

- a. **SHALL** contain exactly one [1..1] @code, which **SHALL** be selected from ValueSet [Care Team Category](#) urn:oid:2.16.840.1.113883.4.642.3.155 **DYNAMIC** (CONF:4435-109).

Figure 6: Care Team Type Example

```
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.500.2" extention="2019-07-01"/>
  <!--Care Team Type-->
  <code code="86744-0"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Care team" />
  <statusCode code="completed" />
  <value xsi:type="CD" code="LA28865-6"
    codeSystem="2.16.840.1.113883.6.1"
    displayName="Longitudinal care-coordination focused care team"/>
</observation>
```

2.6 Note Activity

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01
(open)]

Table 14: Note Activity Contexts

Contained By:	Contains:
Notes Section (required) Care Team Member Act (optional) Care Team Organizer (optional)	

The Note Activity represents a clinical note. Notes require authorship, authentication, timing information, and references to other discrete data such as encounters. Similar to the Comment Activity, the Note Activity permits a more specific code to characterize the type of information available in the note. The Note Activity template SHOULD NOT be used in place of a more specific C-CDA entry. Note information included needs to be relevant and pertinent to the information being communicated in the document.

When the note information augments data represented in a more specific entry template, the Note Activity can be used in an entryRelationship to the associated standard C-CDA entry. For example, a Procedure Note added as an entryRelationship to a Procedure Activity Procedure entry). The Note Activity template can be used as a standalone entry within a standard C-CDA section (e.g., a note about various procedures which have occurred during a visit as an entry in the Procedures Section) when it does not augment another standard entry. It may also be used to provide additional data about the source of a currently narrative-only section, such as Hospital Course. Finally, if the type of data in the note is not known or no single C-CDA section is appropriate enough, the Note Activity should be placed in a Notes Section. (e.g., a free-text consultation note or a note which includes subjective, objective, assessment, and plan information combined). An alternative is to place the Note Activity as an entryRelationship to an Encounter Activity entry in

Appendix A: Templates defined in C-CDA R2.1 Companion Guide

the Encounters Section, but implementers may wish to group notes categorically into a separate location in CDA documents rather than overloading the Encounters Section.

Appendix A: Templates defined in C-CDA R2.1 Companion Guide

Table 15: Note Activity Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.202:2016-11-01)					
@classCode	1..1	SHALL		3250-16899	ACT
@moodCode	1..1	SHALL		3250-16900	EVN
templateId	1..1	SHALL		3250-16933	
@root	1..1	SHALL		3250-16934	2.16.840.1.113883.10.20.22.4.202
@extension	1..1	SHALL		3250-16937	2016-11-01
code	1..1	SHALL		3250-16895	
@code	1..1	SHALL		3250-16940	urn:oid:2.16.840.1.113883.6.1 (LOINC) = 34109-9
@codeSystem	1..1	SHALL		3250-16941	2.16.840.1.113883.6.1
translation	0..*	SHOULD		3250-16939	urn:oid:2.16.840.1.113883.11.20.9.68 (Note Types)
text	1..1	SHALL		3250-16896	
@mediaType	0..1	MAY		3250-16906	urn:oid:2.16.840.1.113883.11.20.7.1 (SupportedFileFormats)
reference	1..1	SHALL		3250-16897	
@nullFlavor	0..0	SHALL NOT		3250-16920	
@value	1..1	SHALL		3250-16898	
statusCode	1..1	SHALL		3250-16916	
effectiveTime	1..1	SHALL		3250-16903	
@value	0..1	SHOULD		3250-16917	
author	1..*	SHALL		3250-16913	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
participant	0..*	MAY		3250-16923	
@typeCode	1..1	SHALL		3250-16925	LA
time	1..1	SHALL		3250-	US Realm Date and Time

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XPath	Card.	Verb	Data Type	CONF#	Value
				16926	(DT.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.3)
participantRole	1..1	SHALL		3250-16924	
id	1..*	SHALL		3250-16927	
playingEntity	0..1	MAY		3250-16928	
name	1..*	SHALL		3250-16929	US Realm Person Name (PN.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1)
entryRelationship	0..*	SHOULD		3250-16907	
@typeCode	1..1	SHALL		3250-16921	COMP
@inversionInd	1..1	SHALL		3250-16922	true
@negationInd	0..1	MAY		3250-16931	
encounter	1..1	SHALL		3250-16908	
id	1..*	SHALL		3250-16909	
reference	0..*	MAY		3250-16910	
externalDocument	1..1	SHALL		3250-16911	
id	1..1	SHALL		3250-16915	
code	0..1	SHOULD		3250-16918	

