina.

## Audience

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

## Approach

Our approach was first to convert the NEMSIS specification into an analysis-level class diagram in the Emergency Medical Services Domain Analysis Model (EMS DAM), initially balloted through HL7 in May of 2010 and undergoing final revisions for the release in May 2011. The analysis model was then constrained to the HL7 Reference Information Model (RIM) in a Domain Information Model (DIM), balloted in January, 2011, and scheduled for minor revisions in September, 2011. Neither model has been published to date; current state versions are available in the HL7 ballot or by request.

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

This initial iteration will support 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 will support “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 next iteration (in September, 2011) will model 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.

Because this iteration will map structured, computable, and automatically generated information into the specification at “level three,” and because this information may be used to generate the text to be presented at “level two,” we do not expect many implementers to populate the level two conformance profile with this release.

Harmonization with Emergency Department specifications and *Data Elements for Emergency Department Systems* (DEEDS) involved use of extant LOINC codes for shared elements.

## Change process

We expect this standard to change as we model the sections in a subsequent release

Issues should be reported on the HL7 Draft Standard for Trial Use (DSTU) comment page at <http://www.hl7.org/dstucomments/>.

## How to use this document

Software developers should use the CDA xml schema to guide their production of EMS patient care reports. Mappings of NEMSIS elements to the CDA schema are included in this document. Coded elements should use the vocabularies included both by reference in the constraints and explicitly in appendix A.

In subsequent iterations, this project plans to supply more detailed constraints to support the inclusion of more NEMSIS elements, and also to supply java classes to support the creation of classes to generate the document.

### Coded Values

Coded values are constrained to value sets. Value sets may be enumerated or defined by reference. This specification uses both kinds. Value sets that already exist in the HL7 vocabulary repository are referenced; sets defined by NEMSIS and not yet available through HL7 are listed in the appendix. These value sets are currently in preparation for HL7 harmonization, and will be available from HL7 in the future. They will also be available on the NEMSIS web site (nemsis.org) and via web service from the CDC (phinvads.cdc.gov).

Value sets that do not yet have OIDs are identified as “EMSTEMPVS\_xxx,” where “xxx” is a serial number. This designation is designed to allow analysis and traceability in the interim.

Vocabularies are identified by object identifiers (OIDs), and can be identified in their respective sources by those OIDs.

### Information Scope

The NEMSIS data set supports many uses, including the transfer of patient care reports from EMS crews to emergency departments, the prepopulation of hospital electronic health records, identification of trauma registry candidates, and preparation of data for submission to NEMSIS for research. This initial release does not speak to which NEMSIS elements should be included beyond the header information listed explicitly in the constraints section. It is expected that implementers will generate the same patient care reports that they generate today and attach them in “level one” documents. The document header can then be used for identification and retrieval. Subsequent iterations of this specification will articulate options for specific use cases.

Because the NEMSIS data set is so broad, it extends beyond the *Emergency Transfer of Care* specified by *Integrating the Healthcare Enterprise* (IHE). While this guide does leverage the sections defined by that guide, it does not conform to that guide at the top level due to this incongruity, and (at this point) due to the IHE requirement that conformance be at level 3. The IHE guide is available at <http://www.ihe.net/Technical_Framework/upload/IHE_PCC_EMS_Transfer_Of_Care_ETC_PC_-2009-08-10.pdf>.

The sections are designed to accommodate a subset of NEMSIS data elements specified in Appendix B.

### Implementation

This guide defines the information payload only. Implementers are encouraged to coordinate with one another by using the IHE framework to address expected capabilities of participating systems, including security and audit considerations.

### Conventions

This document follows the conventions of the *Healthcare Associate Infection* (HAI) implementation guide. Relevant conventions are reiterated here.

The terms SHALL, SHALL NOT, SHOULD, SHOULD NOT, and MAY in this document are to be interpreted as described in the HL7 Version 3 Publishing Facilitator's Guide. The keyword "SHALL" implies a lower cardinality of 1 but does not disallow NULL values. If NULL values are to be excluded, it will be via an additional explicit conformance statement.

Constraints are numbered. Those with bracketed references are inherited from templates that this guide adopts. Those without bracketed references are specific to this guide.

