

Figure 21: 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">e1xydGYxXGFuc2lcYW5zaWNwZzEyNTJcZGVmZjBcbm9laWNvbXBhdFxxZWZsYW5nMTAzM3
tcZm9udHRibHtcZjBcZm5pbFxmY2hhcnNldDagQ2FsaWJyaTt9fQ0KelwqXGdlbmVyYXRvciBSaWN0ZWQyMCA2LjMuO
TYwMHlcdmllld2tpbmQ0XHVjMSANC1xwYXJkXHNhMjAwXHNsMjc2XHNsbXVsdDFcZjBcZnMyMlxsYW5nOSBD21wbGV0
ZWQgcmlbmRzOyBubyBpbmNpZGVudFxxwYXINCn0NCiA=

      <reference value="#note1"/>
    </text>
    <!--...-->
  </act>
</entry>
</section>
```

3.13 Planned Procedure (V3)

[procedure: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2022-06-01
(open)]

This template represents planned alterations of the patient's physical condition. Examples of such procedures are tracheostomy, knee replacement, and craniectomy. The priority of the procedure to the patient and provider is communicated through Priority Preference. The effectiveTime indicates the time when the procedure is intended to take place and authorTime indicates when the documentation of the plan occurred. The Planned Procedure Template may also indicate the potential insurance coverage for the procedure.

Planned Procedure V3 Usage Note: Common practice in the industry has shown that Planned Procedure is the usually implemented CDA template for any type of intervention or procedure regardless of if the "immediate and primary outcome (post-condition) is the alteration of the physical condition of the patient", or not. As a result, it is recommended to use Planned Procedure when sending procedures also thought of as "interventions" such as "Home Environment Evaluation" or "Assessment of nutritional status".

Table 23: Planned Procedure (V3) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
procedure (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.41:2022-06-01)					
@classCode	1..1	SHALL		4515-8568	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PROC
@moodCode	1..1	SHALL		4515-8569	urn:oid:2.16.840.1.113883.11.20.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		4515-30444	
@root	1..1	SHALL		4515-30445	2.16.840.1.113883.10.20.22.4.41
@extension	1..1	SHALL		4515-32554	2014-06-09
id	1..*	SHALL		4515-8571	
code	1..1	SHALL		4515-31976	
statusCode	1..1	SHALL		4515-30446	
@code	1..1	SHALL		4515-31978	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	SHOULD		4515-30447	
methodCode	0..*	MAY		4515-31980	
targetSiteCode	0..*	MAY		4515-31981	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
performer	0..*	MAY		4515-30449	
author	0..1	SHOULD		4515-31979	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)
entryRelationship	0..*	MAY		4515-31079	
@typeCode	1..1	SHALL		4515-31080	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		4515-31081	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		4515-31982	

XPath	Card.	Verb	Data Type	CONF#	Value
@typeCode	1..1	SHALL		4515-31983	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4515-31984	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09
entryRelationship	0..*	MAY		4515-31985	
@typeCode	1..1	SHALL		4515-31986	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
@inversionInd	1..1	SHALL		4515-31987	true
act	1..1	SHALL		4515-31989	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09
entryRelationship	0..*	MAY		4515-31990	
@typeCode	1..1	SHALL		4515-31991	COMP
act	1..1	SHALL		4515-31992	Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129
entryRelationship	0..*	MAY		4515-32994	
@typeCode	1..1	SHALL		4515-32998	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		4515-32995	Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69
entryRelationship	0..*	MAY		4515-32996	
@typeCode	1..1	SHALL		4515-32999	RSON
act	1..1	SHALL		4515-32997	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122

164. **SHALL** contain exactly one [1..1] @classCode="PROC" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:4515-8568).

165. **SHALL** contain exactly one [1..1] @moodCode, which **SHALL** be selected from ValueSet [Planned moodCode \(Act/Encounter/Procedure\)](#) urn:oid:2.16.840.1.113883.11.20.9.23 **STATIC** 2011-09-30 (CONF:4515-8569).

166. **SHALL** contain exactly one [1..1] templateId (CONF:4515-30444) such that it

- a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.41" (CONF:4515-30445).
 - b. **SHALL** contain exactly one [1..1] **@extension**="2014-06-09" (CONF:4515-32554).
167. **SHALL** contain at least one [1..*] **id** (CONF:4515-8571).
168. **SHALL** contain exactly one [1..1] **code** (CONF:4515-31976).
- a. The procedure/code in a planned procedure **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) **OR** SNOMED CT (CodeSystem: 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (CodeSystem: 2.16.840.1.113883.6.12) **OR** ICD10 PCS (CodeSystem: 2.16.840.1.113883.6.4) **OR** HCPDS (Code System: 2.16.840.1.113762.1.4.1247.9) (CONF:4515-31977).
