

5



10

## **IHE IT Infrastructure Technical Framework Supplement**

### **Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3)**

15

## **Trial Implementation**

20

Date: August 10, 2010  
Author: ITI Technical Committee  
Email: iti@ihe.net

25

## Foreword

30 This is a supplement to the IHE IT Infrastructure Technical Framework V7.0. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

35 This supplement is submitted for Trial Implementation as of August 10, 2010 and will be available for testing at subsequent IHE Connectathons. The supplement may be amended based on the results of testing. Following successful testing it will be incorporated into the IT Infrastructure Technical Framework. Comments are invited and may be submitted on the IHE forums at <http://forums.rsna.org/forumdisplay.php?f=198> or by email to [iti@ihe.net](mailto:iti@ihe.net).

This supplement describes changes to the existing technical framework documents and where indicated amends text by addition (**bold underline**) or removal (~~**bold strikethrough**~~), as well as addition of large new sections introduced by editor's instructions to "add new text" or similar, which for readability are not bolded or underlined.

40 "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>Replace Section X.X by the following:</i>
--

45 General information about IHE can be found at: [www.ihe.net](http://www.ihe.net)

Information about the IHE IT Infrastructure can be found at:  
<http://www.ihe.net/Domains/index.cfm>

Information about the structure of IHE Technical Frameworks and Supplements can be found at:  
<http://www.ihe.net/About/process.cfm> and <http://www.ihe.net/profiles/index.cfm>

50 The current version of the IHE Technical Framework can be found at:  
[http://www.ihe.net/Technical\\_Framework/index.cfm](http://www.ihe.net/Technical_Framework/index.cfm)

## Contents

	Open Issues .....	5
55	Closed Issues .....	5
	1.1 Profile Abstract .....	6
	1.2 Organization of the Documentation .....	6
	<b>Volume 1 – Integration Profiles .....</b>	<b>7</b>
	2.1 Dependencies among Integration Profiles .....	7
60	2.2.23 Patient Identifier Cross-referencing HL7 V3 (PIXV3) .....	7
	2.2.24 Patient Demographics Query HL7 V3 (PDQV3) .....	8
23	Patient Identifier Cross-referencing HL7 V3 (PIXV3) .....	9
	23.1 Actors/Transactions .....	9
	23.2 Patient Identifier Cross-referencing HL7 V3 Integration Profile Options .....	11
65	23.3 Patient Identifier Cross-referencing HL7 V3 Integration Profile Process Flows .....	11
	23.4 Relationship between the PIXV3 Integration Profile and eMPI .....	11
	23.5 Patient Identifier Communication Requirement .....	11
24	Patient Demographics Query HL7 V3 (PDQV3) .....	12
	24.1 Actors/Transactions .....	12
70	24.2 Patient Demographics Query HL7 V3 Integration Profile Options .....	12
	24.3 Patient Demographics Query HL7 V3 Process Flow .....	13
	24.3.1 Combined Use of PDQV3 with other IHE Workflow Profiles .....	13
	24.3.2 Supplier Data Configuration .....	13
	<b>Volume 2 – Transactions .....</b>	<b>14</b>
75	3.44 Patient Identity Feed HL7 V3 .....	14
	3.44.1 Scope .....	14
	3.44.2 Use Case Roles .....	14
	3.44.3 Referenced Standards .....	15
	3.44.4 Interaction Diagrams .....	15
80	3.44.5 Security Requirements .....	38
	3.45 PIXV3 Query .....	39
	3.45.1 Scope .....	39
	3.45.2 Use Case Roles .....	39
	3.45.3 Referenced Standards .....	39
85	3.45.4 Interaction Diagrams .....	40
	3.45.5 Security Requirements .....	54
	3.46 PIXV3 Update Notification .....	54
	3.46.1 Scope .....	54
	3.46.2 Use Case Roles .....	54
90	3.46.3 Referenced Standards .....	55
	3.46.4 Interaction Diagrams .....	55
	3.46.5 Security Requirements .....	62
	3.47 Patient Demographics Query HL7 V3 .....	63

	3.47.1 Scope .....	63
95	3.47.2 Use Case Roles .....	63
	3.47.3 Referenced Standards .....	63
	3.47.4 Interaction Diagrams .....	64
	3.47.5 Security Requirements .....	88
	Appendix E: IHE Requirements for Patient Identifier Data Types in HL7 Messages .....	89
100	E.2 HL7 V3 II Data Type.....	89
	E.2.1 Patient Identifier Cross-reference Manager Actor requirements .....	90
	E.2.2 Other actor requirements.....	91
	E.2.3 Examples of use .....	92
	E.2.3.1 Data sent by source systems .....	92
105	E.2.3.2 Data sent by the Patient Identifier Cross-reference Manager .....	93
	Appendix O HL7 v3 Transmission and Trigger Event Control Act Wrappers .....	94
	O.1 HL7 V3 Transmission Wrappers .....	94
	O.1.1 Send Message Payload Information Model (MCCI_RM000100IHE) .....	94
	O.1.2 Send Accept Acknowledgement Information Model (MCCI_RM000200IHE) .....	98
110	O.1.3 Send Application Acknowledgement Information Model (MCCI_RM000300IHE) .....	103
	O.2 HL7 V3 Transmission Content .....	107
	O.2.1 Master File/Registry Event Notification Control Act (Role Subject) Information Model (MFMI_MT700701IHE) .....	107
115	O.2.2 Master File/Registry Query Response Control Act (Role Subject) Information Model (MFMI_MT700711IHE).....	111
	O.2.3 Query Control Act Request: Query By Parameter Information Model (QUQI_MT021001IHE) .....	115
	O.2.4 Query Control Act Request Continue/Cancel Information Model (QUQI_MT000001IHE) .....	117
120	O.3 IHE Transactions and Corresponding Transmission and Control Act Wrappers .....	119
	Appendix P HL7 V3 Sample Messages.....	121
	P.44 Patient Identity Feed HL7 V3 – Sample Messages .....	121
	P.45 PIXV3 Query – Sample Messages.....	121
125	P.46 PIXV3 Update Notification – Sample Messages.....	121
	P.47 Patient Demographics Query HL7 V3 – Sample Messages .....	121
	Appendix Q HL7 V3 Sample Payload XML Schemas.....	123
	Q.44 Patient Identity Feed HL7 V3 – Sample Schemas .....	123
	Q.45 PIXV3 Query – Sample Schemas .....	123
130	Q.46 PIXV3 Update Notification – Sample Schemas .....	123
	Q.47 Patient Demographics Query HL7 V3 – Sample Schemas .....	123
	Appendix R: Mapping of HL7v2.5 to HL7v3 for PIX and PDQ.....	124
	R.1 Data Types.....	124
	R.2 Add New Person Message.....	127

135

## Open Issues

1. This supplement re-defines the HL7 V3 versions of the PIX and PDQ profiles as separate profiles, while recognizing that both the HL7 V3 and HL7 V2 versions provide the same functionality. This is achieved via numerous references to the existing profiles. Need to determine if this approach is appropriate.
2. Suggestions for more appropriate names for the profiles and the transactions, if any, are more than welcome.
3. IHE-specific restrictions – the RMIM diagrams here are restrictions on the full HL7 RMIMs. Should this result in IHE defined messages for PIX/PDQ purposes? Should we use the HL7-defined schemas (the current approach), or provide IHE-restricted schemas, which reflect the restrictions represented in the diagrams?
4. Add a section to volume 1 on transition between the original profiles and the HL7 V3 profiles
5. After Trial implementation, incorporate changes to Volume 1 within the existing sections for PIX and PDQ.
6. In addition to the model diagrams, provide XML snippets, similar to the PCC content profiles.
7. Once the specific recommended audit messages are added to the original PIX and PDQ transactions, the Change proposal will be incorporated in the HL7 V3 transactions. Currently this information is absent from the Security Requirements of the transactions.

## Closed Issues

1. Use the Patient Topic of the HL7 standard. At the time the previous publication for Trial Implementation was published in 2006, there was no Patient Topic content available from HL7. With the adoption of the Patient Topic DSTU, these profiles can better represent patient specific semantics. The actual changes to the message payload is minimal, as the Patient role in HL7 V3 represents a Person entity, therefore most of the work from the previous Trial Implementation Version of the profiles were reused.
2. Add web services definitions to the transactions
3. Clarify the use of transmission and control-act wrappers
4. Clarify the continuation protocol for PDQV3 queries
5. Update Appendix E

6. Replace examples with references to the IHE ftp site
7. Update Appendix R
- 170 8. Use of the current HL7 transmission wrappers (MCCI\_RM000100, MCCI\_RM000200, MCCI\_RM000300). The new ballots from HL7 contain preliminary content, which marks these wrappers as deprecated, however they are not deprecated yet, as MCCI\_RM002[123]00 is not even in DSTU, and the actual replacement for MCCI\_RM000[123]00 will come out this fall for the first time as an informative document. We have confirmation from HL7 that MCCI\_RM000[123]00 will be supported until at least 2012. The restrictions in the IHE specification are made with the new structures in mind, so that only minimal changes (if any) will be required in the IHE specifications.

The IHE IT Infrastructure Technical Committee will address the comments resulting from implementation, Connectathon testing, and demonstrations such as HIMSS 2010.

## 1.1 Profile Abstract

This supplement provides a new version of the Patient Identifier Cross-Referencing and Patient Demographics Query profiles leveraging HL7 version 3 and SOAP-based web services. The scope of the Patient Identity Feed, the PIX Query, the PIX Update Notification, and the Patient Demographics Query is identical as that for the HL7 v2.5 messages (i.e. same transaction semantics, same message constraints). In this version we are providing more details for implementers of the individual transactions, and we are using the new 2007 DSTU of the HL7 V3 Patient Topic as the basis of the messages in the transaction. The actual changes to the format compared to the previous year are minimal, as the message content only changes the focal class from identified entity to patient.

The Patient Demographic and Visit Query transaction is not included in the version 3 stream as this is not yet a balloted standard.

## 1.2 Organization of the Documentation

This Supplement defines two new Integration Profiles in Volume 1 (as subsections of Sections 5 and 8), and provides alternative IHE transactions for the Patient Identity Feed (Section 3.44 in Volume 2b), the Patient Identity Query (Section 3.45 in Volume 2b), the Patient Update Notification (Section 3.46 in Volume 2b), and the Patient Demographic Query (Section 3.47 in Volume 2b) using HL7 v3. Each transaction shares common use cases and other sections with the corresponding HL7 v2.5 part, which is indicated by directly referencing existing content.

## Volume 1 – Integration Profiles

*Add the following to the end of the profile list in Section 1.7*

**Patient Identifier Cross-referencing HL7 V3 (PIXV3)** – provides cross-referencing of patient identifiers from multiple Patient Identifier Domains. These patient identifiers can then be used by identity consumer systems to correlate information about a single patient from sources that know the patient by different identifiers. This profile uses HL7 V3 as the message format, and SOAP-based web services for transport.

**Patient Demographics Query HL7 V3 (PDQV3)** - provides ways for multiple distributed applications to query a patient information server for a list of patients, based on user-defined search criteria, and retrieve a patient’s demographic information directly into the application. This profile uses HL7 V3 as the message format, and SOAP-based web services for transport.

### 2.1 Dependencies among Integration Profiles

*Add the following to Table 2-1*

<u>Patient Identifier Cross-Referencing HL7 V3 (PIX v3)</u>	<u>Consistent Time</u>	<u>Each actor implementing PIXv3 shall be grouped with the Time Client Actor</u>	<u>Required to manage and resolve conflicts in multiple updates.</u>
Patient Demographics Query HL7 V3 ( <b>PDQv3</b> )	<i>None</i>	<i>None</i>	-

*Add the following as Sections 2.2.23 and 2.2.24*

#### 2.2.23 Patient Identifier Cross-referencing HL7 V3 (PIXV3)

The functionality of this profile is identical to the PIX profile described in section 2.2.3. The differences are in the format of the messages, and in the use of SOAP-based web services. These changes make this profile well suited for use within an existing IT infrastructure for cross-enterprise data access and exchange. The PIXV3 profile supports the cross-referencing of patient identifiers from multiple Patient Identifier Domains. These cross-referenced patient identifiers can then be used by “identity consumer” systems to correlate information about a single patient from sources that “know” the patient by different identifiers. This allows a clinician to have more complete view of the patient information.

