

Integrating the Healthcare Enterprise



5 **IHE Patient Care Coordination Technical
Framework Supplement**

10 **Clinical Mapping
(CMAP)**

15 **Draft for Public Comment**

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25 **Please verify you have the most recent version of this document. See [here](#) for Trial
Implementation and Final Text versions and [here](#) for Public Comment versions.**

Foreword

30 This is a supplement to the IHE PCC Technical Framework V10.0. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on June 1, 2015 for public comment. Comments are invited and may be submitted at http://www.ihe.net/PCC_Public_Comments. In order to be considered in development of the trial implementation version of the supplement, comments must be received
35 by July 1, 2015.

This supplement describes changes to the existing technical framework documents.

“Boxed” instructions like the sample below indicate to the Volume Editor how to integrate the relevant section(s) into the relevant Technical Framework volume.

<i>Amend Section X.X by the following:</i>
--

40 Where the amendment adds text, make the added text **bold underline**. Where the amendment removes text, make the removed text **~~bold strikethrough~~**. When entire new sections are added, introduce with editor’s instructions to “add new text” or similar, which for readability are not bolded or underlined.

45 General information about IHE can be found at: <http://ihe.net>.

Information about the IHE Patient Care Coordination domain can be found at: http://ihe.net/IHE_Domains.

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at: http://ihe.net/IHE_Process and
50 <http://ihe.net/Profiles>.

The current version of the IHE IT Infrastructure Technical Framework can be found at: http://ihe.net/Technical_Frameworks.

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Introduction to this Supplement

This supplement modifies the following volumes:

- 105 Volume 1 – Adds a Clinical Mapping (CMAP) Profile to manage nomenclature transformations *mapping to and from clinical terminologies*

Open Issues and Questions

None

Closed Issues

- 110 Could this profile be extended to include any nomenclature mapping to provide SNOMED, LOINC, RXNORM and other clinical mappings from other standard nomenclatures, clinical or non-clinical? YES

General Introduction

115 Appendix A - Actor Summary Definitions

Add the following actors to the IHE Technical Frameworks General Introduction list of actors:

Actor	Definition
Clinical Mapping Requestor (See Note 1 for Requirements)	<p>The Clinical Mapping Requestor in conjunction with a requesting actor provides a list of terms in a Translate Code Request transaction with:</p> <ul style="list-style-type: none"> • Items to be mapped • Terminology of the items • targeted terminology for mapping
Clinical Mapper (See Note 2 for Requirements)	<p>The Clinical Mapper responds to the Translate Code Request transaction from the Clinical Mapping Requestor.</p> <p>The Clinical Mapper shall be:</p> <ul style="list-style-type: none"> • Capable of handling multiple mapping tables to be invoked singularly or in combination depending on the terminologies to be mapped • Context mapping capable

Appendix B - Transaction Summary Definitions

120 *Add the following transactions to the IHE Technical Frameworks General Introduction list of transactions:*

Transaction	Definition
Translate Code	<p>This transaction uses either a REST or SOAP based format to provide a list of clinical items to be mapped to specific clinical terminology equivalents. Projected terminologies include LOINC, SNOMED, and ICD-10. This transaction may require several iterations to get to a match or matches, or a failure: The Clinical Mapper Actor may request additional context from the Clinical Mapping Requester in order to overcome an ambiguous mapping.</p>

Volume 1 – Profiles

X Clinical Mapping (CMAP) Profile

- 125 Mapping to and from clinical terminologies is important to handle situations in which:
- Device generated observations need to be converted to clinical terminologies for use in clinical decision making and record keeping
 - Clinical terminologies need to be converted to charge capture / billing compatible terminologies for communicating diagnoses and procedures:
- 130
- ICD-10 for international purposes
 - Others as needed for national extensions
 - Clinical terminologies need to be converted to other clinical terminologies (future)

Benefits include:

- Significant time savings
- 135
- Data entry error reduction
 - Consistency in practice to permit comparison and aggregation of data post-conversion

X.1 CMAP Actors, Transactions, and Content Modules

This section defines the actors, transactions, and/or content modules in this profile. General definitions of actors are given in the Technical Frameworks General Introduction Appendix A at

140 http://ihe.net/Technical_Frameworks/.