Constraints list both the line number of the relevant row in the CDA Hierarchical Definition and the reference to the NEMSIS V3 dataset.

## EMS Patient Care Report Constraints

Items in this specification that are mandated by the CDA specification are indicated by the [CDA] annotation.

### Levels of Conformance

To indicate conformance to Level 1 (which also asserts compliance withall general or non-level-specific constraints), ClinicalDocument/templateId elements MAY be present with the value shown below. [GHC CONF-HP-3]

<templateId root='2.16.840.1.113883.10.20.10'/> <!-- conforms to Level 1 guidance -->

To indicate conformance to Level 2 features (which also asserts compliance with Level 1 requirements and asserts the presence of section codes), ClinicalDocument/templateId elements MAY be present with the value shown below. [GHC CONF-HP-4]

<templateId root='2.16.840.1.113883.10.20.20'/> <!-- conforms to Level 2 guidance -->

To indicate conformance to Level 3 features (which also asserts compliance with Level 2 requirements and the use of CDA entries in some sections), ClinicalDocument/templateId elements MAY be present with the value shown below. [GHC CONF-HP-5] Note: this level of conformance is not possible at this point, as no level 3 content is defined.

<templateId root='2.16.840.1.113883.10.20.30'/> <!-- conforms to Level 3 guidance -->

### Header

We adopt the General Header Constraints in order to maximize interoperability. Items in this specification that are mandated by this template are indicated by the [GHC] annotation.

* CONF-1: The header SHALL conform to the General Header Constraints template 2.16.840.1.113883.10.20.3

Within the header, there are relationships to the following:

* Patient (record target): NEMSIS Patient section
* Author: includes both the software system (ERecord.02-04) and the EMS professional who generated the report (EOther.08)
* Custodian: the organization that takes responsibility for maintaining the document; in this case, the EMS agency
* Service Event: the EMS dispatch for the patient
* Encompassing Encounter: usually a longer-term entity than the Service Event (designed to model a hospital stay during which there may be many Service Events). In our case, logically coextensive with the Service Event, but used to represent the EMS unit (as a healthcare facility).

#### 6.1.1 Clinical Document

In a CDA document, the top-level element, also called the document element, is ClinicalDocument, in the urn:hl7-org:v3 namespace.

The examples in this specification assume that this is the default namespace, and accordingly show all elements without a namespace prefix. This IG does not require use of any specific namespace prefix.

Header constraints are expressed in relation to the document element.

No header elements have traceabilty to pre-existing NEMSIS elements

The templateId refers to this EMS Patient Care Report specification:

* CONF-2: A ClinicalDocument/templateId element SHALL be present representing conformance to the generic constraints of this guide (templateId 2.16.840.1.113883.17.3.10.1).
  + CDA HD: not found
  + NEMSIS: no corresponding element

The typeId refers to the base CDA schema:

* CONF-3: A ClinicalDocument/typeId element SHALL be present having @root = "2.16.840.1.113883.1.3" and @extension = "POCD\_HD000040" [CDA]
  + CDA HD: line 1
  + NEMSIS: no corresponding element

The classCode and moodCode are static for all CDA documents.

* CONF-4: A ClinicalDocument/classCode element SHALL be present where the value is “DOCCLIN” [CDA]
  + CDA HD: line 2
  + NEMSIS: no corresponding element

* CONF-5: A ClinicalDocument/moodCode element SHALL be present where the value is “EVN” [CDA]
  + CDA HD: line 3
  + NEMSIS: no corresponding element

The id element uniquely identifies the document. Because a revised document must have a unique id, but the same “setId” as the original, we recommend the following practice: the setId is a unique identifier for a new document, and version id is always set to “1”. The id element is then the setId concatenated with the version id, separated with a period (“.”). Example: report 12345 would have setId “12345”, versioned “1”, and id “12345.1”.

* CONF-6: A ClinicalDocument/setId element SHALL be present
  + CDA HD: line 10
  + NEMSIS: ERecord.01
* CONF-7: A ClinicalDocument/versionId element SHALL be present, and SHALL have value “1” unless there is a ClinicalDocument/relatedDocument/ParentDocument of typeCode “RPLC”
  + CDA HD: line 11
  + NEMSIS: no corresponding element
* CONF-8: A ClinicalDocument/id element SHALL be present and SHALL have value equivalent to ClinicalDocument/setId & “.” & ClinicalDocument/versionId
  + CDA HD: line 4
  + NEMSIS: no corresponding element

The code element identifies the document type as an EMS Patient Care Report. This code is currently under submission to LOINC.

