

Figure 185: Planned Encounter (V2) Example

```
<entry>
  <encounter moodCode="INT" classCode="ENC">
    <templateId root="2.16.840.1.113883.10.20.22.4.40" extension="2014-06-09" />
    <!-- Planned Encounter V2 template -->
    <id root="9a6d1bac-17d3-4195-89a4-1121bc809b4d" />
    <code code="185349003" displayName="encounter for check-up (procedure)"
codeSystemName="SNOMED CT" codeSystem="2.16.840.1.113883.6.96"> </code>
    <statusCode code="active" />
    <effectiveTime value="20130615" />
    <performer>
      <assignedEntity>
        ...
      </assignedEntity>
    </performer>
    <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-->
        ...
      </observation>
    </entryRelationship>
  </encounter>
</entry>
```

3.65 Planned Immunization Activity

[substanceAdministration: identifier urn:oid:2.16.840.1.113883.10.20.22.4.120
(open)]

Table 384: Planned Immunization Activity Contexts

Contained By:	Contains:
Plan of Treatment Section (V2) (optional) Planned Intervention Act (V2) (optional)	Indication (V2) (optional) Priority Preference (optional) Instruction (V2) (optional) Author Participation (optional) Immunization Medication Information (V2) (required) Precondition for Substance Administration (V2) (optional)

This template represents planned immunizations. Planned Immunization Activity is very similar to Planned Medication Activity with some key differences, for example, the drug code system is constrained to CVX codes.

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

Preference. The effectiveTime indicates the time when the immunization activity is intended to take place and authorTime indicates when the documentation of the plan occurred.

Table 385: Planned Immunization Activity Constraints Overview

XPath	Card.	Verb	Data Type	CONF#	Value
substanceAdministration (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.120)					
@classCode	1..1	SHALL		1098-32091	SBADM
@moodCode	1..1	SHALL		1098-32097	urn:oid:2.16.840.1.113883.11.20.9.24 (Planned moodCode (SubstanceAdministration/Supply))
templateId	1..1	SHALL		1098-32098	
@root	1..1	SHALL		1098-32099	2.16.840.1.113883.10.20.22.4.120
id	1..*	SHALL		1098-32100	
statusCode	1..1	SHALL		1098-32101	
@code	1..1	SHALL		1098-32102	urn:oid:2.16.840.1.113883.5.14 (HL7ActStatus) = active
effectiveTime	1..1	SHALL		1098-32103	
repeatNumber	0..1	MAY		1098-32126	
routeCode	0..1	MAY		1098-32127	urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 (SPL Drug Route of Administration Terminology)
translation	0..*	SHOULD		1098-32951	urn:oid:2.16.840.1.113762.1.4.1099.12 (Medication Route)
approachSiteCode	0..*	MAY		1098-32128	urn:oid:2.16.840.1.113883.3.88.12.3221.8.9 (Body Site Value Set)
doseQuantity	0..1	MAY		1098-32129	
@unit	0..1	SHOULD		1098-32130	urn:oid:2.16.840.1.113883.1.11.12839 (UnitsOfMeasureCaseSensitive)
consumable	1..1	SHALL		1098-32131	
manufacturedProduct	1..1	SHALL		1098-32132	Immunization Medication Information (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09)
performer	0..*	MAY		1098-32104	
author	0..*	MAY		1098-32105	Author Participation (identifier:

XPath	Card.	Verb	Data Type	CONF#	Value
					urn:oid:2.16.840.1.113883.10.20.22.4.119
entryRelationship	0..*	MAY		1098-32108	
@typeCode	1..1	SHALL		1098-32109	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = REFR
observation	1..1	SHALL		1098-32110	Priority Preference (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143)
entryRelationship	0..*	MAY		1098-32114	
@typeCode	1..1	SHALL		1098-32115	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = RSON
observation	1..1	SHALL		1098-32116	Indication (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.19:2014-06-09)
entryRelationship	0..*	MAY		1098-32117	
@typeCode	1..1	SHALL		1098-32118	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = SUBJ
act	1..1	SHALL		1098-32119	Instruction (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.20:2014-06-09)
precondition	0..*	MAY		1098-32123	
@typeCode	1..1	SHALL		1098-32124	urn:oid:2.16.840.1.113883.5.1002 (HL7ActRelationshipType) = PRCN
criterion	1..1	SHALL		1098-32125	Precondition for Substance Administration (V2) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09)

1. **SHALL** contain exactly one [1..1] **@classCode**="SBADM" (CONF:1098-32091).
2. **SHALL** contain exactly one [1..1] **@moodCode**, which **SHALL** be selected from ValueSet [Planned moodCode \(SubstanceAdministration/Supply\)](#) urn:oid:2.16.840.1.113883.11.20.9.24 **STATIC** 2014-09-01 (CONF:1098-32097).
3. **SHALL** contain exactly one [1..1] **templateId** (CONF:1098-32098) such that it
 - a. **SHALL** contain exactly one [1..1] **@root**="2.16.840.1.113883.10.20.22.4.120" (CONF:1098-32099).
4. **SHALL** contain at least one [1..*] **id** (CONF:1098-32100).
5. **SHALL** contain exactly one [1..1] **statusCode** (CONF:1098-32101).

- a. This statusCode **SHALL** contain exactly one [1..1] @code="active" Active (CodeSystem: HL7ActStatus urn:oid:2.16.840.1.113883.5.14) (CONF:1098-32102).

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

6. **SHALL** contain exactly one [1..1] effectiveTime (CONF:1098-32103).