Figure X.1-1 shows the actors directly involved in the CMAP Profile and the relevant transactions between them. If needed for context, other actors that may be indirectly involved due to their participation in other related profiles are shown in dotted lines. Actors which have a mandatory grouping are shown in conjoined boxes.

145

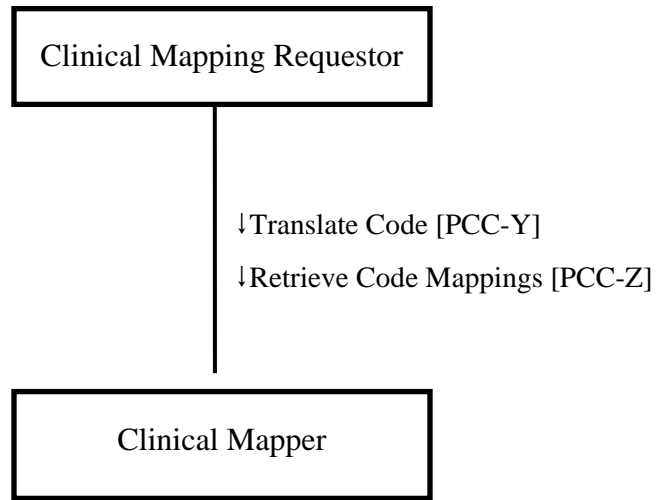


Figure X.1-1: CMAP Actor Diagram

150 Table X.1-1 lists the transactions for each actor directly involved in the CMAP Profile. To claim compliance with this Profile, an actor shall support all required transactions (labeled “R”) and may support the optional transactions (labeled “O”).

Table X.1-1: Clinical Mapping Profile - Actors and Transactions

Actors	Transactions	Optionality	Reference
Clinical Mapping Requestor	Translate Code	R	PCC TF-2: Y
	Retrieve Code Mappings	O	PCC TF-2: Z
Clinical Mapper	Translate Code	R	PCC TF-2: Y
	Retrieve Code Mappings	O	PCC TF-2: Z

155

X.2 Clinical Mapping (CMAP) Actor Options

Options that may be selected for each actor in this profile are listed in the Table X.2-1 below.

Table X.2-1: Clinical Mapping - Actors and Options

Actor	Option Name	Reference
Clinical Mapping Requestor	Device Mapping	PCC TF-1:X.2.1
	Problem Mapping	PCC TF-1:X.2.2
	Retrievable Mappings	PCC TF-1:X.2.3
Clinical Mapper	Device Mapping	PCC TF-1:X.2.1
	Problem Mapping	PCC TF-1:X.2.2
	Retrievable Mappings	PCC TF-1:X.2.3

160 Note 1: An actor must implement at least one of the mapping options.

How should other vocabularies be supported by this profile?

X.2.1 Device Mapping Option

165 The purpose of the Device Mapping Option is to support translation of IEEE medical device codes produced by personal health monitoring devices into LOINC codes commonly used for reporting measurements in EMR and other Health IT systems. Details for actors implementing this option can be found in the Translate Code transaction.

X.2.2 Problem Mapping Option

170 The purpose of the Problem Mapping Option is to support translation of SNOMED-CT codes produced by EMR and Health IT systems into ICD-10 codes commonly used for billing and population health reporting. Details for actors implementing this option can be found in the Translate Code transaction

X.2.3 Retrievable Mappings Option

175 The purpose of the retrievable mappings option is to identify Clinical Mapping Requester and Clinical Mapper actors that support the Retrieve Code Mappings transaction.

- A Clinical Mapping Requester Actor supporting the Retrievable Mappings Option SHALL implement the Retrieve Code Mappings transaction.
 - A Clinical Mapper Actor supporting the Problem Code Mapping Option SHALL
- 180 implement the Retrieve Code Mappings transaction.

X.3 Required Actor Groupings

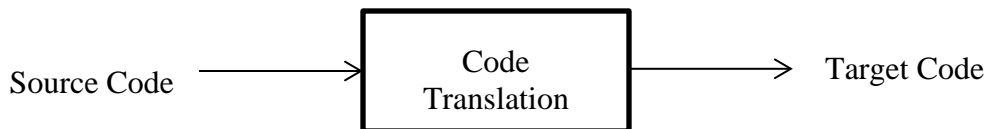
There are no required actor groupings.