225 **2.2.24 Patient Demographics Query HL7 V3 (PDQV3)**

230 The functionality of this profile is identical to the PDQ profile described in section 2.2.6. The differences are in the format of the messages, and in the use of SOAP-based web services. These changes make this profile well suited for use within an existing IT infrastructure for cross-enterprise data access and exchange. The PDQV3 profile provides ways for multiple organizations, or multiple distributed applications to query a patient information server for a list of patients, based on user-defined search criteria, and retrieve a patient's demographic information directly into the application.



## 23 Patient Identifier Cross-referencing HL7 V3 (PIXV3)

- 235 The *Patient Identifier Cross-referencing HL7 V3 Integration Profile (PIXV3)* is targeted at cross-enterprise Patient Identifier Cross-reference Domains (as defined in ITI TF-1: 5) as well as healthcare enterprises with developed IT infrastructure. The discussion in ITI TF-1: 5 fully applies here, with the obvious adjustments to the referenced transactions.

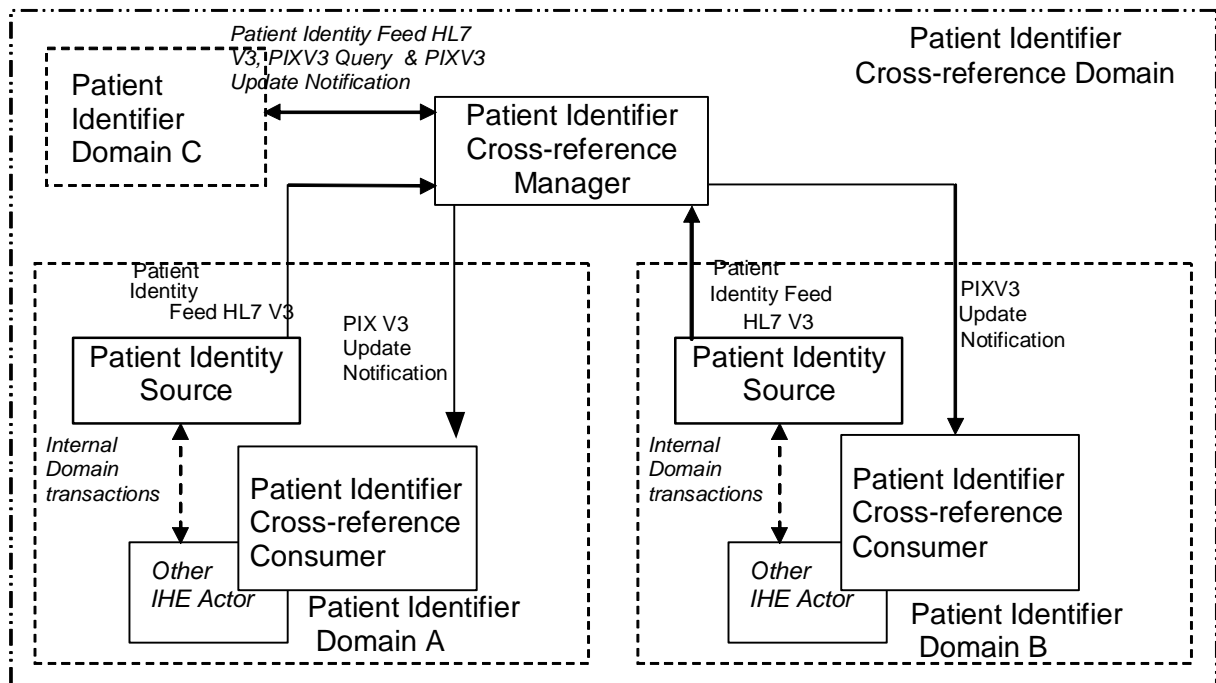
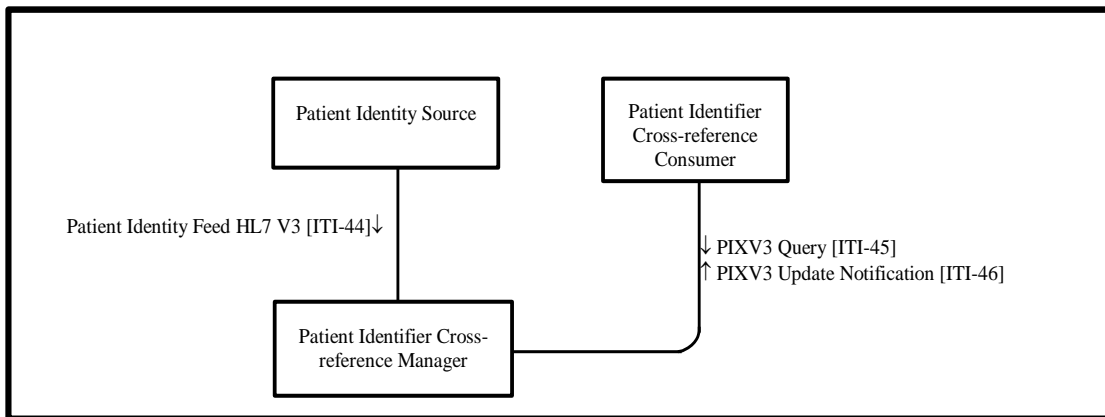


Figure 23-1 Process Flow with Patient Identifier Cross-referencing HL7 V3

### 23.1 Actors/Transactions

- The actors in this profile are the same as the actors defined in the PIX profile (ITI TF-1: 5.1). Figure 23.1-1 shows the actors directly involved in the Patient Identifier Cross-referencing HL7 V3 Integration Profile and the relevant transactions between them. Other actors that may be indirectly involved due to their participation in other related profiles are not shown.
- 245



**Figure 23.1-1 Patient Identifier Cross-referencing HL7 V3 Actor Diagram**

Table 23.1-1 lists the transactions for each actor directly involved in the Patient Identifier Cross-referencing Profile. In order to claim support of this Integration Profile, an implementation must perform the required transactions (labeled “R”). Transactions labeled “O” are optional. A complete list of options defined by this Integration Profile and that implementations may choose to support is listed in the ITI TF-1: 23.2.

**Table 23.1-1 Patient Identifier Cross-referencing HL7 V3 Integration Profile - Actors and Transactions**

Actors	Transactions	Optionality	Section
Patient Identity Source	Patient Identity Feed HL7 V3[ITI-44]	R	ITI TF-2b: 3.44
Patient Identifier Cross-reference Consumer	PIXV3 Query[ITI-45]	R	ITI TF-2b: 3.45
	PIXV3 Update Notification [ITI-46]	O	ITI TF-2b: 3.46
Patient Identifier Cross-reference Manager	Patient Identity Feed HL7 V3[ITI-44]	R	ITI TF-2b: 3.44
	PIXV3 Query[ITI-45]	R	ITI TF-2b: 3.45
	PIXV3 Update Notification[ITI-46]	R	ITI TF-2b: 3.46

The transactions in this profile directly correspond to the transactions used in the PIX profile (ITI TF-1: 5) and provide the identical functionality. Table 23.1-2 describes this correspondence.

**Table 23.1-2 Transactions Correspondence between the PIX and PIXV3 profiles**

Transactions in PIX	Section in Volume	Transactions in PIXV3	Section
Patient Identity Feed [ITI-8]	ITI TF-2a: 3.8	Patient Identity Feed HL7 V3[ITI-44]	ITI TF-2b: <u>3.44</u>
PIX Query[ITI-9]	ITI TF-2a: 3.9	PIXV3 Query[ITI-45]	ITI TF-2b: <u>3.45</u>
PIX Update Notification [ITI-10]	ITI TF-2a: 3.10	PIXV3 Update Notification [ITI-46]	ITI TF-2b: 3.46

## 23.2 Patient Identifier Cross-referencing HL7 V3 Integration Profile Options

Options that may be selected for this Integration Profile are listed in the Table 23.2-1 along with the Actors to which they apply. Dependencies between options when applicable are specified in notes.

**Table 23.2-1 Patient Identifier Cross-referencing HL7 V3 - Actors and Options**

Actor	Options	Vol & Section
Patient Identity Source	No options defined	
Patient Identifier Cross-reference Manager	No options defined	
Patient Identifier Cross-reference Consumer	PIXV3 Update Notification Transaction	ITI TF-2b: 3.46

## 23.3 Patient Identifier Cross-referencing HL7 V3 Integration Profile Process Flows

Sections ITI TF-1: 5.3.1 and ITI TF-1: 5.3.2 describe use cases that this profile addresses. Figures 5.3-1 and 5.3-2 also apply with the changes to the corresponding PIXV3 transactions as specified in table 23.1-2.

## 23.4 Relationship between the PIXV3 Integration Profile and eMPI

The discussion in ITI TF-1: 5.4 fully applies to this profile.

## 23.5 Patient Identifier Communication Requirement

The patient identifier in HL7 V3 messages is represented by the II data type. This data type has two components: a root, and an extension. For compatibility with the use of patient identifiers in profiles using HL7 V2 messages, and with the specification of the patient identifier in the XDS profile, the patient identifier SHALL be represented as a root and an extension, where the root is an appropriately assigned OID. The direct correspondence between the II data type and the HL7 Version 2.5 CX data type (used in field PID-3) is shown in ITI TF-2x: Appendix R.

## 24 Patient Demographics Query HL7 V3 (PDQV3)

### 24.1 Actors/Transactions

285 The actors in this profile are the same as the actors defined in the PDQ profile (ITI TF-1: 8.1).

**Table 24.1-1. Patient Demographics Query HL7 V3 Integration Profile - Actors and Transactions**

Actors	Transactions	Optionality	Section
Patient Demographics Consumer	Patient Demographics Query HL7 V3	R	ITI TF-2b: 3.47
Patient Demographics Supplier	Patient Demographics Query HL7 V3	R	ITI TF-2b: 3.47

290 The transaction in this profile directly corresponds to one of the transactions used in the PDQ profile (ITI TF-1: 8) and provide the identical functionality. Table 24.1-2 describes this correspondence. Note that unlike the PDQ profile there is no transaction which corresponds to the Patient Demographics and Visit query (ITI-22).

295 **Table 24.1-2 Transactions Correspondence between the PDQ and PDQV3 profiles**

Transactions in PDQ	Section in Volume	Transactions in PDQV3	Section in Volume
Patient Demographics Query [ITI-21]	ITI TF-2: 3.21	Patient Demographics Query HL7 V3 [ITI-47]	ITI TF-2b: 3.47

### 24.2 Patient Demographics Query HL7 V3 Integration Profile Options

300 Options that may be selected for this Integration Profile are listed in the Table 24.2-1 along with the Actors to which they apply. Dependencies between options when applicable are specified in notes.

**Table 24.2-1 Patient Demographics Query HL7 V3 - Actors and Options**

Actor	Options	Vol & Section
Patient Demographics Consumer	Continuation Option	ITI TF-2b: 3.47
Patient Demographics Supplier	Continuation Option	ITI TF-2b: 3.47

305 Support of continuations is described in transaction ITI-47. This option allows the Patient Demographics Consumer to get the full set of responses in several increments, as opposed to in one single response.

## **24.3 Patient Demographics Query HL7 V3 Process Flow**

310 ITI TF-1: 8.3 describes use cases that this profile addresses. Figure 8.3-1 also applies to this profile with the changes to the corresponding PDQV3 transactions as specified in Table 24.1-2, and omitting transaction ITI-22, which has no correspondence in this profile.

### **24.3.1 Combined Use of PDQV3 with other IHE Workflow Profiles**

In addition to the discussion in ITI TF-1: 8.3.1, the use of web services as the transport in the transactions in this profile makes it well suited in cases where other web services-based profiles are used, like XDS.b and PIXV3.