In a Planned Immunization Activity, repeatNumber defines the number of allowed administrations. For example, a repeatNumber of "3" means that the substance can be administered up to 3 times.

7. **MAY** contain zero or one [0..1] repeatNumber (CONF:1098-32126).
8. **MAY** contain zero or one [0..1] routeCode, which **SHALL** be selected from ValueSet [SPL Drug Route of Administration Terminology](#) urn:oid:2.16.840.1.113883.3.88.12.3221.8.7 **DYNAMIC** (CONF:1098-32127).
 - a. The routeCode, if present, **SHOULD** contain zero or more [0..*] translation, which **SHALL** be selected from ValueSet [Medication Route](#) urn:oid:2.16.840.1.113762.1.4.1099.12 **DYNAMIC** (CONF:1098-32951).
9. **MAY** contain zero or more [0..*] approachSiteCode, 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:1098-32128).
10. **MAY** contain zero or one [0..1] doseQuantity (CONF:1098-32129).
 - a. The doseQuantity, if present, **SHOULD** contain zero or one [0..1] @unit, which **SHALL** be selected from ValueSet [UnitsOfMeasureCaseSensitive](#) urn:oid:2.16.840.1.113883.1.11.12839 **DYNAMIC** (CONF:1098-32130).
11. **SHALL** contain exactly one [1..1] consumable (CONF:1098-32131).
 - a. This consumable **SHALL** contain exactly one [1..1] [Immunization Medication Information \(V2\)](#) (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.54:2014-06-09) (CONF:1098-32132).

The clinician who is expected to perform the planned immunization activity could be identified using substanceAdministration/performer.

12. **MAY** contain zero or more [0..*] performer (CONF:1098-32104).

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

13. **MAY** contain zero or more [0..*] [Author Participation](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119) (CONF:1098-32105).

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

14. **MAY** contain zero or more [0..*] entryRelationship (CONF:1098-32108) 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:1098-32109).
 - b. **SHALL** contain exactly one [1..1] [Priority Preference](#) (identifier: urn:oid:2.16.840.1.113883.10.20.22.4.143) (CONF:1098-32110).

The following entryRelationship represents the indication for the immunization activity.

15. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32114) 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:1098-32115).
 - 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:1098-32116).

The following entryRelationship captures any instructions associated with the planned immunization activity.

16. **MAY** contain zero or more [0..*] **entryRelationship** (CONF:1098-32117) 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:1098-32118).
 - 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:1098-32119).
17. **MAY** contain zero or more [0..*] **precondition** (CONF:1098-32123) such that it
 - a. **SHALL** contain exactly one [1..1] **@typeCode="PRCN"** Precondition (CodeSystem: HL7ActRelationshipType urn:oid:2.16.840.1.113883.5.1002) (CONF:1098-32124).
 - b. **SHALL** contain exactly one [1..1] **Precondition for Substance Administration (V2)** (identifier: urn:hl7ii:2.16.840.1.113883.10.20.22.4.25:2014-06-09) (CONF:1098-32125).

Table 386: Planned moodCode (SubstanceAdministration/Supply)

Value Set: Planned moodCode (SubstanceAdministration/Supply) urn:oid:2.16.840.1.113883.11.20.9.24 This value set is used to restrict the moodCode on a substance administration or a supply to future moods. Value Set Source: https://vsac.nlm.nih.gov/			
Code	Code System	Code System OID	Print Name
INT	HL7ActMood	urn:oid:2.16.840.1.113883.5.1001	Intent
PRMS	HL7ActMood	urn:oid:2.16.840.1.113883.5.1001	Promise
PRP	HL7ActMood	urn:oid:2.16.840.1.113883.5.1001	Proposal
RQO	HL7ActMood	urn:oid:2.16.840.1.113883.5.1001	Request

Figure 186: Planned Immunization Activity

```
<substanceAdministration classCode="SBADM" moodCode="INT">
  <!-- Planned Immunization Activity -->
  <templateId root="2.16.840.1.113883.10.20.22.4.120" />
  <id root="81505d5e-2305-42b3-9273-f579d622000d" />
  <statusCode code="active" />
  <effectiveTime xsi:type="IVL_TS" value="20131115" />
  <repeatNumber value="1" />
  <routeCode code="IM" codeSystem="2.16.840.1.113883.5.112"
codeSystemName="RouteOfAdministration" displayName="Intramuscular injection" />
  <consumable>
    <!-- Immunization Medication Information (V2) -->
  </consumable>
  <performer>
    ...
  </performer>
  <author>
    <!-- Author Participation -->
  </author>
  <entryRelationship typeCode="REFR">
    <!-- Patient Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="REFR">
    <!-- Provider Priority Preference -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="RSON">
    <!-- Indication (V2) -->
    ...
  </entryRelationship>
  <entryRelationship typeCode="SUBJ">
    <!-- Instruction (V2) -->
    ...
  </entryRelationship>
  <precondition typeCode="PRCN">
    <!-- Precondition for Substance Administration (V2) -->
    ...
  </precondition>
</substanceAdministration>
```

3.66 *Planned Intervention Act (V2)*

[act: identifier urn:hl7ii:2.16.840.1.113883.10.20.22.4.146:2015-08-01
(open)]

Table 387: Planned Intervention Act (V2) Contexts

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

This template represents a Planned Intervention Act. It is a wrapper for planned 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 planned for a health concern of "respiratory insufficiency" in order to attempt 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.

Planned Intervention Acts can be related to each other or to 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 a Planned Intervention Act must have moodCodes indicating that that are planned (have not yet occurred).