X.4 Overview

185 The Clinical Mapping Profile supports the need of systems to translate concepts from one terminology to another to support exchange of information between different systems. These translations are often needed at workflow boundaries where concepts used in one workflow have a different perspective than those in another workflow. For example, in reporting device information to an EMR system, the device vendor may wish to capture device measurements of vital signs using internationally recognized terminologies provided by those devices, but the
190 EMR may need to report these measurements using different terminologies to support local requirements. Another example would be for cases where data captured to support clinical activity for diagnosis or treatment must then be used to facilitate charge capture processes.

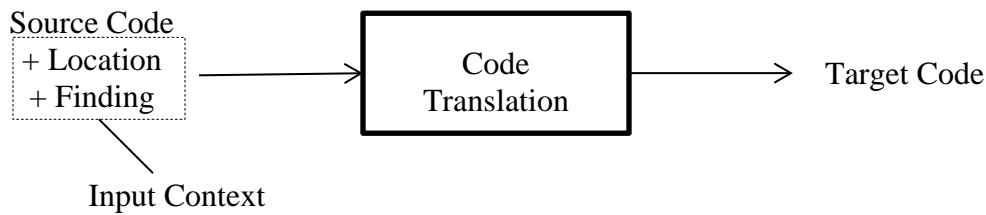
X.4.1 Concepts

195 A crosswalk is a mapping from one coding system to another in which concepts from the source coding system are mapped to concepts in the target code system. The simplest form of crosswalk is a lookup table. This form is often used to translate from local codes to codes from standard terminologies. The code translation process in these cases is depicted below.



200 **Figure X.4.1-1: Simple Translation**

Lookup tables are often sufficient for many cases, but can be insufficient when concepts are defined at different levels of granularity, or when additional context is needed in order to perform the translation. For example, distinctions involving location or findings associated with a diagnosis may be encoded differently. In SNOMED-CT, the concepts associated with location and additional findings are usually separately encoded (post-coordinated) in a SNOMED-CT expression. In ICD-10 the location is directly associated in the code (pre-coordinated). Thus, a SNOMED-CT code describing a myocardial infarction could be translated into several different
205 ICD-10 codes, depending upon where the infarct occurred, and whether or not there was an associated ST elevation finding in the ECG. The location information can appear elsewhere in the SNOMED-CT expression (e.g., post-coordinated in finding site), and would provide the location context that enables the mapping into ICD-10. This additional information needed to perform an accurate mapping is described as the input context.
210



215

Figure X.4.1-2: Translation with Input Context

In the above case, performing the translation in reverse (from ICD-10 to SNOMED-CT) would lose information about location and ST elevation due to the way that SNOMED-CT uses post-coordination to encode these concepts. To preserve this, the translation can generate not just a code, but also other contextual information as part of the output. This additional information produced by the mapping is described as the output context.

220

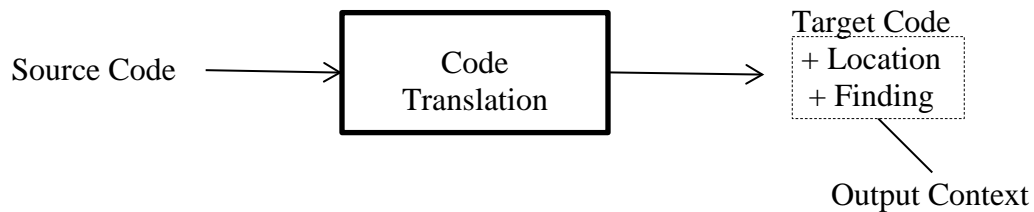


Figure X.4.1-3: Translation with Output Context

225

When the codes being transformed identify not just concepts, but also specific physical measurements, the values associated with those codes may also need to be transformed. For example, blood glucose could be reported in units of grams/liter (g/l) when using the source coding system and in units of milligrams per deciliter (mg/dl) in a target coding system. The source units would be part of the input context, and the units used with the target code, and the scale factor is simply another component of the output context.