### **315 24.3.2 Supplier Data Configuration**

The Patient Demographics Supplier provides demographics information about possible matches to the parameters of the query. As described in ITI TF-2x: Appendix M, while it is possible for the supplier to have demographics information from multiple domains, only a single set of demographics shall be returned by the supplier.

320 If the supplier holds information for a single Patient ID domain, it shall provide the demographics information from that domain. In the case where the supplier holds demographics information from multiple Patient ID domains, the determination of which set of information to return must be based on the ID values for the Receiver's Device and Organization classes of the query transmission wrapper (the equivalent of MSH-5 and MSH-6 in the HL7 Version 2.5  
325 corresponding message)

## Volume 2 – Transactions

*<This section describes new materials for Volume II of the Technical Framework to illustrate the PIX profile using HL7 version 3 messages.>*

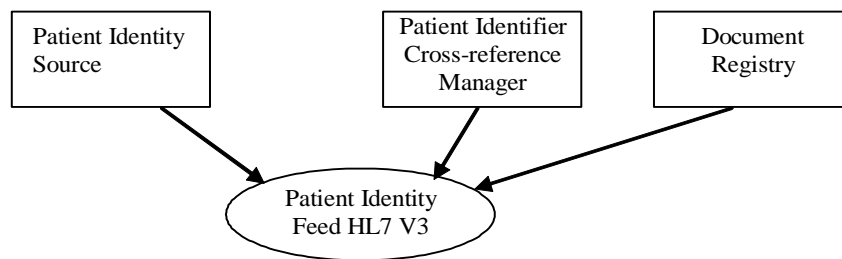
### 3.44 Patient Identity Feed HL7 V3

- 330 This section corresponds to Transaction ITI-44 of the IHE IT Infrastructure Technical Framework. Transaction ITI-44 is used by the Patient Identity Source, Patient Identifier Cross-reference Manager and Document Registry Actors.

#### 3.44.1 Scope

The scope is identical to ITI TF-2a: 3.8.1.

335 **3.44.2 Use Case Roles**



**Actor:** Patient Identity Source

**Role:** Provides notification to the Patient Identifier Cross-reference Manager and Document Registry for any patient identification related events including: creation, updates, merges, etc.

340 **Corresponding HL7 v3 Application Roles:**

Patient Registry Informer (PRPA\_AR201301UV02)

**Actor:** Patient Identifier Cross-reference Manager

- 345 **Role:** Serves a well-defined set of Patient Identification Domains. Based on information provided in each Patient Identification Domain by a Patient Identification Source Actor, it manages the cross-referencing of patient identifiers across Patient Identification Domains.

**Corresponding HL7 v3 Application Roles:**

Patient Registry Tracker (PRPA\_AR201302UV02)

**Actor:** Document Registry

**Role:** Uses patient identifiers provided by Patient Identity Source to ensure that XDS Documents metadata registered is associated with a known patient and updates patient identity in document metadata by tracking identity change operations (e.g., merge).

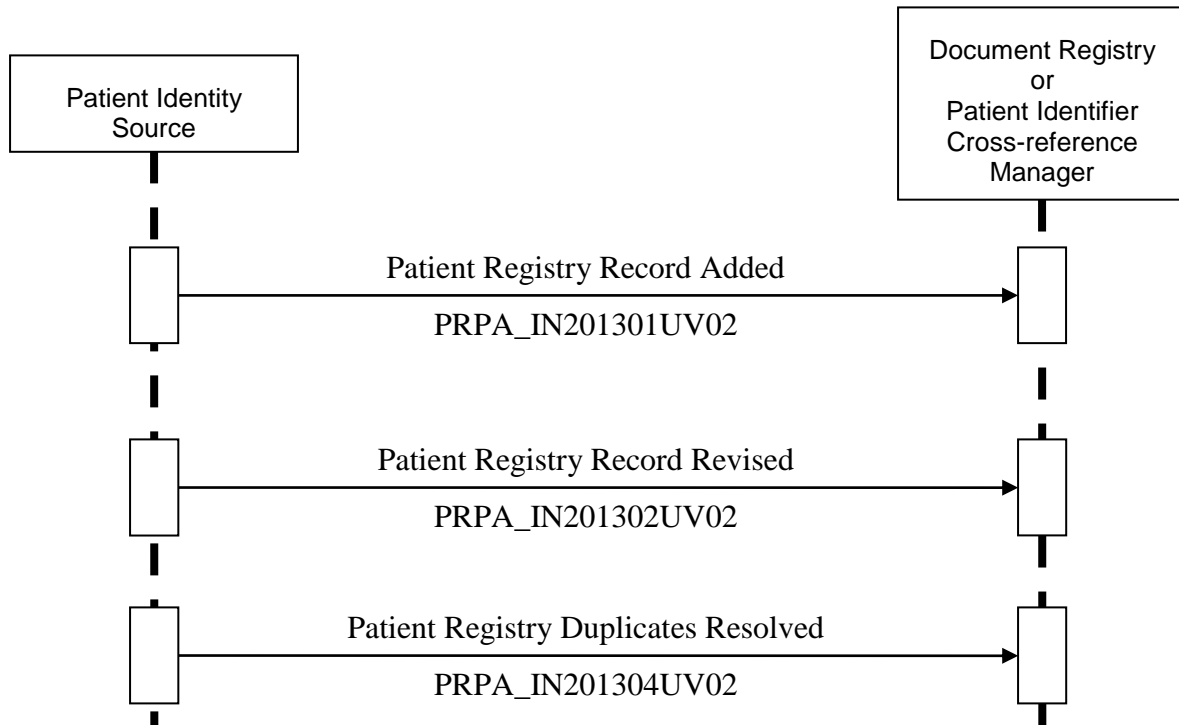
**Corresponding HL7 v3 Application Roles:**

**Patient Registry Tracker (PRPA\_AR201302UV02)**

**3.44.3 Referenced Standards**

HL7 Version 3 Edition 2008 Patient Administration DSTU, Patient Topic (found at <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008>).

**3.44.4 Interaction Diagrams**



**Figure 3.44-1 Patient Identity Sequence**

#### 360    **3.44.4.1 Patient Identity Management – Add or Revise Patient Record**

##### **3.44.4.1.1 Trigger Events**

The following events from a Patient Identity Source will trigger one of the Add or Revise Patient Record messages:

##### **Patient Registry Record Added (PRPA\_TE201301UV02)**

365    This trigger event signals that a new patient was added to a Patient Identity Source.

Changes to patient demographics (e.g., change in patient name, patient address, etc.) shall trigger the following Patient Registry Record Revised message:

##### **Patient Registry Record Revised (PRPA\_TE201302UV02)**

This trigger event signals that patient information was revised in a Patient Identity Source.

370    The Patient Identifier Cross-reference Manager shall only perform cross-referencing logic on messages received from Patient Identity Source Actors. For a given Patient Identifier Domain there shall be one and only one Patient Identity Source Actor, but a given Patient Identity Source Actor may serve more than one Patient Identifier Domain.

##### **3.44.4.1.2 Message Semantics**

375    The Patient Identity Feed transaction is carried out by the HL7 v3 Patient Activate (PRPA\_MT201301UV02) and Patient Revise (PRPA\_MT201302UV02) messages, as defined in the subsequent sections. The Patient Identity Source shall generate the message whenever a patient is registered or when some piece of patient demographic data changes. The components of the message listed below are required, and their detailed descriptions are provided in the  
380    following subsections.

Each message shall be acknowledged by the HL7 v3 Accept Acknowledgement (MCCI\_MT000200UV01), which is described in ITI TF-2x: Appendix O.

The message information model in ITI TF-2b: 3.44.4.1.2.2 describes the relevant data elements for this transaction. Specific requirements for the particular actors are found in ITI TF-2b:

385    3.44.4.1.3 Expected Actions.

##### **3.44.4.1.2.1 Major Components of the Patient Registry Record Added/Revised Messages**

##### **Patient**

390    The *Patient* class is the entry point to the R-MIMs for the *Patient Activate* (PRPA\_RM201301UV02) and *Patient Revise* (PRPA\_RM201302UV02) models. The patient identifiers are captured using an Instance Identifier (II) data type. Please see ITI TF-2x:



Appendix E for a detailed description about the use of the HL7 V3 II data type for patient identifiers.

### **Provider Organization**

- 395 The Patient class is scoped by the provider organization where this person is a patient. The HL7 definition of the CMET requires that the provider organization needs to be identified by an id attribute, and at least one of address, telecommunications address, or contact person to be present. The id attribute SHALL have only a root, expressed as an ISO OID.

### **Person**

- 400 The *Person* class contains identifying and demographic data elements for the focal person similar to those in the HL7 v2.x PID segment such as name, gender, date of birth, marital status and deceased indicator and time.

### **Language Communication**

- 405 Information about what language(s) should be used to communicate with the focal person can be sent in the *LanguageCommunication* class.

### **PersonalRelationship**

This is used for sending information pertaining to the mother's maiden name.

### **Citizen**

- 410 Citizenship information for a person, including citizen identifier and effective time can be sent in the *Citizen* class. The nation that scopes the *Citizen* role, as identified by *Nation.code*, is mandatory.

### **Other Identifiers**

- 415 The *OtherIDs* class is used to capture other identifiers associated with the person such as a driver's license number or social security number. In this transaction the IDs assigned by the scoping provider organization are represented in the id attribute of the Patient class. All other IDs are represented in the OtherIDs class. For the purposes of interoperability where both HL7 V3 and HL7 v2.x based transactions are used, the following requirement is imposed on the OtherIDs.id attribute and on the scopingOrganization.id attribute:

- 420       OtherIDs.id.root SHALL be identical to scopingOrganization.id.root  
          scopingOrganization.id.extension SHALL NOT have any value

Please see ITI TF-2x: E.2 for details on the use of the II data type for patient identifiers.

#### 3.44.4.1.2.2 Message Information Model of the Patient Registry Record Added/Revised Messages

425 Below is the Message Information Model for both the Patient Activate and Patient Revise  
messages, as restricted for this transaction. The purpose of the model is to describe the data  
elements relevant for this transaction. It is a strict common subset of the *Patient Activate*  
(*PRPA\_RM201301UV02*) and *Patient Revise* (*PRPA\_RM201302UV02*) RMIMs. While HL7  
430 defines two models for the two messages, a single common subset is sufficient for the purposes  
of this IHE transaction.

The base RMIMs can be found on the HL7 V3 2008 Edition CD at  
[Edition2008/domains/uvpa/editable/PRPA\\_RM201301UV.htm](#) and  
[Edition2008/domains/uvpa/editable/PRPA\\_RM201302UV.htm](#). The following restrictions are  
made on the original RMIMs to arrive at the restricted model:

435 The focal entity choice is restricted to be only a person

The relationship holder of the personal relationship is restricted to be a person (using CMET  
COCT\_MT030207UV)

The provider organization which is scoping the patient role is required in both the Add and  
Revise messages (it is optional in the original Revise message definition).