* CONF-9: A ClinicalDocument/code element SHALL be present where the value of @code is “EMSPCR” EMS Patient Care Report 2.16.840.1.113883.6.1 LOINC STATIC.
  + CDA HD: line 5
  + NEMSIS: no corresponding element

The title element identifies the document as a Patient Care report. The preferred title is “EMS Patient Care Report.”

* CONF-10: A ClinicalDocument/title element SHALL be present. [CDA]
  + CDA HD: line 6
  + NEMSIS: no corresponding element

The effective time is for the document, not the encounter.

* CONF-11: A ClinicalDocument/effectiveTime element SHALL be present representing the time of document creation. [CDA]
  + CDA HD: line 7
  + NEMSIS: no corresponding element

Confidentiality defaults to “N,” normal.

* CONF-12: A ClinicalDocument/confidentialityCode element SHALL be present where the value of @codeSystem is 2.16.840.1.113883.5.25 (HL7 confidentiality). [CDA]
  + CDA HD: line 8
  + NEMSIS: no corresponding element

Language code represents the language in which the report is written.

* CONF-13: A ClinicalDocument/languageCode element SHALL be present where the value of @system is 2.16.840.1.113883.1.11.11526 (HL7 HumanLanguage).
  + CDA HD: line 9
  + NEMSIS: no corresponding element
* CONF-14: A ClinicalDocument/languageCode element SHOULD have @code value of “en-US”.
  + CDA HD: line 9
  + NEMSIS: no corresponding element

#### 6.1.2 Patient

The patient is represented in CDA as the subject of the Record Target class.

* CONF-15: A ClinicalDocument/recordTarget element SHALL be present. [CDA]
  + CDA HD: line 13
  + NEMSIS: no corresponding element
* CONF-16: A ClinicalDocument/recordTarget/typeCode element SHALL be present having value “RCT”. [CDA]
  + CDA HD: line 14
  + NEMSIS: no corresponding element
* CONF-17: A ClinicalDocument/recordTarget/contextControlCode element SHALL be present having value “OP”. [CDA]
  + CDA HD: line 15
  + NEMSIS: no corresponding element
* CONF-18: A ClinicalDocument/recordTarget/patientRol/classCode element SHALL be present having value “PAT”. [CDA]
  + CDA HD: line 17
  + NEMSIS: no corresponding element

The NEMSIS patient id is the social security number. This is expedient for emergency dispatch, but this specification does not require that type of ID. For patient transfers, the patient ID, scoped by an id @root element of the facility, would be appropriate.

* CONF-19: A ClinicalDocument/recordTarget/PatientRole/id element SHALL be present. [CDA]
  + CDA HD: line 13
  + NEMSIS: EPatient.12
* CONF-20: A ClinicalDocument/recordTarget/PatientRole/addr element SHALL be present, but MAY be null. [GHC]
  + CDA HD: line 19
  + NEMSIS:
    - EPatient.05 . . . /PatientRole/addr/streetAddressLine
    - EPatient.06 . . . /PatientRole/addr/city
    - EPatient.07 . . . /PatientRole/addr/county
    - EPatient.08 . . . /PatientRole/addr/state
    - EPatient.09 . . . /PatientRole/addr/postalCode
    - EPatient.10 . . . /PatientRole/addr/country
* CONF-21: A ClinicalDocument/recordTarget/PatientRole/telecom element SHALL be present. [GHC]
  + CDA HD: line 20
  + NEMSIS: EPatient.18
* CONF-22: A ClinicalDocument/recordTarget/PatientRole/Patient/classCode element SHALL be present having value “PSN”. [CDA]
  + CDA HD: line 22
  + NEMSIS: no corresponding element
* CONF-23: A ClinicalDocument/recordTarget/PatientRole/Patient/determinerCode element SHALL be present having value “INSTANCE”. [CDA]
  + CDA HD: line 23
  + NEMSIS: no corresponding element
* CONF-24: A ClinicalDocument/recordTarget/PatientRole/Patient/name element SHALL be present. [GHC]
  + CDA HD: line 25
  + NEMSIS:
    - EPatient.02 . . . /PatientRole/Patient/name/family
    - EPatient.03 . . . /PatientRole/Patient/name/given
    - EPatient.04 . . . /PatientRole/Patient/name/given
* CONF-25: A ClinicalDocument/recordTarget/PatientRole/Patient/ administrativeGenderCode element SHALL be present. [GHC]
  + CDA HD: line 26
  + NEMSIS: EPatient.13
* CONF-26: A ClinicalDocument/recordTarget/PatientRole/Patient/administrativeGenderCode element SHOULD be drawn from 2.16.840.1.113883.1.11.1 (HL7 AdministrativeGenderCode).
  + CDA HD: line 26
  + NEMSIS: EPatient.13
* CONF-27: A ClinicalDocument/recordTarget/PatientRole/Patient/birthTime element SHALL be present. The patient/birthTime element SHALL be precise at least to the year, and SHOULD be precise at least to the day, and MAY omit time zone. If unknown, it SHALL be represented using a flavor of null. [GHC, CONF-HP-32]
  + CDA HD: line 27
  + NEMSIS: EPatient.17