230

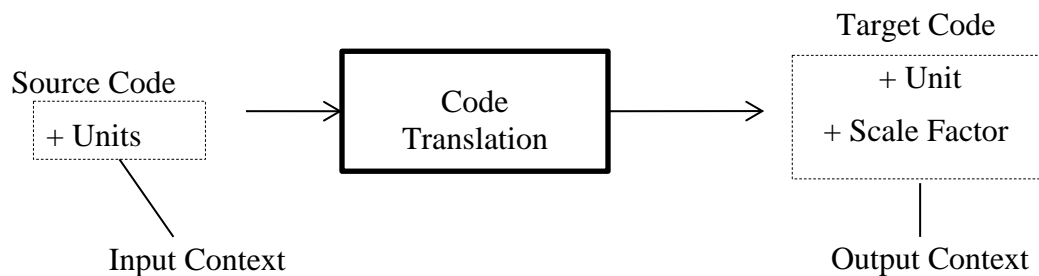


Figure X.4.1-4: Translation with Input and Output Context and Scale Factor

235 Crosswalks represent clinical knowledge that may be complex to implement but which changes
 infrequently. Systems which must perform translation between coding systems can be configured
 to cache translations, refreshing translations periodically.

In some cases, the translation can be performed locally just by inspecting a table mapping codes
 and contexts associated in a source coding system to codes and output contexts in the target
 240 coding system. This may be useful in cases where a few codes need to be translated periodically,
 but where codes are translated frequently. In other cases, implementations may not expose the
 crosswalk in a format that is suitable for download, or the data used to support the
 implementation may be proprietary. Thus, the CMAP Profile supports access to individual
 translations (which could be cached and refreshed according to policy), and provides an optional
 245 transaction enabling all translations to be accessed in a tabular format.

X.4.2 Use Cases

X.4.2.1 Use Case #1: Medical Vital Sign Observation Monitoring Discrete Data Retrospective Utilization

This use case addresses the recording of vital signs monitoring data from an IHE PCD compliant
 250 device using IEEE 11073 nomenclature to the EMR in LOINC.

Providers can view patient data generated by patient care devices in an inpatient setting or
 outpatient encounter room, but when that same provider accesses his or her EMR application that
 data is not readily available. Getting semantically correct clinical data from patient care devices
 into clinical applications is generally not achieved today for a couple of reasons:

- 255 • The applicable nomenclature from medical devices, IEEE 11073-10101, is not one of the
 clinically approved nomenclatures in most if not all countries, reducing the incentive to
 use IEEE 11073 data in clinical applications. The update under review, IEEE 11073-
 10101a, is also not one of the approved clinical nomenclatures as well.
- 260 • There are no commonly accepted mappings of IEEE 11073-10101 to clinical
 nomenclatures (LOINC and SNOMED-CT® primarily) for clinical measures although

there are vendors who have done so as proprietary interfaces. The result is that there is no reliable way to combine this data given the lack of generally accepted mappings.

265 As a result much of this numeric data generated from medical applications is either not available in clinical or research systems or reentered at significant risk of error. The missing link is a mapping service that can be accessed in a straightforward manner by clinical applications to transform IEEE clinical observations to LOINC nomenclature.

Benefits that can be derived from applications utilizing these mappings include:

- 270 • **Improved data collection and patient safety:** Much of the clinical data would no longer need to be reentered from the device to the clinical application, effectively eliminating risks of neglecting to record the data or making transcription errors.
- **Improved patient care:** Additional medical device observation data would be available to clinicians. Increased observation data would be included in the patient’s chart as well as in near real time to the clinical application for clinical decision support.

275 The benefits would apply to a high volume of work including any scenario involving devices providing vital sign observations. This volume would increase as more clinical observations are added beyond vital signs.

280 This use case involves the monitoring of vital signs in an inpatient setting (e.g., an ICU, Step Down, Observation, or General / Surgical unit). Vital signs are generally available at the point of care visually from monitoring displays. What is not available and is addressed by this use case is the ability to view and analyze vital signs in time sequence retrospectively for patient care or study purposes.