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" Act (CONF:3250-16899).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CONF:3250-16900).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:3250-16933) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.202" (CONF:3250-16934).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2016-11-01" (CONF:3250-16937).
4. **SHALL** contain exactly one [1..1] **code** (CONF:3250-16895).
 - a. This code **SHALL** contain exactly one [1..1] **@code**="34109-9" Note (CodeSystem: LOINC urn:oid:2.16.840.1.113883.6.1) (CONF:3250-16940).
 - b. This code **SHALL** contain exactly one [1..1] **@codeSystem**="2.16.840.1.113883.6.1" LOINC (CONF:3250-16941).

- c. This code **SHOULD** contain zero or more [0..*] **translation**, which **SHALL** be selected from ValueSet [Note Types](#) urn:oid:2.16.840.1.113883.11.20.9.68 **DYNAMIC** (CONF:3250-16939) such that it

For example - a Cardiologist consult note may specialize a Consult note but not a Progress note

- i. When the Note Activity is within a Note Section, the code **SHOULD** match or specialize the section code (CONF:3250-16942).
 - ii. If the Note Activity is within a typically narrative-only section, the code **MAY** match the section code (CONF:3250-16943).
5. **SHALL** contain exactly one [1..1] **text** (CONF:3250-16896).

If the note was originally in another format, such as RTF, this element may also contain the base-64-encoded raw data of the note in addition to a reference to the narrative.

- a. This text **MAY** contain zero or one [0..1] **@mediaType**, which **SHOULD** be selected from ValueSet [SupportedFileFormats](#) urn:oid:2.16.840.1.113883.11.20.7.1 **DYNAMIC** (CONF:3250-16906).
 - i. If @mediaType is present, the text **SHALL** contain exactly one [1..1] **@representation="B64"** and mixed content corresponding to the contents of the note (CONF:3250-16912).
- b. This text **SHALL** contain exactly one [1..1] **reference** (CONF:3250-16897).

The note activity must reference human-readable content in the narrative, so this reference must not be null.

- i. This reference **SHALL NOT** contain [0..0] **@nullFlavor** (CONF:3250-16920).
- ii. This reference **SHALL** contain exactly one [1..1] **@value** (CONF:3250-16898).
 1. This reference/@value **SHALL** begin with a '#' and **SHALL** point to its corresponding narrative (using the approach defined in CDA Release 2, section 4.3.5.1) (CONF:3250-16902).

Indicates the status of the note. The most common statusCode is completed indicating the note is signed and finalized.

6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:3250-16916).

The effectiveTime represents the clinically relevant time of the note. The precise timestamp of creation / updating should be conveyed in author/time.

7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:3250-16903).
- a. This effectiveTime **SHOULD** contain zero or one [0..1] **@value** (CONF:3250-16917).

Represents the person(s) who wrote the note.

8. **SHALL** contain at least one [1..*] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:3250-16913).

Represents the person(s) legally responsible for the contents of the note.

9. **MAY** contain zero or more [0..*] **participant** (CONF:3250-16923) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode="LA"** Legal Authenticator (CONF:3250-16925).

Indicates the time of signing the note.

- b. **SHALL** contain exactly one [1..1] US Realm Date and Time (DT.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.3) (CONF:3250-16926).
- c. **SHALL** contain exactly one [1..1] **participantRole** (CONF:3250-16924).

This may be the ID of the note author. If so, no additional information in this participant is required.

- i. This participantRole **SHALL** contain at least one [1..*] **id** (CONF:3250-16927).
- ii. This participantRole **MAY** contain zero or one [0..1] **playingEntity** (CONF:3250-16928).
 - 1. The playingEntity, if present, **SHALL** contain at least one [1..*] US Realm Person Name (PN.US.FIELDED) (identifier: urn:oid:2.16.840.1.113883.10.20.22.5.1.1) (CONF:3250-16929).
- iii. If no id matches an author or participant elsewhere in the document, then playingEntity **SHALL** be present (CONF:3250-16930).