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.

* CONF-28: A ClinicalDocument/recordTarget/PatientRole/Patient/raceCode element MAY be present. If present it SHALL drawn from 2.16.840.1.113883.1.11.14914 (HL7 raceCode).
  + CDA HD: line 30
  + NEMSIS: EPatient.14
* CONF-29: A ClinicalDocument/recordTarget/PatientRole/Patient/ethnicGroupCode element MAY be present. If present it SHALL drawn from 2.16.840.1.113883.1.11.15836 (HL7 ethnicity).
  + CDA HD: line 31
  + NEMSIS: EPatient.14

#### 6.1.3 Author

The EMS Patient Care Report is not a hand-written document, but, like the Continuity of Care document, an export of information from an automated system. As a result, the set of authors includes the software used to generate the report as well as the EMS professional who generated the report.

* CONF-30: A ClinicalDocument/author element SHALL be present, having typeCode = “AUT” and contextControlCode=”OP”. [CDA]
  + CDA HD: line 71, 72, 74
  + NEMSIS: no corresponding element
* CONF-31: A ClinicalDocument/author/AssignedAuthor element SHALL be present having classCode”ASSIGNED”.
  + CDA HD: line 77
  + NEMSIS: no corresponding element
* CONF-32: An . . . author/AssignedAuthor/AuthoringDevice/manufacturerModelName element SHALL be present.
  + CDA HD: line 88
  + NEMSIS: ERecord.02

The NEMSIS specification records both software name and version. These are concatenated in the CDA EMS Patient Care Report.

* CONF-33: An . . . author/AssignedAuthor/AuthoringDevice/softwareName element SHALL be present.
  + CDA HD: line 88
  + NEMSIS: ERecord.03 & ERecord.04 (version), concatenated with a space

The professional is also included. The name, address, and telecom are taken from the Demographic side of the domain model.

* CONF-34: One additional . . . author/AssignedAuthor element MAY be present.
  + CDA HD: line 76
* CONF-35: The additional author SHALL have a . . . author/AssignedAuthor/id.
  + CDA HD: line 78
  + NEMSIS: EOther.08
* CONF-36: The additional author SHALL have a . . . author/AssignedAuthor/telecom, which MAY be null. [GHC]
  + CDA HD: line 81
  + NEMSIS: DProfessional.09
* CONF-37: The additional author SHALL have a . . . author/AssignedAuthor/addr , which MAY be null. [GHC]
  + CDA HD: line 80
  + NEMSIS:
    - 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
* CONF-38: The additional author SHALL have a . . . author/AssignedAuthor/Person/name, which MAY be null. [GHC]
  + CDA HD: line 80
  + NEMSIS:
    - DProfessional.01 . . . Person/name/family
    - DProfessional.02 . . . Person/name/given
    - DProfessional.03 . . . Person/name/given

#### 6.1.4 Custodian

The custodian is the EMS agency responsible for the service and its documentation.

