

Implementation Guide for CDA Release 2

Pertussis Case Report CDA R2

Optional Subtitle



**PROTOTYPE: FOR DISCUSSION
AND DEMONSTRATION USE ONLY**

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Acknowledgments

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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](#)
- [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

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 `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).
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:hl7-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:

- [Pertussis Case Report](#)

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

Pertussis Case Report

[ClinicalDocument: templateId 2.16.840.1.113883.10.20.15.1.5]

1. **SHALL** conform to *PHCR Public Health Case Report* template (templateId: 2.16.840.1.113883.10.20.15)
2. **SHOULD** contain zero or one [0..1] **component**, such that
 - a. Contains exactly one [1..1] *Pertussis Social History Section* (templateId: 2.16.840.1.113883.10.20.15.2.24)
3. **SHALL** contain exactly one [1..1] **component**, such that
 - a. Contains exactly one [1..1] *Pertussis Clinical Information Section* (templateId: 2.16.840.1.113883.10.20.15.2.25)
4. **SHOULD** contain zero or one [0..1] **component**, such that
 - a. Contains exactly one [1..1] *Pertussis Treatment Information Section* (templateId: 2.16.840.1.113883.10.20.15.2.26)
5. **SHALL** contain zero or one [0..1] **title** = "Public Health Case Report - Pertussis"
6. **SHOULD** contain zero or one [0..1] **component**, such that
 - a. Contains exactly one [1..1] *Pertussis Relevant Dx Tests Section* (templateId: 2.16.840.1.113883.10.20.15.2.27)
7. **SHOULD** contain zero or one [0..1] **component**, such that
 - a. Contains exactly one [1..1] *Pertussis Immunizations Section* (templateId: 2.16.840.1.113883.10.20.15.2.28)

Pertussis Case Report example

Chapter

3

SECTION TEMPLATES

Topics:

- *Pertussis Clinical Information Section*
- *Pertussis Immunizations Section*
- *Pertussis Relevant Dx Tests Section*
- *Pertussis Social History Section*
- *Pertussis Treatment Information Section*

Pertussis Clinical Information Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.25]

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**, such that
 - a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
 - b. Contains exactly one [1..1] *Pertussis Case Observation* (templateId: 2.16.840.1.113883.10.20.15.3.65)

Pertussis Clinical Information Section example

Pertussis Immunizations Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.28]

1. **SHALL** conform to *CCD Immunizations Section* template (templateId: 2.16.840.1.113883.10.20.1.6)
2. **SHOULD** contain zero or more [0..*] **entry**, such that
 - a. Contains exactly one [1..1] *Pertussis Immunization Activity* (templateId: 2.16.840.1.113883.10.20.15.3.72)

Pertussis Immunizations Section example

Pertussis Relevant Dx Tests Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.27]

1. **SHALL** conform to *PHCR Phcr Relevant Dx Tests Section* template (templateId: 2.16.840.1.113883.10.20.15.2.3)
2. **SHOULD** contain zero or more [0..*] **entry**, such that
 - a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
 - b. Contains exactly one [1..1] *Pertussis Result Observation* (templateId: 2.16.840.1.113883.10.20.15.3.71)
3. **MAY** contain zero or more [0..*] **entry**, such that
 - a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
 - b. Contains exactly one [1..1] *Pertussis Result Organizer* (templateId: 2.16.840.1.113883.10.20.15.3.70)

Pertussis Relevant Dx Tests Section example

Pertussis Social History Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.24]

1. **SHALL** conform to *PHCR Phcr Social History Section* template (templateId: 2.16.840.1.113883.10.20.15.2.22)

2. **MAY** contain zero or more [0..*] **entry**, such that
 - a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
 - b. Contains exactly one [1..1] *Pertussis Possible Exposure Location Act* (templateId: 2.16.840.1.113883.10.20.15.3.63)
3. **MAY** contain zero or more [0..*] **entry**, such that
 - a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
 - b. Contains exactly one [1..1] *Pertussis Possible Case Contact Location Act* (templateId: 2.16.840.1.113883.10.20.15.3.64)

Pertussis Social History Section example

Pertussis Treatment Information Section

[Section: templateId 2.16.840.1.113883.10.20.15.2.26]

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] **entry**, such that
 - a. Contains **@typeCode="DRIV"** *DRIV (is derived from)*
 - b. Contains exactly one [1..1] *Pertussis Therapeutic Regimen Act* (templateId: 2.16.840.1.113883.10.20.15.3.67)

Pertussis Treatment Information Section example

Chapter

4

CLINICAL STATEMENT TEMPLATES

Topics:

- [*Pertussis Case Observation*](#)
- [*Pertussis Immunization Activity*](#)
- [*Pertussis Possible Case Contact Location Act*](#)
- [*Pertussis Possible Exposure Location Act*](#)
- [*Pertussis Result Observation*](#)
- [*Pertussis Result Organizer*](#)
- [*Pertussis Signs And Symptoms Observation*](#)
- [*Pertussis Therapeutic Regimen Act*](#)
- [*Pertussis Treatment Given Substance Administration*](#)
- [*Pertussis Treatment Not Given Substance Administration*](#)

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.

