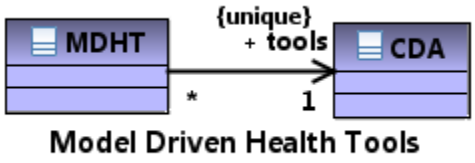
Implementation Guide for CDA Release 2
Influenza Case Report CDA R2
Optional Subtitle



PROTOTYPE: FOR DISCUSSION AND DEMONSTRATION USE ONLY
(Consolidated Developer Documentation)

Contents

Acknowledgments

This document contains an example of healthcare standards and specifications publication generated from UML models, using the OHT Model Driven Health Tools (MDHT). Some portions of this document may not be publicly available but are included for demonstration purposes only, therefore this version of the document is to be treated as CONFIDENTIAL by the project participants.

This demonstration document contains informtion from the following sources:

Revision History

Rev	Date	By Whom	Changes
New	July 2010	Dave Carlson	
First draft for posting	December 2010	Dave Carlson	Updated model content and publication format

Chapter 1

INTRODUCTION

Topics:

Overview

This implementation guide is generated from UML models developed in the Open Health Tools (OHT) Model-Driven Health Tools (MDHT) project. The data specifications have been formalized into computational models expressed in UML. These models are used by automated tooling to generate this publication, plus validation tools and Java libraries for implementers.

Approach

Working with specifications generated from formal UML models provides the opportunity to work with the data from the perspective of the underlying model and electronic format and to explore many design issues thoroughly. Taking this as an initial step ensures that the data set developers and standards community can reach consensus prior to the larger commitment of time that would be required to bring the full data set into standard format.

This project supports reusability and ease of data collection through a standard data representation harmonized with work developed through Health Information Technology Expert Panel (HITEP), balloted through Health Level Seven (HL7) and/or recognized by the Health Information Technology Standards Panel (HITSP).

This implementation guide (IG) specifies a standard for electronic submission of NCRs in a Clinical Document Architecture (CDA), Release 2 format.

Scope

TODO: scope of this implementation guide.

Audience

The audience for this document includes software developers and implementers who wish to develop...

Organization of This Guide

The requirements as laid out in the body of this document are subject to change per the policy on implementation guides (see section 13.02" Draft Standard for Trial Use Documents" within the HL7 Governance and Operations Manual, *http://www.hl7.org/documentcenter/public/membership/HL7_Governance_and_Operations_Manual.pdf*).

Templates

Templates are organized by document (see Document Templates), by section (see Section Templates), and by clinical statements (see Clinical Statement Templates). Within a section, templates are arranged hierarchically, where a more specific template is nested under the more generic template that it conforms to. See Templates by Containment for a listing of the higher level templates by containment; the appendix Templates Used in This Guide includes a table of all of the templates Organized Hierarchically.

Vocabulary and Value Sets

Vocabularies recommended in this guide are from standard vocabularies. When SNOMED codes are used, rules defined in Using SNOMED CT in HL7 Version 3 are adhered to. In many cases, these vocabularies are further constrained into value sets for use within this guide. Value set names and OIDs are summarized in the table Summary of Value Sets. Each named value set in this summary table is stored in a template database that will be maintained by CHCA.

Use of Templates

When valued in an instance, the template identifier (`templateId`) signals the imposition of a set of template-defined constraints. The value of this attribute provides a unique identifier for the templates in question.

Originator Responsibilities

An originator can apply a `templateId` to assert conformance with a particular template.

In the most general forms of CDA exchange, an originator need not apply a `templateId` for every template that an object in an instance document conforms to. This implementation guide asserts when `templateId`s are required for conformance.

Recipient Responsibilities

A recipient may reject an instance that does not contain a particular `templateId` (e.g., a recipient looking to receive only CCD documents can reject an instance without the appropriate `templateId`).

A recipient may process objects in an instance document that do not contain a `templateId` (e.g., a recipient can process entries that contain Observation acts within a Problems section, even if the entries do not have `templateId`s).

Conventions Used in This Guide

Conformance Requirements

Conformance statements are grouped and identified by the name of the template, along with the templateId and the context of the template (e.g., ClinicalDocument, section, observation), which specifies the element under constraint. If a template is a specialization of another template, its first constraint indicates the more general template. In all cases where a more specific template conforms to a more general template, asserting the more specific template also implies conformance to the more general template. An example is shown below.

Template name

`[<type of template>: templateId <XXXX.XX.XXX.XXX>]`

Description of the template will be here .....

1. Conforms to <The template name> Template (templateId: XXXX<XX>XXX>YYY).
2. **SHALL** contain [1..1] @classCode = <AAA> <code display name> (CodeSystem: 123.456.789 <XXX> Class) **STATIC** (CONF:<number>).
3. .....

Figure 1: Template name and "conforms to" appearance

The conformance verb keyword at the start of a constraint (**SHALL** , **SHOULD** , **MAY**, etc.) indicates business conformance, whereas the cardinality indicator (0..1, 1..1, 1..*, etc.) specifies the allowable occurrences within an instance. Thus, " **MAY** contain 0..1" and " **SHOULD** contain 0..1" both allow for a document to omit the particular component, but the latter is a stronger recommendation that the component be included if it is known.

The following cardinality indicators may be interpreted as follows:

0..1 as zero to one present
1..1 as one and only one present
2..2 as two must be present
1..* as one or more present
0..* as zero to many present

Value set bindings adhere to HL7 Vocabulary Working Group best practices, and include both a conformance verb (**SHALL** , **SHOULD** , **MAY,** etc.) and an indication of **DYNAMIC** vs. **STATIC** binding. The use of **SHALL** requires that the component be valued with a member from the cited value set; however, in every case any HL7 "null" value such as other (OTH) or unknown (UNK) may be used.

Each constraint is uniquely identified (e.g., "CONF:605") by an identifier placed at or near the end of the constraint. These identifiers are not sequential as they are based on the order of creation of the constraint.

1. **SHALL** contain [1..1] component/structuredBody (CONF:4082).
    a. This component/structuredBody **SHOULD** contain [0..1] component (CONF:4130) such that it
        a. **SHALL** contain [1..1] Reporting Parameters section (templateId:2.16.840.1.113883.10.20.17.2.1) (CONF:4131).
    b. This component/structuredBody **SHALL** contain [1..1] component (CONF:4132) such that it
        a. **SHALL** contain [1..1] Patient data section - NCR (templateId:2.16.840.1.113883.10.20.17.2.5) (CONF:4133).

Figure 2: Template-based conformance statements example

CCD templates are included within this implementation guide for ease of reference. CCD templates contained within this implementation guide are formatted WITHOUT typical **KEYWORD** and **XML** element styles. A WIKI site is available if you would like to make a comment to be considered for the next release of CCD: *http://wiki.hl7.org/index.php?title=CCD_Suggested_Enhancements* The user name and password are: wiki/wikiwiki. You will need to create an account to edit the page and add your suggestion.

1. The value for "Observation / @moodCode" in a problem observation SHALL be "EVN" 2.16.840.1.113883.5.1001 ActMood STATIC. (CONF: 814).
2. A problem observation SHALL include exactly one Observation / statusCode. (CONF: 815).
3. The value for "Observation / statusCode" in a problem observation SHALL be "completed" 2.16.840.1.113883.5.14 ActStatus STATIC. (CONF: 816).
4. A problem observation SHOULD contain exactly one Observation / effectiveTime, to indicate the biological timing of condition (e.g. the time the condition started, the onset of the illness or symptom, the duration of a condition). (CONF: 817).

Figure 3: CCD conformance statements example

Keywords

The keywords SHALL, SHALL NOT, SHOULD, SHOULD NOT, MAY, and NEED NOT in this document are to be interpreted as described in the *HL7 Version 3 Publishing Facilitator's Guide*:

- **SHALL**: an absolute requirement
- **SHALL NOT**: an absolute prohibition against inclusion
- **SHOULD/SHOULD NOT**: valid reasons to include or ignore a particular item, but must be understood and carefully weighed
- **MAY/NEED NOT**: truly optional; can be included or omitted as the author decides with no implications

XML Examples

XML samples appear in various figures in this document in a fixed-width font. Portions of the XML content may be omitted from the content for brevity, marked by an ellipsis (…) as shown in the example below.

```
<ClinicalDocument xmlns='urn:h17-org:v3'>
  ...
</ClinicalDocument>
```

Figure 4: ClinicalDocument example

XPath expressions are used in the narrative and conformance requirements to identify elements because they are familiar to many XML implementers.

Chapter 2

DOCUMENT TEMPLATES

Topics:

This section contains the document level constraints for CDA documents that are compliant with this implementation guide.