* CONF-39: A ClinicalDocument/custodian/typeCode element SHALL be present, having value “CST”.
  + CDA HD: line 120
  + NEMSIS: no corresponding element
* CONF-40: A ClinicalDocument/custodian/AssignedCustodian/classCode element SHALL be present, having value “ASSIGNED”.
  + CDA HD: line 122
  + NEMSIS: no corresponding element
* CONF-41: A . . . AssignedCustodian/representedCustodianOrganization/classCode element SHALL be present, having value “ORG”.
  + CDA HD: line 124
  + NEMSIS: no corresponding element
* CONF-42: A . . . AssignedCustodian/representedCustodianOrganization/determinerCode element SHALL be present, having value “INSTANCE”.
  + CDA HD: line 125
  + NEMSIS: no corresponding element
* CONF-43: A . . . AssignedCustodian/representedCustodianOrganization/id element SHALL be present, having value “ORG”. [CDA]
  + CDA HD: line 126
  + NEMSIS: EResponse.01
* CONF-44: A . . . AssignedCustodian/representedCustodianOrganization/name element SHALL be present. [GHC CONF-HP-9]
  + CDA HD: line 127
  + NEMSIS: EResponse.02
* CONF-45: A . . . AssignedCustodian/representedCustodianOrganization/addr element SHALL be present. [GHC CONF-HP-9]
  + CDA HD: line 127
  + NEMSIS:
    - 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

#### 6.1.8 Service Event

The Service Event is the EMS service provided to the patient.

* CONF-46: A ClinicalDocument/documentationof element SHALL be present, having value “DOC”.
  + CDA HD: line 172
  + NEMSIS: no corresponding element
* CONF-47: A ClinicalDocument/documentationof/ServiceEvent/classCode element SHALL be present, having value “ACT”.
  + CDA HD: line 174
  + NEMSIS: no corresponding element
* CONF-48: A ClinicalDocument/documentationof/ServiceEvent/moodCode element SHALL be present, having value “EVN”.
  + CDA HD: line 175
  + NEMSIS: no corresponding element
* CONF-49: A ClinicalDocument/documentationof/ServiceEvent/id element SHALL be present, representing the incident number assigned by the 911 Dispatch System.
  + CDA HD: line 176
  + NEMSIS: EResponse.03
* CONF-50: A ClinicalDocument/documentationof/ServiceEvent/code element SHALL be present, having value drawn from EMSTEMPVS\_010.
  + CDA HD: line 177
  + NEMSIS: EResponse.05

Performers are the EMS crew members. The values in the specified value set are PRF (performer) and SPRF (secondary performer).

* CONF-51: For each performer, a . . . /performer/typeCode element SHALL be present, having value drawn from 2.16.840.1.113883.1.11.19601 (HL7 x\_ServiceEventPerformer).
  + CDA HD: line 180
  + NEMSIS: no corresponding element
* CONF-52: For each performer, a . . . /performer/functionCode element SHALL be present, having value drawn from EMSTEMPVS\_022.
  + CDA HD: line 181
  + NEMSIS: ECrew.03
* CONF-53: For each performer, a . . . /performer/assignedEntity/id element SHALL be present.
  + CDA HD: line 183/101
  + NEMSIS: ECrew.01
* CONF-54: For each performer, a . . . /performer/assignedEntity/code element SHALL be present, drawn from EMSTEMPVS\_023.
  + CDA HD: line 183/102
  + NEMSIS: ECrew.02
* CONF-55: For each performer, a . . . /performer/assignedEntity/person/name element SHALL be present. [GHC 16 CONF-HP-6]
  + CDA HD: line 183/found in diagram not HD
  + NEMSIS:
    - DProfessional.01 Last: @ENXP=”FAM”
    - DProfessional.02 First: @ENXP=”GIV”
    - DProfessional.03 Middle: @ENXP=”GIV”
* CONF-56: For each performer, a . . . /performer/assignedentity/addr element SHALL be present. [GHC 17 CONF-HP-7]
  + CDA HD: line 183/103
  + NEMSIS:
    - DProfessional.04 Street address: @ADXP = “SAL”
    - DProfessional.05 City: @ADXP = “CTY”
    - DProfessional.06 State: @ADXP = “STA”
    - DProfessional.07 Postal code: @ADXP = “ZIP”
    - DProfessional.08 Country: @ADXP = “CNT”
* CONF-57: For each performer, a . . . /performer/assignedentity/telecom element SHALL be present. [GHC 17 CONF-HP-7]
  + CDA HD: line 183/104
  + NEMSIS: DProfessional.09

#### 6.1.9 Related Document

If an EMS Patient Care report is updated, it is sent as a “replacement” document, and it refers back to the original. The EMS Patient Care Report has no anticipated need for the “append” or “transform”.

