

Implementation Guide for CDA Release 2

MDHT Example Project

Optional Subtitle



**PROTOTYPE: FOR DISCUSSION
AND DEMONSTRATION USE ONLY
(Consolidated Developer Documentation)**

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Acknowledgments

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Revision History

Rev	Date	By Whom	Changes
New	July 2010	Dave Carlson	
First draft for posting	December 2010	Dave Carlson	Updated model content and publication format

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

Figure 3: CCD conformance statements example

Keywords

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

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

XML Examples

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

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

Figure 4: ClinicalDocument example

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

Chapter

2

DOCUMENT TEMPLATES

Topics:

- [*Clinical Office Visit Summary*](#)
- [*Create Transmit Summary Of Care Record*](#)
- [*General Header Constraints*](#)
- [*Summary Of Care Record*](#)
- [*VDT Ambulatory Patient Info*](#)
- [*VDT Inpatient Patient Info*](#)

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

Clinical Office Visit Summary

[ClinicalDocument: templateId 2.16.840.1.113883.11.11.11.1.5]

Objective : 170.314(e)(1) (View, download, and transmit to 3rd party) for EP

1. **SHALL** conform to [General Header Constraints](#) template (templateId: 2.16.840.1.113883.10.20.22.1.1)
2. Contains exactly one [1..1] **socialHistorySection** with data type SocialHistorySection
3. Contains exactly one [1..1] **problemSection** with data type ProblemSection
4. Contains zero or one [0..1] **medicationsSection** with data type MedicationsSection
5. Contains zero or one [0..1] **hospitalAdmissionMedicationsSectionEntriesOptional** with data type HospitalAdmissionMedicationsSectionEntriesOptional
6. Contains zero or one [0..1] **hospitalDischargeMedicationsSection** with data type HospitalDischargeMedicationsSection
7. Contains zero or one [0..1] **allergiesSection** with data type AllergiesSection
8. Contains zero or one [0..1] **allergiesSectionEntriesOptional** with data type AllergiesSectionEntriesOptional
9. Contains exactly one [1..1] **resultsSection** with data type ResultsSection
10. Contains zero or one [0..1] **vitalSignsSection** with data type VitalSignsSection
11. Contains zero or one [0..1] **vitalSignsSectionEntriesOptional** with data type VitalSignsSectionEntriesOptional
12. Contains exactly one [1..1] **planOfCareSection** with data type PlanOfCareSection
13. Contains exactly one [1..1] **proceduresSection** with data type ProceduresSection
14. Contains exactly one [1..1] **immunizationsSection** with data type ImmunizationsSection
15. Contains exactly one [1..1] **medicationsAdministeredSection** with data type MedicationsAdministeredSection
16. Contains zero or one [0..1] **reasonForVisitSection** with data type ReasonForVisitSection
17. Contains zero or one [0..1] **chiefComplaintSection** with data type ChiefComplaintSection
18. Contains zero or one [0..1] **chiefComplaintAndReasonForVisitSection** with data type ChiefComplaintAndReasonForVisitSection
19. Contains zero or one [0..1] **assessmentAndPlanSection** with data type AssessmentAndPlanSection
20. Contains exactly one [1..1] **instructionsSection** with data type InstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - *Clinical instructions*
 - *Recommended patient decision aids (if applicable to the visit)*
21. Contains zero or one [0..1] **interventionsSection** with data type InterventionsSection
22. Contains exactly one [1..1] **hospitalDischargeInstructionsSection** with data type HospitalDischargeInstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - *Inpatient Setting Only: Discharge instructions*
23. Contains zero or one [0..1] **assessmentSection** with data type AssessmentSection
24. Contains zero or one [0..1] **hospitalAdmissionDiagnosisSection** with data type HospitalAdmissionDiagnosisSection
25. Contains zero or one [0..1] **hospitalDischargeDiagnosisSection** with data type HospitalDischargeDiagnosisSection
26. **SHALL** contain zero or one [0..1] **encountersSection** with data type EncountersSection
27. Contains zero or one [0..1] **postoperativeDiagnosisSection** with data type PostoperativeDiagnosisSection
28. Contains zero or one [0..1] **postprocedureDiagnosisSection** with data type PostprocedureDiagnosisSection

29. Contains zero or one [0..1] **historyOfPastIllnessSection** with data type HistoryOfPastIllnessSection
 30. Contains zero or one [0..1] **preoperativeDiagnosisSection** with data type PreoperativeDiagnosisSection
 31. Contains zero or one [0..1] **reasonForReferralSection** with data type ReasonForReferralSection
 32. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)
 33. **SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
 34. **SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
 35. **SHALL** satisfy: medicationListConstraint
 36. **SHALL** satisfy: problemEntry
1. **SHALL** conform to *General Header Constraints* template (templateId: 2.16.840.1.113883.10.20.22.1.1)
 2. Contains exactly one [1..1] **typeId** with data type *Infrastructure Root Type Id*
 3. Contains exactly one [1..1] **id** with data type II
 4. Contains exactly one [1..1] **code** with data type CE
 5. Contains exactly one [1..1] **effectiveTime** with data type TS
 6. Contains exactly one [1..1] **confidentialityCode** with data type CE
 7. Contains exactly one [1..1] **socialHistorySection** with data type SocialHistorySection
 8. Contains exactly one [1..1] **problemSection** with data type ProblemSection
 9. Contains zero or one [0..1] **medicationsSection** with data type MedicationsSection
 10. Contains zero or one [0..1] **hospitalAdmissionMedicationsSectionEntriesOptional** with data type HospitalAdmissionMedicationsSectionEntriesOptional
 11. Contains zero or one [0..1] **hospitalDischargeMedicationsSection** with data type HospitalDischargeMedicationsSection
 12. Contains zero or one [0..1] **allergiesSection** with data type AllergiesSection
 13. Contains zero or one [0..1] **allergiesSectionEntriesOptional** with data type AllergiesSectionEntriesOptional
 14. Contains exactly one [1..1] **resultsSection** with data type ResultsSection
 15. Contains zero or one [0..1] **vitalSignsSection** with data type VitalSignsSection
 16. Contains zero or one [0..1] **vitalSignsSectionEntriesOptional** with data type VitalSignsSectionEntriesOptional
 17. Contains exactly one [1..1] **planOfCareSection** with data type PlanOfCareSection
 18. Contains exactly one [1..1] **proceduresSection** with data type ProceduresSection
 19. Contains exactly one [1..1] **immunizationsSection** with data type ImmunizationsSection
 20. Contains exactly one [1..1] **medicationsAdministeredSection** with data type MedicationsAdministeredSection
 21. Contains zero or one [0..1] **reasonForVisitSection** with data type ReasonForVisitSection
 22. Contains zero or one [0..1] **chiefComplaintSection** with data type ChiefComplaintSection
 23. Contains zero or one [0..1] **chiefComplaintAndReasonForVisitSection** with data type ChiefComplaintAndReasonForVisitSection
 24. Contains zero or one [0..1] **assessmentAndPlanSection** with data type AssessmentAndPlanSection
 25. Contains exactly one [1..1] **instructionsSection** with data type InstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - *Clinical instructions*
 - *Recommended patient decision aids (if applicable to the visit)*
 26. Contains zero or one [0..1] **interventionsSection** with data type InterventionsSection

