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

PROTOTYPE: FOR DISCUSSION AND DEMONSTRATION USE ONLY
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Acknowledgments

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## Revision History

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INTRODUCTION

Topics:

- Overview
- Approach
- Scope
- Audience
- Organization of This Guide
- Use of Templates
- Conventions Used in This Guide
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


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 templateIds 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 templateIds).

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).
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.

```xml
<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:

• *Tuberculosis Case Report*

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

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.15.1.1]

1. SHALL conform to PHCR Public Health Case Report template (templateId: 2.16.840.1.113883.10.20.15)
2. SHALL contain exactly one [1..1] component, such that
   a. Contains exactly one [1..1] Tuberculosis PHCR Clinical Information Section (templateId: 2.16.840.1.113883.10.20.15.2.5)
3. SHOULD contain zero or one [0..1] component, such that
   a. Contains exactly one [1..1] Tuberculosis PHCR Relevant Dx Tests Section (templateId: 2.16.840.1.113883.10.20.15.2.6)
4. SHOULD contain zero or one [0..1] component, such that
   a. Contains exactly one [1..1] Tuberculosis PHCR Social History Section (templateId: 2.16.840.1.113883.10.20.15.2.7)
5. SHOULD contain zero or one [0..1] component, such that
   a. Contains exactly one [1..1] Tuberculosis PHCR Treatment Information Section (templateId: 2.16.840.1.113883.10.20.15.2.8)
6. MAY contain zero or one [0..1] component, such that
   a. Contains exactly one [1..1] Tuberculosis PHCR Immunization Section (templateId: 2.16.840.1.113883.10.20.15.2.23)
7. SHALL contain exactly one [1..1] title = "Public Health Case Report - Tuberculosis" (CONF:569)

Tuberculosis Case Report example
Chapter 3

SECTION TEMPLATES

Topics:

- *Tuberculosis PHCR Clinical Information Section*
- *Tuberculosis PHCR Immunization Section*
- *Tuberculosis PHCR Relevant Dx Tests Section*
- *Tuberculosis PHCR Social History Section*
- *Tuberculosis PHCR Treatment Information Section*
Tuberculosis PHCR Clinical Information Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.5]

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] entry (CONF:543, CONF:544), such that
   a. Contains @typeCode="DRIV"  DRIV (is derived from)
   b. Contains exactly one [1..1] Tuberculosis Case Observation (templateId: 2.16.840.1.113883.10.20.15.3.54)
3. SHOULD contain zero or more [0..*] entry, such that
   a. Contains @typeCode="DRIV"  DRIV (is derived from)
   b. Contains exactly one [1..1] Tuberculosis Relevant Medical Condition History Observation (templateId: 2.16.840.1.113883.10.20.15.3.107)

Tuberculosis PHCR Clinical Information Section example

Tuberculosis PHCR Immunization Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.23]

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] Tuberculosis Immunization Activity Substance Administration (templateId: 2.16.840.1.113883.10.20.15.3.60)

Tuberculosis PHCR Immunization Section example

Tuberculosis PHCR Relevant Dx Tests Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.6]

1. SHALL conform to PHCR Phcr Relevant Dx Tests Section template (templateId: 2.16.840.1.113883.10.20.15.2.3)
2. MAY contain zero or more [0..*] entry (CONF:978, CONF:979), such that
   a. Contains @typeCode="DRIV"  DRIV (is derived from)
   b. Contains exactly one [1..1] Tuberculosis Result Organizer (templateId: 2.16.840.1.113883.10.20.15.3.21)
3. SHOULD contain zero or more [0..*] entry (CONF:739, CONF:740), such that
   a. Contains @typeCode="DRIV"  DRIV (is derived from)
   b. Contains exactly one [1..1] Tuberculosis Result Observation (templateId: 2.16.840.1.113883.10.20.15.3.13)

Tuberculosis PHCR Relevant Dx Tests Section example