Influenza Case Report

[ClinicalDocument: templateId `2.16.840.1.113883.10.20.15.1.11`]

1. **SHALL** conform to *PHCR Public Health Case Report* template (templateId: `2.16.840.1.113883.10.20.15`)
2. Contains exactly one [1..1] **`typeId`**, where its data type is InfrastructureRootTypeId
3. Contains exactly one [1..1] **`id`**, where its data type is II
4. **SHALL** contain exactly one [1..1] **`code/@code="55751-2"`** *Public Health Case Report* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:546)
5. **SHALL** contain exactly one [1..1] **`title`** = "Public Health Case Report - Influenza"
6. Contains exactly one [1..1] **`effectiveTime`**, where its data type is TS
7. Contains exactly one [1..1] **`confidentialityCode`**, where its data type is CE
8. Contains at least one [1..*] **`recordTarget`**, where its type is *Record Target*
9. Contains at least one [1..*] **`author`**, where its type is *Author*
10. Contains exactly one [1..1] **`custodian`**, where its type is *Custodian*
11. Contains exactly one [1..1] **`component`**, where its type is *Component2*
12. **SHOULD** contain zero or one [0..1] **`component`** (CONF:643, CONF:609), such that
    a. Contains exactly one [1..1] *Phcr Encounters Section* (templateId: `2.16.840.1.113883.10.20.15.2.2`)
13. **MAY** contain zero or one [0..1] **`component`**, such that
    a. Contains exactly one [1..1] *CCD Immunizations Section* (templateId: `2.16.840.1.113883.10.20.1.6`)
14. **SHOULD** contain zero or one [0..1] **`component`**, such that
    a. Contains exactly one [1..1] *influenza Immunization Section* (templateId: `2.16.840.1.113883.10.20.15.2.47`)
15. **SHALL** contain exactly one [1..1] **`component`**, such that
    a. Contains exactly one [1..1] *influenza PHCR Clinical Information Section* (templateId: `2.16.840.1.113883.10.20.15.2.50`)
16. **SHOULD** contain zero or one [0..1] **`component`**, such that
    a. Contains exactly one [1..1] *influenza PHCR Treatment Information Section* (templateId: `2.16.840.1.113883.10.20.15.2.48`)
17. **SHOULD** contain zero or one [0..1] **`component`**, such that
    a. Contains exactly one [1..1] *influenza PHCR Relevant Diagnostic Tests And Or Laboratory Data Section* (templateId: `2.16.840.1.113883.10.20.15.2.51`)
18. **SHOULD** contain zero or one [0..1] **`component`**, such that
    a. Contains exactly one [1..1] *influenza PHCR Social History Section* (templateId: `2.16.840.1.113883.10.20.15.2.49`)
19. **SHALL** contain [1..1] recordTarget (CONF:547)
    - `[OCL]: self.recordTarget->one(recordTarget : cda::RecordTarget | not recordTarget.oclIsUndefined())`
20. RecordTarget **SHALL** contain [1..1] patientRole (CONF:548)
    - `[OCL]: self.recordTarget.patientRole->one(patientRole : cda::PatientRole | not patientRole.oclIsUndefined())`
21. RecordTarget / PatientRole **SHALL** contain [1..*] id (CONF:549)
    - `[OCL]: self.recordTarget.patientRole.id->exists(id : datatypes::II | not id.root.oclIsUndefined() or not id.extension.oclIsUndefined() or not id.nullFlavor.oclIsUndefined())`
22. RecordTarget / PatientRole **SHOULD** contain [0..*] addr (CONF:550)

23. RecordTarget / PatientRole **SHOULD** contain [0..*] telecom (CONF:551)

24. RecordTarget / PatientRole **SHOULD** contain [0..1] patient (CONF:552)

25. RecordTarget / PatientRole / Patient **SHOULD** contain [0..*] name (CONF:553)

26. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] administrativeGenderCode/@code, which **SHALL** be selected from ValueSet 2.16.840.1.113883.1.11.1 Administrative Gender (HL7 V3) DYNAMIC (CONF:554)

27. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] birthTime (CONF:555)

28. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] ethnicGroupCode, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.837 Ethnicity group DYNAMIC (CONF:556)

29. RecordTarget / PatientRole / Patient **SHOULD** contain [0..1] birthplace/place, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3200 Birth Country DYNAMIC (CONF:557)

30. **SHALL** contain [1..*] author (CONF:1853)

- `[OCL]: self.author->exists(author : cda::Author | not author.oclIsUndefined())`

31. Author **SHALL** contain [1..1] time (CONF:560)

- `[OCL]: self.author.time->one(time : datatypes::TS | not time.value.oclIsUndefined() or not time.nullFlavor.oclIsUndefined())`

32. Author **SHALL** contain [1..1] assignedAuthor (CONF:561)

- `[OCL]: self.author.assignedAuthor->one(assignedAuthor : cda::AssignedAuthor | not assignedAuthor.oclIsUndefined())`

33. Author / AssignedAuthor **SHALL** contain [1..*] id (CONF:562)

- `[OCL]: self.author.assignedAuthor.id->exists(id : datatypes::II | not id.root.oclIsUndefined() or not id.extension.oclIsUndefined() or not id.nullFlavor.oclIsUndefined())`

34. Author / AssignedAuthor **SHALL** contain [1..1] addr (CONF:562)

- `[OCL]: self.author.assignedAuthor.addr->one(addr : datatypes::AD | not addr.oclIsUndefined())`

35. Author / AssignedAuthor **SHALL** contain [1..1] telecom (CONF:564)

- `[OCL]: self.author.assignedAuthor.telecom->one(tel : datatypes::TEL | not tel.oclIsUndefined())`

36. Author / AssignedAuthor **SHALL** contain [1..1] assignedPerson/name (CONF:565)

- `[OCL]: self.author.assignedAuthor.assignedPerson->one(assignedPerson : cda::Person | not assignedPerson.oclIsUndefined()) and self.author.assignedAuthor.assignedPerson.name->one(name : datatypes::PN | not name.oclIsUndefined())`

37. The custodian of a public health case report **SHALL** be the reporting organization. (CONF:1616)

38. **SHALL** contain [1..1] legalAuthenticator (CONF:1854)

- `[OCL]: self.legalAuthenticator->one(legalAuthenticator : cda::LegalAuthenticator | not legalAuthenticator.oclIsUndefined())`

39. LegalAuthenticator **SHALL** contain [1..1] time (CONF:1855)

- `[OCL]: self.legalAuthenticator.time->one(time : datatypes::TS | not time.value.oclIsUndefined() or not time.nullFlavor.oclIsUndefined())`

40. LegalAuthenticator **SHALL** contain [1..1] assignedEntity (CONF:1856)

- `[OCL]: self.legalAuthenticator.assignedEntity->one(assignedEntity : cda::AssignedEntity | not assignedEntity.oclIsUndefined())`

41. LegalAuthenticator / AssignedEntity **SHALL** contain [1..*] id (CONF:1857)

- `[OCL]: self.legalAuthenticator.assignedEntity.id->exists(id : datatypes::II | not id.root.oclIsUndefined() or not id.extension.oclIsUndefined() or not id.nullFlavor.oclIsUndefined())`

42. LegalAuthenticator / AssignedEntity **SHALL** contain [1..1] addr (CONF:1857)

- `[OCL]: self.legalAuthenticator.assignedEntity.addr->one(addr : datatypes::AD | not addr.oclIsUndefined())`

43. LegalAuthenticator / AssignedEntity **SHALL** contain [1..1] telecom (CONF:1859)

44. LegalAuthenticator / AssignedEntity **SHALL** contain [1..1] assignedPerson/name (CONF:1860)

- ```
  [OCL]: self.legalAuthenticator.assignedEntity.assignedPerson-
  >one(assignedPerson : cda::Person | not assignedPerson.oclIsUndefined())
   and self.legalAuthenticator.assignedEntity.assignedPerson.name-
  >one(name : datatypes::PN | not name.oclIsUndefined())
  ```

45. Where a Public Health Case Report CDA R2 document contains any of the section or clinical statement templates defined in this implementation guide, such section or clinical statement **SHALL** include a templateId/@root valued with the corresponding template's identifier. (CONF:2017)

Influenza Case Report example
  ```

Chapter 3

SECTION TEMPLATES

Topics:

influenza Immunization Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.47`]

1. **SHALL** conform to *CCD Immunizations Section* template (templateId: `2.16.840.1.113883.10.20.1.6`)
2. **SHALL** contain at least one [1..*] **`entry`**, such that
   a. Contains **`@typeCode="`**`DRIV"` *DRIV (is derived from)*
   b. Contains exactly one [1..1] *influenza Immunization Activity* (templateId: `2.16.840.1.113883.10.20.15.3.77`)
3. **SHOULD** satisfy: ImmunizationsSectionHasMedicationOrSupplyActivity
   - `[OCL]: self.getSubstanceAdministrations()->exists(activity : cda::SubstanceAdministration | activity.oclIsKindOf(ccd::MedicationActivity)) or self.getSupplies()->exists(activity : cda::Supply | activity.oclIsKindOf(ccd::SupplyActivity))`
4. **SHALL** satisfy: ImmunizationsSectionTemplateId
   - `[OCL]: self.templateId->exists(id : datatypes::II | id.root = '2.16.840.1.113883.10.20.1.6')`
5. **SHALL** satisfy: ImmunizationsSectionCode
   - `[OCL]: (self.code.oclIsUndefined() or self.code.isNullFlavorUndefined()) implies (not self.code.oclIsUndefined() and self.code.oclIsKindOf(datatypes::CE) and let value : datatypes::CE = self.code.oclAsType(datatypes::CE) in value.code = '11369-6' and value.codeSystem = '2.16.840.1.113883.6.1')`
6. **SHALL** satisfy: ImmunizationsSectionTitle
   - `[OCL]: (self.title.oclIsUndefined() or self.title.isNullFlavorUndefined()) implies (not self.title.oclIsUndefined())`
7. **SHALL** satisfy: ImmunizationsSectionText
   - `[OCL]: not self.text.oclIsUndefined()`
8. **SHALL** satisfy: ImmunizationsSectionMedicationActivity
   - `[OCL]: self.entry->exists(entry : cda::Entry | not entry.substanceAdministration.oclIsUndefined() and entry.substanceAdministration.oclIsKindOf(ccd::MedicationActivity))`
9. **SHALL** satisfy: ImmunizationsSectionSupplyActivity
   - `[OCL]: self.entry->exists(entry : cda::Entry | not entry.supply.oclIsUndefined() and entry.supply.oclIsKindOf(ccd::SupplyActivity))`

influenza Immunization Section example

influenza PHCR Clinical Information Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.50`]

1. **SHALL** conform to *PHCR Phcr Clinical Information Section* template (templateId: `2.16.840.1.113883.10.20.15.2.1`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="55752-0"` *Clinical Information* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:540)
3. **SHALL** contain exactly one [1..1] **`title`** = "Clinical Information" (CONF:541)

4. **SHALL** contain exactly one [1..1] **`text`** (CONF:542)
5. **SHOULD** contain zero or more [0..*] **`entry`**, such that
   a. Contains **`@typeCode="DRIV"`** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Phcr Relevant Medical Condition History Observation* (templateId: `2.16.840.1.113883.10.20.15.3.62`)
6. **MAY** contain zero or one [0..1] **`entry`** (CONF:1912, CONF:1913, CONF:1914), such that
   a. Contains **`@typeCode="DRIV"`** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Patient Condition Alive Observation* (templateId: `2.16.840.1.113883.10.20.15.3.42`)
7. **MAY** contain zero or one [0..1] **`entry`** (CONF:1915, CONF:1916, CONF:1917), such that
   a. Contains **`@typeCode="DRIV"`** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Patient Condition Deceased Observation* (templateId: `2.16.840.1.113883.10.20.15.3.17`)
8. **SHALL** contain exactly one [1..1] **`entry`**, such that
   a. Contains **`@typeCode="DRIV"`** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *influenza Case Observation* (templateId: `2.16.840.1.113883.10.20.15.3.78`)
9. TemplateId 2.16.840.1.113883.10.20.15.3.42 (Patient condition alive) and templateId 2.16.840.1.113883.10.20.15.3.17 (Patient condition deceased) **SHALL NOT** be present together in a CDA PHCR instance. (CONF:1918)