 - b. If the Planned Intervention Procedure is a Social Determinant of Health Planned Intervention Procedure, the procedure code **SHOULD** be selected from ValueSet **Social Determinant of Health Service Request****DYNAMIC** (CONF:4515-32993).
169. **SHALL** contain exactly one [1..1] **statusCode** (CONF:4515-30446).
- a. This statusCode **SHALL** contain exactly one [1..1] **@code**="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:4515-31978).

The effectiveTime in a planned procedure represents the time that the procedure should occur.

170. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:4515-30447).

In a planned procedure the provider may suggest that a procedure should be performed using a particular method.

MethodCode *SHALL NOT* conflict with the method inherent in Procedure / code.

171. **MAY** contain zero or more [0..*] **methodCode** (CONF:4515-31980).

The targetSiteCode is used to identify the part of the body of concern for the planned procedure.

172. **MAY** contain zero or more [0..*] **targetSiteCode**, which **SHALL** be selected from ValueSet **Body Site Value Set** urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 **DYNAMIC** (CONF:4515-31981).

The clinician who is expected to perform the procedure could be identified using procedure/performer.

173. **MAY** contain zero or more [0..*] **performer** (CONF:4515-30449).

The author in a planned procedure represents the clinician who is requesting or planning the procedure.

174. **SHOULD** contain zero or one [0..1] Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:4515-31979).

The following entryRelationship represents the priority that a patient or a provider places on the procedure.

175. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:4515-31079) such that it
- a. **SHALL** contain exactly one [1..1] **@typeCode**="REFR" Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31080).

- b. **SHALL** contain exactly one [1..1] Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:4515-31081).

The following entryRelationship represents the indication for the procedure.

- 176. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31982) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has Reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31983).
 - b. **SHALL** contain exactly one [1..1] Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09) (CONF:4515-31984).

The following entryRelationship captures any instructions associated with the planned procedure.

- 177. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31985) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="SUBJ" Has Subject (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-31986).
 - b. **SHALL** contain exactly one [1..1] @inversionInd="true" True (CONF:4515-31987).
 - c. **SHALL** contain exactly one [1..1] Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09) (CONF:4515-31989).

The following entryRelationship represents the insurance coverage the patient may have for the procedure.

- 178. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-31990) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="COMP" Has component (CONF:4515-31991).
 - b. **SHALL** contain exactly one [1..1] Planned Coverage (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.129) (CONF:4515-31992).

When an Assessment Scale Observation is contained in a Procedure Template instance that is a Social Determinant of Health procedure, that Assessment scale **MAY** contain Assessment Scale observations that represent LOINC question and answer pairs from SDOH screening instruments.

- 179. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-32994) such that it
 - a. **SHALL** contain exactly one [1..1] @typeCode="RSON" Has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:4515-32998).
 - b. **SHALL** contain exactly one [1..1] Assessment Scale Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.69) (CONF:4515-32995).

When an Entry Reference Template is contained in a Procedure Template instance that is a Social Determinant of Health procedure, that Entry Reference **MAY** refer to Assessment Scale Observation in the same document that represent LOINC question and answer pairs from SDOH screening instruments.

- 180. **MAY** contain zero or more [0..*] entryRelationship (CONF:4515-32996) such that it

- a. **SHALL** contain exactly one [1..1] @**typeCode**="RSON" Has reason (CONF:4515-32999).
- b. **SHALL** contain exactly one [1..1] Entry Reference (identifier:
urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:4515-32997).

Figure 22: Planned Procedure Example