Tuberculosis PHCR Social History Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.7]

1. SHALL conform to *PHCR Phcr Social History Section* template (templateId: 2.16.840.1.113883.10.20.15.2.22)
2. SHOULD contain zero or more [0..*] *entry*, such that
   a. Contains @typeCode="DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Tuberculosis Possible Exposure Location Act* (templateId: 2.16.840.1.113883.10.20.15.3.12)
3. SHOULD contain zero or more [0..*] *entry*, such that
   a. Contains @typeCode="DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Tuberculosis Socio Behavioral Boolean Risk Factor Observation* (templateId: 2.16.840.1.113883.10.20.15.3.15)
4. SHOULD contain zero or more [0..*] *entry*, such that
   a. Contains @typeCode="DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Smoking Status Observation* (templateId: 2.16.840.1.113883.10.20.15.3.15)
5. SHOULD contain zero or one [0..1] *entry*, such that
   a. Contains @typeCode="DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *HIV Status Observation* (templateId: 2.16.840.1.113883.10.20.15.3.14)
6. SHOULD contain zero or one [0..1] *entry*, such that
   a. Contains @typeCode="DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Tuberculosis Site Of TB Disease Observation* (templateId: 2.16.840.1.113883.10.20.15.3.18)

Tuberculosis PHCR Social History Section example

Tuberculosis PHCR Treatment Information Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.8]

1. SHALL conform to *PHCR Phcr Treatment Information Section* template (templateId: 2.16.840.1.113883.10.20.15.2.4)
2. SHALL contain zero or one [0..1] *entry*, such that
   a. Contains @typeCode="DRIV" *DRIV (is derived from)*
   b. Contains exactly one [1..1] *Tuberculosis Therapeutic Regimen Act* (templateId: 2.16.840.1.113883.10.20.15.3.18)

Tuberculosis PHCR Treatment Information Section example
Topics:

- **HIV Status Observation**
- **Smoking Status Observation**
- **Tuberculosis Case Observation**
- **Tuberculosis Immunization Activity Substance Administration**
- **Tuberculosis Possible Exposure Location Act**
- **Tuberculosis Relevant Medical Condition History Observation**
- **Tuberculosis Relevant Medical Condition Problem Observation**
- **Tuberculosis Result Observation**
- **Tuberculosis Result Organizer**
- **Tuberculosis Signs And Symptoms Observation**
- **Tuberculosis Site Of TB Disease Observation**
- **Tuberculosis Socio Behavioral Boolean Risk Factor Observation**
- **Tuberculosis Therapeutic Regimen Act**
- **Tuberculosis Treatment Given Substance Administration**
- **Tuberculosis Treatment Not Given Substance Administration**
**HIV Status Observation**

[Observation: templateId 2.16.840.1.113883.10.20.15.3.4]

1. **SHALL** contain exactly one [1..1] `@classCode`="OBS" Observation (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass)(CONF:861)
2. **SHALL** contain exactly one [1..1] `@moodCode`="EVN" Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood)(CONF:862)
3. **SHALL** contain exactly one [1..1] `code/@code`="ASSERTION" (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode)(CONF:864)
4. **SHALL** contain exactly one [1..1] `statusCode/@code`="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus)(CONF:865)
5. **SHALL** contain exactly one [1..1] value, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3232 HIV Status (PHCR) STATIC 1, where its data type is CD (CONF:867)

**HIV Status Observation example**

**Smoking Status Observation**

[Observation: templateId 2.16.840.1.113883.10.20.15.3.85]

1. **SHALL** conform to *CCD Social History Observation* template (templateId: 2.16.840.1.113883.10.20.1.33)
2. **SHALL** contain exactly one [1..1] `code/@code`="266918002" Tobacco use and exposure (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)
3. **SHOULD** contain zero or one [0..1] `effectiveTime`
4. **SHALL** contain exactly one [1..1] value, which **SHALL** be selected from ValueSet *Smoking Status* STATIC, where its data type is CD

**Smoking Status Observation example**

**Tuberculosis Case Observation**

[Observation: templateId 2.16.840.1.113883.10.20.15.3.54]