440 The following roles are omitted:

asPatientOfOtherProvider

birthPlace

guarantor

guardian

445 contactParty

asMember

careGiver

asStudent

The following participations are omitted:

450 subjectOf (administrativeObservation)

coveredPartyOf (coverage)

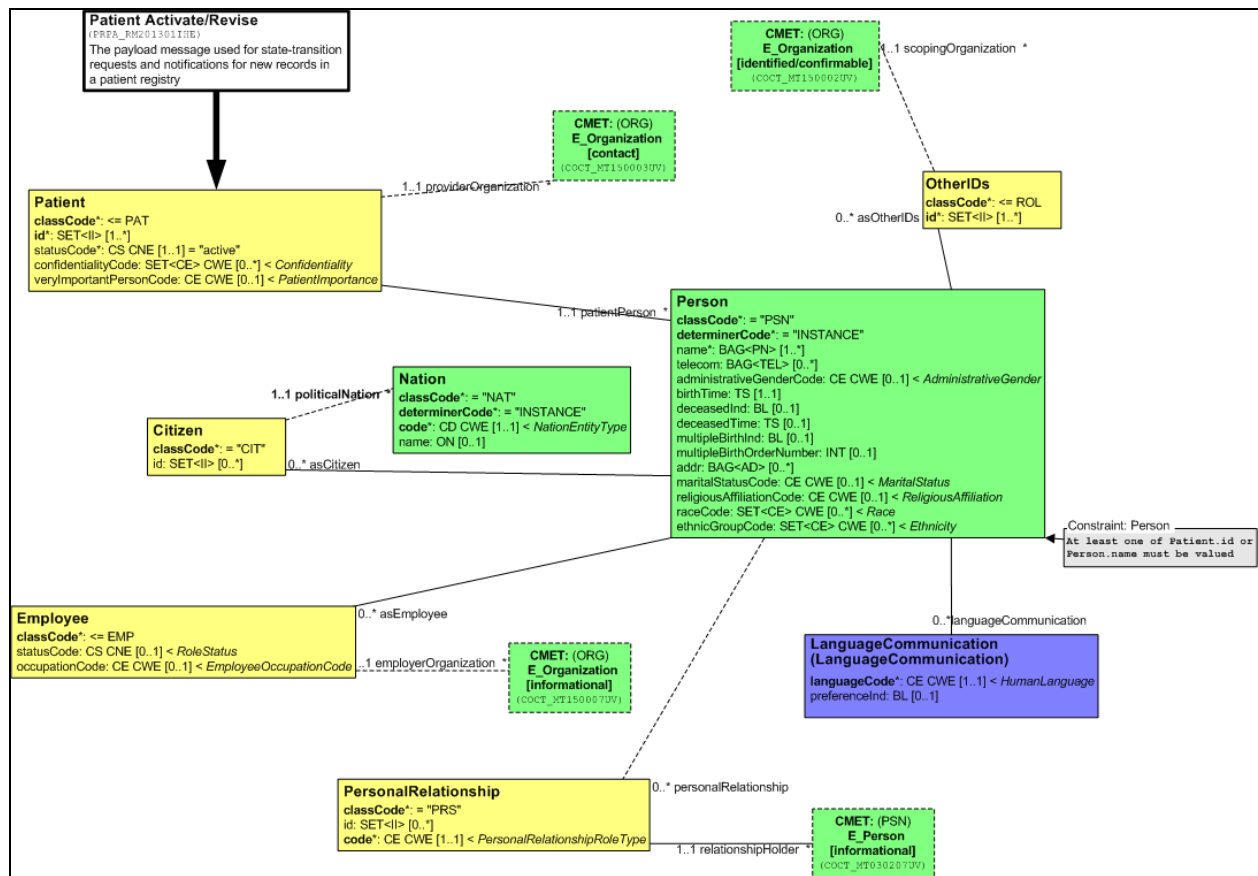


Figure 3.44.4.1.2-1

455 The attributes of this model are described in the following table. Note that CMETs are not discussed, as the HL7 definitions for them are being used.

Table 3.44.4.1.2-1

PRPA_HD201301IHE Patient Activate/Revise	This HMD extract defines the message used to report that a new patient record was added, or a patient record was updated.  Derived from Figure 3.44.4.1.2-1 (PRPA_RM201301IHE)
<b>Patient</b>	The primary record for the focal person in a Patient Identity Source
classCode [1..1] (M) Patient (CS) {CNE:PAT}	Structural attribute; this is a "patient" role
id [1..*] (M) Patient (SET<II>)	Identifiers designated by this patient identity source for the focal person

<b>PRPA_HD201301IHE Patient Activate/Revise</b>	<b>This HMD extract defines the message used to report that a new patient record was added, or a patient record was updated.  Derived from Figure 3.44.4.1.2-1 (PRPA_RM201301IHE)</b>
statusCode [1..1] Patient (CS) {CNE:active, fixed value= "active"}	A value specifying the state of this record in a patient registry (based on the RIM role class state-machine). This record is active.
confidentialityCode [0..*] Patient (SET<CE>) {CWE:Confidentiality}	Value(s) that control the disclosure of information about this living subject as a patient
veryImportantPersonCode [0..1] Patient (CE) {CWE:PatientImportance}	A code specifying the patient's special status granted by the scoper organization, often resulting in preferred treatment and special considerations. Examples include board member, diplomat.
<b>Person</b>	A subtype of LivingSubject representing a human being Either Person.name or Patient.id must be non-null
classCode [1..1] (M) Person (CS) {CNE:PSN, fixed value= "PSN"}	Structural attribute; this is a "person" entity
determinerCode [1..1] (M) Person (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific person
name [1..*] Person (BAG<PN>)	Name(s) for this person
telecom [0..*] Person (BAG<TEL>)	Telecommunication address(es) for communicating with this person
administrativeGenderCode [0..1] Person (CE) {CWE:AdministrativeGender}	A value representing the gender (sex) of this person. Note: this attribute does not include terms related to clinical gender which is a complex physiological, genetic and sociological concept that requires multiple observations in order to be comprehensively described.
birthTime [0..1] Person (TS)	The date and time this person was born
deceasedInd [0..1] Person (BL)	An indication that this person is dead
deceasedTime [0..1] Person (TS)	The date and time this person died
multipleBirthInd [0..1] Person (BL)	An indication that this person was part of a multiple birth

<b>PRPA_HD201301IHE Patient Activate/Revise</b>	<b>This HMD extract defines the message used to report that a new patient record was added, or a patient record was updated.  Derived from Figure 3.44.4.1.2-1 (PRPA_RM201301IHE)</b>
multipleBirthOrderNumber [0..1] Person (INT)	The order in which this person was born if part of a multiple birth
addr [0..*] Person (BAG<AD>)	Address(es) for corresponding with this person
maritalStatusCode [0..1] Person (CE) {CWE:MaritalStatus}	A value representing the domestic partnership status of this person
religiousAffiliationCode [0..1] Person (CE) {CWE:ReligiousAffiliation}	A value representing the primary religious preference of this person
raceCode [0..*] Person (SET<CE>) {CWE:Race}	A set of values representing the races of this person
ethnicGroupCode [0..*] Person (SET<CE>) {CWE:Ethnicity}	A set of values representing the ethnic groups of this person
<b>OtherIDs</b>	Used to capture additional identifiers for the person such as a Drivers' license or Social Security Number. Please see notes above in the Major Components section on the use of OtherIDs.
classCode [1..1] (M) Role (CS) {CNE:ROL}	Structural attribute. This can be any specialization of "role" except for Citizen, or Employee.
id [1..*] (M) Role (SET<II>)	One or more identifiers issued to the focal person by the associated scopingOrganization (e.g., a Driver's License number issued by a DMV)
<b>PersonalRelationship</b>	A personal relationship between the focal living subject and another living subject
classCode [1..1] (M) Role (CS) {CNE:PRS, fixed value= "PRS"}	Structural attribute; this is a "personal relationship" role
id [0..*] <u>Role (SET&lt;II&gt;)</u>	Identifier(s) for this personal relationship
code [1..1] (M) Role (CE) {CWE:PersonalRelationshipRoleType}	A required value specifying the type of personal relationship between the relationshipHolder and the scoping living subject drawn from the PersonalRelationshipRoleType domain, for example, spouse, parent, unrelated friend
<b>Citizen</b>	Used to capture person information relating to citizenship.

<b>PRPA_HD201301IHE Patient Activate/Revise</b>	<b>This HMD extract defines the message used to report that a new patient record was added, or a patient record was updated.  Derived from Figure 3.44.4.1.2-1 (PRPA_RM201301IHE)</b>
classCode [1..1] (M) Role (CS) {CNE:CIT, fixed value= "CIT"}	Structural attribute; this is a "citizen" role
id [0..*] Role (SET<II>)	Identifier(s) for the focal person as a citizen of a nation
<b>Nation</b>	A politically organized body of people bonded by territory and known as a nation.
classCode [1..1] (M) Organization (CS) {CNE:NAT, fixed value= "NAT"}	Structural attribute; this is a 'nation' type of entity
determinerCode [1..1] (M) Organization (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific entity
code [1..1] (M) Organization (CD) {CWE:NationEntityType}	A value that identifies a nation state
name [0..1] Organization (ON)	A non-unique textual identifier or moniker for this nation
<b>Employee</b>	A relationship of the focal person with an organization to receive wages or salary. The purpose of this class is to identify the type of relationship the employee has to the employer rather than the nature of the work actually performed. For example, it can be used to capture whether the person is a Military Veteran or not..
classCode [1..1] (M) Employee (CS) {CNE:EMP}	Structural attribute; this is an "employee" role
statusCode [0..1] Employee (CS) {CNE:RoleStatus}	A value specifying the state of this employment relationship (based on the RIM Role class state-machine), for example, active, suspended, terminated.
occupationCode [0..1] Employee (CE) {CWE:EmployeeOccupationCode}	A code qualifying the classification of kind-of-work based upon a recognized industry or jurisdictional standard. OccupationCode is used to convey the person's occupation as opposed to jobClassCode (not used in this transaction) which characterizes this particular job. For example, it can be used to capture whether the person is a Military Veteran or not.
<b>LanguageCommunication</b>	A language communication capability of the focal person
languageCode [1..1] (M) LanguageCommunication (CE)	A value representing a language for which the focal person has some level of proficiency for written or spoken communication. Examples:

<b>PRPA_HD201301IHE Patient Activate/Revise</b>	<b>This HMD extract defines the message used to report that a new patient record was added, or a patient record was updated.  Derived from Figure 3.44.4.1.2-1 (PRPA_RM201301IHE)</b>
{CWE:HumanLanguage}	Spanish, Italian, German, English, American Sign
preferenceInd [0..1] LanguageCommunication (BL)	An indicator specifying whether or not this language is preferred by the focal person for the associated mode

### 3.44.4.1.2.3 Control Act and Transmission Wrappers

460 Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.44.4.1.2-2 contains the Transmission and Control Act wrappers used for the two interactions, and the associated constraints.

**Table 3.44.4.1.2-2 Wrappers and Constraints**

<b>Transmission Wrapper</b>	<b>Trigger Event Control Act Wrapper</b>
MCCI_MT000100UV01 – Send Message Payload	MFMI_MT700701UV01 – Master File / Registry Notification Control Act, Role Subject
The value of interactionId SHALL be set to PRPA_IN201301UV02 or PRPA_IN201302UV02 The value of processingModeCode SHALL be set to T The acceptAckCode SHALL be set to AL There SHALL be only one receiver Device	The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE201301UV02 or PRPA_TE201302UV02 respectively RegistrationEvent.statusCode SHALL be set to “active” There SHALL be no InReplacementOf act relationship for these interactions.

465 The composite message schemas which describe the full payload of these interactions, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the HL7 V3 2008 Normative Edition schemas are at [Edition2008/processable/multicacheschemas/PRPA\\_IN201301UV02.xsd](#) and [Edition2008/processable/multicacheschemas/PRPA\\_IN201302UV02.xsd](#)).

### 3.44.4.1.2.4 Web Services Types and Messages

470 The Patient Registry Record Added/Revised messages will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

The following WSDL naming conventions SHALL apply:

```

"add" message      -> "PRPA_IN201301UV02_Message"
"revise" message   -> "PRPA_IN201302UV02_Message"
acknowledgement    -> "MCCI_IN000002UV01_Message"

```

475 The following WSDL snippet describes the types for these messages:

```
...
<types>
  <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-
480 org:v3"
  xmlns:hl7="urn:hl7-org:v3">
    <!-- Include the message schema -->
    <xsd:import namespace="urn:hl7-org:v3"
      schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201301UV02.xsd"/>
485 <xsd:element name="PRPA_IN201301UV02"/>
    </xsd:schema>
    <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
      xmlns:hl7="urn:hl7-org:v3">
    <!-- Include the message schema -->
490 <xsd:import namespace="urn:hl7-org:v3"
      schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201302UV02.xsd"/>
    <xsd:element name="PRPA_IN201302UV02"/>
    </xsd:schema>
495 <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
      xmlns:hl7="urn:hl7-org:v3">
    <!-- Include the message schema -->
    <xsd:import namespace="urn:hl7-org:v3"
      schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/MCCI_IN000002UV01.xsd"/>
500 <xsd:element name="MCCI_IN000002UV01"/>
    </xsd:schema>
  </types>
...
```

505 The messages are described by the following snippet:

```
...
<message name="PRPA_IN201301UV02_Message">
  <part element="hl7:PRPA_IN201301UV02" name="Body"/>
  </message>
510 <message name="PRPA_IN201302UV02_Message">
  <part element="hl7:PRPA_IN201302UV02" name="Body"/>
  </message>
  <message name="MCCI_IN000002UV01_Message">
  <part element="hl7:MCCI_IN000002UV01" name="Body"/>
515 </message>
...
```

The port types for the WSDL describing the Patient Identity Feed Service are described together with the expected actions of the actors which receive these messages in sections ITI TF-2b: 3.44.4.1.3 and TF-2b: 3.44.4.1.4.