```
<entry>
  <procedure moodCode="RQO" classCode="PROC">
    <!-- **Planned Procedure template ** -->
    <templateId root="2.16.840.1.113883.10.20.22.4.41" />
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09" />
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2022-06-01" />
    <!-- **Planned Procedure template ** -->
    <id root="9a6d1bac-17d3-4195-89c4-1121bc809b5a" />
    <code code="73761001" codeSystem="2.16.840.1.113883.6.96" codeSystemName="SNOMED
CT" displayName="Colonoscopy" />
    <statusCode code="active" />
    <effectiveTime value="20130613" />
    <!-- Author Participation -->
    <author typeCode="AUT">
      ...
    </author>
    <entryRelationship typeCode="REFR">
      <observation classCode="OBS" moodCode="EVN">
        <!-- Patient Priority Preference-->
        <templateId root="2.16.840.1.113883.10.20.22.4.142" />
        ...
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="REFR">
      <observation classCode="OBS" moodCode="EVN">
        <!-- Provider Priority Preference-->
        <templateId root="2.16.840.1.113883.10.20.22.4.143" />
        ...
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="RSON">
      <observation classCode="OBS" moodCode="EVN">
        <!-- Indication-->
        <templateId root="2.16.840.1.113883.10.20.22.4.19" extension="2014-06-09"
/>
        ...
      </observation>
    </entryRelationship>
    <entryRelationship typeCode="SUBJ">
      <act classCode="ACT" moodCode="INT">
        <!-- Instruction-->
        <templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09"
/>
        ...
      </act>
    </entryRelationship>
    <entryRelationship typeCode="COMP">
      <observation classCode="ACT" moodCode="INT">
        <!-- Planned Coverage -->
        <templateId root="2.16.840.1.113883.10.20.22.4.129" />
        ...
      </observation>
    </entryRelationship>
  </procedure>
</entry>
```

```

        </observation>
    </entryRelationship>
</procedure>
</entry>

```

Figure 23: Social Determinant of Health Planned Procedure Example

```

<entry>
  <procedure classCode="PROC" moodCode="RQO">
    <templateId root="2.16.840.1.113883.10.20.22.4.41"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2014-06-09"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.41" extension="2022-06-01"/>
    <id extension="2448483" root="1.2.840.114350.1.13.5552.1.7.2.798268"/>
    <code code="464171000124102" codeSystem="2.16.840.1.113883.6.96"
displayName="Referral to Senior Farmers' Market Nutrition Program (procedure)"
codeSystemName="SNOMED-CT">
      <originalText>
        <reference value="#Procedure1name"/>
      </originalText>
    </code>
    <text>
      <reference value="#Procedure1"/>
    </text>
    <statusCode code="completed"/>
    <effectiveTime value="20160413"/>
  </procedure>
</entry>

```

3.14 Problem Observation (V4)

[observation: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.4:2022-06-01
(open)]

Table 24: Problem Observation (V4) Contexts

Contained By:	Contains:
	Date of Diagnosis Act (optional)

This template reflects a discrete observation about a patient's problem. Because it is a discrete observation, it will have a statusCode of "completed". The effectiveTime, also referred to as the “clinically relevant time” is the time at which the observation holds for the patient. For a provider seeing a patient in the clinic today, observing a history of heart attack that occurred five years ago, the effectiveTime is five years ago.

The effectiveTime of the Problem Observation is the definitive indication of whether or not the underlying condition is resolved. If the problem is known to be resolved, then an effectiveTime/high would be present. If the date of resolution is not known, then effectiveTime/high will be present with a nullFlavor of "UNK".