27. Contains exactly one [1..1] **hospitalDischargeInstructionsSection** with data type HospitalDischargeInstructionsSection
- *Instructions Section will satisfy the following MU2 elements :*
 - *Inpatient Setting Only: Discharge instructions*
28. Contains zero or one [0..1] **assessmentSection** with data type AssessmentSection
29. Contains zero or one [0..1] **hospitalAdmissionDiagnosisSection** with data type HospitalAdmissionDiagnosisSection
30. Contains zero or one [0..1] **hospitalDischargeDiagnosisSection** with data type HospitalDischargeDiagnosisSection
31. **SHALL** contain zero or one [0..1] **encountersSection** with data type EncountersSection
32. Contains zero or one [0..1] **postoperativeDiagnosisSection** with data type PostoperativeDiagnosisSection
33. Contains zero or one [0..1] **postprocedureDiagnosisSection** with data type PostprocedureDiagnosisSection
34. Contains zero or one [0..1] **historyOfPastIllnessSection** with data type HistoryOfPastIllnessSection
35. Contains zero or one [0..1] **preoperativeDiagnosisSection** with data type PreoperativeDiagnosisSection
36. Contains zero or one [0..1] **reasonForReferralSection** with data type ReasonForReferralSection
37. Contains at least one [1..*] **author**, where its type is *Author*
- a. Contains exactly one [1..1] *Author*
38. Contains exactly one [1..1] **custodian**, where its type is *Custodian*
- a. Contains exactly one [1..1] *Custodian*
39. Contains exactly one [1..1] **component**, where its type is *Component2*
- a. Contains exactly one [1..1] *Component2*
40. **SHALL** contain at least one [1..*] **recordTarget**
- a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole**
 - a. This patientRole **SHALL** contain exactly one [1..1] **patient**
 - a. This patient Contains exactly one [1..1] **name**
 - b. This patient Contains exactly one [1..1] **administrativeGenderCode**
 - c. This patient Contains exactly one [1..1] **ethnicGroupCode**
 - d. This patient Contains exactly one [1..1] **raceCode**
 - e. This patient **SHALL** contain exactly one [1..1] **languageCommunication**
 - a. This languageCommunication Contains exactly one [1..1] **languageCode**
 - f. This patient Contains exactly one [1..1] **birthTime**
41. Contains zero or more [0..*] **documentationOf**
- a. Such documentationOfs Contains exactly one [1..1] **serviceEvent**
 - a. This serviceEvent Contains at least one [1..*] **performer**
 - a. Such performers Contains exactly one [1..1] **assignedEntity**, where its type is CDA Assigned Entity
 - a. Contains exactly one [1..1] CDA Assigned Entity
42. Contains zero or one [0..1] **componentOf**
- a. This componentOf Contains exactly one [1..1] **encompassingEncounter**, where its type is CDA Encompassing Encounter
 - a. Contains exactly one [1..1] CDA Encompassing Encounter
43. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)

- 44. SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
- 45. SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
- 46. SHALL** satisfy: medicationListConstraint
- 47. SHALL** satisfy: problemEntry