```
[OCL]: self.getObservations()->exists(obs3 : cda::Observation
 | obs3.oclIsKindOf(phcr::PatientConditionAliveObservation) and
not self.getObservations()->exists(obs4 : cda::Observation |
obs4.oclIsKindOf(phcr::PatientConditionDeceasedObservation)))
or self.getObservations()->exists(obs1 : cda::Observation |
obs1.oclIsKindOf(phcr::PatientConditionDeceasedObservation)
and not self.getObservations()->exists(obs2 : cda::Observation
| obs2.oclIsKindOf(phcr::PatientConditionAliveObservation)))
or self.getObservations()->forAll(obs : cda::Observation | not
obs.oclIsKindOf(phcr::PatientConditionAliveObservation) and not
obs.oclIsKindOf(phcr::PatientConditionDeceasedObservation))
```

influenza PHCR Clinical Information Section example

influenza PHCR Relevant Diagnostic Tests And Or Laboratory Data Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.51`]

1. **SHALL** conform to *CCD Results Section* template (templateId: `2.16.840.1.113883.10.20.1.14`)
2. **SHALL** conform to *PHCR Phcr Relevant Dx Tests Section* template (templateId: `2.16.840.1.113883.10.20.15.2.3`)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="30954-2"` *Relevant diagnostic tests and/or laboratory data* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF-389)
4. **SHALL** contain exactly one [1..1] **`title`** = "Relevant diagnostic tests and/or laboratory data" (CONF-391)
5. **SHALL** contain exactly one [1..1] **`text`** (CONF-388, CONF:737)
6. **MAY** contain zero or more [0..*] **`entry`** (CONF:854, CONF:855, CONF:856), such that
   a. Contains **`@typeCode="DRIV"`** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Result Organizer* (templateId: `2.16.840.1.113883.10.20.15.3.59`)
7. **SHOULD** contain zero or more [0..*] **`entry`**, such that

   a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *influenza Result Observation* (templateId: 2.16.840.1.113883.10.20.15.3.81)
8. **MAY** contain zero or more [0..*] **entry**, such that
   a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *influenza Imaging Observation* (templateId: 2.16.840.1.113883.10.20.15.3.83)
9. **SHOULD** satisfy: Contains a case-insensitive language-insensitive string containing 'results'. (CONF-392)
   - UNIMPLEMENTABLE

influenza PHCR Relevant Diagnostic Tests And Or Laboratory Data Section example

influenza PHCR Social History Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.49]

1. **SHALL** conform to *CCD Social History Section* template (templateId: 2.16.840.1.113883.10.20.1.15)
2. **SHALL** conform to *PHCR Phcr Social History Section* template (templateId: 2.16.840.1.113883.10.20.15.2.22)
3. **SHALL** contain exactly one [1..1] **code/@code**="29762-2" *Social History* (CodeSystem: 2.16.840.1.113883.6.1 LOINC) (CONF:1894)
4. **SHALL** contain exactly one [1..1] **title** = "Social History" (CONF:1895)
5. **SHALL** contain exactly one [1..1] **text** (CONF:1896)
6. **SHOULD** contain zero or more [0..*] **entry**, such that
   a. Contains exactly one [1..1] *Social History Observation* (templateId: 2.16.840.1.113883.10.20.1.33)
7. **SHOULD** contain zero or more [0..*] **entry** (CONF:1897, CONF:1898, CONF:1899), such that
   a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Geotemporal History Observation* (templateId: 2.16.840.1.113883.10.20.15.3.3)
8. **SHOULD** contain zero or one [0..1] **entry** (CONF:1900, CONF:1901, CONF:1902), such that
   a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Most Recent Time Arrived In USA Observation* (templateId: 2.16.840.1.113883.10.20.15.3.6)
9. **SHOULD** contain zero or more [0..*] **entry** (CONF:1903, CONF:1904, CONF:1905), such that
   a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Race Observation* (templateId: 2.16.840.1.113883.10.20.15.3.9)
10. **SHOULD** contain zero or more [0..*] **entry** (CONF:1906, CONF:1907, CONF:1908), such that
    a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
    b. Contains exactly one [1..1] *Occupation Observation* (templateId: 2.16.840.1.113883.10.20.15.3.7)
11. **MAY** contain zero or more [0..*] **entry** (CONF:1909, CONF:1910, CONF:1911), such that
    a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
    b. Contains exactly one [1..1] *Pregnancy Observation* (templateId: 2.16.840.1.113883.10.20.15.3.8)
12. **SHOULD** contain zero or one [0..1] **entry**, such that
    a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
    b. Contains exactly one [1..1] *influenza Employment Status Observation* (templateId: 2.16.840.1.113883.10.20.15.3.84)

13. **SHOULD** contain zero or more [0..*] **`entry`**, such that
    a. Contains **`@typeCode="DRIV"`** *DRIV (is derived from)*
    b. Contains exactly one [1..1] *influenza Possible Exposure Location Act* (templateId: `2.16.840.1.113883.10.20.15.3.82`)
14. **SHOULD** satisfy: Contains a case-insensitive language-insensitive string containing 'social history'. (CONF-236)
    - UNIMPLEMENTABLE
15. Marital status **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / maritalStatusCode. Additional information **MAY** be represented as social history observations (CONF-250)
    - `[OCL]: self.getClinicalDocument().recordTarget->select(r | not r.patientRole.patient.maritalStatusCode.hasContent() )->isEmpty()`
16. Religious affiliation **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / religiousAffiliationCode. Additional information **MAY** be represented as social history observations (CONF-251)
    - `[OCL]: self.getClinicalDocument().recordTarget->select(r | not r.patientRole.patient.religiousAffiliationCode.hasContent() )->isEmpty()`
17. A patients race **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / raceCode. Additional information **MAY** be represented as social history observations (CONF-252)
    - `[OCL]: self.getClinicalDocument().recordTarget->select(r | not r.patientRole.patient.raceCode.hasContent() )->isEmpty()`
18. The value for ClinicalDocument / recordTarget / patientRole / patient / raceCode **MAY** be selected from codeSystem 2.16.840.1.113883.5.104 (Race) (CONF-253)
    - `[OCL]: self.getClinicalDocument().recordTarget->forAll(r | r.patientRole.patient.raceCode.codeSystem = '2.16.840.1.113883.5.104' )`
19. A patients ethnicity **SHOULD** be represented as ClinicalDocument / recordTarget / patientRole / patient / ethnicGroupCode. Additional information **MAY** be represented as social history observations. (CONF-254)
    - `[OCL]: self.getClinicalDocument().recordTarget->select(r | not r.patientRole.patient.ethnicGroupCode.hasContent() )->isEmpty()`
20. The value for ClinicalDocument / recordTarget / patientRole / patient / ethnicGroupCode **MAY** be selected from codeSystem 2.16.840.1.113883.5.50 (Ethnicity). (CONF-255)
    - `[OCL]: self.getClinicalDocument().recordTarget->forAll(r | r.patientRole.patient.ethnicGroupCode.codeSystem = '2.16.840.1.113883.5.50' )`

influenza PHCR Social History Section example

influenza PHCR Treatment Information Section

[Section: templateId `2.16.840.1.113883.10.20.15.2.48`]

1. **SHALL** conform to *PHCR Phcr Treatment Information Section* template (templateId: `2.16.840.1.113883.10.20.15.2.4`)
2. **SHALL** contain exactly one [1..1] **`code/@code`**`="55753-8"` *Treatment Information* (CodeSystem: `2.16.840.1.113883.6.1 LOINC`) (CONF:663)
3. **SHALL** contain exactly one [1..1] **`title`** = "Treatment Information" (CONF:664)
4. **SHALL** contain exactly one [1..1] **`text`** (CONF:665)
5. **SHALL** contain exactly one [1..1] **`entry`**, such that
    a. Contains **`@typeCode="DRIV"`** *DRIV (is derived from)*
    b. Contains exactly one [1..1] *influenza Therapeutic Regimen Act* (templateId: `2.16.840.1.113883.10.20.15.3.75`)

influenza PHCR Treatment Information Section example

Chapter 4

CLINICAL STATEMENT TEMPLATES

Topics:

This section of the Implementation Guide details the clinical statement entries referenced in the document section templates. The clinical statement entry templates are arranged alphabetically.

influenza Case Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.78`]

1. **SHALL** conform to *CCD Problem Observation* template (templateId: `2.16.840.1.113883.10.20.1.28`)
2. **SHALL** conform to *PHCR Case Observation* template (templateId: `2.16.840.1.113883.10.20.15.3.54`)
3. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1868)
4. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:1869)
5. **MAY** contain zero or more [0..*] **`id`** (CONF:1870)
6. **SHALL** contain exactly one [1..1] **`code/@code`**`="ASSERTION"` (CodeSystem: `2.16.840.1.113883.5.4 HL7ActCode`) (CONF:1871)
7. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1872)
8. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:1873)
9. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.6034` *`PHVS_DiseaseType_Flu`* **DYNAMIC**, where its data type is CD
10. **MAY** contain zero or one [0..1] **`entryRelationship`** (CONF-162), such that
    a. Contains **`@typeCode="`**`REFR"` *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Status Observation* (templateId: `2.16.840.1.113883.10.20.1.50`)
11. **MAY** contain zero or one [0..1] **`entryRelationship`** (CONF-165), such that
    a. Contains **`@typeCode="`**`REFR"` *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Health Status Observation* (templateId: `2.16.840.1.113883.10.20.1.51`)
12. **MAY** contain zero or one [0..1] **`entryRelationship`** (CONF-160), such that
    a. Contains **`@typeCode="`**`SUBJ"` *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Age Observation* (templateId: `2.16.840.1.113883.10.20.1.38`)
13. **SHOULD** contain zero or one [0..1] **`entryRelationship`** (CONF:1884, CONF:1885, CONF:1886), such that
    a. Contains **`@typeCode="`**`REFR"` *REFR (refers to)*
    b. Contains exactly one [1..1] *CCD Problem Status Observation* (templateId: `2.16.840.1.113883.10.20.1.50`)
14. **SHOULD** contain zero or more [0..*] **`entryRelationship`**, such that
    a. Contains **`@typeCode="`**`MFST"` *MFST (is manifestation of)*
    b. Contains exactly one [1..1] *influenza Signs And Symptoms Observation* (templateId: `2.16.840.1.113883.10.20.15.3.74`)
15. **SHALL** contain one or more sources of information. (CONF-161)