* CONF-58: If a document version is greater than 1 (i.e., it replaces a previous document), a ClinicalDocument/relatedDocument element SHALL be present with typecode = “RPLC”. [CDA]
  + CDA HD: line 185
  + NEMSIS: no corresponding element
* CONF-59: For a replacement document , a . . . /relatedDocument/ParentDocument/classCode element SHALL be present with value = “DOCCLIN”. [CDA]
  + CDA HD: line 187
  + NEMSIS: no corresponding element
* CONF-60: For a replacement document , a . . . /relatedDocument/ParentDocument/moodCode element SHALL be present with value = “EVN”. [CDA]
  + CDA HD: line 188
  + NEMSIS: no corresponding element
* CONF-61: For a replacement document , a . . . /relatedDocument/ParentDocument/id element SHALL be present. [CDA]
  + CDA HD: line 189
  + NEMSIS: the id of the previous document (ERecord.01 of the previous document + the version number of that original document)

#### 6.1.9 Encompassing Encounter

The encompassing encounter is used to relate the ambulance or truck (the facility) to the service.

* CONF-62: A ClinicalDocument/componentOf element SHALL be present, having value = “COMP”.
  + CDA HD: line 203
  + NEMSIS: no corresponding element
* CONF-63: A ClinicalDocument/componentOf/EncompassingEncounter element SHALL be present, having classCode=”ENC” and moodCode=”EVN”. [CDA]
  + CDA HD: line 205-206
  + NEMSIS: no corresponding element
* CONF-64: A ClinicalDocument/componentOf/EncompassingEncounter/effectiveTime element SHALL be present. [CDA]
  + CDA HD: line 209
  + NEMSIS: Etimes.03 (The date the responding unit was notified by dispatch)
* CONF-65: A . . . /EncompassingEncounter/Location/HealthCareFacility/classCode element SHALL be present having value = “SDLOC”.
  + CDA HD: line 221
  + NEMSIS: no corresponding element
* CONF-66: A . . . /EncompassingEncounter/Location/HealthCareFacility/id element SHALL be present.
  + CDA HD: line 222
  + NEMSIS: EResponse.04
* CONF-67: A . . . /EncompassingEncounter/Location/HealthCareFacility/code element SHALL be present with a value drawn from EMSTEMPVS\_012.
  + CDA HD: line 223
  + NEMSIS: EResponse.07

### Body

The document may have either an embedded non-XML document or a set of XML sections.

### Sections

### Chief Complaint

* CONF-68: The document MAY contain a Chief Complaint section, conforming to IHE Chief Complaint (1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1), having code = 10154-3 CHIEF COMPLAINT (LOINC).

### Injury Incident Description

* CONF-69: The document MAY contain an Injury Incident Description section, conforming to IHE Injury Incident Description (1.3.6.1.4.1.19376.1.5.3.1.1.19.2.1), having code = 11374-6 INJURY INCIDENT DESCRIPTION (LOINC).

### History of Present Illness

* CONF-70: The document MAY contain a History of Present Illness section, conforming to IHE History of Present Illness (1.3.6.1.4.1.19376.1.5.3.1.3.4), having code = 10164-2 HISTORY OF PRESENT ILLNESS (LOINC).

### Active Problems

* CONF-71: The document MAY contain an Active Problems section, conforming to IHE Active Problems (1.3.6.1.4.1.19376.1.5.3.1.3.6), having code = 11450-4 PROBLEM LIST (LOINC).

### Current Medications

* CONF-72: The document MAY contain a Current Medications section, conforming to IHE Current Medications (1.3.6.1.4.1.19376.1.5.3.1.3.19), having code = 10160-0 CURRENT MEDICATIONS (LOINC).