#### 520 3.44.4.1.3 Expected Actions – PIX Manager

The Patient Identifier Cross-reference Manager shall be capable of accepting attributes specified in Table 3.44.4.1.2-1 above. This is to ensure that the Patient Identifier Cross-reference Manager can handle a sufficient set of corroborating information in order to perform its cross-referencing function.

525 The Patient Identifier Cross-reference Manager shall only recognize a single Patient Identity Source per domain.

The cross-referencing process (algorithm, human decisions, etc.) is performed within the Patient Identifier Cross-reference Manager, but its specification is beyond the scope of IHE.

530 Once the Patient Identifier Cross-reference Manager has completed its cross-referencing function, it shall make the newly cross-referenced identifiers available to PIX queries and send out notification to any Patient Identifier Cross-reference Consumers that have been configured as being interested in receiving such notifications using the PIX Update Notification HL7 V3 transaction (see ITI TF-2b: 3.46 for the details of that transaction).

#### 3.44.4.1.3.1 Web Services Port Type and Binding Definitions

535 **IHE-WSP201) The attribute /wsdl:definitions/@name SHALL be “PIXManager”.**

The following WSDL naming conventions SHALL apply:

```
wsdl:definitions/@name="PIXManager":
  "add" message      -> "PRPA_IN201301UV02_Message"
  "revise" message   -> "PRPA_IN201302UV02_Message"
540 acknowledgement -> "MCCI_IN000002UV01_Message"
  portType           -> "PIXManager_PortType"
  add operation       -> "PIXManager_PRPA_IN201301UV02"
  revise operation    -> "PIXManager_PRPA_IN201302UV02"
  SOAP 1.2 binding    -> "PIXManager_Binding_Soap12"
545 SOAP 1.2 port     -> "PIXManager_Port_Soap12"
```

The following WSDL snippets specify the Patient Identity Feed Port Type and Binding definitions, according to the requirements specified in ITI TF-2x: Appendix V.

#### 3.44.4.1.3.1.1 Port Type

```
550 <portType name="PIXManager_PortType">
  <operation name="PIXManager_PRPA_IN201301UV02">
<input message="tns:PRPA_IN201301UV02_Message" wsaw:Action="urn:h17-
org:v3:PRPA_IN201301UV02"/>
555 <output message="tns:MCCI_IN000002UV01_Message" wsaw:Action="urn:h17-
org:v3:MCCI_IN000002UV01"/>
  </operation>
  <operation name="PIXManager_PRPA_IN201302UV02">
```

```
<input message="tns:PRPA_IN201302UV02_Message" wsaw:Action="urn:hl7-  
org:v3:PRPA_IN201302UV02"/>  
<output message="tns:MCCI_IN000002UV01_Message" wsaw:Action="urn:hl7-  
org:v3:MCCI_IN000002UV01"/>  
</operation>  
</portType>
```

#### 3.44.4.1.3.1.2 Bindings

SOAP 1.2 binding:

```
...  
<binding name="PIXManager_Binding_Soap12" type="PIXManager_PortType">  
  <wssoap12:binding style="document"  
570 transport="http://schemas.xmlsoap.org/soap/http"/>  
    <operation name="PIXManager_PRPA_IN201301UV02">  
      <wssoap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201301UV02"/>  
      <input>  
575        <wssoap12:body use="literal"/>  
      </input>  
      <output>  
        <wssoap12:body use="literal"/>  
      </output>  
    </operation>  
580    <operation name="PIXManager_PRPA_IN201302UV02">  
      <wssoap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201302UV02"/>  
      <input>  
        <wssoap12:body use="literal"/>  
      </input>  
585      <output>  
        <wssoap12:body use="literal"/>  
      </output>  
    </operation>  
  </binding>  
590 ...
```

An informative WSDL for the PIX Manager implementing the PIXV3 profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### 3.44.4.1.3.2 Message Examples

Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### 3.44.4.1.4 Expected Actions – Document Registry

The Document Registry shall be capable of accepting attributes in the Patient Registry Record Added or Patient Registry Record Revised messages as specified in Table 3.44.4.1.2-1. The Patient Identity Feed transaction contains more than what the XDS Document Registry needs for its operation.

600 The Document Registry shall store only the patient identifiers of the patient identification domain designated by the Affinity Domain for document sharing in the registry. Patient identifiers of other patient identification domains, if present in a received message, shall be ignored.

#### 3.44.4.1.4.1 Web Services Port Type and Binding Definitions

605 **IHE-WSP201) The attribute /wsdl:definitions/@name SHALL be “DocumentRegistry”.**

The following WSDL naming conventions SHALL apply:

```
wsdl:definitions/@name="DocumentRegistry":
"add" message      -> "PRPA_IN201301UV02_Message"
"revise" message   -> "PRPA_IN201302UV02_Message"
610 acknowledgement -> "MCCI_IN000002UV01_Message"
portType           -> "DocumentRegistry_PortType"
add operation       -> "DocumentRegistry_PRPA_IN201301UV02"
revise operation    -> "DocumentRegistry_PRPA_IN201302UV02"
SOAP 1.2 binding    -> "DocumentRegistry_Binding_Soap12"
615 SOAP 1.2 port    -> "DocumentRegistry_Port_Soap12"
```

The following WSDL snippets specify the Patient Identity Feed Port Type and Binding definitions, according to the requirements specified in ITI TF-2x: Appendix V.

#### 3.44.4.1.3.1.1 Port Type

```
620 <portType name="DocumentRegistry_PortType">
    <operation name="DocumentRegistry_PRPA_IN201301UV02">
<input message="tns:PRPA_IN201301UV02_Message" wsaw:Action="urn:h17-
org:v3:PRPA_IN201301UV02"/>
625 <output message="tns:MCCI_IN000002UV01_Message" wsaw:Action="urn:h17-
org:v3:MCCI_IN000002UV01"/>
    </operation>
    <operation name="DocumentRegistry_PRPA_IN201302UV02">
<input message="tns:PRPA_IN201302UV02_Message" wsaw:Action="urn:h17-
org:v3:PRPA_IN201302UV02"/>
630 <output message="tns:MCCI_IN000002UV01_Message" wsaw:Action="urn:h17-
org:v3:MCCI_IN000002UV01"/>
    </operation>
    </portType>
```

#### 635 3.44.4.1.3.1.2 Bindings

SOAP 1.2 binding:

```
...
    <binding name="DocumentRegistry_Binding_Soap12"
type="DocumentRegistry_PortType">
```

```
640     <wssoap12:binding style="document"
transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="DocumentRegistry_PRPA_IN201301UV02">
<wssoap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201301UV02"/>
    <input>
645     <wssoap12:body use="literal"/>
    </input>
    <output>
    <wssoap12:body use="literal"/>
    </output>
650 </operation>
    <operation name="DocumentRegistry_PRPA_IN201302UV02">
    <wssoap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201302UV02"/>
    <input>
    <wssoap12:body use="literal"/>
655 </input>
    <output>
    <wssoap12:body use="literal"/>
    </output>
    </operation>
660 </binding>
...
```

An informative WSDL for the Document Registry implementing the XDS.b profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

### 3.44.4.1.3.2 Message Examples

665 Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

### 3.44.4.2 Patient Identity Management – Patient Identity Merge

#### 3.44.4.2.1 Trigger Events

When two patients' records are found to identify the same patient by a Patient Identity Source in a Patient Identifier Domain, the Patient Identity Source shall indicate this information using the following trigger:

#### Patient Registry Duplicates Resolved (PRPA\_TE201304UV02)

This trigger event signals that duplicate records were resolved in a patient registry.

A Patient Registry Duplicates Resolved message indicates that the Patient Identity Source has done a merge within a specific Patient Identification Domain. That is, the surviving identifier (patient ID) has subsumed a duplicate patient identifier.

#### 3.44.4.2.2 Message Semantics

The Patient Registry Duplicates Resolved interaction is carried out by the HL7 v3 Patient Demographics message (PRPA\_MT201303UV02). The message shall be generated by the system (Patient Identity Source) that performs the update whenever two patient records are found to reference the same person.

The components of the HL7 Merge Patient message listed below are required, and the detailed description of the message is provided in Sections ITI TF-2b: 3.44.4.2.2.1 to 3.44.4.2.2.4.

Each message shall be acknowledged by the HL7 v3 Accept Acknowledgement (MCCI\_MT000200UV01), which is described in ITI TF-2x: Appendix O.

When two Patient identifiers are to be merged, the subsumed identifier is referenced in the Registry Trigger Event Control Act Wrapper and the payload is sent for the surviving identifier. For example, if Patients A, B, and C are all to be merged into Patient B, then two messages are sent. In the first message Patient A's identifier is referenced in the Registry Trigger Event Control Act Wrapper via the *replacementOf* act relationship and Patients B's identifier is referenced in the *Patient* class of the payload. In the second message Patient C's identifier is referenced in the wrapper, and Patient B's identifier is, again, in the payload.

The message information model in ITI TF-2b: 3.44.4.2.2.2 describes the relevant data elements for this transaction. Specific requirements for the particular actors are found in ITI TF-2b: 3.44.4.2.3 Expected Actions.

##### 3.44.4.2.2.1 Major Components of the Patient Registry Duplicates Resolved

###### Patient

The *Patient* class is the entry point to the R-MIM for the *Patient Demographics* (PRPA\_RM201303UV02) in the Patient Identity Source. The patient identifier is represented using an Instance Identifier (II) data type. Please see ITI TF-2x: Appendix E for a detailed description about the use of the HL7 V3 II data type for patient identifiers.

###### Provider Organization

The Patient class is scoped by the provider organization which is the assigning authority for the patient's identifier. For this message the provider organization class is optional. The HL7 definition of the CMET requires that the provider organization needs to be identified by an id attribute, and at least one of address, telecommunications address, or contact person to be present. The id attribute SHALL have only a root expressed as an ISO OID, and it shall match the root of the Patient.id attribute

###### Person

710 The *Person* class contains the name for the focal person (similarly to the requirement for the HL7 v2.x PID segment).

#### **3.44.4.2.2.2 Message Information Model of the Patient Registry Duplicates Resolved Message**

715 Below is the Message Information Model for the Duplicates Resolved message, as restricted for this transaction. The purpose of the model is to describe the data elements relevant for this transaction. It is a strict subset of the *Patient Demographics* (PRPA\_RM201303UV02) RMIM.

The base RMIM can be found on the HL7 V3 2008 Edition CD at [Edition2008/domains/uvpa/editable/PRPA\\_RM201303UV.htm](http://www.hl7.org/standard/2008/01/01/uvpa/editable/PRPA_RM201303UV.htm). The following restrictions were made on the original RMIMs to arrive at the restricted model:

720 The focal entity choice is restricted to be only a person

All optional classes are removed

All optional attributes in the Patient and Person class are removed

725 This restricted model makes clear the purpose of this message – it is to inform about the merge of identities in the Patient Identity Source. If there are any updates to the demographics of the patient in question, this information shall be relayed via a Patient Registry Record Revised message. This follows the semantics of the Patient Identity Feed transaction as defined in ITI TF-2a: 3.8, and is a restriction on the semantics of this message as defined by HL7 (where any demographics information can be updated with the Duplicates Resolved message).