1. **SHALL** conform to *PHCR Case Observation* template (templateId: 2.16.840.1.113883.10.20.15.3.54)
2. **SHOULD** contain zero or more [0..*] `targetSiteCode`, which **SHOULD** be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.8.9 Body Site DYNAMIC (CONF:341)
3. **SHALL** contain exactly one [1..1] value, which **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3222 Disease Type (TB) STATIC 1, where its data type is CD (CONF:1874, CONF:339)
4. **SHOULD** contain zero or more [0..*] `entryRelationship` (CONF:350, CONF:347, CONF349), such that
   a. Contains `@typeCode`="MFST" MFST (is manifestation of)
   b. Contains exactly one [1..1] *Tuberculosis Signs And Symptoms Observation* (templateId: 2.16.840.1.113883.10.20.15.3.14)
5. **SHALL** contain @inversionInd="true" (CONF:348)
Tuberculosis Case Observation example

Tuberculosis Immunization Activity Substance Administration

[SubstanceAdministration: templateId 2.16.840.1.113883.10.20.15.3.60]

1. SHALL conform to CCD Medication Activity template (templateId: 2.16.840.1.113883.10.20.1.24)
2. SHALL contain [1..1] consumable

Tuberculosis Immunization Activity Substance Administration example

Tuberculosis Possible Exposure Location Act

[Act: templateId 2.16.840.1.113883.10.20.15.3.12]

1. SHALL contain exactly one [1..1] @classCode="ACT" Act (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass) (CONF:746)
2. SHALL contain exactly one [1..1] @moodCode="EVN" Event (CodeSystem: 2.16.840.1.113883.5.1001 HL7ActMood) (CONF:747)
3. SHALL contain exactly one [1..1] code/@code="413350009" Finding with explicit context (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) (CONF:753)
4. SHALL contain exactly one [1..1] statusCode/@code="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus) (CONF:750)
5. SHALL contain qualifier (CONF:754, CONF:755, CONF:756)
6. SHALL contain qualifier (CONF:757, CONF:765, CONF:766)

Tuberculosis Possible Exposure Location Act example

Tuberculosis Relevant Medical Condition History Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.107]

1. SHALL conform to PHCR Phcr Relevant Medical Condition History Observation template (templateId: 2.16.840.1.113883.10.20.15.3.62)
2. SHALL contain exactly one [1..1] value/@code="398192003" Co-morbid conditions (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)
3. SHALL contain exactly one [1..1] entryRelationship, such that
   a. Contains exactly one [1..1] Tuberculosis Relevant Medical Condition Problem Observation (templateId: 2.16.840.1.113883.10.20.15.3.109)

Tuberculosis Relevant Medical Condition History Observation example

Tuberculosis Relevant Medical Condition Problem Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.108]
1. SHALL conform to *CCD Problem Observation* template (templateId: 2.16.840.1.113883.10.20.1.28)
2. SHALL contain exactly one [1..1] `code/@code="64572001"` `Condition` (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT) (CONF-159)
3. SHALL contain exactly one [1..1] `value`, which SHALL be selected from ValueSet *Relevant Medical Conditions STATIC*, where its data type is CE

Tuberculosis Relevant Medical Condition Problem Observation example

### Tuberculosis Result Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.13]

1. SHALL conform to *PHCR Result Observation* template (templateId: 2.16.840.1.113883.10.20.15.3.58)
2. SHALL contain exactly one [1..1] `code`, which SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3205 `Lab Test Result Name (TB) STATIC` 1 (CONF-412, CONF:719)

Tuberculosis Result Observation example

### Tuberculosis Result Organizer

[Organizer: templateId 2.16.840.1.113883.10.20.15.3.21]

1. SHALL conform to *PHCR Result Organizer* template (templateId: 2.16.840.1.113883.10.20.15.3.59)
2. SHALL contain exactly one [1..1] `code`, which SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3205 `Lab Test Result Name (TB) STATIC` 1 (CONF-397, CONF:1999, CONF:952)
3. SHALL contain at least one [1..*] `component` (CONF:1231), such that
   a. Contains exactly one [1..1] *Tuberculosis Result Observation* (templateId: 2.16.840.1.113883.10.20.15.3.13)

Tuberculosis Result Organizer example