### Allergies

* CONF-73: The document MAY contain an Allergies section, conforming to IHE Allergies (1.3.6.1.4.1.19376.1.5.3.1.3.13), having code = 48765-2 ALLERGIES, ADVERSE REACTIONS, ALERTS (LOINC).

### Immunizations

* CONF-74: The document MAY contain an Immunizations section, conforming to IHE Immunizations (1.3.6.1.4.1.19376.1.5.3.1.3.23), having code = 11369-6 HISTORY OF IMMUNIZATIONS (LOINC).

### Past Medical History

* CONF-75: The document MAY contain a Past Medical History section, conforming to IHE Past Medical History (1.3.6.1.4.1.19376.1.5.3.1.3.8), having code = 11348-0 HISTORY OF PAST ILLNESS (LOINC).

### History of Pregnancies

* CONF-76: The document MAY contain a History of Pregnancies section, conforming to IHE History of Pregnancies (1.3.6.1.4.1.19376.1.5.3.1.1.5.3.4), having code = 10162-6 HISTORY OF PREGNANCIES (LOINC).

### Advanced Directives

* CONF-77: The document MAY contain a Advanced Directives section, conforming to IHE Advanced Directives (1.3.6.1.4.1.19376.1.5.3.1.3.34), having code = 42348-3 ADVANCE DIRECTIVES (LOINC).

### Social History

* CONF-78: The document MAY contain a Social History section, conforming to IHE Social History (1.3.6.1.4.1.19376.1.5.3.1.3.16), having code = 29762-2 SOCIAL HISTORY (LOINC).

### Vital Signs

* CONF-79: The document MAY contain a Vital Signs section, conforming to IHE Vital Signs (1.3.6.1.4.1.19376.1.5.3.1.1.5.3.2), having code = 8716-3 VITAL SIGNS (LOINC).

### Pertinent Review of Systems

* CONF-80: The document MAY contain a Pertinent ROS section, conforming to IHE Pertinent ROS (1.3.6.1.4.1.19376.1.5.3.1.3.18), having code = 10187-3 REVIEW OF SYSTEMS (LOINC).

### Physical Examination

* CONF-81: The document MAY contain a Physical Examination section, conforming to IHE Physical Examination (1.3.6.1.4.1.19376.1.5.3.1.1.9.15), having code = 29545-1 PHYSICAL EXAMINATION (LOINC).

### Assessment

* CONF-82: The document MAY contain an Assessment section, conforming to IHE Assessment (1.3.6.1.4.1.19376.1.5.3.1.1.13.2.4), having code = or X-ASSESS ASSESSMENTS (LOINC).

### Intravenous Fluids Administered

* CONF-83: The document MAY contain an Intravenous Fluids Administered section, conforming to IHE Intravenous Fluids Administered (1.3.6.1.4.1.19376.1.5.3.1.1.13.2.6), having code = X-IVFLU INTRAVENOUS FLUID ADMINISTERED (LOINC).

### Medications Administered

* CONF-84: The document MAY contain a Medications Administered section, conforming to IHE Medications Administered (1.3.6.1.4.1.19376.1.5.3.1.3.21), having code = 18610-6 MEDICATION ADMINISTERED (LOINC).

### Procedures Performed

* CONF-85: The document MAY contain a Procedures Performed section, conforming to IHE Procedures Performed (1.3.6.1.4.1.19376.1.5.3.1.1.13.2.11), having code = X-PROC PROCEDURES PERFORMED (LOINC).

### Transport Mode

* CONF-86: The document MAY contain a Transport Mode section, conforming to IHE Transport Mode (1.3.6.1.4.1.19376.1.5.3.1.1.10.3.2), having code = 11459-5 TRANSPORT MODE (LOINC).

### Dispatch

This and the following sections are newly defined by this guide. Their LOINC codes are under submission.

* CONF-87: The document MAY contain a Dispatch section having code = EMSDSPTCH Dispatch (LOINC).
  + EMS Template 2.16.840.1.113883.17.3.10.1.1

### Response

* CONF-88: The document MAY contain a Response section having code = EMSRSPNS Response (LOINC).
  + EMS Template 2.16.840.1.113883.17.3.10.1.2

### Disposition

* CONF-89: The document MAY contain a Disposition section (oid), having code = EMSDISPO Disposition (LOINC).
  + EMS Template 2.16.840.1.113883.17.3.10.1.3

### Billing

* CONF-90: The document MAY contain a Billing section having code = EMSBILL Billing (LOINC).
  + EMS Template 2.16.840.1.113883.17.3.10.1.4

## Appendix A: Value Sets

These value sets are defined by the NEMSIS terminology system. The system employs code values from NEMSIS version 2.2.1 in order to support legacy integration, but prepends value set identifiers to ensure uniqueness.