The provider organization is also optionally available.

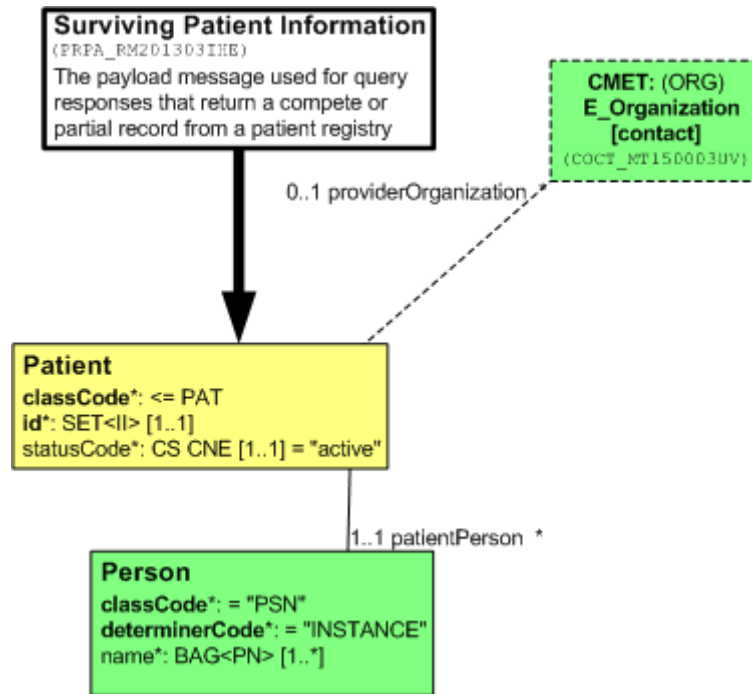


Figure 3.44.4.2.2-1

The attributes of this model are described in the following table.

Table 3.44.4.2.2-1

PRPA_HD201303IHE Duplicates Resolved	This HMD extract defines the message used to report that two patient identifiers were merged (i.e. a duplicate was resolved).  Derived from Figure 3.44.4.2.2-1 (PRPA_RM201303IHE)
<b>Patient</b>	The primary record for the focal person in a Patient Identity Source
classCode [1..1] (M) Patient (CS) {CNE:PAT}	Structural attribute; this is a "patient" role
id [1..*] (M) Patient (SET<II>)	Identifiers designated by various patient identity sources for the focal person
statusCode [1..1] Patient (CS) {CNE:active, fixed value= "active"}	A value specifying the state of this record in a patient registry (based on the RIM role class state-machine). This record is active.
<b>Person</b>	A subtype of LivingSubject representing a human being Both Person.name and Patient.id must be non-null
classCode [1..1] (M)	Structural attribute; this is a "person" entity

<b>PRPA_HD201303IHE Duplicates Resolved</b>	<b>This HMD extract defines the message used to report that two patient identifiers were merged (i.e. a duplicate was resolved).  Derived from Figure 3.44.4.2.2-1 (PRPA_RM201303IHE)</b>
Person (CS) {CNE:PSN, fixed value= "PSN"}	
determinerCode [1..1] (M) Person (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific person
name [1..*] Person (BAG<PN>)	Name(s) for this person

### 3.44.4.2.2.3 Control Act and Transmission Wrappers

735 Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.44.4.1.2-2 contains the Transmission and Control Act wrappers used for this interaction, and the associated constraints.

**Table 3.44.4.2.2-3 Wrappers and Constraints**

<b>Transmission Wrapper</b>	<b>Trigger Event Control Act Wrapper</b>
MCCI_MT000100UV01 – Send Message Payload	MFMI_MT700701UV01 – Master File / Registry Notification Control Act, Role Subject
<p>The value of interactionId SHALL be set to PRPA_IN201304UV02</p> <p>The value of processingModeCode SHALL be set to T</p> <p>The acceptAckCode SHALL be set to AL</p> <p>There SHALL be only one receiver Device</p>	<p>The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE201304UV02</p> <p>RegistrationEvent.statusCode SHALL be set to “active”</p> <p>There SHALL be an InReplacementOf act relationship</p> <p>The value of PriorRegistration.statusCode SHALL be “obsolete”</p> <p>There SHALL be a PriorRegisteredRole role</p> <p>There SHALL be a single PriorRegisteredRole.id attribute, representing the subsumed patient identifier.</p>

740 The composite message schemas which describe the full payload of this interaction, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the schemas from the HL7 V3 2008 Normative Edition can be found at [http://www.ihe.org/ftp/HL7V3/2008NormativeEdition/processable/multicacheschemas/PRPA\\_IN201304UV02.xsd](http://www.ihe.org/ftp/HL7V3/2008NormativeEdition/processable/multicacheschemas/PRPA_IN201304UV02.xsd)).



#### 3.44.4.2.2.4 Web Services Types and Messages

The Patient Registry Resolve Duplicates message will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

745 The following WSDL naming conventions SHALL apply:

```
"resolve duplicates" message -> "PRPA_IN201304UV02_Message"
Acknowledgement               -> "MCCI_IN000002UV01_Message"
```

The following WSDL snippet describes the types for these messages:

```
750  <types>
      <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-
      org:v3"
      xmlns:hl7="urn:hl7-org:v3">
      <!-- Include the message schema -->
755  <xsd:import namespace="urn:hl7-org:v3"
      schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201304UV02.xs
      d"/>
      <xsd:element name="PRPA_IN201304UV02"/>
      </xsd:schema>
760  <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
      xmlns:hl7="urn:hl7-org:v3">
      <!-- Include the message schema -->
      <xsd:import namespace="urn:hl7-org:v3"
      schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/MCCI_IN000002UV01.xs
765  d"/>
      <xsd:element name="MCCI_IN000002UV01"/>
      </xsd:schema>
      </types>
      ...
```

770 The messages are described by the following snippet:

```
      ...
      <message name="PRPA_IN201304UV02_Message">
      <part element="hl7:PRPA_IN201304UV02" name="Body"/>
      </message>
775  <message name="MCCI_IN000002UV01_Message">
      <part element="hl7:MCCI_IN000002UV01" name="Body"/>
      </message>
      ...
```

780 The port types for the WSDL describing the Resolved Duplicates Service are described together with the expected actions of the actors which receive these messages in ITI TF-2b: 3.44.4.2.3 and 3.44.4.2.4.

### 3.44.4.2.3 Expected Actions – PIX Manager

The Patient Identifier Cross-reference Manager shall be capable of accepting attributes in the Resolve Duplicates message as specified in Table 3.44.4.2.2-1.

- 785 The Patient Identifier Cross-reference Manager shall perform the Expected Actions similar to the ones specified in ITI TF-2a: 3.8.4.2.3. The particular behavior is described below.

When the Patient Identifier Cross-reference Manager receives the Resolve Duplicates message type of the Patient Identity Feed transaction, it shall cross-reference the patient identifiers provided in the wrapper and the payload of the message by replacing any references it is maintaining internally to the patient ID provided in the wrapper by the patient ID included in the payload. After the identifier references are replaced, the Patient Identifier Cross-reference Manager shall reapply its internal cross-referencing logic/ policies before providing the updated information via either the PIX Query or PIX Notification Transactions.

#### 3.44.4.2.3.1 Web Services Port Type and Binding Definitions

- 795 **IHE-WSP201) The attribute /wsdl:definitions/@name SHALL be “PIXManager”.**

The following WSDL naming conventions SHALL apply:

wsdl:definitions/@name="PIXManager":  
"merge" message -> "PRPA\_IN201304UV02\_Message"  
acknowledgement -> "MCCI\_IN000002UV01\_Message"  
800 portType -> "PIXManager\_PortType"  
merge operation -> "PIXManager\_PRPA\_IN201304UV02"  
SOAP 1.2 binding -> "PIXManager\_Binding\_Soap12"  
SOAP 1.2 port -> "PIXManager\_Port\_Soap12"

- 805 The following WSDL snippets specify the Patient Identity Feed Port Type and Binding definitions, according to the requirements specified in ITI TF-2x: Appendix V.

##### 3.44.4.2.3.1.1 Port Type

```
810 <portType name="PIXManager_PortType">
    <operation name="PIXManager_PRPA_IN201304UV02">
<input message="tns:PRPA_IN201304UV02_Message" wsaw:Action="urn:h17-
org:v3:PRPA_IN201304UV02"/>
<output message="tns:MCCI_IN000002UV01_Message" wsaw:Action="urn:h17-
org:v3:MCCI_IN000002UV01"/>
815 </operation>
    </portType>
```

##### 3.44.4.2.3.1.2 Bindings

SOAP 1.2 binding:

```
820  ...
      <binding name="PIXManager_Binding_Soap12" type="PIXManager_PortType">
        <wssoap12:binding style="document"
transport="http://schemas.xmlsoap.org/soap/http"/>
        <operation name="PIXManager_PRPA_IN201304UV02">
825      <wssoap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201304UV02"/>
        <input>
          <wssoap12:body use="literal"/>
        </input>
        <output>
          <wssoap12:body use="literal"/>
830      </output>
        </operation>
      </binding>
      ...
```

835 An informative WSDL for the PIX Manager implementing the PIXV3 profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### **3.44.4.2.3.2 Message Examples**

Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### **3.44.4.2.4 Expected Actions – Document Registry**

840 The Document Registry shall be capable of accepting attributes in the Resolve Duplicates message as specified in Table 3.44.4.2.2.2-1. Other attributes may exist, but the Document Registry shall ignore them.

The Document Registry shall perform the Expected Actions similar to the ones specified in ITI TF-2a: 3.8.4.2.4. The particular behavior is described below.

845 When the Document Registry receives the Resolve Duplicates message of the Patient Identity Feed transaction, it shall merge the patient identity specified in the PriorRegistrationRole.id attribute of the Control-Act wrapper (subsumed patient identifier) into the patient identity specified in Patient.id attribute of the message payload (surviving patient identifier) in its registry. After the merge, all Document Submission Sets (including all Documents and Folders  
850 beneath them) under the secondary patient identity before the merge shall point to the primary patient identity. The secondary patient identity shall no longer be referenced in the future services provided by the Document Registry.

Changes resulting from a Resolve Duplicates message are not reversible. No un-resolve message is supported by this transaction.

855 See ITI TF-2a: 3.18.4.1.2.3.8.1 of the Technical Framework for details of how this message type affects results of a Stored Query transaction and the end of ITI TF-2a: 3.14.4.1.2.12 to see how it affects the Register transaction.

A Resolve Duplicates message contains two attributes of interest:

- 860 • PriorRegistrationRole.id – subsumed patient identifier: the patient identifier which is to become obsolete
- Patient.id – surviving patient identifier: the patient identifier which is to remain active.

865 After a duplicate resolution, the Patient.id attribute represents all records formerly represented by either the Patient.id attribute or the PriorRegistrationRole.id attribute. All other attributes may be ignored.

The following conditions shall be detected by the Document Registry. Messages containing these conditions shall not update the state of the Document Registry.

- The subsumed patient identifier is not issued by the correct Assigning Authority according to the Affinity Domain configuration.
- 870 • The surviving patient identifier is not issued by the correct Assigning Authority according to the Affinity Domain configuration.
- The subsumed and surviving patient identifiers are the same.
- The subsumed patient identifier has already been subsumed by an earlier message.
- The surviving patient identifier has already been subsumed by an earlier message.
- 875 • The subsumed patient identifier does not convey a currently active patient identifier known to the Document Registry.

If none of the above conditions occur then the Document Registry shall perform the following duties:

- 880 1. Records the merge. Only the subsumed and surviving patient identifiers need be remembered. A patient identifier merge affects the processing of future Register Document Set [ITI-14] transactions. See ITI TF-2a: 3.14.4.1.2.12 XDS Registry Adaptor for details.
2. Multiple merge transactions can form a recorded merge chain, where the Subsumed identifier of the current merge is the Surviving identifier of a previous merge.
- 885 3. Register Document Set transactions referencing a subsumed identifier are rejected with an XDSUnknownPatientId error.
4. Stored Query transactions referencing a subsumed identifier return no content.