```
[OCL]: not self.informant->isEmpty()
or not self.getSection().informant->isEmpty()
or not self.getClinicalDocument().informant->isEmpty()
or self.reference->exists(ref : cda::Reference | ref.typeCode =
 vocab::x_ActRelationshipExternalReference::XCRPT)
or (self.entryRelationship->exists(rel : cda::EntryRelationship |
   rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
   and rel.observation.code.code = '48766-0'))
```

16. **MAY** contain exactly one Patient Awareness (CONF-180)

```
[OCL]: self.participant->one(partic : cda::Participant2 |
 partic.oclIsKindOf(ccd::PatientAwareness))
```

17. **SHOULD** contain [0..1] effectiveTime/low (CONF:1873)
    - `[OCL]: self.effectiveTime->exists(time : datatypes::IVL_TS | not time.low.oclIsUndefined())`
18. **SHOULD** contain [0..1] author (CONF:1875)
    - `[OCL]: self.author->exists(author : cda::Author | not author.oclIsUndefined())`
19. Author **SHALL** contain [1..1] time (CONF:1876)
20. Author **SHALL** contain [1..1] assignedAuthor (CONF:1877)
    - `[OCL]: self.author.assignedAuthor->exists(assignedAuthor : cda::AssignedAuthor | not assignedAuthor.oclIsUndefined())`
21. Author / AssignedAuthor **SHALL** contain [1..*] id (CONF:1878)
22. Author / AssignedAuthor **MAY** contain [0..*] addr (CONF:1879)
23. Author / AssignedAuthor **MAY** contain [0..*] telecom (CONF:1880)
24. Author / AssignedAuthor **MAY** contain [0..1] assignedPerson (CONF:1881)
25. Author / AssignedAuthor / Person **MAY** contain [0..1] name (CONF:1882)
26. Author / AssignedAuthor **MAY** contain [0..1] representedOrganization (CONF:1883)

influenza Case Observation example

influenza Employment Status Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.84`]

1. Contains exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
2. Contains exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
3. Contains at least one [1..*] **`id`**
4. **SHALL** contain exactly one [1..1] **`code/@code`**`="ASSERTION"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
5. Contains exactly one [1..1] **`statusCode`**
6. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.3254` *`PHVS_EmploymentStatus_Flu`* **DYNAMIC**, where its data type is CD

influenza Employment Status Observation example

influenza Imaging Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.83`]

1. **SHALL** conform to *CCD Problem Observation* template (templateId: `2.16.840.1.113883.10.20.1.28`)
2. **SHALL** conform to *PHCR Imaging Observation* template (templateId: `2.16.840.1.113883.10.20.15.3.5`)
3. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:829)
4. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF-155, CONF:830)
5. **SHALL** contain at least one [1..*] **`id`** (CONF:821)

6. **MAY** contain exactly one [1..1] **`code`**, which **MAY** be selected from ValueSet `2.16.840.1.113883.1.11.20.14 ProblemTypeCode` **STATIC** 20061017 (CONF-159)
7. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF-156, CONF-157)
8. **SHOULD** contain exactly one [1..1] **`effectiveTime`** (CONF-158, CONF:824)
9. **SHALL** contain exactly one [1..1] **`value`** (CONF:825)
10. **MAY** contain zero or one [0..1] **`methodCode`**, which **MAY** be selected from ValueSet `2.16.840.1.114222.4.11.6019` *`PHVS_ChestImagingTests_PHCR`* **DYNAMIC** (CONF:826)
11. **MAY** contain zero or one [0..1] **`entryRelationship`** (CONF-162), such that
    a. Contains **`@typeCode="`**`REFR"` *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Status Observation* (templateId: `2.16.840.1.113883.10.20.1.50`)
12. **MAY** contain zero or one [0..1] **`entryRelationship`** (CONF-165), such that
    a. Contains **`@typeCode="`**`REFR"` *REFR (refers to)*
    b. Contains exactly one [1..1] *Problem Health Status Observation* (templateId: `2.16.840.1.113883.10.20.1.51`)
13. **MAY** contain zero or one [0..1] **`entryRelationship`** (CONF-160), such that
    a. Contains **`@typeCode="`**`SUBJ"` *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Age Observation* (templateId: `2.16.840.1.113883.10.20.1.38`)
14. **SHALL** contain one or more sources of information. (CONF-161)

```
[OCL]: not self.informant->isEmpty()
or not self.getSection().informant->isEmpty()
or not self.getClinicalDocument().informant->isEmpty()
or self.reference->exists(ref : cda::Reference | ref.typeCode =
 vocab::x_ActRelationshipExternalReference::XCRPT)
or (self.entryRelationship->exists(rel : cda::EntryRelationship |
   rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
   and rel.observation.code.code = '48766-0'))
```

15. **MAY** contain exactly one Patient Awareness (CONF-180)

