

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: |
|---|---|
| Reason for Referral Section (V2) (optional) | Indication (V2) (optional) Author Participation (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).

Table 371: Patient Referral Act Constraints Overview

| XPath | Card. | Verb | Data Type | CONF# | Value |
|--|-------|--------|-----------|----------------------------|---|
| act (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.140) | | | | | |
| @classCode | 1..1 | SHALL | | 1098-30884 | urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PCPR |
| @moodCode | 1..1 | SHALL | | 1098-30885 | urn:oid:2.16.840.1.113883.11.20.9.66 (Patient Referral Act moodCode) |
| templateId | 1..1 | SHALL | | 1098-30886 | |
| @root | 1..1 | SHALL | | 1098-30887 | 2.16.840.1.113883.10.20.22.4.140 |
| id | 1..* | SHALL | | 1098-30888 | |
| code | 1..1 | SHALL | | 1098-30889 | urn:oid:2.16.840.1.113883.11.20.9.56 (Referral Types) |
| statusCode | 1..1 | SHALL | | 1098-30892 | |
| @code | 1..1 | SHALL | | 1098-31598 | urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active |
| effectiveTime | 1..1 | SHALL | | 1098-30893 | |
| priorityCode | 0..1 | SHOULD | | 1098-32623 | |
| author | 0..* | SHOULD | | 1098-31612 | Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) |
| participant | 0..* | MAY | | 1098-32635 | |
| @typeCode | 1..1 | SHALL | | 1098-32638 | urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFT |
| participantRole | 1..1 | SHALL | | 1098-32636 | |
| code | 0..1 | MAY | | 1098-32637 | urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy) |
| entryRelationship | 0..* | MAY | | 1098-31604 | |
| @typeCode | 1..1 | SHALL | | 1098-31613 | urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ |
| observation | 1..1 | SHALL | | 1098-31605 | |
| @classCode | 1..1 | SHALL | | 1098-31606 | urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS |

| XPath | Card. | Verb | Data Type | CONF# | Value |
|-------------------|-------|--------|-----------|----------------------------|--|
| @moodCode | 1..1 | SHALL | | 1098-31607 | urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO |
| code | 1..1 | SHALL | | 1098-31608 | |
| @code | 1..1 | SHALL | | 1098-31619 | ASSERTION |
| @codeSystem | 1..1 | SHALL | | 1098-31620 | urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) = 2.16.840.1.113883.5.4 |
| statusCode | 1..1 | SHALL | | 1098-31614 | |
| @code | 1..1 | SHALL | | 1098-31615 | urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed |
| priorityCode | 0..1 | SHOULD | | 1098-32443 | urn:oid:2.16.840.1.113883.1.11.16866 (ActPriority) |
| value | 1..1 | SHALL | CD | 1098-31611 | urn:oid:2.16.840.1.113883.11.20.9.61 (Care Model) |
| entryRelationship | 0..* | MAY | | 1098-31635 | |
| @typeCode | 1..1 | SHALL | | 1098-31636 | urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON |
| observation | 1..1 | SHALL | | 1098-32634 | Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09) |

1. **SHALL** contain exactly one [1..1] **@classCode="PCPR"** provision of care (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6 **STATIC**) (CONF:1098-30884).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet [Patient Referral Act moodCode](#) urn:oid:2.16.840.1.113883.11.20.9.66 **STATIC** 2014-09-01 (CONF:1098-30885).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-30886) such that it
 - a. **SHALL** contain exactly one [1..1] **@root="2.16.840.1.113883.10.20.22.4.140"** (CONF:1098-30887).

In the case of a Consultation Note where this referral is being fulfilled by this consultation, this id would be referenced in the inFullfilmentOf/order/id of the Consultation Note.

4. **SHALL** contain at least one [1..*] **id** (CONF:1098-30888).
5. **SHALL** contain exactly one [1..1] **code**, which **SHALL** be selected from ValueSet [Referral Types](#) urn:oid:2.16.840.1.113883.11.20.9.56 **DYNAMIC** (CONF:1098-30889).
6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-30892).
 - a. This statusCode **SHALL** contain exactly one [1..1] **@code="active"** Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31598).

The effectiveTime represents the time when the future referral is intended to take place.