Clinical Office Visit Summary example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId root="2.16.840.1.113883.11.11.11.1.5"/>
  <id root="MDHT" extension="496398812"/>
  <code code="1048482085"/>
  <title>TEXT FOR TITLE</title>
  <effectiveTime/>
  <confidentialityCode code="1474871417"/>
  <recordTarget>
    <patientRole/>
  </recordTarget>
  <author>
    <time/>
    <assignedAuthor/>
  </author>
  <custodian/>
  <component/>
</ClinicalDocument>
```

Create Transmit Summary Of Care Record

[ClinicalDocument: templateId 2.16.840.1.113883.11.11.11.1.2]

170.314(b)(2) (Create and transmit summary care record)

- 1. SHALL** conform to [General Header Constraints](#) template (templateId: 2.16.840.1.113883.10.20.22.1.1)
- Contains exactly one [1..1] **socialHistorySection** with data type SocialHistorySection
- Contains exactly one [1..1] **problemSection** with data type ProblemSection
- Contains zero or one [0..1] **medicationsSection** with data type MedicationsSection
- Contains zero or one [0..1] **hospitalAdmissionMedicationsSectionEntriesOptional** with data type HospitalAdmissionMedicationsSectionEntriesOptional
- Contains zero or one [0..1] **hospitalDischargeMedicationsSection** with data type HospitalDischargeMedicationsSection
- Contains zero or one [0..1] **allergiesSection** with data type AllergiesSection
- Contains zero or one [0..1] **allergiesSectionEntriesOptional** with data type AllergiesSectionEntriesOptional
- Contains exactly one [1..1] **resultsSection** with data type ResultsSection
- Contains zero or one [0..1] **vitalSignsSection** with data type VitalSignsSection
- Contains zero or one [0..1] **vitalSignsSectionEntriesOptional** with data type VitalSignsSectionEntriesOptional

12. Contains exactly one [1..1] **planOfCareSection** with data type PlanOfCareSection
13. Contains exactly one [1..1] **proceduresSection** with data type ProceduresSection
14. Contains exactly one [1..1] **immunizationsSection** with data type ImmunizationsSection
15. Contains exactly one [1..1] **medicationsAdministeredSection** with data type MedicationsAdministeredSection
16. Contains zero or one [0..1] **reasonForVisitSection** with data type ReasonForVisitSection
17. Contains zero or one [0..1] **chiefComplaintSection** with data type ChiefComplaintSection
18. Contains zero or one [0..1] **chiefComplaintAndReasonForVisitSection** with data type ChiefComplaintAndReasonForVisitSection
19. Contains zero or one [0..1] **assessmentAndPlanSection** with data type AssessmentAndPlanSection
20. Contains exactly one [1..1] **instructionsSection** with data type InstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - Clinical instructions
 - Recommended patient decision aids (if applicable to the visit)
21. Contains zero or one [0..1] **interventionsSection** with data type InterventionsSection
22. Contains exactly one [1..1] **hospitalDischargeInstructionsSection** with data type HospitalDischargeInstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - Inpatient Setting Only: Discharge instructions
23. Contains zero or one [0..1] **assessmentSection** with data type AssessmentSection
24. Contains zero or one [0..1] **hospitalAdmissionDiagnosisSection** with data type HospitalAdmissionDiagnosisSection
25. Contains zero or one [0..1] **hospitalDischargeDiagnosisSection** with data type HospitalDischargeDiagnosisSection
26. **SHALL** contain zero or one [0..1] **encountersSection** with data type EncountersSection
27. Contains zero or one [0..1] **postoperativeDiagnosisSection** with data type PostoperativeDiagnosisSection
28. Contains zero or one [0..1] **postprocedureDiagnosisSection** with data type PostprocedureDiagnosisSection
29. Contains zero or one [0..1] **historyOfPastIllnessSection** with data type HistoryOfPastIllnessSection
30. Contains zero or one [0..1] **preoperativeDiagnosisSection** with data type PreoperativeDiagnosisSection
31. Contains zero or one [0..1] **reasonForReferralSection** with data type ReasonForReferralSection
32. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)
33. **SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
34. **SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
35. **SHALL** satisfy: medicationListConstraint
36. **SHALL** satisfy: problemEntry
1. **SHALL** conform to *General Header Constraints* template (templateId: 2.16.840.1.113883.10.20.22.1.1)
2. Contains exactly one [1..1] **typeId** with data type *Infrastructure Root Type Id*
3. Contains exactly one [1..1] **id** with data type II
4. Contains exactly one [1..1] **code** with data type CE
5. Contains exactly one [1..1] **effectiveTime** with data type TS
6. Contains exactly one [1..1] **confidentialityCode** with data type CE

7. Contains exactly one [1..1] **socialHistorySection** with data type SocialHistorySection
8. Contains exactly one [1..1] **problemSection** with data type ProblemSection
9. Contains zero or one [0..1] **medicationsSection** with data type MedicationsSection
10. Contains zero or one [0..1] **hospitalAdmissionMedicationsSectionEntriesOptional** with data type HospitalAdmissionMedicationsSectionEntriesOptional
11. Contains zero or one [0..1] **hospitalDischargeMedicationsSection** with data type HospitalDischargeMedicationsSection
12. Contains zero or one [0..1] **allergiesSection** with data type AllergiesSection
13. Contains zero or one [0..1] **allergiesSectionEntriesOptional** with data type AllergiesSectionEntriesOptional
14. Contains exactly one [1..1] **resultsSection** with data type ResultsSection
15. Contains zero or one [0..1] **vitalSignsSection** with data type VitalSignsSection
16. Contains zero or one [0..1] **vitalSignsSectionEntriesOptional** with data type VitalSignsSectionEntriesOptional
17. Contains exactly one [1..1] **planOfCareSection** with data type PlanOfCareSection
18. Contains exactly one [1..1] **proceduresSection** with data type ProceduresSection
19. Contains exactly one [1..1] **immunizationsSection** with data type ImmunizationsSection
20. Contains exactly one [1..1] **medicationsAdministeredSection** with data type MedicationsAdministeredSection
21. Contains zero or one [0..1] **reasonForVisitSection** with data type ReasonForVisitSection
22. Contains zero or one [0..1] **chiefComplaintSection** with data type ChiefComplaintSection
23. Contains zero or one [0..1] **chiefComplaintAndReasonForVisitSection** with data type ChiefComplaintAndReasonForVisitSection
24. Contains zero or one [0..1] **assessmentAndPlanSection** with data type AssessmentAndPlanSection
25. Contains exactly one [1..1] **instructionsSection** with data type InstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - *Clinical instructions*
 - *Recommended patient decision aids (if applicable to the visit)*
26. Contains zero or one [0..1] **interventionsSection** with data type InterventionsSection
27. Contains exactly one [1..1] **hospitalDischargeInstructionsSection** with data type HospitalDischargeInstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - *Inpatient Setting Only: Discharge instructions*
28. Contains zero or one [0..1] **assessmentSection** with data type AssessmentSection
29. Contains zero or one [0..1] **hospitalAdmissionDiagnosisSection** with data type HospitalAdmissionDiagnosisSection
30. Contains zero or one [0..1] **hospitalDischargeDiagnosisSection** with data type HospitalDischargeDiagnosisSection
31. **SHALL** contain zero or one [0..1] **encountersSection** with data type EncountersSection
32. Contains zero or one [0..1] **postoperativeDiagnosisSection** with data type PostoperativeDiagnosisSection
33. Contains zero or one [0..1] **postprocedureDiagnosisSection** with data type PostprocedureDiagnosisSection
34. Contains zero or one [0..1] **historyOfPastIllnessSection** with data type HistoryOfPastIllnessSection
35. Contains zero or one [0..1] **preoperativeDiagnosisSection** with data type PreoperativeDiagnosisSection
36. Contains zero or one [0..1] **reasonForReferralSection** with data type ReasonForReferralSection
37. Contains at least one [1..*] **author**, where its type is *Author*
 - a. Contains exactly one [1..1] *Author*
38. Contains exactly one [1..1] **custodian**, where its type is *Custodian*

- a. Contains exactly one [1..1] *Custodian*
- 39. Contains exactly one [1..1] **component**, where its type is *Component2*
 - a. Contains exactly one [1..1] *Component2*
- 40. **SHALL** contain at least one [1..*] **recordTarget**
 - a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole**
 - a. This patientRole **SHALL** contain exactly one [1..1] **patient**
 - a. This patient Contains exactly one [1..1] **name**
 - b. This patient Contains exactly one [1..1] **administrativeGenderCode**
 - c. This patient Contains exactly one [1..1] **ethnicGroupCode**
 - d. This patient Contains exactly one [1..1] **raceCode**
 - e. This patient **SHALL** contain exactly one [1..1] **languageCommunication**
 - a. This languageCommunication Contains exactly one [1..1] **languageCode**
 - f. This patient Contains exactly one [1..1] **birthTime**
- 41. Contains zero or more [0..*] **documentationOf**
 - a. Such documentationOfs Contains exactly one [1..1] **serviceEvent**
 - a. This serviceEvent Contains at least one [1..*] **performer**
 - a. Such performers Contains exactly one [1..1] **assignedEntity**, where its type is CDA Assigned Entity
 - a. Contains exactly one [1..1] CDA Assigned Entity
- 42. Contains zero or one [0..1] **componentOf**
 - a. This componentOf Contains exactly one [1..1] **encompassingEncounter**, where its type is CDA Encompassing Encounter
 - a. Contains exactly one [1..1] CDA Encompassing Encounter
- 43. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)
- 44. **SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
- 45. **SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
- 46. **SHALL** satisfy: medicationListConstraint
- 47. **SHALL** satisfy: problemEntry

Create Transmit Summary Of Care Record example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId root="2.16.840.1.113883.11.11.11.1.2"/>
  <id root="MDHT" extension="1486592356"/>
  <code code="162190"/>
  <title>TEXT FOR TITLE</title>
  <effectiveTime/>
  <confidentialityCode code="1133914769"/>
  <recordTarget>
    <patientRole/>
  </recordTarget>
</ClinicalDocument>
```



```

</recordTarget>
<author>
  <time/>
  <assignedAuthor/>
</author>
<custodian/>
<component/>
</ClinicalDocument>