Preconditions:

The patient is transported to an inpatient room. The patient is attached to a monitor to collect core vital signs observations; including the following:

- 285 • Body Temperature
- BP Diastolic
- BP Systolic
- Heart Rate
- O₂ % BldC Oximetry
- 290 • Respiratory Rate

Use case actions:

1. Medical device observations are transmitted using IEEE 11073 nomenclature.
2. The EMR receives these observations.
- 295 3. It requests translations of the IEEE nomenclature codes into LOINC codes via this profile.

4. The translated codes are then used to store the observation values in the patient record.

Postconditions:

Medical device observations are available in the EMR.

300 **X.4.2.2 Use Case #2: Creating Billing Documents from Clinical Encounter Documentation**

Healthcare payers often require the use of ICD-10 terminology for billing and reporting uses. However, other terminologies, such as SNOMED-CT are often used to capture problems in the EMR.

Preconditions:

- 305 A patient visits his or her doctor for a scheduled ambulatory encounter. During the course of the encounter, the doctor documents relevant clinical facts about the patient in the EMR system. When documenting the patient’s problems, the EMR system assists the doctor to code each problem with appropriate codes selected from SNOMED-CT.

Use Case Actions:

- 310 1. Following the encounter, the practice billing clerk creates a bill by extracting relevant data from the EMR system.
2. The billing system requests translations for the relevant SNOMED-CT codes to ICD-10 codes for use in the bill.
- 315 3. The billing system submits the SNOMED-CT code to the clinical mapping service – possibly including additional modifiers from the patient record, which are supplied automatically, to assist with mapping.
4. If the mapping service needs additional modifiers, it queries the EMR or billing system to gather the required data elements.
- 320 5. Once it has all required data, the mapping system returns the appropriate ICD-10 code for use by the billing system.

Post Condition:

The billing system is able to create a bill using the appropriate ICD-10 codes.

X.5 Clinical Mapping (CMAP) Security Considerations

- 325 The process of Clinical Mapping need not contain personal health information (PHI). The specifications selected for the CMAP Profile transactions do not typically include PHI, although context information (e.g., age, gender, or rare disease codes) could in fact represent PHI in certain contexts. Thus, implementers may wish to encrypt the communications channel using the IHE ATNA Profile.

- 330 Services providing clinical mappings affect the content of patient records where translations of codes are being used. To ensure appropriate translations and verify the identity of these service

providers, the service should be authenticated. Some services may be offered only to licensed users by vendors, and so the system accessing the service, or the user of the service should also be authenticated. The IHE ATNA Profile offers capabilities for mutual system authentication. The IHE EUA, XUA and IUA profiles can be used to support individual user authentication.

335 The data and algorithms used to implement a translation service for clinical mappings represent a significant technical investment by providers of translation services. Those service providers may not be interested or willing to support distribution of the intellectual property which enables local implementation of translations without using a service. The Retrieve Code Mappings transactions is optional for this reason, enabling service users to access translations in a standard
340 format, without enabling bulk download of the entire translation table.

Translating codes in real time as they are encountered within a system through the interfaces specified in this profile could result in excessive use of network bandwidth. This could especially be the case when translating remote monitoring data. Given that code translations are slowly changing resources, the protocol enables caching of responses, at both the application and lower
345 levels.

X.6 Clinical Mapping (CMAP) Cross Profile Considerations

This profile may be used with a Device Observation Consumer Actor from the IHE PCD Device Enterprise Communication (DEC) Profile. It enables the Device Observation Consumer Actor to translate specific IEEE observation codes contained in the HL7® v2.6 message produced by the
350 PCD-01: Communicate Device Data transaction into clinically usable LOINC.

Volume 2 – Transactions

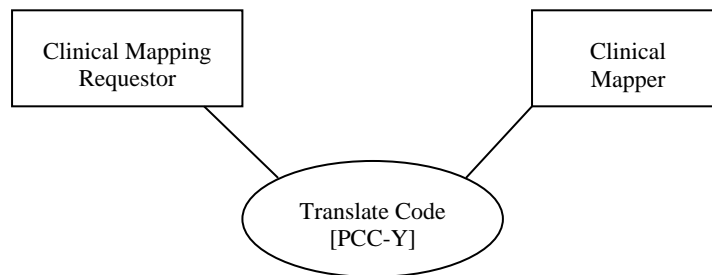
Add Section 3.Y

355 3.Y Translate Code [PCC-Y]

3.Y.1 Scope

This transaction is used to translate a code from one coding system to another.