7. **SHALL** contain exactly one [1..1] **effectiveTime** (CONF:1098-30893).
8. **SHOULD** contain zero or one [0..1] **priorityCode** (CONF:1098-32623).
9. **SHOULD** contain zero or more [0..*] **Author Participation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-31612).
10. **MAY** contain zero or more [0..*] **participant** (CONF:1098-32635).
 - a. The participant, if present, **SHALL** contain exactly one [1..1] **@typeCode="REFT"** Referred to (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-32638).
 - b. The participant, if present, **SHALL** contain exactly one [1..1] **participantRole** (CONF:1098-32636).
 - i. This participantRole **MAY** contain zero or one [0..1] **code**, which **SHOULD** be selected from ValueSet **Healthcare Provider Taxonomy** urn:oid:2.16.840.1.114222.4.11.1066 **DYNAMIC** (CONF:1098-32637).

The following entryRelationship represents whether the referral is for full or shared care.

11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31604) 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:1098-31613).
 - b. **SHALL** contain exactly one [1..1] **observation** (CONF:1098-31605).
 - i. This observation **SHALL** contain exactly one [1..1] **@classCode="OBS"** observation (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1098-31606).
 - ii. This observation **SHALL** contain exactly one [1..1] **@moodCode="RQO"** request (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001) (CONF:1098-31607).
 - iii. This observation **SHALL** contain exactly one [1..1] **code** (CONF:1098-31608).
 1. This code **SHALL** contain exactly one [1..1] **@code="ASSERTION"** assertion (CONF:1098-31619).
 2. This code **SHALL** contain exactly one [1..1] **@codeSystem="2.16.840.1.113883.5.4 "** (CodeSystem: HL7ActCode urn:oid:2.16.840.1.113883.5.4) (CONF:1098-31620).
 - iv. This observation **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-31614).
 1. This statusCode **SHALL** contain exactly one [1..1] **@code="completed"** Completed (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-31615).
 - v. This observation **SHOULD** contain zero or one [0..1] **priorityCode**, which **SHOULD** be selected from ValueSet **ActPriority** urn:oid:2.16.840.1.113883.1.11.16866 **DYNAMIC** (CONF:1098-32443).
 - vi. This observation **SHALL** contain exactly one [1..1] **value** with **@xsi:type="CD"**, where the code **SHOULD** be selected from ValueSet **Care Model** urn:oid:2.16.840.1.113883.11.20.9.61 **DYNAMIC** (CONF:1098-31611).

The following entryRelationship represents a reference to another act in the document instance representing the clinical reason for the referral (e.g., problem, concern, procedure).

12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-31635) such that it
- SHALL** contain exactly one [1..1] **@typeCode="RSON"** has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31636).
 - 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:1098-32634).

Table 372: Patient Referral Act moodCode

| Value Set: Patient Referral Act moodCode urn:oid:2.16.840.1.113883.11.20.9.66 Contains all the moodCode values it is possible to have for an Patient Referral Act. Value Set Source: http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/inrastructure/vocabulary/vocabulary.html | | | |
|---|-------------|----------------------------------|------------|
| Code | Code System | Code System OID | Print Name |
| INT | HL7ActMood | urn:oid:2.16.840.1.113883.5.1001 | Intent |
| RQO | HL7ActMood | urn:oid:2.16.840.1.113883.5.1001 | Request |

Table 373: Referral Types

| Value Set: Referral Types urn:oid:2.16.840.1.113883.11.20.9.56 (Clinical Focus: Concepts representing procedures that characterize a patient referral),(Data Element Scope: C-CDA r2.1 @code in Patient Referral Act [act: identifier urn:oid:2.16.840.1.113883.10.20.22.4.140 (open)] DYNAMIC),(Inclusion Criteria: SNOMED CT codes descending from "3457005" patient referral (procedure)),(Exclusion Criteria: only as in inclusion) This value set was imported on 6/29/2019 with a version of 20190416. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.56/expansion | | | |
|---|-------------|--------------------------------|---|
| Code | Code System | Code System OID | Print Name |
| 103696004 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to specialist (procedure) |
| 103697008 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral for dental care (procedure) |
| 103698003 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to non-physician provider (procedure) |
| 103699006 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to dietitian (procedure) |
| 103700007 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to massage therapist (procedure) |
| 103701006 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to homeopath (procedure) |
| 103702004 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to naturopath (procedure) |
| 103703009 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to acupuncturist (procedure) |
| 103704003 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Patient referral to sex therapist (procedure) |
| 105406002 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Referral of patient to certified pastoral caregiver (procedure) |
| ... | | | |