### Tuberculosis Signs And Symptoms Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.14]

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] `value`, which SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3214 `Signs and Symptoms (TB) STATIC` 1, where its data type is CD (CONF:1867, CONF:683)

Tuberculosis Signs And Symptoms Observation example
Tuberculosis Site Of TB Disease Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.98]

1. SHALL contain exactly one [1..1] @classCode="OBS" Observation (CodeSystem: 2.16.840.1.113883.5.6 HL7ActClass)
2. SHALL contain 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="ASSERTION" (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode)
4. SHOULD contain zero or one [0..1] effectiveTime
5. SHALL contain exactly one [1..1] statusCode/@code="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus)
6. SHALL contain at least one [1..*] targetSiteCode, which SHALL be selected from ValueSet 2.16.840.1.113883.3.88.12.3221.8.9 Body Site DYNAMIC
7. SHALL contain exactly one [1..1] value, which SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3222 Disease Type (TB) STATIC 1, where its data type is CD

Tuberculosis Site Of TB Disease Observation example

Tuberculosis Socio Behavioral Boolean Risk Factor Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.15]

1. SHALL conform to CCD Social History Observation template (templateId: 2.16.840.1.113883.10.20.1.33)
2. SHALL contain exactly one [1..1] @negationInd (CONF:874)
3. SHOULD contain zero or one [0..1] effectiveTime (CONF:872)
4. SHALL contain exactly one [1..1] value, which SHALL be selected from ValueSet 2.16.840.1.114222.4.11.3228 Sociobehavioral risk factor STATIC 1, where its data type is CD (CONF:873)
5. SHALL contain exactly one [1..1] code/@code="ASSERTION" (CodeSystem: 2.16.840.1.113883.5.4 HL7ActCode)

Tuberculosis Socio Behavioral Boolean Risk Factor Observation example

Tuberculosis Therapeutic Regimen Act

[Act: templateId 2.16.840.1.113883.10.20.15.3.18]

1. SHALL conform to PHCR Therapeutic Regimen Act template (templateId: 2.16.840.1.113883.10.20.15.3.57)
2. SHOULD contain zero or more [0..*] entryRelationship, such that
   a. Contains @typeCode="COMP" COMP (has component)
   b. Contains exactly one [1..1] Tuberculosis Treatment Given Substance Administration (templateId: 2.16.840.1.113883.10.20.15.3.16)
3. MAY contain zero or more [0..*] entryRelationship, such that
   a. Contains @typeCode="COMP" COMP (has component)
b. Contains exactly one [1..1] *Tuberculosis Treatment Not Given Substance Administration* (templateId: 2.16.840.1.113883.10.20.15.3.19)


Tuberculosis Therapeutic Regimen Act example

**Tuberculosis Treatment Given Substance Administration**

[SubstanceAdministration: templateId 2.16.840.1.113883.10.20.15.3.16]

1. SHALL conform to *PHCR Treatment Given Substance Administration* template (templateId: 2.16.840.1.113883.10.20.15.3.55)

2. SHALL contain consumable (CONF:626)

Tuberculosis Treatment Given Substance Administration example

**Tuberculosis Treatment Not Given Substance Administration**

[SubstanceAdministration: templateId 2.16.840.1.113883.10.20.15.3.19]

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 consumable (CONF:617)

Tuberculosis Treatment Not Given Substance Administration example
Chapter 5

OTHER CLASSES

Topics:

- **Tuberculosis Immunization Manufactured Product**

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

[ManufacturedProduct: templateId 2.16.840.1.113883.10.20.15.3.61]

1. SHALL conform to *CCD Product* template (templateId: 2.16.840.1.113883.10.20.1.53)
2. SHALL contain [1..1] code/@code="19" Bacillus Calmette-Guerin codeSystem="2.16.840.1.113883.6.59" codeSystemName="CVX" displayName="BCG vaccine"

Tuberculosis Immunization Manufactured Product example
Chapter 6

VALUE SETS

Topics:

- Disease Type (TB)
- HIV Status (PHCR)
- Lab Test Result Name (TB)
- Medication Treatment (TB)
- Relevant Medical Conditions
- Signs and Symptoms (TB)
- Smoking Status
- Sociobehavioral risk factor

The following tables summarize the value sets used in this Implementation Guide.
