```
<act classCode="ACT" moodCode="INT">
<templateId root="2.16.840.1.113883.10.20.22.4.20" extension="2014-06-09" />
<code code="171044003" codeSystem="2.16.840.1.113883.6.96" displayName="immunization
education" />
<text>
  <reference value="#immunSect" />
  Possible flu-like symptoms for three days.
</text>
<statusCode code="completed" />
</act>
```

3.46 Intervention Act (V2)

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.131:2015-08-01 (open)]

Table 333: Intervention Act (V2) Contexts

Contained By:	Contains:
Planned Intervention Act (V2) (optional)	Medication Activity (V2) (optional)
Intervention Act (V2) (optional)	Procedure Activity Act (V2) (optional)
Interventions Section (V3) (optional)	Procedure Activity Procedure (V2) (optional)
	Procedure Activity Observation (V2) (optional)
	Non-Medicinal Supply Activity (V2) (optional)
	Nutrition Recommendation (optional)
	Handoff Communication Participants (optional)
	Instruction (V2) (optional)
	Author Participation (optional)
	Entry Reference (optional)
	External Document Reference (optional)
	Immunization Activity (V3) (optional)
	Advance Directive Observation (V3) (optional)
	Planned Intervention Act (V2) (optional)
	Intervention Act (V2) (optional)
	Encounter Activity (V3) (optional)

This template represents an Intervention Act. It is a wrapper for intervention-type activities considered to be parts of the same intervention. For example, an activity such as "elevate head of bed" combined with "provide humidified O2 per nasal cannula" may be the interventions performed for a health concern of "respiratory insufficiency" to achieve a goal of "pulse oximetry greater than 92%". These intervention activities may be newly described or derived from a variety of sources within an EHR.

Interventions are actions taken to increase the likelihood of achieving the patient's or providers' goals. An Intervention Act should contain a reference to a Goal Observation representing the reason for the intervention.

Intervention Acts can be related to each other, or to Planned Intervention Acts. (E.g., a Planned Intervention Act with moodCode of INT could be related to a series of Intervention Acts with moodCode of EVN, each having an effectiveTime containing the time of the intervention.)

All interventions referenced in an Intervention Act must have a moodCode of EVN, indicating that they have occurred.

Table 334: Intervention Act (V2) Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
act (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.131:2015-08-01)					
@classCode	1..1	SHALL		1198-30971	urn:oid:2.16.840.1.113883.5.6 (HL7ActClass) = ACT
@moodCode	1..1	SHALL		1198-30972	urn:oid:2.16.840.1.113883.5.1001 (HL7ActMood) = EVN
templateId	1..1	SHALL		1198-30973	
@root	1..1	SHALL		1198-30974	2.16.840.1.113883.10.20.22.4.131
@extension	1..1	SHALL		1198-32916	2015-08-01
id	1..*	SHALL		1198-30975	
code	1..1	SHALL		1198-30976	
@code	1..1	SHALL		1198-30977	362956003
@codeSystem	1..1	SHALL		1198-30978	urn:oid:2.16.840.1.113883.6.96 (SNOMED CT) = 2.16.840.1.113883.6.96
statusCode	1..1	SHALL		1198-30979	
@code	1..1	SHALL		1198-32316	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = completed
effectiveTime	0..1	SHOULD		1198-31624	
author	0..*	SHOULD		1198-31552	Author Participation (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119
entryRelationship	0..*	MAY		1198-30980	
@typeCode	1..1	SHALL		1198-30981	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-30982	Advance Directive Observation (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.48:2015-08-01
entryRelationship	0..*	MAY		1198-30984	
@typeCode	1..1	SHALL		1198-	urn:oid:2.16.840.1.113883.5.1

XPath	Card.	Verb	Data Type	CONF#	Value
				30985	002 (HL7ActRelationshipType) = REFR
substanceAdministration	1..1	SHALL		1198-30986	Immunization Activity (V3) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2015-08-01
entryRelationship	0..*	MAY		1198-30988	
@typeCode	1..1	SHALL		1198-30989	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
substanceAdministration	1..1	SHALL		1198-30990	Medication Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09
entryRelationship	0..*	MAY		1198-30991	
@typeCode	1..1	SHALL		1198-30992	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1198-30993	Procedure Activity Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09
entryRelationship	0..*	MAY		1198-31154	
@typeCode	1..1	SHALL		1198-31155	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1198-32460	Intervention Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.131:2015-08-01
entryRelationship	0..*	MAY		1198-31164	
@typeCode	1..1	SHALL		1198-31165	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1198-31166	Procedure Activity Observation (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09
entryRelationship	0..*	MAY		1198-31168	
@typeCode	1..1	SHALL		1198-31169	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
procedure	1..1	SHALL		1198-	Procedure Activity Procedure