Links the note to an encounter. If the Note Activity is present within a document containing an encompassingEncounter, then this entryRelationship is optional and the note is associated with the encounter represented by the encompassingEncounter.

10. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:3250-16907) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode**="COMP" (CONF:3250-16921).
- b. **SHALL** contain exactly one [1..1] **@inversionInd**="true" (CONF:3250-16922).

To communicate that the note is not associated with any encounter, this entryRelationship **MAY** be included with **@negationInd**=true and **encounter/id/@nullFlavor**=NA. The **negationInd** + **encounter** indicate this note is not associated with any encounter.

- c. **MAY** contain zero or one [0..1] **@negationInd** (CONF:3250-16931).
- d. **SHALL** contain exactly one [1..1] **encounter** (CONF:3250-16908).
 - i. This encounter **SHALL** contain at least one [1..*] **id** (CONF:3250-16909).
 - 1. If the id does not match an encounter/id from the Encounters Section within the same document and the id does not contain **@nullFlavor**=NA, then this entry **SHALL** conform to the Encounter Activity (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01) (CONF:3250-16914).

Represents an unstructured C-CDA document containing the original contents of the note in the original format.

11. **MAY** contain zero or more [0..*] **reference** (CONF:3250-16910) such that it

- a. **SHALL** contain exactly one [1..1] **externalDocument** (CONF:3250-16911).
 - i. This externalDocument **SHALL** contain exactly one [1..1] **id** (CONF:3250-16915).
 - ii. This externalDocument **SHOULD** contain zero or one [0..1] **code** (CONF:3250-16918).

Figure 7: Note Activity as entryRelationship to C-CDA Entry

```
<?xml version="1.0" encoding="UTF-8"?>
<section>
  <!-- C-CDA 2.1 Procedures Section -->
  <templateId root="2.16.840.1.113883.10.20.22.2.7.1"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.7.1" extension="2014-06-09"/>
  <code code="47519-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="HISTORY OF PROCEDURES"/>
  <title>Procedures</title>
  <text>
    <table>
      <thead>
        <tr>
          <th>Description</th>
          <th>Date and Time (Range)</th>
          <th>Status</th>
          <th>Notes</th>
        </tr>
      </thead>
      <tbody>
        <tr ID="Procedure1">
          <td ID="ProcedureDesc1">Laparoscopic appendectomy</td>
          <td>(03 Feb 2014 09:22am- 03 Feb 2014 11:15am)</td>
          <td>Completed</td>
          <td ID="ProcedureNote1">
            <paragraph>Dr. Physician - 03 Feb 2014</paragraph>
            <paragraph>Free-text note about the procedure.</paragraph>
          </td>
        </tr>
      </tbody>
    </table>
  </text>
  <entry typeCode="DRIV">
    <!-- Procedures should be used for care that directly changes the patient's
physical state.-->
    <procedure moodCode="EVN" classCode="PROC">
      <templateId root="2.16.840.1.113883.10.20.22.4.14" />
      <id root="64af26d5-88ef-4169-ba16-c6ef16a1824f"/>
      <code code="6025007" displayName="Laparoscopic appendectomy"
codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED-CT">
        <originalText>
          <reference value="#ProcedureDesc1" />
        </originalText>
      </code>
      <text>
        <reference value="#Procedure1" />
      </text>
      <statusCode code="completed" />
      <effectiveTime>
        <low value="20140203092205-0700" />
        <high value="20140203111514-0700" />
      </effectiveTime>
      <!-- Note Activity entry -->
      <entryRelationship typeCode="COMP">
        <act classCode="ACT" moodCode="EVN">
```