Disease Type (TB)

<table>
<thead>
<tr>
<th>Value Set</th>
<th>Disease Type (TB) - 2.16.840.1.114222.4.11.3222</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code System</td>
<td>SNOMEDCT - 2.16.840.1.113883.6.96</td>
</tr>
<tr>
<td>Version</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td>PHIN VADS</td>
</tr>
<tr>
<td>Definition</td>
<td>Tuberculosis disease type value set has problems or disease related to Tuberculosis. This value set is based upon SNOMED CT.</td>
</tr>
</tbody>
</table>

HIV Status (PHCR)

<table>
<thead>
<tr>
<th>Value Set</th>
<th>HIV Status (PHCR) - 2.16.840.1.114222.4.11.3232</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td>PHIN VADS</td>
</tr>
<tr>
<td>Source URL</td>
<td><a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?id=9DE75E17-176B-DE11-9B52-0015173D1785">http://phinvads.cdc.gov/vads/ViewValueSet.action?id=9DE75E17-176B-DE11-9B52-0015173D1785</a></td>
</tr>
<tr>
<td>Definition</td>
<td>HIV Status value set has concepts that expresses the status of HIV such as HIV negative or HIV positive. This value set is based upon SNOMED CT finding domain.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concept Code</th>
<th>Concept Name</th>
<th>Code System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>165815009</td>
<td>HIV negative</td>
<td>LOINC - 2.16.840.1.113883.6.1</td>
<td></td>
</tr>
<tr>
<td>165816005</td>
<td>HIV positive</td>
<td>LOINC - 2.16.840.1.113883.6.1</td>
<td></td>
</tr>
</tbody>
</table>

Lab Test Result Name (TB)

<table>
<thead>
<tr>
<th>Value Set</th>
<th>Lab Test Result Name (TB) - 2.16.840.1.114222.4.11.3205</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code System</td>
<td>LOINC - 2.16.840.1.113883.6.1</td>
</tr>
<tr>
<td>Version</td>
<td>1</td>
</tr>
<tr>
<td>Source</td>
<td>PHIN VADS</td>
</tr>
<tr>
<td>Source URL</td>
<td><a href="http://phinvads.cdc.gov/vads/ViewValueSet.action?id=A0E75E17-176B-DE11-9B52-0015173D1785">http://phinvads.cdc.gov/vads/ViewValueSet.action?id=A0E75E17-176B-DE11-9B52-0015173D1785</a></td>
</tr>
<tr>
<td>Definition</td>
<td>Tuberculosis lab test result name value set is based upon the Lab LOINC concepts that are defined in the CSTE standardized reporting definition for Tuberculosis.</td>
</tr>
</tbody>
</table>

Medication Treatment (TB)

<table>
<thead>
<tr>
<th>Value Set</th>
<th>Medication Treatment (TB) - 2.16.840.1.114222.4.11.3218</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code System</td>
<td>Unique Ingredient Identifier (UNII) - 2.16.840.1.113883.4.9</td>
</tr>
</tbody>
</table>
Version | 1
Source | PHIN VADS
Source URL | http://phinvads.cdc.gov/vads/ViewValueSet.action?id=A5E75E17-176B-DE11-9B52-0015173D1785
Definition | Tuberculosis treatment value set has medication concepts used to treat tuberculosis. This is based upon the FDA Unique Ingredient Identifier (UNII).

<table>
<thead>
<tr>
<th>Concept Code</th>
<th>Concept Name</th>
<th>Code System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>84319SGC3C</td>
<td>Amikacin</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>232HYX66HC</td>
<td>Capreomycin</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>95IK5KI84Z</td>
<td>Cycloserine</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>8G167061QZ</td>
<td>Ethambutol</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>OAY8ORS3CQ</td>
<td>Ethionamide</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>V83O1VOZ8L</td>
<td>Isoniazid (INH)</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>RUC37XUP2P</td>
<td>Kanamycin</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>6GNT3Y5LMF</td>
<td>Levoflozacin</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>U188XYD42P</td>
<td>Moxifloxacin</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>5B2658E0N2</td>
<td>Para-Amino Salicylic Acid</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>Concept Code</td>
<td>Concept Name</td>
<td>Code System</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>2KNI5N06TI</td>
<td>Pyrazinamide</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>206702</td>
<td>Rifamate</td>
<td>RxNorm</td>
<td></td>
</tr>
<tr>
<td>VJT6J7R4TR</td>
<td>Rifampin</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>XJM390A33U</td>
<td>Rifapentine</td>
<td>Unique Ingredient Identifier (UNII)</td>
<td></td>
</tr>
<tr>
<td>206698</td>
<td>Rifater</td>
<td>RxNorm</td>
<td></td>
</tr>
</tbody>
</table>

### Relevant Medical Conditions

<table>
<thead>
<tr>
<th>Value Set</th>
<th>Relevant Medical Conditions - (OID not specified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>PHIN VADS</td>
</tr>
<tr>
<td>Definition</td>
<td>Underlying complaints or concerns prompting a patient-initiated encounter related to their current condition.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concept Code</th>
<th>Concept Name</th>
<th>Code System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>86406008</td>
<td>Human immunodeficiency virus infection (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>47515009</td>
<td>Simple silicosis</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>73211009</td>
<td>Diabetes mellitus disorder</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>46177005</td>
<td>End-stage renal disease disorder</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>90688005</td>
<td>Chronic renal failure syndrome (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>93143009</td>