XPath	Card.	Verb	Data Type	CONF#	Value
				31170	(V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.22.4.14:2014-06-09
entryRelationship	0..*	MAY		1198-31171	
@typeCode	1..1	SHALL		1198-31172	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
encounter	1..1	SHALL		1198-31173	Encounter Activity (V3) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.22.4.49:2015-08-01
entryRelationship	0..*	MAY		1198-31174	
@typeCode	1..1	SHALL		1198-32956	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1198-31176	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.22.4.20:2014-06-09
entryRelationship	0..*	MAY		1198-31177	
@typeCode	1..1	SHALL		1198-31178	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
supply	1..1	SHALL		1198-31179	Non-Medicinal Supply Activity (V2) (identifier: urn:hl7ii:2.16.840.1.113883.1 0.20.22.4.50:2014-06-09
entryRelationship	0..*	MAY		1198-31413	
act	1..1	SHALL		1198-31414	Nutrition Recommendation (identifier: urn:oid:2.16.840.1.113883.10. 20.22.4.130
entryRelationship	0..*	MAY		1198-31545	
@typeCode	1..1	SHALL		1198-31554	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1198-31555	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10. 20.22.4.122
entryRelationship	0..*	SHOULD		1198-31621	
@typeCode	1..1	SHALL		1198-31622	urn:oid:2.16.840.1.113883.5.1 002 (HL7ActRelationshipType) = RSON

XPath	Card.	Verb	Data Type	CONF#	Value
act	1..1	SHALL		1198-31623	Entry Reference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122
entryRelationship	0..*	MAY		1198-32317	
@typeCode	1..1	SHALL		1198-32318	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1198-32319	Handoff Communication Participants (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.141
entryRelationship	0..*	MAY		1198-32914	
@typeCode	1..1	SHALL		1198-32773	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
act	1..1	SHALL		1198-32915	Planned Intervention Act (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.146:2015-08-01
reference	0..*	MAY		1198-32760	
@typeCode	1..1	SHALL		1198-32761	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
externalDocument	1..1	SHALL		1198-32762	External Document Reference (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.115:2014-06-09

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" (CodeSystem: HL7ActClass urn:oid:2.16.840.1.113883.5.6) (CONF:1198-30971).
2. **SHALL** contain exactly one [1..1] **@moodCode**="EVN" Event (CodeSystem: HL7ActMood urn:oid:2.16.840.1.113883.5.1001 **STATIC**) (CONF:1198-30972).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1198-30973) such that it
    a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.131" (CONF:1198-30974).
    b. **SHALL** contain exactly one [1..1] **@extension**="2015-08-01" (CONF:1198-32916).
4. **SHALL** contain at least one [1..*] **id** (CONF:1198-30975).
5. **SHALL** contain exactly one [1..1] **code** (CONF:1198-30976).
    a. This code **SHALL** contain exactly one [1..1] **@code**="362956003" procedure / intervention (navigational concept) (CONF:1198-30977).

b. This code **SHALL** contain exactly one [1..1]
   @codeSystem="2.16.840.1.113883.6.96" (CodeSystem: SNOMED CT
   urn:oid:2.16.840.1.113883.6.96) (CONF:1198-30978).

6. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1198-30979).

   a. This statusCode **SHALL** contain exactly one [1..1] **@code**="completed" Completed
      (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14 **STATIC**)
      (CONF:1198-32316).

7. **SHOULD** contain zero or one [0..1] **effectiveTime** (CONF:1198-31624).

8. **SHOULD** contain zero or more [0..*] **Author Participation** (identifier:
   urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1198-31552).

9. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-30980) 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:1198-
      30981).

   b. **SHALL** contain exactly one [1..1] **Advance Directive Observation (V3)**
      (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.48:2015-08-01)
      (CONF:1198-30982).

10. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-30984) 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:1198-
       30985).

    b. **SHALL** contain exactly one [1..1] **Immunization Activity (V3)** (identifier:
       urn:hl7ii:2.16.840.1.113883.10.20.22.4.52:2015-08-01) (CONF:1198-
       30986).

11. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-30988) 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:1198-
       30989).

    b. **SHALL** contain exactly one [1..1] **Medication Activity (V2)** (identifier:
       urn:hl7ii:2.16.840.1.113883.10.20.22.4.16:2014-06-09) (CONF:1198-
       30990).

12. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-30991) 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:1198-
       30992).

    b. **SHALL** contain exactly one [1..1] **Procedure Activity Act (V2)** (identifier:
       urn:hl7ii:2.16.840.1.113883.10.20.22.4.12:2014-06-09) (CONF:1198-
       30993).

The following entryRelationship represents the relationship between two Intervention Acts
(Intervention RELATES TO Intervention).

13. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31154) 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:1198-
       31155).

b. **SHALL** contain exactly one [1..1] **Intervention Act (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.131:2015-08-01) (CONF:1198-32460).

14. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31164) 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:1198-31165).

b. **SHALL** contain exactly one [1..1] **Procedure Activity Observation (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.13:2014-06-09) (CONF:1198-31166).

15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31168) 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:1198-31169).

b. **SHALL** contain exactly one [1..1] **Procedure Activity Procedure (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.14:2014-06-09) (CONF:1198-31170).