5. Stored Query transactions referencing a surviving identifier successfully match the entire recorded merge chain and return appropriate metadata.

- 890 6. No change in the Registry Query transaction.

Note: This transaction does not specify how the merge is to be implemented. It may or may not change the stored form of the metadata. It only specifies the observable results from the perspective of the Registry Stored Query transaction [ITI-18] and the Register Document Set transaction [ITI-14].

#### 3.44.4.2.4.1 Web Services Port Type and Binding Definitions

- 895 **IHE-WSP201) The attribute /wsdl:definitions/@name SHALL be “DocumentRegistry”.**

The following WSDL naming conventions SHALL apply:

900 wsdl:definitions/@name="DocumentRegistry":  
"resolve duplicates" message -> "PRPA\_IN201304UV02\_Message"  
acknowledgement -> "MCCI\_IN000002UV01\_Message"  
portType -> "DocumentRegistry\_PortType"  
resolve duplicates operation -> "DocumentRegistry\_PRPA\_IN201304UV02"  
SOAP 1.2 binding -> "DocumentRegistry\_Binding\_Soap12"  
SOAP 1.2 port -> "DocumentRegistry\_Port\_Soap12"

- 905 The following WSDL snippets specify the Patient Identity Feed Port Type and Binding definitions, according to the requirements specified in ITI TF-2x: Appendix V.

##### 3.44.4.2.4.1.1 Port Type

910 <portType name="DocumentRegistry\_PortType">  
<operation name="DocumentRegistry\_PRPA\_IN201304UV02">  
<input message="tns:PRPA\_IN201304UV02\_Message" wsaw:Action="urn:hl7-org:v3:PRPA\_IN201304UV02"/>  
<output message="tns:MCCI\_IN000002UV01\_Message" wsaw:Action="urn:hl7-org:v3:MCCI\_IN000002UV01"/>  
915 </operation>  
</portType>

##### 3.44.4.2.4.1.2 Bindings

SOAP 1.2 binding:

920 ...  
<binding name="DocumentRegistry\_Binding\_Soap12"  
type="DocumentRegistry\_PortType">  
<wssoap12:binding style="document"  
transport="http://schemas.xmlsoap.org/soap/http"/>  
<operation name="DocumentRegistry\_PRPA\_IN201304UV02">  
925 <wssoap12:operation soapAction="urn:hl7-org:v3:PRPA\_IN201304UV02"/>  
<input>  
<wssoap12:body use="literal"/>

```
    </input>
    <output>
930      <wssoap12:body use="literal"/>
    </output>
    </operation>
  </binding>
```

...

935

An informative WSDL for the Document Registry implementing the XDS.b profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### **3.44.4.2.4.2 Message Examples**

Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### **940 3.44.5 Security Requirements**

This transaction is generally used in profiles that require actors to be grouped with a Secure Node as defined in the IHE Audit Trail and Node Authentication Integration profile. This use of the ATNA profile in an XDS Affinity Domain does not require a centralized XDS Affinity Domain Audit Record Repository.

945 The use of ATNA along with XDS does require that each member of the XDS Affinity Domain have audit and security mechanisms in place. See ITI TF-1: Appendix G and ITI-TF-2x: Appendix K.

950 The individual actors involved are often members of different secure domains. The data transfers between different secure domains need different protection than transfers within a secure domain and shall be encrypted with TLS authentication of both hosts.

Transfers within a single secure domain may choose to omit encryption if it is unnecessary, so it is recommended that the online transfer security mechanisms be configurable. Certificate management and exchange is defined as part of the XDS Affinity Domain business relationships and no IHE Integration Profile is specified at this time, see ITI TF-1: Appendix L.

955 Each transaction will result in audit records describing the transaction. Each secure domain has its own audit server to capture the records for the actors that are within that domain. Access to audit records by other enterprises within the XDS Affinity Domain is managed and controlled by the business relationship terms of the XDS Affinity Domain. There is no automatic IHE transaction for such access.

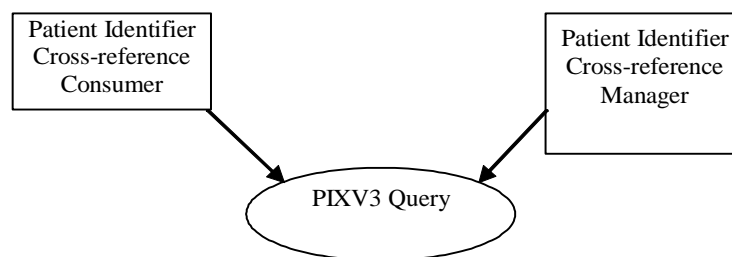
### 960 3.45 PIXV3 Query

This section corresponds to Transaction ITI-45 of the IHE IT Infrastructure Technical Framework. Transaction ITI-45 is used by the Patient Identifier Cross-reference Consumer and Patient Identifier Cross-reference Manager actors.

#### 3.45.1 Scope

965 The scope is identical to ITI TF-2a: 3.9.1, PIX Query Scope.

#### 3.45.2 Use Case Roles



**Actor:** Patient Identifier Cross-reference Consumer

**Role:** Queries the Patient Identifier Cross-reference Manager for a list of corresponding patient identifiers, if any

**Corresponding HL7 v3 Application Roles:**

Patient Registry Query Placer (PRPA\_AR201303UV02)

**Actor:** Patient Identifier Cross-reference Manager

**Role:** Manages the cross-referencing of patient identifiers across Patient Identification Domains. Upon request it returns a list of corresponding patient identifiers, if any.

**Corresponding HL7 v3 Application Roles:**

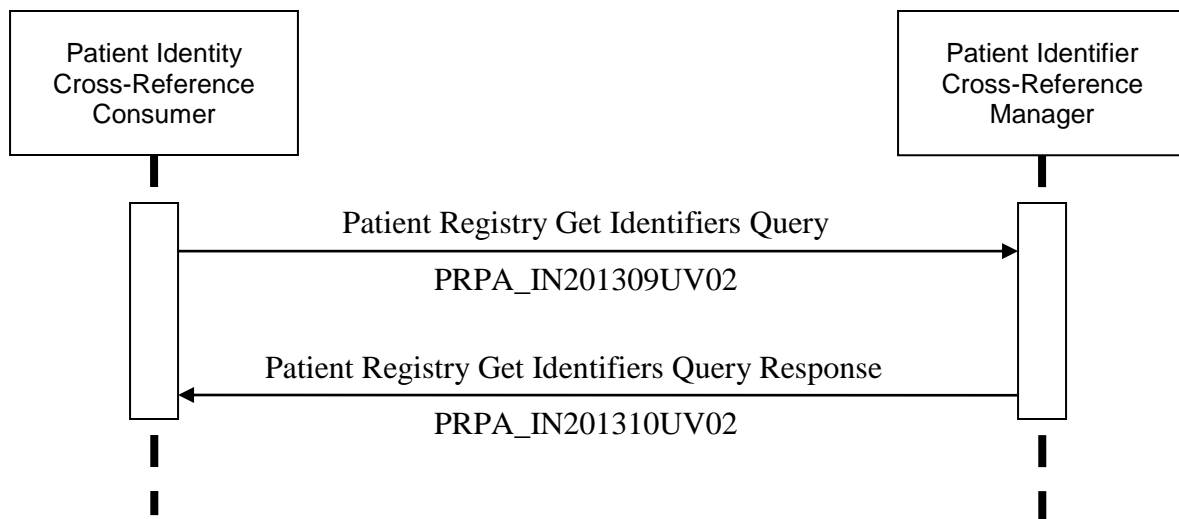
Patient Registry Query Fulfiller (PRPA\_AR201304UV02)

#### 3.45.3 Referenced Standards

980 HL7 Version 3 Edition 2008 Patient Administration DSTU, Patient Topic (found at <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008>)

Implementers of this transaction shall comply with all requirements described in ITI TF-2x: Appendix V Web Services for IHE Transactions.

### 3.45.4 Interaction Diagrams



985

#### 3.9B-1 Get Corresponding Identifiers Sequence

#### 3.45.4.1 Get Corresponding Identifiers

##### 3.45.4.1.1 Trigger Events

A Patient Identifier Cross-reference Consumer's need to get the patient identifier associated with a domain for which it needs patient related information will trigger the request for corresponding patient identifiers message based on the following HL7 trigger event:

##### **Patient Registry Get Identifiers Query (PRPA\_TE201309UV02)**

This query requests all other identifiers associated with a particular person identifier.

##### 3.45.4.1.2 Message Semantics

The Get Corresponding Identifiers transaction is initiated by the HL7 Patient Registry Query by Identifier (PRPA\_MT201307UV02) message. The Patient Identifier Cross-reference Consumer shall generate the query message whenever it needs to obtain corresponding patient identifier(s) from other Patient Identification Domain(s). The components of the message listed below are required, and their detailed descriptions are provided in the following subsections.

The receiver shall respond to the query by sending the Patient Identifiers message (PRPA\_MT201304UV02), which uses the Application Level Acknowledgement transmission wrapper. This satisfies the requirements of original mode acknowledgment; no intermediate



Accept Acknowledgement message is to be sent. All appropriate identifiers shall be returned in a single response; therefore no continuation queries are allowed in this transaction.

#### **3.45.4.1.2.1 Major Components of the Patient Registry Query by Identifier**

##### **1005 PatientIdentifier Parameter**

This required parameter specifies the identifier associated with the person whose information is being queried. For this parameter item, a single patient identifier is specified in the PatientIdentifier.value attribute. Please see Appendix E for the use of the II data type for patient identifiers.

##### **1010 DataSource Parameter**

This optional parameter specifies the assigning authority/authorities of the Patient Identity Domain(s) whose identifiers need to be returned. If no such parameter is supplied, the PIX Manager is required to return the identifiers from all known Patient Identity Domains.

#### **3.45.4.1.2.2 Message Information Model of the Patient Registry Query by Identifier Message**

1015

Below is the Message Information Model for the Query by Identifier message, as restricted for this transaction. The purpose of the model is to describe the data elements relevant for this transaction. It is a strict subset of the *Patient Registry Query by Identifier (PRPA\_RM201307UV02) RMIM*.

1020 The base RMIM can be found on the HL7 V3 2008 Edition CD at [Edition2008/domains/uvpa/editable/PRPA\\_RM201307UV.htm](http://www.hl7.org/standard/2008/01/01/editions/uvpa/editable/PRPA_RM201307UV.htm). The following restrictions were made on the original RMIMs to arrive at the restricted model:

Exactly one PatientIdentifier parameter SHALL be present

Exactly one PatientIdentifier.value attribute SHALL be present

1025 If one or more DataSource parameters are present, each SHALL contain exactly one DataSource.value parameter

The optional attributes ParameterList.id, QueryByParameter responseElementGroupId, QueryByParameter.modifyCode, and QueryByParameter.executionAndDeliveryTime were removed from the model

1030 QueryByParameter.responsePriorityCode is required and is fixed to I (Immediate)

QueryByParameter.statusCode is defaulted to "new".