```

General Header Constraints

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.22.1.1]

Known Subclasses: *Summary Of Care Record*, *VDT Ambulatory Patient Info*, *Create Transmit Summary Of Care Record*, *VDT Inpatient Patient Info*, *Clinical Office Visit Summary*

1. **SHALL** contain at least one [1..*] **recordTarget**
 - a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole**
 - a. This patientRole **SHALL** contain exactly one [1..1] **patient**
 - a. This patient Contains exactly one [1..1] **name**
 - b. This patient Contains exactly one [1..1] **administrativeGenderCode**
 - c. This patient Contains exactly one [1..1] **ethnicGroupCode**
 - d. This patient Contains exactly one [1..1] **raceCode**
 - e. This patient **SHALL** contain exactly one [1..1] **languageCommunication**
 - a. This languageCommunication Contains exactly one [1..1] **languageCode**
 - f. This patient Contains exactly one [1..1] **birthTime**
2. Contains zero or more [0..*] **documentationOf**
 - a. Such documentationOfs Contains exactly one [1..1] **serviceEvent**
 - a. This serviceEvent Contains at least one [1..*] **performer**
 - a. Such performers Contains exactly one [1..1] **assignedEntity**, where its type is CDA Assigned Entity
 - a. Contains exactly one [1..1] CDA Assigned Entity
3. Contains zero or one [0..1] **componentOf**
 - a. This componentOf Contains exactly one [1..1] **encompassingEncounter**, where its type is CDA Encompassing Encounter
 - a. Contains exactly one [1..1] CDA Encompassing Encounter
1. Contains exactly one [1..1] **typeId** with data type *Infrastructure Root Type Id*
2. Contains exactly one [1..1] **id** with data type II
3. Contains exactly one [1..1] **code** with data type CE
4. Contains exactly one [1..1] **effectiveTime** with data type TS
5. Contains exactly one [1..1] **confidentialityCode** with data type CE
6. Contains at least one [1..*] **author**, where its type is *Author*
 - a. Contains exactly one [1..1] *Author*
7. Contains exactly one [1..1] **custodian**, where its type is *Custodian*
 - a. Contains exactly one [1..1] *Custodian*
8. Contains exactly one [1..1] **component**, where its type is *Component2*
 - a. Contains exactly one [1..1] *Component2*

9. SHALL contain at least one [1..*] **recordTarget**

a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole**

a. This patientRole **SHALL** contain exactly one [1..1] **patient**

- a.** This patient Contains exactly one [1..1] **name**
- b.** This patient Contains exactly one [1..1] **administrativeGenderCode**
- c.** This patient Contains exactly one [1..1] **ethnicGroupCode**
- d.** This patient Contains exactly one [1..1] **raceCode**
- e.** This patient **SHALL** contain exactly one [1..1] **languageCommunication**
 - a.** This languageCommunication Contains exactly one [1..1] **languageCode**
- f.** This patient Contains exactly one [1..1] **birthTime**

10. Contains zero or more [0..*] **documentationOf**

a. Such documentationOfs Contains exactly one [1..1] **serviceEvent**

a. This serviceEvent Contains at least one [1..*] **performer**

- a.** Such performers Contains exactly one [1..1] **assignedEntity**, where its type is CDA Assigned Entity
 - a.** Contains exactly one [1..1] CDA Assigned Entity