```
[OCL]: self.participant->one(partic : cda::Participant2 |
 partic.oclIsKindOf(ccd::PatientAwareness))
```

16. **MAY** contain [1..1] externalObservation (CONF:827, CONF:828, CONF:831)
17. **MAY** contain [1..1] externalDocument (CONF:842, CONF:843, CONF:844)

influenza Imaging Observation example

influenza Immunization Activity

[SubstanceAdministration: templateId `2.16.840.1.113883.10.20.15.3.77`]

1. **SHALL** conform to *CCD Medication Activity* template (templateId: `2.16.840.1.113883.10.20.1.24`)
2. Contains exactly one [1..1] **`@classCode`**`="SBADM"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`), where its data type is ActClass
3. Contains exactly one [1..1] **`@moodCode`**, where its data type is x_DocumentSubstanceMood
4. **SHALL** contain at least one [1..*] **`id`** (CONF-306)
5. **SHOULD** contain exactly one [1..1] **`statusCode`** (CONF-307)
6. **SHOULD** contain at least one [1..*] **`effectiveTime`** (CONF-308)
   - Used to indicate the actual or intended start and stop date of a medication, and the frequency of administration.
7. **SHOULD** contain exactly one [1..1] **`routeCode`** (CodeSystem: `2.16.840.1.113883.5.112 HL7 RouteOfAdministration`) (CONF-309, CONF-310)

8. **SHOULD** contain zero or one [0..1] **`doseQuantity`**
9. **SHOULD** contain zero or one [0..1] **`rateQuantity`**
10. **MAY** contain exactly one [1..1] **`maxDoseQuantity`** (CONF-312)
    - represents a maximum dose limit
11. Contains exactly one [1..1] **`consumable`**, where its type is *Consumable*
12. **MAY** contain exactly one [1..1] **`entryRelationship`** (CONF-338, CONF-339), such that
    a. Contains **`@typeCode="`**`SUBJ`**`"`** *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Medication Series Number Observation* (templateId: `2.16.840.1.113883.10.20.1.46`)
13. **MAY** contain exactly one [1..1] **`entryRelationship`** (CONF-350), such that
    a. Contains exactly one [1..1] *Medication Status Observation* (templateId: `2.16.840.1.113883.10.20.1.47`)
14. **MAY** contain at least one [1..*] **`entryRelationship`** (CONF-330, CONF-333), such that
    a. Contains **`@typeCode="`**`SUBJ`**`"`** *SUBJ (has subject)*
    b. Contains exactly one [1..1] *Patient Instruction* (templateId: `2.16.840.1.113883.10.20.1.49`)
15. **MAY** contain at least one [1..*] **`performer`** (CONF-313), such that
    - Indicates the person administering a substance.
16. **MAY** contain at least one [1..*] **`entryRelationship`** (CONF-348, CONF-349), such that
    a. Contains **`@typeCode="`**`CAUS`**`"`** *CAUS (is etiology for)*
    b. Contains exactly one [1..1] *Reaction Observation* (templateId: `2.16.840.1.113883.10.20.1.54`)
17. **MAY** contain at least one [1..*] **`participant`** (CONF-368), such that
    a. Contains exactly one [1..1] *Product Instance* (templateId: `2.16.840.1.113883.10.20.1.52`)
18. **SHALL** satisfy: Value for moodCode is "EVN" or "INT" 2.16.840.1.113883.5.1001 ActMood STATIC (CONF-305)
    - ```
      [OCL]: self.moodCode=vocab::x_DocumentSubstanceMood::EVN or
       self.moodCode=vocab::x_DocumentSubstanceMood::INT
      ```
19. **SHOULD** satisfy: Contains exactly one doseQuantity or rateQuantity. (CONF-311)
    - ```
      [OCL]: not self.doseQuantity.oclIsUndefined() or not
       self.rateQuantity.oclIsUndefined()
      ```
20. **MAY** satisfy: Has one or more associated consents, represented in the CCD Header as ClinicalDocument / authorization / consent. (CONF-314)
    - ```
      [OCL]: self.getClinicalDocument().authorization->size() > 0 and
       self.getClinicalDocument().authorization.consent->size() > 0
      ```
21. **SHALL** satisfy: Contains one or more sources of information. (CONF-315)
    - ```
      [OCL]: not self.informant->isEmpty()
      or not self.getSection().informant->isEmpty()
      or not self.getClinicalDocument().informant->isEmpty()
      or self.reference->exists(ref : cda::Reference | ref.typeCode =
       vocab::x_ActRelationshipExternalReference::XCRPT)
      or (self.entryRelationship->exists(rel : cda::EntryRelationship |
         rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
         and rel.observation.code.code = '48766-0'))
      ```
22. **MAY** satisfy: Contains one or more precondition / Criterion, to indicate that the medication is administered only when the associated (coded or free text) criteria are met. (CONF-327)
    - Indicates that the medication is administered only when the associated (coded or free text) criteria are met.
    - ```
      [OCL]: self.precondition->exists(precondition : cda::Precondition | not
       precondition.criterion.oclIsUndefined())
      ```
23. **MAY** satisfy: Contains one or more entryRelationship, where the value for @typeCode is "RSON" "Has reason" 2.16.840.1.113883.5.1002 ActRelationshipType STATIC. (CONF-328)
      ```

- The target of the relationship represents the indication for the activity.
- `[OCL]: self.entryRelationship->exists(entryRel : cda::EntryRelationship | entryRel.typeCode = vocab::x_ActRelationshipEntryRelationship::RSON)`

24. **SHALL** satisfy: entryRelationship / @typeCode="RSON" in a medication activity has a target of problem act (templateId 2.16.840.1.113883.10.20.1.27), problem observation (templateId 2.16.840.1.113883.10.20.1.28), or some other clinical statement. (CONF-329)
    - ```
      [OCL]:
      self.getEntryRelationshipTargets(vocab::x_ActRelationshipEntryRelationship::RSON,
      cda::ClinicalStatement)->forAll(target :

      cda::ClinicalStatement | not target.oclIsUndefined() and
        (target.oclIsKindOf(ccd::ProblemAct) or
      target.oclIsKindOf(ccd::ProblemObservation)))
      ```
25. **SHALL** satisfy: Contains exactly one consumable, the target of which is a Product template. (CONF-354)
    - `[OCL]: self.consumable.manufacturedProduct.oclIsKindOf(ccd::Product)`
26. **SHALL** contain [1..1] consumable (CONF:1052), which a. **SHALL** contain [1..1] Influenza immunization product (templateId:2.16.840.1.113883.10.20.15.3.111) (CONF:1053

influenza Immunization Activity example

influenza Possible Exposure Location Act

[Act: templateId `2.16.840.1.113883.10.20.15.3.82`]

1. Contains exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`)
2. Contains exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`)
3. **SHALL** contain exactly one [1..1] **`code/@code`**`="413350009"` (CodeSystem: `2.16.840.1.113883.6.96 SNOMEDCT`)
4. **SHALL** contain zero or one [0..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`)
5. 1, **SHALL** contain [1..*] participant (specialized branch), which a. **SHALL** contain [1..1] @typeCode="LOC" Location (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) STATIC b. **SHOULD** contain [0..1] time c. **SHALL** contain [1..1] participantRole , which i. **SHALL** contain [1..1] @classCode="LOCE" Located entity (CodeSystem: 2.16.840.1.113883.5.110 HL7RoleClass) STATIC ii. **SHOULD** contain [0..*] addr iii. **SHOULD** contain [0..*] telecom iv. **SHOULD** contain [0..1] playingEntity , which if present 1. **SHALL** contain [1..1] @classCode="PLC" Place (CodeSystem: 2.16.840.1.113883.5.41 HL7EntityClass) STATIC 2. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3030 PHVS_DiseaseAcquiredJurisdiction_NND DYNAMIC
6. 1, **SHALL** contain [1..*] participant (specialized branch), which a. **SHALL** contain [1..1] @typeCode="DIR" Location (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) STATIC b. **SHOULD** contain [0..1] time c. **SHALL** contain [1..1] participantRole , which i. **SHALL** contain [1..1] @classCode="EXPR" Located entity (CodeSystem: 2.16.840.1.113883.5.110 HL7RoleClass) STATIC ii. **SHOULD** contain [0..*] addr iii. **SHOULD** contain [0..*] telecom iv. **SHOULD** contain [0..1] playingEntity , which if present 1. **SHALL** contain [1..1] @classCode="PSN" Place (CodeSystem: 2.16.840.1.113883.5.41 HL7EntityClass) STATIC 2. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3275 PHVS_Relationship_Flu DYNAMIC
7. **SHALL** have code qualifier associated finding, 444426005 - Exposure to Influenza A virus subtype H1N1

influenza Possible Exposure Location Act example
      ```

influenza Result Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.81`]

1. **SHALL** conform to *CCD Result Observation* template (templateId: `2.16.840.1.113883.10.20.1.31`)
2. **SHALL** conform to *PHCR Result Observation* template (templateId: `2.16.840.1.113883.10.20.15.3.58`)
3. **SHALL** contain exactly one [1..1] **`@classCode="OBS"`** *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1967)
4. **SHALL** contain exactly one [1..1] **`@moodCode="EVN"`** *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF-408)
5. **SHALL** contain at least one [1..*] **`id`** (CONF-409)
6. **SHALL** contain exactly one [1..1] **`code`**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.3251` *`PHVS_LabTestProcedure_Flu`* **DYNAMIC** (CONF-412)
7. **SHALL** contain exactly one [1..1] **`statusCode/@code="completed"`** (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1971)
8. **SHOULD** contain exactly one [1..1] **`effectiveTime`** (CONF-411)
   - Represents the biologically relevant time (e.g. time the specimen was obtained from the patient).
9. **SHALL** contain exactly one [1..1] **`value`** (CONF-416)
10. **SHOULD** contain zero or more [0..*] **`interpretationCode`**, which **SHOULD** be selected from ValueSet `2.16.840.1.114222.4.11.3252` *`PHVS_LabTestInterpretation_Flu`* **DYNAMIC** (CONF-418)
11. **MAY** contain zero or one [0..1] **`methodCode`** (CONF-414)
    - Included if the method isn't inherent in code or if there is a need to further specialize the method in code.
12. **MAY** contain zero or more [0..*] **`entryRelationship`** (CONF:1990), such that
    a. Contains **`@typeCode="REFR"`** *REFR (refers to)*
    b. Contains exactly one [1..1] *Specimen Collection Procedure* (templateId: `2.16.840.1.113883.10.20.15.3.2`)
13. **MAY** contain zero or more [0..*] **`entryRelationship`** (CONF:1993), such that
    a. Contains **`@typeCode="COMP"`** *COMP (has component)*
    b. Contains exactly one [1..1] *Susceptibility Result* (templateId: `2.16.840.1.113883.10.20.15.3.10`)
14. The value for 'code' **SHOULD** be selected from LOINC (codeSystem 2.16.840.1.113883.6.1) or SNOMED CT (codeSystem 2.16.840.1.113883.6.96), and **MAY** be selected from CPT-4 (codeSystem 2.16.840.1.113883.6.12). (CONF-413)
    - ```
      [OCL]: self.code.codeSystem = '2.16.840.1.113883.6.1' xor
       self.code.codeSystem = '2.16.840.1.113883.6.96' xor self.code.codeSystem
       = '2.16.840.1.113883.6.12'
      ```
15. The methodCode **SHALL NOT** conflict with the method inherent in code (CONF-415)
    - UNIMPLEMENTABLE
16. Where value is a physical quantity, the unit of measure **SHALL** be expressed using a valid Unified Code for Units of Measure (UCUM) expression. (CONF-417)
    - UNIMPLEMENTABLE
17. **SHOULD** satisfy: Contain one or more referenceRange to show the normal range of values for the observation result (CONF-419)
    - ```
      [OCL]: not self.referenceRange->isEmpty()
      ```
18. **SHALL NOT** contain referenceRange / observationRange / code, as this attribute is not used by the HL7 Clinical Statement or Lab Committee models. (CONF-420)
    - ```
      [OCL]: self.referenceRange->forAll(range : cda::ReferenceRange |
       range.observationRange.code.code.oclIsUndefined())
      ```
      ```

19. **SHALL** satisfy: Contains one or more sources of information. (CONF-421)