3.Y.2 Actor Roles



360 **Figure 3.Y.2-1: Use Case Diagram**

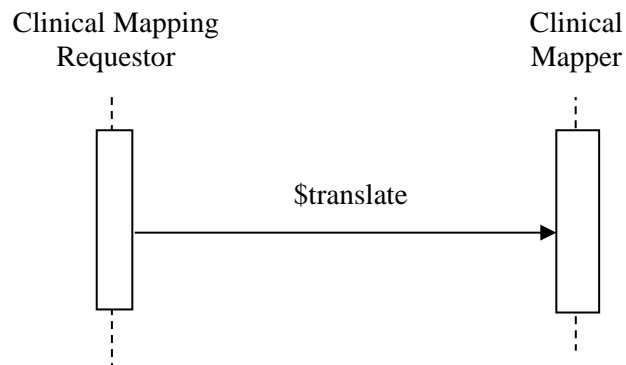
Table 3.Y.2-1: Actor Roles

Actor:	Clinical Mapping Requester
Role:	An information system requesting a mapping of a code from one vocabulary to another.
Actor:	Clinical Mapper
Role:	An information system that responds to a mapping request

3.Y.3 Referenced Standards

365 HL7® Fast Healthcare Information Resources (FHIR®) DSTU 2.0 Draft for Ballot

3.Y.4 Interaction Diagram



3.Y.4.1 Translate Code

370 The Translate Code transaction is implemented through the FHIR® \$translate operation on a ConceptMap resource. The details of this transaction are described below under Message Semantics. That operation defines a mechanism by which codes can be translated from one coding system to another.

3.Y.4.1.1 Trigger Events

The Clinical Mapping Requester can request a code to be translated at several points in time:

- 375
1. It may periodically make requests for information on how to translate codes which will be saved and applied repeatedly during normal operation of the system.
 2. It may receive information using a particular code and dynamically request translation of that code into a different coding system.

3.Y.4.1.2 Message Semantics

380 The message is a FHIR® operation with the input and output parameters shown below in Table 3.Y.4.1.2-1. The name of the operation is \$translate, and it is applied to ConceptMap resources. It is sent synchronously in JSON format from the Clinical Mapping Requester Actor to the Clinical Mapper Actor using an HTTP or HTTPS GET request.

The URL for this operation is: [base]/ConceptMap/\$translate

385 Where [base] is the base URL for the Clinical Mapper Actor.

Table 3.Y.4.1.2-1: \$translate Message Parameters

Parameter	Card.	Data Type	Description
Input Parameters			
code	1..1	code	The code to translate.
system	1..1	uri	The system for the code that is to be translated.
target	1..1	uri	A URI identifying the target value set from which the translated code should come from.
cmap: dependsOn	0..*		Additional context may be necessary to identify a mapping. Each dependsOn parameter identifies some piece of context information that could be used to facilitate mapping.
cmap: dependsOn. element	1..1	uri	The element part of the parameter provides a reference to a model element holding a coded value from which the additional context information is obtained. This can be an element in a FHIR resource, a specific reference to a data element in a different specification (e.g., v2) or a general reference to a kind of data field, or a reference to a value set with an appropriately narrow definition.
cmap: dependsOn. codeSystem	1..1	uri	The code system in the referenced element.
cmap: dependsOn. code	1..1	string	Value of the referenced element
Output Parameters			
result	1..1	boolean	A value of true or false indicating whether a mapping could be performed.
message	0..1	string	Error details when result = false, warnings if result = true
equivalence	0..1	code	A code indicating the strength of the match.
outcome	0..1	Coding	The mapped code.
cmap:product	0..*		A mapping may produce additional context information. Each product parameter identifies some piece of context produced by a mapping. (see also dependsOn above).
cmap:product. element	1..1	uri	A reference to a model element that would hold a coded value where the produced context is used.
cmap:product. codeSystem	1..1	uri	The code system in the referenced element.
cmap:product. code	1..1	string	The code produced as a result of the mapping
cmap: scalingFactor	0..1	decimal	The scaling factor produced as a result of the mapping.
cmap: dependsOn	0..*		The dependsOn output parameter may be present to specify which additional dependencies should be specified to obtain a better match.
cmap: dependsOn. element	1..1	uri	The element part of the parameter provides a reference to a model element holding a coded value from which the additional context information would be obtained.