11. Contains zero or one [0..1] **componentOf**

a. This componentOf Contains exactly one [1..1] **encompassingEncounter**, where its type is CDA Encompassing Encounter

a. Contains exactly one [1..1] CDA Encompassing Encounter

General Header Constraints example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <id root="MDHT" extension="240686819"/>
  <code code="1175120682"/>
  <title>TEXT FOR TITLE</title>
  <effectiveTime/>
  <confidentialityCode code="865351115"/>
  <recordTarget>
    <patientRole>
      <id root="MDHT" extension="1585568949"/>
      <patient/>
    </patientRole>
  </recordTarget>
  <author>
    <time/>
    <assignedAuthor/>
  </author>
  <custodian/>
  <documentationOf>
    <serviceEvent>
      <performer/>
    </serviceEvent>
  </documentationOf>
  <componentOf>
    <encompassingEncounter/>
  </componentOf>
</component/>
```

</ClinicalDocument>

Summary Of Care Record

[ClinicalDocument: templateId 2.16.840.1.113883.11.11.11.1.1]

170.314(b)(1) (Incorporate summary of care record)

1. **SHALL** conform to [General Header Constraints](#) template (templateId: 2.16.840.1.113883.10.20.22.1.1)
2. **SHALL** contain exactly one [1..1] **component**
 - *MU2 Requirement for 'Smoking status'*
 - a. Contains exactly one [1..1] [Consol Social History Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.17)
3. Contains exactly one [1..1] **component**
 - *MU2 Requirement for 'Problems'*
 - a. Contains exactly one [1..1] [Consol Problem Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.5.1)
4. Contains zero or one [0..1] **component**
 - *MU2 Requirement for : 'Medications'*
 - a. Contains exactly one [1..1] [Consol Medications Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.1.1)
5. Contains zero or one [0..1] **component**
 - *MU2 Requirement for : 'Medications'*
 - a. Contains exactly one [1..1] [Consol Hospital Admission Medications Section Entries Optional](#) (templateId: 2.16.840.1.113883.10.20.22.2.44)
6. Contains zero or one [0..1] **component**
 - *MU2 Requirement for : 'Medications'*
 - a. Contains exactly one [1..1] [Consol Hospital Discharge Medications Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.11.1)
7. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Allergies Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.6.1)
8. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Allergies Section Entries Optional](#) (templateId: 2.16.840.1.113883.10.20.22.2.6)
9. **SHALL** contain exactly one [1..1] **component**
 - a. Contains exactly one [1..1] [Consol Results Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.3.1)
10. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Vital Signs Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.4.1)
11. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Vital Signs Section Entries Optional](#) (templateId: 2.16.840.1.113883.10.20.22.2.4)
12. **SHALL** contain exactly one [1..1] **component**

- a. Contains exactly one [1..1] [Consol Plan Of Care Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.10)

13. SHALL contain exactly one [1..1] **component**

- a. Contains exactly one [1..1] [Consol Procedures Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.7.1)

14. Contains exactly one [1..1] **component**

- a. Contains exactly one [1..1] [Consol Immunizations Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.2.1)

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

- a. Contains exactly one [1..1] [Consol Medications Administered Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.38)

16. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Reason For Visit Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.12)

17. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Chief Complaint Section](#) (templateId: 1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1)

18. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Chief Complaint And Reason For Visit Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.13)

19. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Assessment And Plan Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.9)

20. SHALL contain exactly one [1..1] **component**

- *Instructions Section will satisfy the following MU2 elements :*
 - *Clinical instructions*
 - *Recommended patient decision aids (if applicable to the visit)*

- a. Contains exactly one [1..1] [Consol Instructions Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.45)

21. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Interventions Section](#) (templateId: 2.16.840.1.113883.10.20.21.2.3)

22. SHALL contain exactly one [1..1] **component**

- *Inpatient Setting Only: Discharge instructions*
- *Instructions Section will satisfy the following MU2 elements :*
 - *Inpatient Setting Only: Discharge instructions*

- a. Contains exactly one [1..1] [Consol Hospital Discharge Instructions Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.41)

23. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Assessment Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.8)

24. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Hospital Admission Diagnosis Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.43)

25. Contains zero or one [0..1] **component**

- a. Contains exactly one [1..1] [Consol Hospital Discharge Diagnosis Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.24)
- 26. Contains zero or one [0..1] **component**
 - *Captured in Encounters section if using CCD*
 - a. Contains exactly one [1..1] [Consol Encounters Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.22.1)
- 27. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Postoperative Diagnosis Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.35)
- 28. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Postprocedure Diagnosis Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.36)
- 29. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol History Of Past Illness Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.20)
- 30. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Preoperative Diagnosis Section](#) (templateId: 2.16.840.1.113883.10.20.22.2.34)
- 31. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] [Consol Reason For Referral Section](#) (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.1)
- 32. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)
- 33. **SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
- 34. **SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
- 35. **SHALL** satisfy: medicationListConstraint
- 36. **SHALL** satisfy: problemEntry
- 1. **SHALL** conform to [General Header Constraints](#) template (templateId: 2.16.840.1.113883.10.20.22.1.1)
- 2. Contains exactly one [1..1] **typeId** with data type [Infrastructure Root Type Id](#)
- 3. Contains exactly one [1..1] **id** with data type II
- 4. Contains exactly one [1..1] **code** with data type CE
- 5. Contains exactly one [1..1] **effectiveTime** with data type TS
- 6. Contains exactly one [1..1] **confidentialityCode** with data type CE
- 7. Contains at least one [1..*] **author**, where its type is [Author](#)
 - a. Contains exactly one [1..1] [Author](#)
- 8. Contains exactly one [1..1] **custodian**, where its type is [Custodian](#)
 - a. Contains exactly one [1..1] [Custodian](#)
- 9. Contains exactly one [1..1] **component**, where its type is [Component2](#)
 - a. Contains exactly one [1..1] [Component2](#)
- 10. **SHALL** contain at least one [1..*] **recordTarget**
 - a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole**

- a. This patientRole **SHALL** contain exactly one [1..1] **patient**
 - a. This patient Contains exactly one [1..1] **name**
 - b. This patient Contains exactly one [1..1] **administrativeGenderCode**
 - c. This patient Contains exactly one [1..1] **ethnicGroupCode**
 - d. This patient Contains exactly one [1..1] **raceCode**
 - e. This patient **SHALL** contain exactly one [1..1] **languageCommunication**
 - a. This languageCommunication Contains exactly one [1..1] **languageCode**
 - f. This patient Contains exactly one [1..1] **birthTime**
- 11. Contains zero or more [0..*] **documentationOf**
 - a. Such documentationOfs Contains exactly one [1..1] **serviceEvent**
 - a. This serviceEvent Contains at least one [1..*] **performer**
 - a. Such performers Contains exactly one [1..1] **assignedEntity**, where its type is CDA Assigned Entity
 - a. Contains exactly one [1..1] CDA Assigned Entity
- 12. Contains zero or one [0..1] **componentOf**
 - a. This componentOf Contains exactly one [1..1] **encompassingEncounter**, where its type is CDA Encompassing Encounter
 - a. Contains exactly one [1..1] CDA Encompassing Encounter
- 13. **SHALL** contain exactly one [1..1] **component**
 - a. Contains exactly one [1..1] *Consol Social History Section* (templateId: 2.16.840.1.113883.10.20.22.2.17)
 - *MU2 Requirement for 'Smoking status'*
- 14. Contains exactly one [1..1] **component**
 - a. Contains exactly one [1..1] *Consol Problem Section* (templateId: 2.16.840.1.113883.10.20.22.2.5.1)
 - *MU2 Requirement for 'Problems'*
- 15. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Medications Section* (templateId: 2.16.840.1.113883.10.20.22.2.1.1)
 - *MU2 Requirement for : 'Medications'*
- 16. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Hospital Admission Medications Section Entries Optional* (templateId: 2.16.840.1.113883.10.20.22.2.44)
 - *MU2 Requirement for : 'Medications'*
- 17. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Hospital Discharge Medications Section* (templateId: 2.16.840.1.113883.10.20.22.2.11.1)
 - *MU2 Requirement for : 'Medications'*
- 18. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Allergies Section* (templateId: 2.16.840.1.113883.10.20.22.2.6.1)
- 19. **SHALL** contain exactly one [1..1] **component**
 - a. Contains exactly one [1..1] *Consol Results Section* (templateId: 2.16.840.1.113883.10.20.22.2.3.1)

20. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Vital Signs Section* (templateId: 2.16.840.1.113883.10.20.22.2.4.1)

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

- a. Contains exactly one [1..1] *Consol Plan Of Care Section* (templateId: 2.16.840.1.113883.10.20.22.2.10)

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

- a. Contains exactly one [1..1] *Consol Procedures Section* (templateId: 2.16.840.1.113883.10.20.22.2.7.1)

23. Contains exactly one [1..1] component

- a. Contains exactly one [1..1] *Consol Immunizations Section* (templateId: 2.16.840.1.113883.10.20.22.2.2.1)

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

- a. Contains exactly one [1..1] *Consol Medications Administered Section* (templateId: 2.16.840.1.113883.10.20.22.2.38)

25. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Reason For Visit Section* (templateId: 2.16.840.1.113883.10.20.22.2.12)

26. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Chief Complaint Section* (templateId: 1.3.6.1.4.1.19376.1.5.3.1.1.13.2.1)

27. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Chief Complaint And Reason For Visit Section* (templateId: 2.16.840.1.113883.10.20.22.2.13)

28. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Assessment And Plan Section* (templateId: 2.16.840.1.113883.10.20.22.2.9)

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

- a. Contains exactly one [1..1] *Consol Instructions Section* (templateId: 2.16.840.1.113883.10.20.22.2.45)

- *Instructions Section will satisfy the following MU2 elements :*
 - *Clinical instructions*
 - *Recommended patient decision aids (if applicable to the visit)*

30. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Interventions Section* (templateId: 2.16.840.1.113883.10.20.21.2.3)

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

- a. Contains exactly one [1..1] *Consol Hospital Discharge Instructions Section* (templateId: 2.16.840.1.113883.10.20.22.2.41)

- *Inpatient Setting Only: Discharge instructions*
- *Instructions Section will satisfy the following MU2 elements :*
 - *Inpatient Setting Only: Discharge instructions*

32. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Assessment Section* (templateId: 2.16.840.1.113883.10.20.22.2.8)

33. Contains zero or one [0..1] component

- a. Contains exactly one [1..1] *Consol Hospital Admission Diagnosis Section* (templateId: 2.16.840.1.113883.10.20.22.2.43)
- 34. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Hospital Discharge Diagnosis Section* (templateId: 2.16.840.1.113883.10.20.22.2.24)
- 35. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Encounters Section* (templateId: 2.16.840.1.113883.10.20.22.2.22.1)
 - *Captured in Encounters section if using CCD*
- 36. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Postoperative Diagnosis Section* (templateId: 2.16.840.1.113883.10.20.22.2.35)
- 37. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Postprocedure Diagnosis Section* (templateId: 2.16.840.1.113883.10.20.22.2.36)
- 38. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol History Of Past Illness Section* (templateId: 2.16.840.1.113883.10.20.22.2.20)
- 39. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Preoperative Diagnosis Section* (templateId: 2.16.840.1.113883.10.20.22.2.34)
- 40. Contains zero or one [0..1] **component**
 - a. Contains exactly one [1..1] *Consol Reason For Referral Section* (templateId: 1.3.6.1.4.1.19376.1.5.3.1.3.1)
- 41. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)
- 42. **SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
- 43. **SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
- 44. **SHALL** satisfy: medicationListConstraint
- 45. **SHALL** satisfy: problemEntry

Summary Of Care Record example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId root="2.16.840.1.113883.11.11.11.1.1"/>
  <id root="MDHT" extension="1026441090"/>
  <code code="336621133"/>
  <title>TEXT FOR TITLE</title>
  <effectiveTime/>
  <confidentialityCode code="904824398"/>
  <recordTarget>
    <patientRole/>
  </recordTarget>
```