Pertussis Case Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.65]

1. **SHALL** conform to *PHCR Case Observation* template (templateId: 2.16.840.1.113883.10.20.15.3.54)
2. **SHALL** contain exactly one [1..1] **value/@code**="27836007" *Pertussis* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT), where its data type is CD
3. **SHOULD** contain zero or more [0..*] **entryRelationship**, such that
 - a. Contains exactly one [1..1] *Pertussis Signs And Symptoms Observation* (templateId: 2.16.840.1.113883.10.20.15.3.66)

Pertussis Case Observation example

Pertussis Immunization Activity

[SubstanceAdministration: templateId 2.16.840.1.113883.10.20.15.3.72]

1. **SHALL** conform to *CCD Medication Activity* template (templateId: 2.16.840.1.113883.10.20.1.24)
2. **SHALL** contain exactly one [1..1] **@moodCode**

Pertussis Immunization Activity example

Pertussis Possible Case Contact Location Act

[Act: templateId 2.16.840.1.113883.10.20.15.3.64]

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" *Act* (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**="413350009" *Finding with explicit context* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)
4. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus)
5. **SHALL** contain [1..*] participant, which **SHALL** contain [1..1] **@typeCode**="LOC" *Location* (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) **STATIC**

Pertussis Possible Case Contact Location Act example

Pertussis Possible Exposure Location Act

[Act: templateId 2.16.840.1.113883.10.20.15.3.63]

1. **SHALL** contain exactly one [1..1] **@classCode**="ACT" *Act* (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**="413350009" *Finding with explicit context* (CodeSystem: 2.16.840.1.113883.6.96 SNOMEDCT)

4. **SHALL** contain exactly one [1..1] **statusCode/@code**="completed" (CodeSystem: 2.16.840.1.113883.5.14 ActStatus)
5. **SHALL** contain [1..*] participant, which **SHALL** contain [1..1] **@typeCode**="LOC" Location (CodeSystem: 2.16.840.1.113883.5.90 HL7ParticipationType) STATIC

Pertussis Possible Exposure Location Act example

Pertussis Result Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.71]

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 2.16.840.1.114222.4.11.4184 *Lab Test Name (Pertussis)* DYNAMIC

Pertussis Result Observation example

Pertussis Result Organizer

[Organizer: templateId 2.16.840.1.113883.10.20.15.3.70]

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**
3. **SHALL** contain at least one [1..*] **component**, such that
 - a. Contains exactly one [1..1] *Pertussis Result Observation* (templateId: 2.16.840.1.113883.10.20.15.3.71)

Pertussis Result Organizer example

Pertussis Signs And Symptoms Observation

[Observation: templateId 2.16.840.1.113883.10.20.15.3.66]

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 2.16.840.1.114222.4.11.6016 *Signs and Symptoms (Pertussis)* DYNAMIC, where its data type is CD

Pertussis Signs And Symptoms Observation example

Pertussis Therapeutic Regimen Act

[Act: templateId 2.16.840.1.113883.10.20.15.3.67]

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] *Pertussis Treatment Given Substance Administration* (templateId: 2.16.840.1.113883.10.20.15.3.68)
- 3. **MAY** contain zero or more [0..*] **entryRelationship**, such that
 - a. Contains **@typeCode="COMP"** *COMP (has component)*
 - b. Contains exactly one [1..1] *Pertussis Treatment Not Given Substance Administration* (templateId: 2.16.840.1.113883.10.20.15.3.69)

Pertussis Therapeutic Regimen Act example

Pertussis Treatment Given Substance Administration

[SubstanceAdministration: templateId 2.16.840.1.113883.10.20.15.3.68]

- 1. **SHALL** conform to *PHCR Treatment Given Substance Administration* template (templateId: 2.16.840.1.113883.10.20.15.3.55)
- 2. **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3120 Antibiotic Received (Pertussis)

Pertussis Treatment Given Substance Administration example

Pertussis Treatment Not Given Substance Administration

[SubstanceAdministration: templateId 2.16.840.1.113883.10.20.15.3.69]

- 1. **SHALL** conform to *PHCR Treatment Not Given Substance Administration* template (templateId: 2.16.840.1.113883.10.20.15.3.56)
- 2. **SHALL** be selected from ValueSet 2.16.840.1.114222.4.11.3120 Antibiotic Received (Pertussis)

Pertussis Treatment Not Given Substance Administration example

Chapter

5

OTHER CLASSES

Topics:

- [Pertussis Immunization Product](#)

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

Pertussis Immunization Product

[ManufacturedProduct: templateId 2.16.840.1.113883.10.20.15.3.73]

1. **SHALL** conform to *CCD Product* template (templateId: 2.16.840.1.113883.10.20.1.53)
2. **SHALL** contain [1..1] code/@code, which **SHALL** be selected from ValueSet x.x.x Vaccine Administered (Pertussis)

Pertussis Immunization Product example

Chapter

6

VALUE SETS

Topics:

- *Antibiotic Received (Pertussis)*
- *Lab Test Name (Pertussis)*
- *Signs and Symptoms (Pertussis)*
- *Transmission Setting*
- *Vaccine Administered (Pertussis)*

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

Antibiotic Received (Pertussis)

Value Set	Antibiotic Received (Pertussis) - 2.16.840.1.114222.4.11.3120
Code System	RxNorm - 2.16.840.1.113883.6.88
Source	PHIN VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.3120
Definition	Antibiotic patient received for Pertussis answer list

Concept Code	Concept Name	Code System	Description
723	Amoxicillin	RxNorm	
19711	Amoxicillin / Clavulanate	RxNorm	
733	Ampicillin	RxNorm	
18631	Azithromycin	RxNorm	
2194	Cefuroxime	RxNorm	
2551	Ciprofloxacin	RxNorm	
21212	Clarithromycin	RxNorm	
3640	Doxycycline	RxNorm	
4053	Erythromycin	RxNorm	
70618	Penicillin	RxNorm	
10395	Tetracycline	RxNorm	
10831	Sulfamethoxazole / Trimethoprim	RxNorm	

Lab Test Name (Pertussis)

Value Set	Lab Test Name (Pertussis) - 2.16.840.1.114222.4.11.4184
Code System	LOINC - 2.16.840.1.113883.6.1
Source	PHIN VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.4184
Definition	lab tests associated with Pertussis

Signs and Symptoms (Pertussis)

Value Set	Signs and Symptoms (Pertussis) - 2.16.840.1.114222.4.11.6016
Code System	SNOMEDCT - 2.16.840.1.113883.6.96
Source	PHIN VADS
Source URL	https://phinvads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.6016

Concept Code	Concept Name	Code System	Description
49727002	Cough	SNOMEDCT	
284523002	Persistent cough	SNOMEDCT	
60537006	Whooping respiration	SNOMEDCT	
43025008	Paroxysms of coughing	SNOMEDCT	
422400008	Vomiting	SNOMEDCT	
424580008	Post-tussive vomiting	SNOMEDCT	
1023001	Apnea	SNOMEDCT	
3415004	Cyanosis	SNOMEDCT	
233604007	Pneumonia	SNOMEDCT	
70995007	Pulmonary Hypertension	SNOMEDCT	
91175000	Seizures	SNOMEDCT	
44186003	Dyssomnia	SNOMEDCT	
405737000	Pharyngitis	SNOMEDCT	
304213008	Low grade pyrexia	SNOMEDCT	
76067001	Sneezing	SNOMEDCT	
60119000	Exhaustion	SNOMEDCT	
267102003	Sore throat	SNOMEDCT	
81308009	Acute Encephalopathy	SNOMEDCT	

Transmission Setting

Value Set	Transmission Setting - 2.16.840.1.114222.4.11.1052
Source	PHIN VADS
Source URL	https://phinivads.cdc.gov/vads/ViewValueSet.action?oid=2.16.840.1.114222.4.11.1052
Definition	Location where the patient was exposed to the illness

Concept Code	Concept Name	Code System	Description
C1510656	Athletics	UMLS	
224864007	College	SNOMEDCT	
133928008	Community	SNOMEDCT	
1348009	Day care center	SNOMEDCT	
ER	Hospital ER	RoleCode	
264362003	Home	SNOMEDCT	
C0029916	Hospital Outpatient Clinic	UMLS	
PHC179	International Travel	PHIN VS	

Concept Code	Concept Name	Code System	Description
PHC64	Military	(CDC Local Coding System) PHIN VS (CDC Local Coding System)	
257656006	Penal institution	SNOMEDCT	
257659004	Place of worship	SNOMEDCT	
257698009	School	SNOMEDCT	
83891005	Solo practice private office	SNOMEDCT	
225746001	Ward	SNOMEDCT	
285141008	Work environment	SNOMEDCT	

Vaccine Administered (Pertussis)

Value Set	Vaccine Administered (Pertussis) - 2.16.840.1.114222.4.11.6015
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=2.16.840.1.114222.4.11.6015

Concept Code	Concept Name	Code System	Description
01	DTP	Vaccines administered (CVX)	
11	Pertussis	Vaccines administered (CVX)	
20	DTaP	Vaccines administered (CVX)	
22	DTP-Hib	Vaccines administered (CVX)	
50	DTaP-Hib	Vaccines administered (CVX)	

Concept Code	Concept Name	Code System	Description
102	DTP-Hib-Hep B	Vaccines administered (CVX)	
106	DTaP, 5 pertussis antigens	Vaccines administered (CVX)	
107	DTaP, unspecified formulation	Vaccines administered (CVX)	
110	DTaP-IPV-HepB	Vaccines administered (CVX)	
115	Tdap	Vaccines administered (CVX)	
120	DTaP-IPV-Hib	Vaccines administered (CVX)	
130	DTaP-IPV	Vaccines administered (CVX)	
146	DTaP,IPV,Hib,HepB	Vaccines administered (CVX)	

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