

**Figure 180: Nutritional Status Observation Example**

```
<observation classCode="OBS" moodCode="EVN">
  <!-- Nutritional Status Observation -->
  <templateId root="2.16.840.1.113883.10.20.22.4.124" />
  <id root="c12ecaaf-53f8-4593-8f79-359aeaa3948b" />
  <code code="75305-3"
    displayName="Nutrition status"
    codeSystem="2.16.840.1.113883.6.1"
    codeSystemName="LOINC">
    <originalText>Nutritional Status</originalText>
  </code>
  <statusCode code="completed" />
  <effectiveTime value="20130512" />
  <value xsi:type="CD" code="248324001"
    codeSystem="2.16.840.1.113883.6.96"
    codeSystemName="SNOMED-CT"
    displayName="well nourished" />
  <entryRelationship typeCode="SUBJ">
    <observation classCode="OBS" moodCode="EVN">
      <!-- ** Nutrition Assessment** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.138" />
      ...
    </observation>

    <observation classCode="OBS" moodCode="EVN">
      <!-- ** Nutrition Assessment** -->
      <templateId root="2.16.840.1.113883.10.20.22.4.138" />
      ...
    </observation>
  </entryRelationship>
</observation>
```

### 3.60 Outcome Observation

[observation: identifier urn:oid:2.16.840.1.113883.10.20.22.4.144 (open)]

**Table 368: Outcome Observation Contexts**

Contained By:	Contains:
<a href="#">Health Status Evaluations and Outcomes Section</a> (required)	<a href="#">Progress Toward Goal Observation</a> (optional) <a href="#">Author Participation</a> (optional) <a href="#">Entry Reference</a> (optional) <a href="#">External Document Reference</a> (optional)

This template represents the outcome of care resulting from the interventions used to treat the patient. In the Care Planning workflow, the judgment about how well the person is progressing towards the goal is based on the observations made about the status of the patient with respect to interventions performed in the pursuit of achieving that goal.

Often thought of as an "actual outcome", the Outcome Observation may be related to goals, progression toward goals, and the associated interventions. For example, an observation outcome of a blood oxygen saturation level of 95% is related to the goal of "Maintain Pulse Ox greater than 92",

which in turn is related to the health concern of respiratory insufficiency and the problem of pneumonia. The template makes use of the Entry Reference (templateId:2.16.840.1.113883.10.20.22.4.122) to reference the interventions and goals defined elsewhere in the Care Plan CDA instance.

**Table 369: Outcome Observation Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.144)					
@classCode	1..1	SHALL		<a href="#">1098-31219</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1098-31220</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		<a href="#">1098-31221</a>	
@root	1..1	SHALL		<a href="#">1098-31222</a>	2.16.840.1.113883.10.20.22.4.144
id	1..*	SHALL		<a href="#">1098-31223</a>	
code	1..1	SHALL		<a href="#">1098-32746</a>	urn:oid:2.16.840.1.113883.6.1 (LOINC)
value	0..1	SHOULD		<a href="#">1098-32747</a>	
author	0..*	SHOULD		<a href="#">1098-31553</a>	<a href="#">Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)</a>
entryRelationship	0..*	SHOULD		<a href="#">1098-31224</a>	
@typeCode	1..1	SHALL		<a href="#">1098-31225</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = GEVL
act	1..1	SHALL		<a href="#">1098-32465</a>	<a href="#">Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)</a>
entryRelationship	0..1	SHOULD		<a href="#">1098-31427</a>	
@typeCode	1..1	SHALL		<a href="#">1098-31428</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SPRT
@inversionInd	1..1	SHALL		<a href="#">1098-31429</a>	true
observation	1..1	SHALL		<a href="#">1098-31430</a>	<a href="#">Progress Toward Goal Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.110)</a>
entryRelationship	0..*	MAY		<a href="#">1098-31688</a>	
@typeCode	1..1	SHALL		<a href="#">1098-31689</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
act	1..1	SHALL		<a href="#">1098-31690</a>	<a href="#">Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122)</a>

XPath	Card.	Verb	Data Type	CONF#	Value
reference	0..*	MAY		<a href="#">1098-32763</a>	
@typeCode	1..1	SHALL		<a href="#">1098-32764</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		<a href="#">1098-32765</a>	<a href="#">External Document Reference (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09)</a>

1. **SHALL** contain exactly one [1..1] **@classCode="OBS"** (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-31219).
2. **SHALL** contain exactly one [1..1] **@moodCode="EVN"** (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-31220).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-31221) such that it
  - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.144"** (CONF:1098-31222).
4. **SHALL** contain at least one [1..\*] **id** (CONF:1098-31223).
5. **SHALL** contain exactly one [1..1] **code**, which **SHOULD** be selected from CodeSystem LOINC (urn:oid:2.16.840.1.113883.6.1) (CONF:1098-32746).
6. **SHOULD** contain zero or one [0..1] **value** (CONF:1098-32747).
7. **SHOULD** contain zero or more [0..\*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-31553).