[illegible]

```

    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    <component>
      <section/>
    </component>
    </structuredBody>
  </component>
</ClinicalDocument>

```

VDT Ambulatory Patient Info

[ClinicalDocument: templateId 2.16.840.1.113883.11.11.11.1.3]

Objective : 170.314(e)(1) (View, download, and transmit to 3rd party) for EH/CAH

1. **SHALL** conform to [General Header Constraints](#) template (templateId: 2.16.840.1.113883.10.20.22.1.1)
2. **SHALL** contain exactly one [1..1] **socialHistorySection** with data type SocialHistorySection
3. Contains exactly one [1..1] **problemSection** with data type ProblemSection
4. Contains zero or one [0..1] **medicationsSection** with data type MedicationsSection
5. Contains zero or one [0..1] **hospitalAdmissionMedicationsSectionEntriesOptional** with data type HospitalAdmissionMedicationsSectionEntriesOptional
6. Contains zero or one [0..1] **hospitalDischargeMedicationsSection** with data type HospitalDischargeMedicationsSection
7. Contains zero or one [0..1] **allergiesSection** with data type AllergiesSection
8. Contains zero or one [0..1] **allergiesSectionEntriesOptional** with data type AllergiesSectionEntriesOptional
9. Contains exactly one [1..1] **resultsSection** with data type ResultsSection
10. Contains zero or one [0..1] **vitalSignsSection** with data type VitalSignsSection