```
[OCL]: not self.informant->isEmpty()
or not self.getSection().informant->isEmpty()
or not self.getClinicalDocument().informant->isEmpty()
or self.reference->exists(ref : cda::Reference | ref.typeCode =
 vocab::x_ActRelationshipExternalReference::XCRPT)
or (self.entryRelationship->exists(rel : cda::EntryRelationship |
   rel.typeCode = vocab::x_ActRelationshipEntryRelationship::REFR
   and rel.observation.code.code = '48766-0'))
```

20. 9. **MAY** contain [0..1] specimen (CONF:1974), which if present a. **SHALL** contain [1..1] specimenRole, which i. **SHOULD** contain [0..1] id ii. **MAY** contain [0..1] specimenPlayingEntity), which if present 1. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3246 PHVS_Specimen_Flu DYNAMIC (CONF:1978)

influenza Result Observation example

influenza Signs And Symptoms Observation

[Observation: templateId `2.16.840.1.113883.10.20.15.3.74`]

1. **SHALL** conform to *PHCR Signs And Symptoms Observation* template (templateId: `2.16.840.1.113883.10.20.15.3.53`)
2. **SHALL** contain exactly one [1..1] **`@classCode`**`="OBS"` *Observation* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1861)
3. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:1862)
4. **SHALL** contain exactly one [1..1] **`@negationInd`** (CONF:1863)
5. **SHALL** contain exactly one [1..1] **`code/@code`**`="ASSERTION"` (CodeSystem: `2.16.840.1.113883.5.4 HL7ActCode`) (CONF:1864)
6. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1865)
7. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:1866)
8. **SHALL** contain exactly one [1..1] **`value`**, which **SHALL** be selected from ValueSet `2.16.840.1.114222.4.11.3240` *`PHVS_SignsSymptoms_Flu`* **DYNAMIC**, where its data type is CD (CONF:1867)
9. PHCR Case Observation **SHOULD** contain zero or more [0..*] entryRelationship (CONF:1887, CONF:1888, CONF:1890), such that Contains @typeCode="MFST" MFST (is manifestation of), such that Contains @inversionInd="true", and Contains exactly one [1..1] Signs And Symptoms Observation (templateId: 2.16.840.1.113883.10.20.15.3.53) (CONF:1889)

influenza Signs And Symptoms Observation example

influenza Therapeutic Regimen Act

[Act: templateId `2.16.840.1.113883.10.20.15.3.75`]

1. **SHALL** conform to *PHCR Therapeutic Regimen Act* template (templateId: `2.16.840.1.113883.10.20.15.3.57`)
2. **SHALL** contain exactly one [1..1] **`@classCode`**`="ACT"` *Act* (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1940)
3. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:1941)

4. **SHALL** contain exactly one [1..1] **`@negationInd`** (CONF:1942)
5. **SHALL** contain exactly one [1..1] **`code/@code`**`="133877004"` *Therapeutic regimen* (CodeSystem: `2.16.840.1.113883.6.96 SNOMEDCT`) (CONF:1943)
6. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1944)
7. **SHOULD** contain zero or more [0..*] **`entryRelationship`**, such that
   a. Contains **`@typeCode="`**`COMP"` *COMP (has component)*
   b. Contains exactly one [1..1] *influenza Treatment Given Substance Administration* (templateId: `2.16.840.1.113883.10.20.15.3.79`)
8. **MAY** contain zero or more [0..*] **`entryRelationship`**, such that
   a. Contains **`@typeCode="`**`COMP"` *COMP (has component)*
   b. Contains exactly one [1..1] *influenza Treatment Not Given Substance Administration* (templateId: `2.16.840.1.113883.10.20.15.3.80`)
9. **SHALL**
10. 7. **SHALL** contain [1..1] entryRelationship (specialized branch), which a. **SHALL** contain [1..1] @typeCode="REFR" Refers to (CodeSystem: 2.16.840.1.113883.5.1002 HL7ActRelationshipType) STATIC b. **SHALL** contain [1..1] observation , which i. **SHALL** contain [1..1] @classCode="OBS" Observation (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) STATIC ii. **SHALL** contain [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) STATIC iii. observation/id **SHALL** be present, and **SHALL** equal Influenza case observation's observation/id). iv. **SHALL** contain [1..1] code/@code="ASSERTION" (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode) STATIC v. **SHALL** contain [1..1] value/@code="6142004" Influenza (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) STATIC

influenza Therapeutic Regimen Act example

influenza Treatment Given Substance Administration

[SubstanceAdministration: templateId `2.16.840.1.113883.10.20.15.3.79`]

1. **SHALL** conform to *PHCR Treatment Given Substance Administration* template (templateId: `2.16.840.1.113883.10.20.15.3.55`)
2. **SHALL** contain exactly one [1..1] **`@classCode`**`="SBADM"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1919)
3. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:1920)
4. **SHALL** contain exactly one [1..1] **`@negationInd`** (CONF:1921)
5. **SHALL** contain exactly one [1..1] **`statusCode`** (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1922)
6. **SHOULD** contain zero or one [0..1] **`effectiveTime`** (CONF:1923)
7. **SHALL** contain zero or one [0..1] **`routeCode`**, which **SHALL** be selected from ValueSet `2.16.840.1.113883.3.88.12.3221.8.7` *`Medication Route FDA`* **DYNAMIC** (CONF:1925)
8. Contains exactly one [1..1] **`consumable`**, where its type is *Consumable*
9. **SHOULD** satisfy: Should contain [0..1] low (CONF:1924)
10. **SHALL** satisfy: Shall contain consumable (CONF:1926)
11. **SHALL** contain exactly one [1..1] @negationInd="false" (CONF:1921)
    - `[OCL]: self.negationInd=false`
12. 8. **SHALL** contain [1..1] consumable , which a. **SHALL** contain [1..1] manufacturedProduct , which i. **SHALL** contain [1..1] manufacturedMaterial , which 1. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3244 PHVS_MedicationTreatment_Flu DYNAMIC), which a. **SHOULD** contain [0..1] originalText

influenza Treatment Given Substance Administration example

influenza Treatment Not Given Substance Administration

[SubstanceAdministration: templateId `2.16.840.1.113883.10.20.15.3.80`]

1. **SHALL** conform to *PHCR Treatment Not Given Substance Administration* template (templateId: `2.16.840.1.113883.10.20.15.3.56`)
2. **SHALL** contain exactly one [1..1] **`@classCode`**`="SBADM"` (CodeSystem: `2.16.840.1.113883.5.6 HL7ActClass`) (CONF:1931)
3. **SHALL** contain exactly one [1..1] **`@moodCode`**`="EVN"` *Event* (CodeSystem: `2.16.840.1.113883.5.1001 HL7ActMood`) (CONF:1932)
4. **SHALL** contain exactly one [1..1] **`@negationInd`** (CONF:1933)
5. **SHALL** contain exactly one [1..1] **`statusCode/@code`**`="completed"` (CodeSystem: `2.16.840.1.113883.5.14 ActStatus`) (CONF:1934)
6. Contains exactly one [1..1] **`consumable`**, where its type is *Consumable*
7. **SHALL** satisfy: Shall contain consumable (CONF:1935)
8. **SHALL** contain exactly one [1..1] @negationInd="true" (CONF:1933)
   - `[OCL]: self.negationInd=true`
9. 6. **SHALL** contain [1..1] consumable , which a. **SHALL** contain [1..1] manufacturedProduct , which i. **SHALL** contain [1..1] manufacturedMaterial), which 1. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3244 PHVS_MedicationTreatment_Flu DYNAMIC), which a. **SHOULD** contain [0..1] originalText

influenza Treatment Not Given Substance Administration example

Chapter 5

OTHER CLASSES

Topics:

This section of the Implementation Guide describes other classes that are not CDA Clinical Documents, Sections, or Clinical Statements.

influenzaImmunizationProduct

[ManufacturedProduct: templateId `2.16.840.1.113883.10.20.15.3.76`]

1. **SHALL** conform to *CCD Product* template (templateId: `2.16.840.1.113883.10.20.1.53`)
2. **MAY** contain at least one [1..*] **`id`** (CONF-366)
   - uniquely represents a particular kind of product
3. **SHALL** satisfy: Contain exactly one manufacturedMaterial. (CONF-357)
   - `[OCL]: not self.manufacturedMaterial.oclIsUndefined()`
4. **SHALL** satisfy: Contain exactly one manufacturedMaterial / code. (CONF-358)
   - `[OCL]: not self.manufacturedMaterial.code.oclIsUndefined()`
5. The value for "manufacturedMaterial / code" in a product template **SHOULD** be selected from the RxNorm (2.16.840.1.113883.6.88) code system for medications, and from the CDC Vaccine Code (2.16.840.1.113883.6.59) code system for immunizations10, or **MAY** be selected from ValueSet 2.16.840.1.113883.1.11.20.8 MedicationTypeCode STATIC 20061017. (CONF-359)
   - ```
     [OCL]: self.manufacturedMaterial.code.codeSystem =
      '2.16.840.1.113883.6.88' or
     self.manufacturedMaterial.code.codeSystem='2.16.840.1.113883.6.59' or
     self.manufacturedMaterial.code.codeSystem='2.16.840.1.113883.6.96'
     ```
6. The value for "manufacturedMaterial / code" in a product template **MAY** contain a precoordinated product strength, product form, or product concentration (e.g. "metoprolol 25mg tablet", "amoxicillin 400mg/5mL suspension"). (CONF-360)
   - UNIMPLEMENTABLE
7. If manufacturedMaterial / code contains a precoordinated unit dose (e.g. "metoprolol 25mg tablet"), then SubstanceAdministration / doseQuantity **SHALL** be a unitless number that indicates the number of products given per administration. (CONF-361)
   - UNIMPLEMENTABLE
8. If manufacturedMaterial / code does not contain a precoordinated unit dose (e.g. "metoprolol product"), then SubstanceAdministration / doseQuantity **SHALL** be a physical quantity that indicates the amount of product given per administration. (CONF-362)
   - UNIMPLEMENTABLE
9. **SHALL** satisfy: A manufacturedMaterial in a product template contains exactly one code / originalText, which represents the generic name of the product. (CONF-363)
   - `[OCL]: not self.manufacturedMaterial.code.originalText.oclIsUndefined()`
10. **MAY** satisfy: A manufacturedMaterial in a product template contains exactly one name, which represents the brand name of the product. (CONF-364)
    - `[OCL]: not self.manufacturedMaterial.name.oclIsUndefined()`
11. **MAY** satisfy: contains exactly one manufacturedProduct / manufacturerOrganization, which represents the manufacturer of the Material. (CONF-365)
    - `[OCL]: self.manufacturerOrganization->size() = 1`
12. If ManufacturedProduct in a product template contains manufacturedProduct / id, then ManufacturedProduct **SHOULD** also contain manufacturedProduct / manufacturerOrganization. (CONF-367)
    - ```
      [OCL]: self.id->size() > 0 implies self.manufacturerOrganization->size() >
       0
      ```
13. 2. **SHALL** contain [1..1] manufacturedMaterial (CONF:1049), which a. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3250 PHVS_VaccinesAdministered_Flu DYNAMIC (CONF:1050)