The following entryRelationship represents the relationship between an Outcome Observation and a Goal Observation. Because the Goal Observation is already described in the CDA document instance's Goals section, rather than repeating the full content of the Goal Observation, the Entry Reference template can be used to reference this entry.

8. **SHOULD** contain zero or more [0..\*] **entryRelationship** (CONF:1098-31224) such that it
  - a. **SHALL** contain exactly one [1..1] **@typeCode="GEVL"** Evaluates goal (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31225).
  - b. **SHALL** contain exactly one [1..1] [Entry Reference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:1098-32465).
  - c. This entryReference template **SHALL** reference an instance of a Goal Observation template (CONF:1098-32461).

The following entryRelationship represents the relationship between an Outcome Observation and a Progress Toward Goal Observation (Outcome Observation SUPPORTS Progress Toward Goal Observation). In the Care Planning workflow, the judgment about how well the person is progressing towards the goal is based on the observations made about the status of the patient with respect to interventions performed in the pursuit of achieving that goal.

9. **SHOULD** contain zero or one [0..1] **entryRelationship** (CONF:1098-31427) such that it

- a. **SHALL** contain exactly one [1..1] **@typeCode="SPRT"** Has support (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31428).
- b. **SHALL** contain exactly one [1..1] **@inversionInd="true"** (CONF:1098-31429).
- c. **SHALL** contain exactly one [1..1] Progress Toward Goal Observation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.110) (CONF:1098-31430).

Where an Outcome Observation needs to reference an Intervention Act already described in the CDA document instance, rather than repeating the full content of the Intervention Act, the Entry Reference template may be used to reference this entry.

- 10. **MAY** contain zero or more [0..\*] **entryRelationship** (CONF:1098-31688) 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:1098-31689).
  - b. **SHALL** contain exactly one [1..1] Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:1098-31690).
  - c. This entryReference template **SHALL** reference an instance of a Intervention Act template (CONF:1098-32462).
- 11. **MAY** contain zero or more [0..\*] **reference** (CONF:1098-32763).
  - a. The reference, if present, **SHALL** contain exactly one [1..1] **@typeCode="REFR"** Refers to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-32764).
  - b. The reference, if present, **SHALL** contain exactly one [1..1] External Document Reference (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09) (CONF:1098-32765).
- 12. **SHALL** contain at least one [1..\*] **entryRelationships** (CONF:1098-32782).

**Figure 181: Outcome Observation Example**

```
<!-- Outcome Observation -->
<observation classCode="OBS" moodCode="EVN">
  <templateId root="2.16.840.1.113883.10.20.22.4.144" />
  <id root="0aaaa123-24e2-46b3-9d49-6b753c712dec" />
  <code code="44616-1" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
displayName="Pulse oximetry panel" />
  <statusCode code="completed" />
  <effectiveTime value="20130806" />
  <value xsi:type="PQ" value="95" unit="%" />
  <author>
    ...
  </author>
  <!-- This Outcome Observation EVALUATES a Goal
(Pulse ox reading of 95 evaluates the goal of Pulse ox reading > 92) -->
  <entryRelationship typeCode="GEVL">
    ...
  </entryRelationship>
  <!-- This Outcome Observation SUPPORTS the Progress Toward Goal Observation -->
  <entryRelationship typeCode="SPRT" inversionInd="true">
    ...
  </entryRelationship>
</observation>
```

### 3.61 Patient Referral Act

[act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.140 (open)]

**Table 370: Patient Referral Act Contexts**

Contained By:	Contains:
<a href="#">Reason for Referral Section (V2)</a> (optional)	<a href="#">Indication (V2)</a> (optional) <a href="#">Author Participation</a> (optional)

This template represents the type of referral (e.g., for dental care, to a specialist, for aging problems) and represents whether the referral is for full care or shared care. It may contain a reference to another act in the document instance representing the clinical reason for the referral (e.g., problem, concern, procedure).