11. Contains zero or one [0..1] **vitalSignsSectionEntriesOptional** with data type VitalSignsSectionEntriesOptional
12. Contains exactly one [1..1] **planOfCareSection** with data type PlanOfCareSection
13. Contains exactly one [1..1] **proceduresSection** with data type ProceduresSection
14. Contains exactly one [1..1] **immunizationsSection** with data type ImmunizationsSection
15. Contains exactly one [1..1] **medicationsAdministeredSection** with data type MedicationsAdministeredSection
16. Contains zero or one [0..1] **reasonForVisitSection** with data type ReasonForVisitSection
17. Contains zero or one [0..1] **chiefComplaintSection** with data type ChiefComplaintSection
18. Contains zero or one [0..1] **chiefComplaintAndReasonForVisitSection** with data type ChiefComplaintAndReasonForVisitSection
19. Contains zero or one [0..1] **assessmentAndPlanSection** with data type AssessmentAndPlanSection
20. Contains exactly one [1..1] **instructionsSection** with data type InstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - Clinical instructions
 - Recommended patient decision aids (if applicable to the visit)
21. Contains zero or one [0..1] **interventionsSection** with data type InterventionsSection
22. Contains exactly one [1..1] **hospitalDischargeInstructionsSection** with data type HospitalDischargeInstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - Inpatient Setting Only: Discharge instructions
23. Contains zero or one [0..1] **assessmentSection** with data type AssessmentSection
24. Contains zero or one [0..1] **hospitalAdmissionDiagnosisSection** with data type HospitalAdmissionDiagnosisSection
25. Contains zero or one [0..1] **hospitalDischargeDiagnosisSection** with data type HospitalDischargeDiagnosisSection
26. **SHALL** contain zero or one [0..1] **encountersSection** with data type EncountersSection
27. Contains zero or one [0..1] **postoperativeDiagnosisSection** with data type PostoperativeDiagnosisSection
28. Contains zero or one [0..1] **postprocedureDiagnosisSection** with data type PostprocedureDiagnosisSection
29. Contains zero or one [0..1] **historyOfPastIllnessSection** with data type HistoryOfPastIllnessSection
30. Contains zero or one [0..1] **preoperativeDiagnosisSection** with data type PreoperativeDiagnosisSection
31. Contains zero or one [0..1] **reasonForReferralSection** with data type ReasonForReferralSection
32. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)
33. **SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
34. **SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
35. **SHALL** satisfy: medicationListConstraint
36. **SHALL** satisfy: problemEntry
1. **SHALL** conform to [General Header Constraints](#) template (templateId: 2.16.840.1.113883.10.20.22.1.1)
2. Contains exactly one [1..1] **typeId** with data type [Infrastructure Root Type Id](#)
3. Contains exactly one [1..1] **id** with data type II
4. Contains exactly one [1..1] **code** with data type CE

5. Contains exactly one [1..1] **effectiveTime** with data type TS
6. Contains exactly one [1..1] **confidentialityCode** with data type CE
7. **SHALL** contain exactly one [1..1] **socialHistorySection** with data type SocialHistorySection
8. Contains exactly one [1..1] **problemSection** with data type ProblemSection
9. Contains zero or one [0..1] **medicationsSection** with data type MedicationsSection
10. Contains zero or one [0..1] **hospitalAdmissionMedicationsSectionEntriesOptional** with data type HospitalAdmissionMedicationsSectionEntriesOptional
11. Contains zero or one [0..1] **hospitalDischargeMedicationsSection** with data type HospitalDischargeMedicationsSection
12. Contains zero or one [0..1] **allergiesSection** with data type AllergiesSection
13. Contains zero or one [0..1] **allergiesSectionEntriesOptional** with data type AllergiesSectionEntriesOptional
14. Contains exactly one [1..1] **resultsSection** with data type ResultsSection
15. Contains zero or one [0..1] **vitalSignsSection** with data type VitalSignsSection
16. Contains zero or one [0..1] **vitalSignsSectionEntriesOptional** with data type VitalSignsSectionEntriesOptional
17. Contains exactly one [1..1] **planOfCareSection** with data type PlanOfCareSection
18. Contains exactly one [1..1] **proceduresSection** with data type ProceduresSection
19. Contains exactly one [1..1] **immunizationsSection** with data type ImmunizationsSection
20. Contains exactly one [1..1] **medicationsAdministeredSection** with data type MedicationsAdministeredSection
21. Contains zero or one [0..1] **reasonForVisitSection** with data type ReasonForVisitSection
22. Contains zero or one [0..1] **chiefComplaintSection** with data type ChiefComplaintSection
23. Contains zero or one [0..1] **chiefComplaintAndReasonForVisitSection** with data type ChiefComplaintAndReasonForVisitSection
24. Contains zero or one [0..1] **assessmentAndPlanSection** with data type AssessmentAndPlanSection
25. Contains exactly one [1..1] **instructionsSection** with data type InstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - *Clinical instructions*
 - *Recommended patient decision aids (if applicable to the visit)*
26. Contains zero or one [0..1] **interventionsSection** with data type InterventionsSection
27. Contains exactly one [1..1] **hospitalDischargeInstructionsSection** with data type HospitalDischargeInstructionsSection
 - *Instructions Section will satisfy the following MU2 elements :*
 - *Inpatient Setting Only: Discharge instructions*
28. Contains zero or one [0..1] **assessmentSection** with data type AssessmentSection
29. Contains zero or one [0..1] **hospitalAdmissionDiagnosisSection** with data type HospitalAdmissionDiagnosisSection
30. Contains zero or one [0..1] **hospitalDischargeDiagnosisSection** with data type HospitalDischargeDiagnosisSection
31. **SHALL** contain zero or one [0..1] **encountersSection** with data type EncountersSection
32. Contains zero or one [0..1] **postoperativeDiagnosisSection** with data type PostoperativeDiagnosisSection
33. Contains zero or one [0..1] **postprocedureDiagnosisSection** with data type PostprocedureDiagnosisSection
34. Contains zero or one [0..1] **historyOfPastIllnessSection** with data type HistoryOfPastIllnessSection
35. Contains zero or one [0..1] **preoperativeDiagnosisSection** with data type PreoperativeDiagnosisSection
36. Contains zero or one [0..1] **reasonForReferralSection** with data type ReasonForReferralSection
37. Contains at least one [1..*] **author**, where its type is *Author*
 - a. Contains exactly one [1..1] *Author*