Parameter	Card.	Data Type	Description
cmap: dependsOn. codeSystem	1..1	uri	The code system in the referenced element.

390 3.Y.4.1.3 Expected Actions

1. The Clinical Mapping Requester Actor shall send a \$translate request to the Clinical Mapper Actor.
2. When the Clinical Mapper Actor SHALL identify the appropriate mapping tables to apply to the \$translate request.
- 395 3. If vocabulary mapping from the **system** to the **target** vocabulary is not supported (e.g., NDC to CPT), the mapper SHALL return a **result** parameter of false. The **message** parameter should indicate that no translation is possible between the two vocabularies. The **dependsOn** or **product** parameters SHALL NOT be present in this case.
- 400 4. If vocabulary mapping from the **system** to the **target** vocabulary is supported,
 - a. If the specified **code** cannot be mapped to a single code even if more context is supplied,
 - i. The **outcome** parameter SHALL not be present.
 - ii. The **result** parameter SHALL be set to false.
 - b. If the specified **code** can be mapped to a single code without any more context,
 - 405 i. The **outcome** parameter SHALL be set to the single code identified.
 - ii. The **result** parameter SHALL be set to true.
 - c. If the specified code can be mapped to different multiple codes depending on additional context not already specified in the **dependsOn** parameter
 - 410 i. All additional contexts that support a better mapping shall be reported in the **dependsOn** output parameters.
 - ii. The **result** parameter SHALL be set to false.
 - d. If both a and b apply:
 - i. The **outcome** parameter SHALL be set to the single code identified.
 - 415 ii. All additional contexts that support a better mapping shall be reported in the **dependsOn** output parameters.
 - iii. The **result** parameter SHALL be set to true.

3.Y.4.1.4 Expected Actions for the Device Mapping Option

When a mapping is being requested for an IEEE nomenclature code to LOINC and the Device Mapping Option is supported:

- 420 The Clinical Mapping Requestor Actor SHALL populate the input parameters such that:
1. The **code** parameter SHALL be populated with a value from the IEEE nomenclature.
 2. The **system** parameter SHALL be populated with “urn:std:iso:11073:10101”.
 3. The **target** parameter SHALL be populated with “http://loinc.org”.
 4. At most one **cmap:dependsOn** parameter SHALL be present. If present:

425 a. The **cmap:dependsOn.element** parameter SHALL have the value of “Observation.valueQuantity.units”.

b. The **cmap:dependsOn.codeSystem** parameter SHALL have the value “urn:std:iso:11073:10101”.

430 c. The **cmap:dependsOn.code** parameter SHALL have a value selected from the IEEE nomenclature specifying the reporting unit associated with the measurement.

The Clinical Mapper Actor shall return a Parameters resource such that:

1. The **outcome** parameter, if present contains a code from the LOINC terminology.
2. When a mapping is found:

435 a. Exactly one **cmap:product** element SHALL be present where **cmap:product.element** parameter has the value of “Observation.valueQuantity.units” and:
 - i. The **cmap:product.codeSystem** parameter SHALL have the value “http://unitsofmeasure.org”.
 - ii. The **cmap:product.code** parameter SHALL have a value selected from UCUM specifying the reporting unit associated with the measurement.

440 b. At most one **cmap:scalingFactor** element SHALL be present.

3.Y.4.1.5 Expected Actions for the Problem Mapping Option

When a mapping is being requested for SNOMED-CT term to ICD-10 and the Problem Mapping Option is supported:

The Clinical Mapping Requestor Actor shall populate the input parameters such that:

- 445
1. The **code** parameter SHALL be populated with a value SNOMED-CT.
 2. The **system** parameter SHALL be populated with “http://snomed.info/sct”.
 3. The **target** parameter SHALL be populated with “http://hl7.org/fhir/sid/icd-10” or other ICD-10 derived coding system as determined by regional policy.
 4. Multiple **cmap:dependsOn** parameter MAY be present.