<td>Leukemia, disease (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>86049000</td>
<td>Malignant neoplasm, primary (morphologic abnormality)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>32230006</td>
<td>Malabsorption syndrome (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>6525002</td>
<td>Dependent drug abuse (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>15167005</td>
<td>Alcohol abuse (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>Concept Code</td>
<td>Concept Name</td>
<td>Code System</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------</td>
<td>-------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>235856003</td>
<td>Disorder of liver (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>42399005</td>
<td>Renal failure syndrome (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>62479008</td>
<td>Acquired immune deficiency syndrome (AIDS) (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>195967001</td>
<td>Asthma</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>62914000</td>
<td>Cerebrovascular Disease (disorder)</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>42343007</td>
<td>Congestive Heart Failure</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>46635009</td>
<td>Diabetes Type I</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>44054006</td>
<td>Diabetes Type II</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>90708001</td>
<td>Kidney Disease</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>22298006</td>
<td>Myocardial Infarction</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>19829001</td>
<td>Pulmonary Disease</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>87433001</td>
<td>Pulmonary Emphysema</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>161663000</td>
<td>Tissue/Organ Recipient</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
</tbody>
</table>

**Signs and Symptoms (TB)**

- **Value Set**: Signs and Symptoms (TB) - 2.16.840.1.114222.4.11.3214
- **Version**: 1
- **Definition**: Tuberculosis Signs and Symptoms value set is primarily based upon the SNOMED concepts that are defined in the CSTE standardized reporting definition for Tuberculosis

<table>
<thead>
<tr>
<th>Concept Code</th>
<th>Concept Name</th>
<th>Code System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>84387000</td>
<td>Asymptomatic</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>29857009</td>
<td>Chest pain</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>43724002</td>
<td>Chill</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>386661006</td>
<td>Fever</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>66857006</td>
<td>Hemoptysis</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>42984000</td>
<td>Night sweats</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>409596002</td>
<td>Non-productive cough</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>28743005</td>
<td>Productive cough</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>89362005</td>
<td>Weight loss finding</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
</tbody>
</table>
### Smoking Status

<table>
<thead>
<tr>
<th>Concept Code</th>
<th>Concept Name</th>
<th>Code System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Current every day smoker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Current some day smoker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Former Smoker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Never Smoker</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Smoker, current status</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Unknown if ever smoked</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Value Set**: Smoking Status - (OID not specified)

**Source**: PHIN VADS

**Definition**: Smoking status value set describes smoking history and current habit, and is based upon the CDC values for smoking status.

### Sociobehavioral risk factor

<table>
<thead>
<tr>
<th>Concept Code</th>
<th>Concept Name</th>
<th>Code System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>160592001</td>
<td>Alcohol intake above recommended sensible limits</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>32911000</td>
<td>Homeless</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>45361006</td>
<td>Imprisonment</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>226034001</td>
<td>Injecting drug user</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>413096007</td>
<td>Never injecting drug user</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>55211-7</td>
<td>Shared razor, toothbrushes or nail care items:Find:Pt:Patient:Ord:</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
<tr>
<td>228395002</td>
<td>Shares drug injecting equipment</td>
<td>SNOMEDCT</td>
<td></td>
</tr>
</tbody>
</table>

**Value Set**: Sociobehavioral risk factor - 2.16.840.1.114222.4.11.3228

**Version**: 1

**Definition**: Socio-behavioral risk factor related to infectious disease.
REFERENCES

- LOINC®: Logical Observation Identifiers Names and Codes, Regenstrief Institute.
- SNOMED CT®: SNOMED Clinical Terms SNOMED International Organization.
- Extensible Markup Language, www.w3.org/XML.
- Using SNOMED CT in HL7 Version 3; Implementation Guide, Release 1.5. Available through HL7 or if an HL7 member with the following link: Using SNOMED CT in HL7 Version 3.