38. Contains exactly one [1..1] **custodian**, where its type is *Custodian*
- a. Contains exactly one [1..1] *Custodian*
39. Contains exactly one [1..1] **component**, where its type is *Component2*
- a. Contains exactly one [1..1] *Component2*
40. **SHALL** contain at least one [1..*] **recordTarget**
- a. Such recordTargets **SHALL** contain exactly one [1..1] **patientRole**
 - a. This patientRole **SHALL** contain exactly one [1..1] **patient**
 - a. This patient Contains exactly one [1..1] **name**
 - b. This patient Contains exactly one [1..1] **administrativeGenderCode**
 - c. This patient Contains exactly one [1..1] **ethnicGroupCode**
 - d. This patient Contains exactly one [1..1] **raceCode**
 - e. This patient **SHALL** contain exactly one [1..1] **languageCommunication**
 - a. This languageCommunication Contains exactly one [1..1] **languageCode**
 - f. This patient Contains exactly one [1..1] **birthTime**
41. Contains zero or more [0..*] **documentationOf**
- a. Such documentationOfs Contains exactly one [1..1] **serviceEvent**
 - a. This serviceEvent Contains at least one [1..*] **performer**
 - a. Such performers Contains exactly one [1..1] **assignedEntity**, where its type is CDA Assigned Entity
 - a. Contains exactly one [1..1] CDA Assigned Entity
42. Contains zero or one [0..1] **componentOf**
- a. This componentOf Contains exactly one [1..1] **encompassingEncounter**, where its type is CDA Encompassing Encounter
 - a. Contains exactly one [1..1] CDA Encompassing Encounter
43. **SHALL** satisfy: cannotHaveChiefComplaintAndReasonForVisitWithChiefComplaintSectionOrReasonSection (CONF:10055)
44. **SHALL** have one of Assessment (2.16.840.1.113883.10.20.22.2.8) or Assessment and Plan (2.16.840.1.113883.10.20.22.2.9) or Hospital Admission Diagnosis (2.16.840.1.113883.10.20.22.2.43) or Hospital Discharge Diagnosis (2.16.840.1.113883.10.20.22.2.24) or Postoperative Diagnosis (2.16.840.1.113883.10.20.22.2.35) or Postprocedure Diagnosis (2.16.840.1.113883.10.20.22.2.36) or Encounters (entries required: 2.16.840.1.113883.10.20.22.2.22.1) or Problem (entries required: 2.16.840.1.113883.10.20.22.2.5.1)
45. **SHALL** satisfy: canHaveEitherRequiredOrOptionalVitalSignsSection
46. **SHALL** satisfy: medicationListConstraint
47. **SHALL** satisfy: problemEntry

VDT Ambulatory Patient Info example

```
<?xml version="1.0" encoding="UTF-8"?>
<ClinicalDocument xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns="urn:hl7-org:v3" xsi:schemaLocation="urn:hl7-org:v3 CDA.xsd">
  <typeId root="2.16.840.1.113883.1.3"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId root="2.16.840.1.113883.11.11.11.1.3"/>
  <id root="MDHT" extension="1374257255"/>
  <code code="1317871088"/>
  <title>TEXT FOR TITLE</title>
  <effectiveTime/>
  <confidentialityCode code="481456910"/>
  <recordTarget>
```

```
    <patientRole/>  
  </recordTarget>  
  <author>  
    <time/>  
    <assignedAuthor/>  
  </author>  
  <custodian/>  
  <component/>  
</ClinicalDocument>
```

VDT Inpatient Patient Info

VDT Inpatient Patient Info example

Chapter

3

SECTION TEMPLATES

Chapter

4

CLINICAL STATEMENT TEMPLATES

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

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

REFERENCES

- HL7 Implementation Guide: CDA Release 2 – Continuity of Care Document (CCD) A CDA implementation of ASTM E2369-05 Standard Specification for Continuity of Care Record® (CCR) April 01, 2007 available through [HL7](#) .
- HL7 Implementation Guide for CDA Release 2 Quality Reporting Document Architecture (QRDA) Draft Standard for Trial Use March 2009. Available at: [Quality Reporting Document Architecture \(QRDA\)](#)
- HL7 Implementation Guide for CDA Release 2 CDA for Public Health Case Reports (PHCR) Informative Standard October 2009. Available through [HL7](#) .
- HL7 Implementation Guide for CDA Release 2: NHSN Healthcare Associated Infection (HAI) Reports, Release 2 Draft Standard for Trial Use January 2009 Available at: [NHSN Healthcare Associated Infection \(HAI\) Reports](#)
- Dolin RH, Alschuler L, Boyer S, Beebe C, Behlen FM, Biron PV, Shabo A, (Editors). HL7 Clinical Document Architecture, Release 2.0. ANSI-approved HL7 Standard; May 2005. Ann Arbor, Mich.: Health Level Seven, Inc. Available through [HL7](#) or if an HL7 member with the following link: [CDA Release 2 Normative Web Edition](#).
- [LOINC®](#) : Logical Observation Identifiers Names and Codes, Regenstrief Institute.
- [SNOMED CT®](#) : SNOMED Clinical Terms SNOMED International Organization.
- Extensible Markup Language, www.w3.org/XML .
- Dolin RH, Alschuler L, Boyer S, Beebe C, Behlen FM, Biron PV, Shabo A., HL7 Clinical Document Architecture, Release 2. J Am Med Inform Assoc. 2006;13:30-39. Available at: <http://www.jamia.org/cgi/reprint/13/1/30> .
- 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](#)