Only the value sets used in this guide and not stipulated as HL7 or LOINC values are listed here.

EMSTEMPVS\_010 (EResponse.05, Type of Service Requested)

| **Element** | **Term** | **System** | **Code** |
| --- | --- | --- | --- |
| EResponse.05 | 911 Response (Scene) | NEMSIS | 3705.30 |
| EResponse.05 | Intercept | NEMSIS | 3705.35 |
| EResponse.05 | Interfacility Transport | NEMSIS | 3705.40 |
| EResponse.05 | Medical Transport | NEMSIS | 3705.45 |
| EResponse.05 | Mutual Aid | NEMSIS | 3705.50 |
| EResponse.05 | Public Assistance/Other Not Listed | NEMSIS | 3705.60 |
| EResponse.05 | Standby | NEMSIS | 3705.55 |

EMSTEMPVS\_012 (EResponse.07, Primary Role of the Unit)

| **Element** | **Term** | **System** | **Code** |
| --- | --- | --- | --- |
| EResponse.07 | Air Transport | NEMSIS | 3707.80 |
| EResponse.07 | Ground Transport | NEMSIS | 3707.85 |
| EResponse.07 | Non-Transport (Care or Assistance) | NEMSIS | 3707.60 |
| EResponse.07 | Rescue | NEMSIS | 3707.65 |
| EResponse.07 | Supervisor (Administrative Only) | NEMSIS | 3707.70 |

EMSTEMPVS\_022 ECrew.03 (Crew Member Response Role)

| **Element** | **Term** | **System** | **Code** |
| --- | --- | --- | --- |
| ECrew.03 | Driver/Pilot-Response | NEMSIS | 2103.20 |
| ECrew.03 | Driver/Pilot-Transport | NEMSIS | 2103.25 |
| ECrew.03 | Primary Patient Caregiver-At Scene | NEMSIS | 2103.30 |
| ECrew.03 | Primary Patient Caregiver-Transport | NEMSIS | 2103.35 |
| ECrew.03 | Other Patient Caregiver-At Scene | NEMSIS | 2103.40 |
| ECrew.03 | Other Patient Caregiver-Transport | NEMSIS | 2103.45 |
| ECrew.03 | Other (Not Listed) | NEMSIS | 2103.50 |

EMSTEMPVS\_023 (Ecrew.02, Crew Member Level)

| **Element** | **Term** | **System** | **StandardCode** |
| --- | --- | --- | --- |
| ECrew.02 | First Responder | NEMSIS | 2102.6120 |
| ECrew.02 | 2009 Emergency Medical Responder (EMR) | NEMSIS | 2102.6113 |
| ECrew.02 | EMT-Basic | NEMSIS | 2102.6090 |
| ECrew.02 | 2009 Emergency Medical Technician (EMT) | NEMSIS | 2102.6114 |
| ECrew.02 | EMT-Intermediate | NEMSIS | 2102.6100 |
| ECrew.02 | 2009 Advanced Emergency Medical Technician (AEMT) | NEMSIS | 2102.6115 |
| ECrew.02 | EMT-Paramedic | NEMSIS | 2102.6110 |
| ECrew.02 | 2009 Paramedic | NEMSIS | 2102.6116 |
| ECrew.02 | Respiratory Therapist | NEMSIS | 2102.6117 |
| ECrew.02 | Nurse | NEMSIS | 2102.6111 |
| ECrew.02 | Physician | NEMSIS | 2102.6112 |
| ECrew.02 | Student | NEMSIS | 2102.635 |
| ECrew.02 | Other Healthcare Professional | NEMSIS | 2102.640 |
| ECrew.02 | Other Non-Healthcare Professional | NEMSIS | 2102.645 |

## Appendix B: NEMSIS Element Scope

Insert table