

**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 372: 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).

**Table 373: 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		<a href="#">1098-30884</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = PCPR
@moodCode	1..1	SHALL		<a href="#">1098-30885</a>	urn:oid:2.16.840.1.113883.11.20.9.66 (Patient Referral Act moodCode)
templateId	1..1	SHALL		<a href="#">1098-</a>	

XPath	Card.	Verb	Data Type	CONF#	Value
				<a href="#">30886</a>	
@root	1..1	SHALL		<a href="#">1098-30887</a>	2.16.840.1.113883.10.20.22.4.140
id	1..*	SHALL		<a href="#">1098-30888</a>	
code	1..1	SHALL		<a href="#">1098-30889</a>	urn:oid:2.16.840.1.113883.11.20.9.56 (Referral Types)
statusCode	1..1	SHALL		<a href="#">1098-30892</a>	
@code	1..1	SHALL		<a href="#">1098-31598</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	1..1	SHALL		<a href="#">1098-30893</a>	
priorityCode	0..1	SHOULD		<a href="#">1098-32623</a>	
author	0..*	SHOULD		<a href="#">1098-31612</a>	<a href="#">Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119)</a>
participant	0..*	MAY		<a href="#">1098-32635</a>	
@typeCode	1..1	SHALL		<a href="#">1098-32638</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFT
participantRole	1..1	SHALL		<a href="#">1098-32636</a>	
code	0..1	MAY		<a href="#">1098-32637</a>	urn:oid:2.16.840.1.114222.4.11.1066 (Healthcare Provider Taxonomy)
entryRelationship	0..*	MAY		<a href="#">1098-31604</a>	
@typeCode	1..1	SHALL		<a href="#">1098-31613</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
observation	1..1	SHALL		<a href="#">1098-31605</a>	
@classCode	1..1	SHALL		<a href="#">1098-31606</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = OBS
@moodCode	1..1	SHALL		<a href="#">1098-31607</a>	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = RQO
code	1..1	SHALL		<a href="#">1098-31608</a>	
@code	1..1	SHALL		<a href="#">1098-31619</a>	ASSERTION
@codeSystem	1..1	SHALL		<a href="#">1098-31620</a>	urn:oid:2.16.840.1.113883.5.4 (HL7ActCode) =

XPath	Card.	Verb	Data Type	CONF#	Value
					2.16.840.1.113883.5.4
statusCode	1..1	SHALL		<a href="#">1098-31614</a>	
@code	1..1	SHALL		<a href="#">1098-31615</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
priorityCode	0..1	SHOULD		<a href="#">1098-32443</a>	urn:oid:2.16.840.1.113883.1.11.16866 (ActPriority)
value	1..1	SHALL	CD	<a href="#">1098-31611</a>	urn:oid:2.16.840.1.113883.11.20.9.61 (Care Model)
entryRelationship	0..*	MAY		<a href="#">1098-31635</a>	
@typeCode	1..1	SHALL		<a href="#">1098-31636</a>	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		<a href="#">1098-32634</a>	<a href="#">Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)</a>

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
  - a. **SHALL** contain exactly one [1..1] **@typeCode="RSON"** has reason (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-31636).

- 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:1098-32634).

**Table 374: 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: <a href="http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/in_frastructure/vocabulary/vocabulary.html">http://www.hl7.org/documentcenter/public/standards/vocabulary/vocabulary_tables/in_frastructure/vocabulary/vocabulary.html</a>			
Code	Code System	Code System OID	Print Name
INT	HL7ActMood	urn:oid:2.16.840.1.113883.5.10 01	Intent
RQO	HL7ActMood	urn:oid:2.16.840.1.113883.5.10 01	Request

**Table 375: 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: <a href="https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.56/expansion">https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.56/expansion</a>			
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 376: 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: <a href="https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.61/expansion">https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.11.20.9.61/expansion</a>			
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 377: 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: <a href="https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.16866/expansion">https://vsac.nlm.nih.gov/valueset/2.16.840.1.113883.1.11.16866/expansion</a>			
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 378: Planned Act (V2) Contexts**

Contained By:	Contains:
<a href="#">Plan of Treatment Section (V2)</a> (optional) <a href="#">Nutrition Recommendation</a> (optional) <a href="#">Assessment and Plan Section (V2)</a> (optional) <a href="#">Planned Intervention Act (V2)</a> (optional)	<a href="#">Indication (V2)</a> (optional) <a href="#">Priority Preference</a> (optional) <a href="#">Instruction (V2)</a> (optional) <a href="#">Author Participation</a> (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.

**Table 379: Planned Act (V2) Constraints Overview**

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.39:2014-06-09)					
@classCode	1..1	SHALL		<a href="#">1098-8538</a>	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		<a href="#">1098-8539</a>	urn:oid:2.16.840.1.113883.11.20.9.23 (Planned moodCode (Act/Encounter/Procedure))
templateId	1..1	SHALL		<a href="#">1098-30430</a>	
@root	1..1	SHALL		<a href="#">1098-30431</a>	2.16.840.1.113883.10.20.22.4.39
@extension	1..1	SHALL		<a href="#">1098-32552</a>	2014-06-09
id	1..*	SHALL		<a href="#">1098-8546</a>	
code	1..1	SHALL		<a href="#">1098-31687</a>	
statusCode	1..1	SHALL		<a href="#">1098-30432</a>	
@code	1..1	SHALL		<a href="#">1098-32019</a>	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	0..1	SHOULD		<a href="#">1098-30433</a>	
performer	0..*	MAY		<a href="#">1098-30435</a>	
author	0..1	SHOULD		<a href="#">1098-32020</a>	<a href="#">Author Participation (identifier: urn:oid:2.16.840.1.113883.10.</a>