- 450 a. The value of **cmmap:dependsOn.element** parameter SHOULD contain a value from the set of values listed below:

Element	Description
causativeDisease	
episodeOfCare	
externalCause	
gender	
laterality	
placeOfOccurence	
site	
stageOfGlaucoma	
timeOfComaScale	
tophus	
trimester	
whichFetus	

5. The Clinical Mapper Actor shall return a Parameters resource such that:

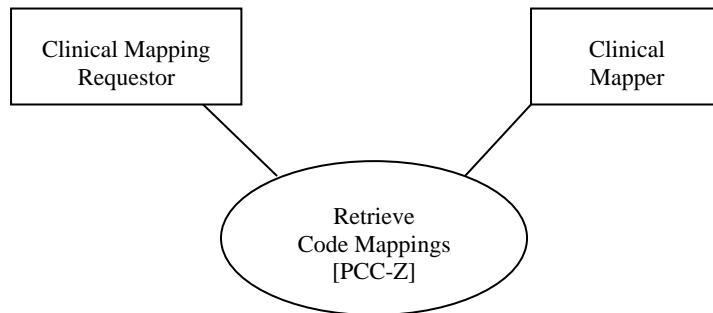
- 455 a. The **outcome** parameter, if present SHALL be populated with a code from ICD-10 or derived coding system as determined by regional policy.
- b. If additional context is necessary, SHALL populate one or more **cmmap:dependsOn** parameters. Such parameters if present:
- 460 i. SHOULD contain a **cmmap:dependsOn.element** from the values listed in the table above.

3.Z Retrieve Code Mappings [PCC-Z]

3.Z.1 Scope

This transaction is used to retrieve the table used to perform code mapping.

3.Z.2 Actor Roles



465

Figure 3.Z.2-1: Use Case Diagram

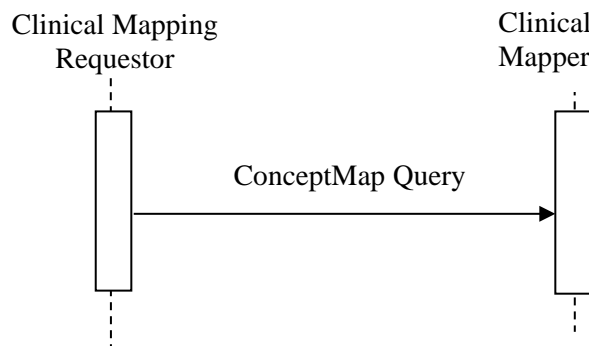
Table 3.Z.2-1: Actor Roles

Actor:	Clinical Mapping Requester
Role:	An information system requesting the table of mappings from one code system to another.
Actor:	Clinical Mapper
Role:	An information system that responds to the request

3.Z.3 Referenced Standards

470 HL7® Fast Healthcare Information Resources (FHIR®) DSTU 2.0 Draft for Ballot

3.Z.4 Interaction Diagram



3.Z.4.1 Retrieve Code Mapping

475 The Retrieve Code Mapping transaction is implemented through the FHIR® ConceptMap query operation.

3.Z.4.1.1 Trigger Events

The Clinical Mapping Requester can request a the mapping table when it is preparing itself to map several codes from one coding system to another

3.Z.4.1.2 Message Semantics

480 The message is a FHIR query requesting a ConceptMap resource using an HTTP GET and the source and target query parameters.

The URL for this operation is:

[base]/ConceptMap?source=*sourceCodingURI*&target=*targetCodingURI*

Where [base] is the base URL for the Clinical Mapper Actor.

485 3.Z.4.1.3 Expected Actions

The Clinical Mapper Actor will return all ConceptMap resources that support mapping from the coding system identified by *sourceCodingURI* to the coding system specified in *targetCodingURI*.

490 This transaction shall be supported by Clinical Mapper and Clinical Mapping Requester actors that declare support for the Retrievable Mappings Option.

3.Z.5 Security Considerations

495 Clinical Mapping tables often represent intellectual property that may only be available to licensed users. To protect this IP, the Clinical Mapper may require the channel over which the request is made to be encrypted, and the system making the request to be authenticated. The IHE ATNA Profile can be used to provide these capabilities.