Table 374: Care Model

| Value Set: Care Model urn:oid:2.16.840.1.113883.11.20.9.61 (Clinical Focus: Concepts representing care management styles),(Data Element Scope: Finding),(Inclusion Criteria: A value set of SNOMED-CT codes representing care management styles (e.g., shared care, full care) descending from "170932006" "Chronic disease - care arrangement".),(Exclusion Criteria: none) This value set was imported on 6/24/2019 with a version of 20190319. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.61/expansion | | | |
|---|-------------|--------------------------------|--|
| Code | Code System | Code System OID | Print Name |
| 170935008 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Full care by hospice (finding) |
| 170936009 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Shared care - hospice and general practitioner (finding) |
| 170937000 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Shared care: district nurse and general practitioner (finding) |
| 170939002 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Full care: nurse practitioner (finding) |
| 170940000 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Shared care: practice nurse and general practitioner (finding) |
| 170941001 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Full care by general practitioner (finding) |
| 268528005 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Full care by specialist (finding) |
| 268529002 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Shared care - consultant and general practitioner (finding) |
| 370985002 | SNOMED CT | urn:oid:2.16.840.1.113883.6.96 | Care by local physician (finding) |

Table 375: ActPriority

| Value Set: ActPriority urn:oid:2.16.840.1.113883.1.11.16866 (Clinical Focus: The urgency under which the Act happened, can happen, is happening, is intended to happen, or is requested/demanded to happen.),(Data Element Scope:),(Inclusion Criteria: All members of system 2.16.840.1.113883.5.7),(Exclusion Criteria:) This value set was imported on 6/24/2019 with a version of 20190425. Value Set Source: https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.16866/expansion | | | |
|---|----------------|-------------------------------|----------------------------------|
| Code | Code System | Code System OID | Print Name |
| A | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | ASAP |
| CR | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | callback results |
| CS | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | callback for scheduling |
| CSP | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | callback placer for scheduling |
| CSR | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | contact recipient for scheduling |
| EL | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | elective |
| EM | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | emergency |
| P | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | preop |
| PRN | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | as needed |
| R | HL7ActPriority | urn:oid:2.16.840.1.113883.5.7 | routine |
| ... | | | |

Figure 182: Patient Referral Act Example

```
<entry>
  <act classCode="ACT" moodCode="INT">
    <!--Patient Referral Act-->
    <templateId root="2.16.840.1.113883.10.20.22.4.140" />
    <id root="70bdd7db-e02d-4eff-9829-35e3b7d9e154" />
    <code code="44383000" displayName="Patient referral for consultation"
codeSystemName="SNOMED" codeSystem="2.16.840.1.113883.6.96" />
    <statusCode code="active" />
    <effectiveTime value="20130311" />
    <priorityCode code="A"
      codeSystem="2.16.840.1.113883.5.7"
      codeSystemName="ActPriority"
      displayName="ASAP"/>
    <author>
      <time value="200130311" />
      <assignedAuthor>
        <id extension="KP00017" root="2.16.840.1.113883.19.5" />
        <addr>
          <streetAddressLine>1003 Health Care
            Drive</streetAddressLine>
          <city>Ann Arbor</city>
          <state>MI</state>
          <postalCode>02368</postalCode>
          <country>US</country>
        </addr>
        <telecom use="WP" value="tel:(555)555-1003" />
        <assignedPerson>
          <name>
            <given>Assigned</given>
            <family>Amanda</family>
          </name>
        </assignedPerson>
      </assignedAuthor>
    </author>
    <entryRelationship typeCode="SUBJ">
      <observation classCode="OBS" moodCode="EVN">
        <code code="ASSERTION" codeSystem="2.16.840.1.113883.5.4" />
        <statusCode code="completed" />
        <value xsi:type="CD" code="268528005" displayName="full care by specialist"
codeSystem="2.16.840.1.113883.6.96" />
      </observation>
    </entryRelationship>
  </act>
</entry>
```

3.62 *Planned Act (V2)*

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09 (open)]

Table 376: Planned Act (V2) Contexts

| Contained By: | Contains: |
|---|--|
| Plan of Treatment Section (V2) (optional) Nutrition Recommendation (optional) Assessment and Plan Section (V2) (optional) Planned Intervention Act (V2) (optional) | Indication (V2) (optional) Priority Preference (optional) Instruction (V2) (optional) Author Participation (optional) |

This template represents planned acts that are not classified as an observation or a procedure according to the HL7 RIM. Examples of these acts are a dressing change, the teaching or feeding of a patient or the providing of comfort measures.

The priority of the activity to the patient and provider is communicated through Priority Preference.

The effectiveTime indicates the time when the activity is intended to take place.