influenzaImmunizationProduct example

Chapter 6

VALUE SETS

Topics:

The following tables summarize the value sets used in this Implementation Guide.

PHV S_ Chest Imaging Tests_ PHCR

Value Set	PHVS_ChestImagingTests_PHCR - 2.16.840.1.114222.4.11.6019
Code System	LOINC - 2.16.840.1.113883.6.1
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6019
Definition	chest imaging tests associated with case reporting

Concept Code	Concept Name	Code System	Description
24642-1	Chest XR AP+PA Upr	LOINC	
36687-2	Chest XR AP+Lat	LOINC	
30745-4	Chest XR	LOINC	
37439-7	Chest CT High Res	LOINC	
37441-3	Chest CT High Res WO contr	LOINC	
39341-3	Chest XR Lat+PA W insp+exp	LOINC	
42272-5	Chest XR PA+Lat	LOINC	

PHV S_ Chest X Ray Result_ CDC

Value Set	PHVS_ChestXRayResult_CDC - 2.16.840.1.114222.4.11.930
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.930
Definition	Chest X-ray Results

Concept Code	Concept Name	Code System	Description
A	Abnormal (applies to non-numeric results)		
N	Normal (applies to non-numeric results)		
385660001	Not done (qualifier value)	SNOMEDCT	

PHV S_ Disease Acquired Jurisdiction_ NND

Value Set	PHVS_DiseaseAcquiredJurisdiction_NND - 2.16.840.1.114222.4.11.3030
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3030
Definition	Codes specifying where the disease/condition was likely acquired.

Concept Code	Concept Name	Code System	Description
PHC244	Indigenous, within jurisdiction		
C1512888	International	UMLS	
PHC245	Out of jurisdiction, from another jurisdiction within state	PHIN VS (CDC Local Coding System)	
PHC246	Out of state	PHIN VS (CDC Local Coding System)	

PHV S_ Disease Type_ Flu

Value Set	PHVS_DiseaseType_Flu - 2.16.840.1.114222.4.11.6034
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6034
Definition	Influenza disease type value set has problems or disease related to influenza. This value set is based upon SNOMED CT

Concept Code	Concept Name	Code System	Description
442696006	Influenza due to Influenza A virus subtype H1N1 (disorder)	SNOMEDCT	
442438000	Influenza due to Influenza A virus (disorder)	SNOMEDCT	
441345003	Influenza B virus present (finding)	SNOMEDCT	
441049004	Influenza A virus subtype H3 present (finding)	SNOMEDCT	
441043003	Influenza A virus subtype H1 present (finding)	SNOMEDCT	
427873006	Influenza due to influenza virus type A, avian, H5N1 strain (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
408687004	Healthcare associated influenza disease (disorder)	SNOMEDCT	
406588006	Influenza of the central nervous system (disorder)	SNOMEDCT	
315642008	Influenza-like symptoms (finding)	SNOMEDCT	
195929004	Influenza with gastrointestinal tract involvement (disorder)	SNOMEDCT	
195924009	Influenza with pharyngitis (disorder)	SNOMEDCT	
195923003	Influenza with laryngitis (disorder)	SNOMEDCT	
195920000	Influenza with pneumonia, influenza virus identified (disorder)	SNOMEDCT	
195878008	Pneumonia and influenza (disorder)	SNOMEDCT	
194946005	Acute myocarditis - influenzal (disorder)	SNOMEDCT	
95891005	Influenza-like illness (finding)	SNOMEDCT	
88152000	Equine influenza (disorder)	SNOMEDCT	
81524006	Influenza due to Influenza virus, type C (disorder)	SNOMEDCT	
78046005	Myocarditis due to influenza virus (disorder)	SNOMEDCT	
74644004	Influenza with encephalopathy (disorder)	SNOMEDCT	
63039003	Influenza with respiratory manifestation other than pneumonia (disorder)	SNOMEDCT	
61700007	Influenza with non-respiratory manifestation (disorder)	SNOMEDCT	
55604004	Avian influenza (disorder)	SNOMEDCT	
43692000	Influenzal acute upper respiratory infection (disorder)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
41269000	Influenzal bronchopneumonia (disorder)	SNOMEDCT	
24662006	Influenza due to Influenza virus, type B (disorder)	SNOMEDCT	
6142004	Influenza (disorder)	SNOMEDCT	

PHV S_ Employment Status_ Flu

Value Set	PHVS_EmploymentStatus_Flu - 2.16.840.1.114222.4.11.3254
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3254
Definition	Type of work at the time of hospitalization within 7 days prior to illness onset

Concept Code	Concept Name	Code System	Description
224372004	Does voluntary work (finding)	SNOMEDCT	
275139002	Homemaker (situation)	SNOMEDCT	
406156006	In paid employment (finding)	SNOMEDCT	
105493001	Retired, life event (finding)	SNOMEDCT	
160906004	Self-employed (finding)	SNOMEDCT	
65853000	Student (occupation)	SNOMEDCT	
440337002	Temporarily unable to perform work activities due to medical condition (finding)	SNOMEDCT	
73438004	Unemployed (finding)	SNOMEDCT	

PHV S_ Lab Test Interpretation_ Flu

Value Set	PHVS_LabTestInterpretation_Flu - 2.16.840.1.114222.4.11.3252
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3252
Definition	Epidemiologic interpretation of the results of the tests performed for Influenza Case.

Concept Code	Concept Name	Code System	Description
82334004	Indeterminate (qualifier value)	SNOMEDCT	
PLR1	Influenza A (H1)	PHIN VS (CDC Local Coding System)	
PLR3	Influenza A (H3)	PHIN VS (CDC Local Coding System)	
PLR19	Influenza A (unsubtypeable)	PHIN VS (CDC Local Coding System)	
407479009	Influenza A virus (organism)	SNOMEDCT	
442352004	Influenza A virus subtype H1N1 (organism)	SNOMEDCT	
407480007	Influenza B virus (organism)	SNOMEDCT	
260385009	Negative (qualifier value)	SNOMEDCT	

PHV S_ Lab Test Name_ Novel Influenza_ PHCR

Value Set	PHVS_LabTestName_NovelInfluenza_PHCR - 2.16.840.1.114222.4.11.6035
Code System	LOINC - 2.16.840.1.113883.6.1
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6035
Definition	Name of Influenza test result.