16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31171) 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:1198-31172).

b. **SHALL** contain exactly one [1..1] **Encounter Activity (V3)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.49:2015-08-01) (CONF:1198-31173).

17. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31174) 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:1198-32956).

b. **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:1198-31176).

18. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31177) 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:1198-31178).

b. **SHALL** contain exactly one [1..1] **Non-Medicinal Supply Activity (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.50:2014-06-09) (CONF:1198-31179).

19. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31413) such that it

a. **SHALL** contain exactly one [1..1] **Nutrition Recommendation** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.130) (CONF:1198-31414).

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

20. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-31545) 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:1198-31554).

b. **SHALL** contain exactly one [1..1] **Entry Reference** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:1198-31555).

An Intervention Act should reference 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. The following entryRelationship represents an Entry Reference to Goal Observation.

21. **SHOULD** contain zero or more [0..*] **entryRelationship** (CONF:1198-31621) 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:1198-31622).

b. **SHALL** contain exactly one [1..1] **Entry Reference** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.122) (CONF:1198-31623).

c. This entryReference template **SHALL** reference an instance of a Goal Observation template (CONF:1198-32459).

22. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-32317) 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:1198-32318).

b. **SHALL** contain exactly one [1..1] **Handoff Communication Participants** (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.141) (CONF:1198-32319).

23. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1198-32914) 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:1198-32773).

b. **SHALL** contain exactly one [1..1] **Planned Intervention Act (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.146:2015-08-01) (CONF:1198-32915).

24. **MAY** contain zero or more [0..*] **reference** (CONF:1198-32760).

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:1198-32761).

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:1198-32762).

Figure 166: Intervention Act (moodCode="INT") Example

```
<!--
  This entry shows an act in intent mood (planned intervention-
  meaning this is intended to be done), with the reason "RSN" for the act
  being the already defined Goal (pulse ox reading > 92)
  The intervention contains relationships to different components of
  the intervention.
-->
<!-- Intervention Act -->
<act classCode="ACT" moodCode="INT">
    <templateId root="2.16.840.1.113883.10.20.22.4.131" />
    <id root="85fa4b62-e3a9-4385-b064-fe04cca35adb" />
    <code code="code_for_intervention" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Intervention" />
    <statusCode code="active" />
    <entryRelationship typeCode="REFR">
        <!-- The following act is one part of the intervention -
              "Elevate head of bed" -->
        <!-- Procedure Activity Act -->
        <act classCode="ACT" moodCode="INT">
            <templateId root="2.16.840.1.113883.10.20.22.4.12" extension="2015-08-01" />
            <id root="7658963e-54da-496f-bf18-dea1dddaa3b0" />
            <code code="423171007" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Elevate head of bed" />
            <statusCode code="active" />
        </act>
    </entryRelationship>
    <entryRelationship typeCode="REFR">
        <!-- The following procedure is one part of the intervention -
      "Oxygen administration by nasal cannula" -->
        <!-- Procedure Activity Procedure -->
        <procedure classCode="PROC" moodCode="INT">
            <templateId root="2.16.840.1.113883.10.20.22.4.14" extension="2014-06-09" />
            <id root="6a560f3d-88fd-4292-9415-f9371adaec46" />
            <code code="371907003" codeSystem="2.16.840.1.113883.6.96"
codeSystemName="SNOMED CT" displayName="Oxygen administration by nasal cannula" />
            <statusCode code="active" />
        </procedure>
    </entryRelationship>
    <!-- This entryRelationship represents the relationship between an
    Intervention Act and a Goal Observation (Intervention HAS REASON Goal).
    The Entry Reference template is being used here as this Goal is
    defined elsewhere in the CDA document -->
    <entryRelationship typeCode="RSON">
        <!-- Entry Reference template -->
        <act classCode="ACT" moodCode="EVN">
            <templateId root="2.16.840.1.113883.10.20.22.4.122" />
            <!-- This id points to an already defined Goal
        (pulse ox reading > 92) in the Goals Section -->
            <id root="3700b3b0-fbed-11e2-b778-0800200c9a66" />
            <code nullFlavor="NP" />
            <statusCode code="completed" />
        </act>
    </entryRelationship>
</act>
```

3.47 Medical Equipment Organizer

[organizer: identifier urn:oid:2.16.840.1.113883.10.20.22.4.135 (open)]

Table 335: Medical Equipment Organizer Contexts

Contained By:	Contains:
Medical Equipment Section (V2) (optional)	Procedure Activity Procedure (V2) (optional)
	Non-Medicinal Supply Activity (V2) (optional)

This template represents a set of current or historical medical devices, supplies, aids and equipment used by the patient. Examples are hearing aids, orthotic devices, ostomy supplies, visual aids, diabetic supplies such as syringes and pumps, and wheelchairs.

Devices that are applied during a procedure (e.g., cardiac pacemaker, gastrosomy tube, port catheter), whether permanent or temporary, are represented within the Procedure Activity Procedure (V2) template (templateId: 2.16.840.1.113883.10.20.22.4.14.2).