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```

                                <templateId root="2.16.840.1.113883.10.20.22.4.202" extension="2016-11-
01"/>
                                <code code="34109-9" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Note">
                                <translation code="28570-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Procedure note" />
                                </code>
                                <text>
                                    <reference value="#ProcedureNote1" />
                                </text>
                                <statusCode code="completed"/>
                                <!-- Clinically-relevant time of the note -->
                                <effectiveTime value="20140203" />
                                <!-- Author Participation -->
                                <author>
                                    <templateId root="2.16.840.1.113883.10.20.22.4.119" />
                                    <!-- Time note was actually written -->
                                    <time value="20140204083215-0500" />
                                    <assignedAuthor>
                                        <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
                                        <name>Dr. Physician</name>
                                    </assignedAuthor>
                                </author>
                                <!-- Reference to encounter -->
                                <entryRelationship typeCode="COMP" inversionInd="true">
                                    <encounter>
                                        <!-- Encounter ID matches an encounter in the Encounters
Section -->
                                        <id root="1.2.3.4" />
                                    </encounter>
                                </entryRelationship>
                                </act>
                            </entryRelationship>
                        </procedure>
                    </entry>
                </section>
```


Figure 8: Note Activity as Standalone Entry

```
<section>
  <!-- C-CDA 2.1 Procedures Section, entries optional -->
  <templateId root="2.16.840.1.113883.10.20.22.2.7"/>
  <templateId root="2.16.840.1.113883.10.20.22.2.7" extension="2014-06-09"/>
  <code code="47519-4" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="HISTORY OF PROCEDURES"/>
  <title>Procedures</title>
  <text>
    <list>
      <item ID="ProcedureNote1">
        <paragraph>Dr. Physician - 03 Feb 2014</paragraph>
        <paragraph>Free-text note about procedures which have occurred during this
visit.</paragraph>
      </item>
    </list>
  </text>
  <!-- If section were entries required, an additional <entry nullFlavor="NI"> would be
required for a Procedure Activity -->
  <!-- Note Activity entry -->
  <entry>
    <act classCode="ACT" moodCode="EVN">
      <templateId root="2.16.840.1.113883.10.20.22.4.202" extension="2016-11-01"/>
      <code code="34109-9" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Note">
        <translation code="28570-0" codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" displayName="Procedure note" />
      </code>
      <text>
        <reference value="#ProcedureNote1" />
      </text>
      <statusCode code="completed"/>
      <!-- Clinically-relevant time of the note -->
      <effectiveTime value="20140203" />
      <!-- Author Participation -->
      <author>
        <templateId root="2.16.840.1.113883.10.20.22.4.119" />
        <!-- Time note was actually written -->
        <time value="20140204083215-0500" />
        <assignedAuthor>
          <id root="20cf14fb-b65c-4c8c-a54d-b0cca834c18c" />
          <name>Dr. Physician</name>
        </assignedAuthor>
      </author>
      <!-- Reference to encounter -->
      <entryRelationship typeCode="COMP" inversionInd="true">
        <encounter>
          <!-- Encounter ID matches an encounter in the Encounters Section -->
          <id root="1.2.3.4" />
        </encounter>
      </entryRelationship>
    </act>
  </entry>
</section>
```

Figure 9: RTF Example

```
<section>
  <!--... -->
  <text>
    <list>
      <item ID="note1">
        <caption>Nursing Note written by Nick Nurse</caption>
        <paragraph>Completed rounds; no incident</paragraph>
      </item>
    </list>
  </text>
  <!-- Note Activity (extra markup removed to focus on <text>) -->
  <entry>
    <act>
      <code>...</code>
      <text mediaType="text/rtf"
representation="B64">e1xydGYxXGFuc2lcYW5zaWNwZzEyNTJcZGVmZjBcbm9laWNvbXBhdFxxkZWZsYW5nMTAzM3
tcZm9udHRibHtcZjBcZm5pbFxmY2hhcnNldDagQ2FsaWJyaTt9fQ0KelwqXGdlbmVyYXRvcibSaWNoZWQyMCA2LjMuO
TYwMHlcdmllld2tpbmQ0XHVjMSANC1xwYXJkXHNhMjAwXHNsMjc2XHNsbXVsdDFcZjBcZnMyMlxsYW5nOSBDb2lwbGV0
ZWQgcm91bmRzOyBubyBpbmNpZGVudFxxwYXINCn0NCiA=
      <reference value="#note1"/>
    </text>
    <!--...-->
  </act>
</entry>
```

2.7 Section Time Range Observation

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.201:2016-06-01 (open)]

This observation represents the date and time range of the information contained in a section. It is an optional entry and may be used in any section.