Concept Code	Concept Name	Code System	Description
PLT244	FluAV RNA.NA Rto XXX SNP	LOINC	
PLT245	FluAV RNA.NA XXX amp/seq	LOINC	
PLT246	FluAV RNA.M2 XXX amp/seq	LOINC	

Concept Code	Concept Name	Code System	Description
67805-2	CMV Ag Islt Ql IF	LOINC	
67808-6	HPIV1 Ag Islt Ql IF	LOINC	
67809-4	HPIV2 Ag Islt Ql IF	LOINC	
67810-2	HPIV3 Ag Islt Ql IF	LOINC	
67811-0	HPIV4 Ag Islt Ql IF	LOINC	
68460-5	Picornavirus AG Islt Ql IF	LOINC	
68986-9	FLUAV A H5a RNA XXX Ql PCR	LOINC	
68987-7	FLUAV A H5b RNA XXX Ql PCR	LOINC	
68993-5	Human Rnase P RNA XXX Ql PCR	LOINC	
PLT263	Enterovirus AG Islt Ql DFA	LOINC	
30745-4	Chest XR	LOINC	
39341-3	Chest XR Lat+PA W insp+exp	LOINC	
42272-5	Chest XR PA+Lat	LOINC	
NOT AVAILABLE	Influenza A, rapid diagnostic test	LOINC	
48310-7	FLUAV XXX Ql Cult	LOINC	
49538-2	FLUV XXX Shell Vial Cult	LOINC	
6601-9	FLUV Spt Cult	LOINC	
6602-7	FLUV Sputum trach asp Cult	LOINC	
6603-5	FLUV Throat Cult	LOINC	
6604-3	FLUV XXX Cult	LOINC	
6608-4	Virus Islt Cult	LOINC	
14454-3	Virus Nose Cult	LOINC	
5887-5	Virus Throat Cult	LOINC	
14455-0	Virus Plr Cult	LOINC	
14458-4	Virus Spt Cult	LOINC	
5888-3	Virus Tiss Cult	LOINC	
6584-7	Virus XXX Cult	LOINC	
50024-9	Virus XXX Shell Vial Cult	LOINC	

Concept Code	Concept Name	Code System	Description
34487-9	FLUAV RNA XXX Ql PCR	LOINC	
44263-2	FLUAV RNA XXX PCR-aCnc	LOINC	
49531-7	FLUAV RNA Islt Ql PCR	LOINC	
53250-7	FLUAV RNA # XXX PCR	LOINC	
22827-0	FLUAV Subtyp XXX PCR	LOINC	
44795-3	FLUAV HA H5 Asian RNA XXX Ql PCR	LOINC	
38272-1	FLUAV HA H5 RNA XXX Ql PCR	LOINC	
44264-0	FLUAV HA H5 RNA XXX PCR-aCnc	LOINC	
49526-7	FLUAV HA H5 RNA Islt Ql PCR	LOINC	
38271-3	FLUAV HA H6 RNA XXX Ql PCR	LOINC	
44265-7	FLUAV HA H6 RNA XXX PCR-aCnc	LOINC	
38270-5	FLUAV HA H7 RNA XXX Ql PCR	LOINC	
44266-5	FLUAV HA H7 RNA XXX PCR-aCnc	LOINC	
49527-5	FLUAV HA H7 RNA Islt Ql PCR	LOINC	
49528-3	FLUAV HA H9 RNA XXX Ql PCR	LOINC	
48509-4	FLUAV+FLUBV RNA XXX PCR	LOINC	
49537-4	FLUAV+FLUBV RNA Islt PCR	LOINC	

PHV S_ Lab Test Procedure_ Flu

Value Set	PHVS_LabTestProcedure_Flu - 2.16.840.1.114222.4.11.3251
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3251

Definition	Epidemiologic interpretation of the type of test(s) performed for Influenza Case.

Concept Code	Concept Name	Code System	Description
10072002	Fluorescent antibody measurement (procedure)	SNOMEDCT	
34733005	Hemagglutination inhibition assay (procedure)	SNOMEDCT	
117617002	Immunohistochemistry procedure (procedure)	SNOMEDCT	
35849006	Microbial identification, rapid kit method (procedure)	SNOMEDCT	
9718006	Polymerase chain reaction analysis (procedure)	SNOMEDCT	
12717000	Viral culture (procedure)	SNOMEDCT	

PHV S_ Medication Treatment_ Flu

Value Set	PHVS_MedicationTreatment_Flu - 2.16.840.1.114222.4.11.3244
Code System	RxNorm - 2.16.840.1.113883.6.88
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3244
Definition	List of Medications related to Flu

Concept Code	Concept Name	Code System	Description
69722	ZANAMIVIR	RxNorm	
9386	RIMANTADINE	RxNorm	
260101	OSELTAMIVIR	RxNorm	
620	AMANTADINE	RxNorm	

PHV S_ Medication Treatment_ Flu_ PHCR

Value Set	PHVS_MedicationTreatment_Flu_PHCR - 2.16.840.1.114222.4.11.6029
Source	PHIN-VADS

PHV S_ Relationship_ Flu

Value Set	PHVS_Relationship_Flu - 2.16.840.1.114222.4.11.3275
Code System	HL7RoleClass - 2.16.840.1.113883.5.110

Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3275
Definition	Relationship of contact, i.e., a contact is anyone who stayed overnight in the household, with the subject, 7 days before to 7 days after the subject's illness onset date.

Concept Code	Concept Name	Code System	Description
AUNT	aunt	HL7RoleClass	
BRO	Brother	HL7RoleClass	
CHD	Child	HL7RoleClass	
COUSN	cousin	HL7RoleClass	
FTH	Father	HL7RoleClass	
GRFTH	Grandfather	HL7RoleClass	
GRMTH	Grandmother	HL7RoleClass	
MTH	Mother	HL7RoleClass	
SIS	Sister	HL7RoleClass	
SPO	Spouse	HL7RoleClass	
UNCLE	uncle	HL7RoleClass	
262241003	Unrelated	SNOMEDCT	

PHVS_SignsSymptoms_Flu

Value Set	PHVS_SignsSymptoms_Flu - 2.16.840.1.114222.4.11.3240
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Definition	Signs and Symptoms of Flu

Concept Code	Concept Name	Code System	Description
2667000	Absent (qualifier value)	SNOMEDCT	
373933003	Acute onset (qualifier value)	SNOMEDCT	
43724002	Chill (finding)	SNOMEDCT	
62315008	Diarrhea (finding)	SNOMEDCT	
9826008	Conjunctivitis (disorder)	SNOMEDCT	
49727002	Cough (finding)	SNOMEDCT	
267036007	Dyspnea (finding)	SNOMEDCT	
84946008	Extreme exhaustion (finding)	SNOMEDCT	
103001002	Feeling feverish (finding)	SNOMEDCT	

Concept Code	Concept Name	Code System	Description
386661006	Fever (finding)	SNOMEDCT	
25064002	Headache (finding)	SNOMEDCT	
79890006	Loss of appetite (finding)	SNOMEDCT	
255604002	Mild (qualifier value)	SNOMEDCT	
6736007	Moderate (severity modifier) (qualifier value)	SNOMEDCT	
68962001	Muscle pain (finding)	SNOMEDCT	
64531003	Nasal discharge (disorder)	SNOMEDCT	
162397003	Pain in throat (finding)	SNOMEDCT	
52101004	Present (qualifier value)	SNOMEDCT	
91175000	Seizure (finding)	SNOMEDCT	
24484000	Severe (severity modifier) (qualifier value)	SNOMEDCT	
267102003	Sore throat symptom (finding)	SNOMEDCT	
56302003	Toxic state (finding)	SNOMEDCT	
422400008	Vomiting (disorder)	SNOMEDCT	

PHV S_ Specimen_ Flu

Value Set	PHVS_Specimen_Flu - 2.16.840.1.114222.4.11.3246
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3246
Definition	List of specimen sources related to Flu.

Concept Code	Concept Name	Code System	Description
258607008	Bronchoalveolar lavage fluid sample (specimen)	SNOMEDCT	
258450006	Cerebrospinal fluid sample (specimen)	SNOMEDCT	
PHC837	Chest Fluid (specimen)	PHIN VS (CDC Local Coding System)	

Concept Code	Concept Name	Code System	Description
119307008	Endotracheal aspirate	SNOMEDCT	
168141000	Nasal fluid sample (specimen)	SNOMEDCT	
258411007	Nasopharyngeal aspirate (specimen)	SNOMEDCT	
258500001	Nasopharyngeal swab (specimen)	SNOMEDCT	
122571007	Pericardial fluid specimen (specimen)	SNOMEDCT	
168139001	Peritoneal fluid sample (specimen)	SNOMEDCT	
418564007	Pleural fluid specimen (specimen)	SNOMEDCT	
119364003	Serum specimen	SNOMEDCT	
119334006	Sputum specimen (specimen)	SNOMEDCT	
119339001	Stool specimen (specimen)	SNOMEDCT	
258529004	Throat swab (specimen)	SNOMEDCT	
119376003	Tissue specimen (specimen)	SNOMEDCT	
122575003	Urine specimen (specimen)	SNOMEDCT	

PHV S_ Vaccines Administered_ Flu

Value Set	PHVS_VaccinesAdministered_Flu - 2.16.840.1.114222.4.11.3250
Code System	Vaccines administered (CVX) - 2.16.840.1.113883.6.59
Source	PHIN-VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3250
Definition	Influenza vaccine received before illness onset.

Concept Code	Concept Name	Code System	Description
127	Novel influenza-H1N1-09	Vaccines administered (CVX)	
125	Novel Influenza-H1N1-09, nasal	Vaccines administered (CVX)	

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