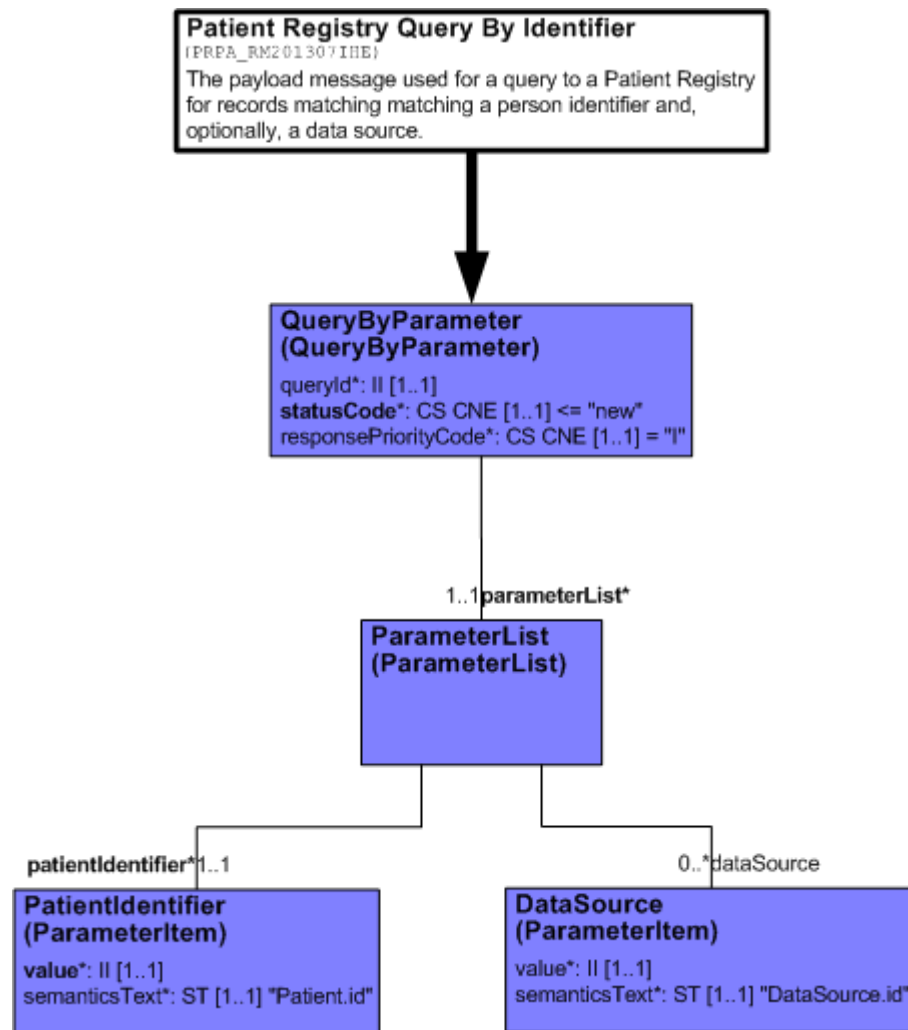


Figure 3.45.4.1.2-1

1035 The attributes of this model are described in the following table.

Table 3.45.4.1.2-2

PRPA_HD201307IHE Patient Registry Query by Identifier	This HMD extract defines the message used to query a patient registry for a list of identifiers. Derived from Figure 3.45.4.1.2-1 (PRPA_RM201307IHE)
<b>QueryByParameter</b>	The entry point for the domain content in this query
queryId [1..1] QueryByParameter (II)	Unique identifier for the query

<b>PRPA_HD201307IHE Patient Registry Query by Identifier</b>	<b>This HMD extract defines the message used to query a patient registry for a list of identifiers. Derived from Figure 3.45.4.1.2-1 (PRPA_RM201307IHE)</b>
statusCode [1..1] (M) QueryByParameter (CS) {CNE:QueryStatusCode, fixed value="new"}	There are no continuations necessary for this type of query, so the status is always "new"
responsePriorityCode [1..1] QueryByParameter (CS) {CNE:QueryPriority, fixed value="I"}	The PIX manager is required to send an immediate response.
<b>DataSource</b>	Optional parameter specifying the assigning authority of a Patient Identity Domain
value [1..1] ParameterItem (II)	The identifier for the Patient Identity Domain's assigning authority. IHE restriction: The value.root attribute SHALL be a valid ISO OID The value.extension attribute SHALL NOT be present
semanticsText [1..1] ParameterItem (ST){default= "DataSource.id"}	
<b>PatientIdentifier</b>	
value [1..1] (M) ParameterItem (II)	The patient identifier known to the PIX Consumer
semanticsText [1..1] ParameterItem (ST){default= "Patient.id"}	

The Patient Identifier Cross-reference Consumer shall provide the patient identifier in the PatientIdentifier.value attribute according to the rules specified in ITI TF-2x: Appendix E.

- 1040 If the requesting system wishes to select the Patient Identity Domains from which patient identifiers are returned, it does so by sending as many DataSource parameters as domains for which it wants to receive patient identifiers. Each instance of the DataSource parameter shall provide the Assigning Authority identifier for a specific domain using the DataSource.value attribute. Note that the DataSource.value.extension attribute shall not be provided, and the
- 1045 DataSource.value.root attribute shall contain a valid ISO OID. The responding system shall return the Patient.id value for each requested domain, if a value is known. Note that the value of Patient.id.root attribute shall match the DataSource.value.root attribute representing the corresponding Assigning Authority.
- 1050 If no DataSource parameter is specified the Patient Identifier Cross-reference Manager shall return patient identifiers for all domains for which it possesses a corresponding identifier (subject to local publication restrictions).

### 3.45.4.1.2.3 Control Act and Transmission Wrappers

Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.44.4.1.2-2 contains the Transmission and Control Act wrappers used for this interaction, and the associated constraints.

**Table 3.45.4.1.2-4 Wrappers and Constraints**

Transmission Wrapper	Trigger Event Control Act Wrapper
MCCI_MT000100UV01 – Send Message Payload	QUQL_MT021001UV01 – Query Control Act Request: Query By Parameter
The value of interactionId SHALL be set to PRPA_IN201309UV02 The value of processingModeCode SHALL be set to T The acceptAckCode SHALL be set to AL There SHALL be only one receiver Device	The value of ControlActProcess.moodCode SHALL be set to RQO The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE201309UV02 The value of authroOrPerformer.typeCode SHALL be set to AUT

The composite message schemas which describe the full payload of this interaction, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the schemas from the HL7 V3 2008 Normative Edition are at

[Edition2008/processable/multicacheschemas/PRPA\\_IN201309UV02.xsd](#)).

### 3.45.4.1.2.4 Web Services Types and Messages

The Patient Registry Query by Identifier message and response will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

The following WSDL naming conventions SHALL apply:

Query by Identifier -> "PRPA\_IN201309UV02\_Message"  
Query Response -> "PRPA\_IN201310UV02\_Message"

The following WSDL snippet describes the types for these messages:

```
...
<types>
  <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-
    org:v3"
    xmlns:hl7="urn:hl7-org:v3">
    <!-- Include the message schema -->
    <xsd:import namespace="urn:hl7-org:v3"
      schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201309UV02.xsd"/>
    <xsd:element name="PRPA_IN201309UV02"/>
  </xsd:schema>
  <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
    xmlns:hl7="urn:hl7-org:v3">
    <!-- Include the message schema -->
```

```
<xsd:import namespace="urn:hl7-org:v3"
schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201310UV02.xsd"/>
1085 <xsd:element name="PRPA_IN201310UV02"/>
</xsd:schema>
</types>
...
```

The messages are described by the following snippet:

```
1090 ...
<message name="PRPA_IN201309UV02_Message">
<part element="hl7:PRPA_IN201309UV02" name="Body"/>
</message>
<message name="PRPA_IN201310UV02_Message">
1095 <part element="hl7:PRPA_IN201310UV02" name="Body"/>
</message>
```

The port types for the WSDL describing the Resolved Duplicates Service are described together with the expected actions of the actors which receive these messages in sections ITI TF-2b: 3.45.4.1.3.

### 1100 3.45.4.1.3 Expected Actions

The Patient Identifier Cross-reference Manager shall be capable of accepting attributes as specified in Table 3.45.4.1.2-1 above.

The Patient Identifier Cross-reference Manager shall be capable of accepting multiple concurrent PIX Query requests (Get Corresponding Identifiers messages) and responding correctly using the Return Corresponding Identifiers message.

#### 1105 3.45.4.1.3.1 Web Services Port Type and Binding Definitions

**IHE-WSP201) The attribute /wsdl:definitions/@name SHALL be “PIXManager”.**

The following WSDL naming conventions SHALL apply:

```
1110 wsdl:definitions/@name="PIXManager":
"get identifiers" query -> "PRPA_IN201309UV02_Message"
"get identifiers" response -> "PRPA_IN201310UV02_Message"
portType -> "PIXManager_PortType"
get identifiers operation -> "PIXManager_PRPA_IN201309UV02"
SOAP 1.2 binding -> "PIXManager_Binding_Soap12"
1115 SOAP 1.2 port -> "PIXManager_Port_Soap12"
```

The following WSDL snippets specify the PIXV3 Query Port Type and Binding definitions, according to the requirements specified in ITI TF-2x: Appendix V.

#### 3.45.4.1.3.1.1 Port Type

1120

```
<portType name="PIXManager_PortType">
  <operation name="PIXManager_PRPA_IN201309UV02">
1125 <input message="tns:PRPA_IN201309UV02_Message" wsaw:Action="urn:hl7-
    org:v3:PRPA_IN201309UV02"/>
1125 <output message="tns:PRPA_IN201310UV02_Message" wsaw:Action="urn:hl7-
    org:v3:PRPA_IN201310UV02"/>
  </operation>
</portType>
```

#### 3.45.4.1.3.1.2 Bindings

1130 SOAP 1.2 binding:

```
...
  <binding name="PIXManager_Binding_Soap12" type="PIXManager_PortType">
    <wssoap12:binding style="document"
1135 transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="PIXManager_PRPA_IN201309UV02">
      <wssoap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201309UV02"/>
      <input>
        <wssoap12:body use="literal"/>
      </input>
1140 <output>
        <wssoap12:body use="literal"/>
      </output>
    </operation>
  </binding>
1145 ...
```

An informative WSDL for the PIX Manager implementing the PIXV3 profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### 3.45.4.1.3.2 Message Examples

1150 Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

### 3.45.4.2 Return Corresponding Identifiers

#### 3.45.4.2.1 Trigger Events

The Patient Identifier Cross-reference Manager's response to the Get Corresponding Identifiers message will trigger the following message:

1155 **Patient Registry Get Identifiers Query Response (PRPA\_TE201310UV02)**

This query response returns all other identifiers associated with a particular person identifier.

### 3.45.4.2.2 Message Semantics

1160 The Return Corresponding Identifiers message is conducted by the HL7 Patient Identifiers message. The Patient Identifier Cross-reference Manager shall generate this message in direct response to the Patient Registry Query by Identifier message previously received. This message satisfies the Application Level, Original Mode Acknowledgement for the query message.

#### 3.45.4.2.2.1 Major Components of the Get Corresponding Identifiers Query Response

##### Patient

1165 The *Patient* class is the entry point to the R-MIM for the *Patient Identifiers* (PRPA\_RM201304UV02). This is where at least one of the requested patient IDs will be listed.

##### Person

The *Person* class contains the name of the patient for additional verification purposes.

##### Provider Organization

1170 The *Patient* class is optionally scoped by the provider organization where this person is a patient. The HL7 definition of the CMET requires that the provider organization needs to be identified by an id attribute, and at least one of address, telecommunications address, or contact person to be present. The id attribute SHALL have only a root, expressed as an ISO OID, and at least one of the id attributes of the *Patient* class SHALL have a matching root component. (see ITI TF-2x: Appendix E on the use of the II data type for patient identifiers).

1175

##### Other Identifiers

1180 The *OtherIDs* class can optionally used to capture other identifiers associated with the person such as a driver's license number or social security number. It is important to recognize that the HL7 RIM distinguishes between person-level IDs and patient-level IDs. In this transaction, however, the Patient Identity Cross-Reference Manager has the option to send all identifiers in the id attributes of the *Patient* class. If that is the case, the *OtherIDs* class shall not be used. For the purposes of interoperability where both HL7 V3 and HL7 v2.x based transactions are used, and the *OtherIDs* class is present, the following requirement is imposed on the *OtherIDs.id* attribute and on the *scopingOrganization.id* attribute:

1185       *OtherIDs.id.root* SHALL be identical to *scopingOrganization.id.root*  
          *scopingOrganization.id.extension* SHALL NOT have any value

### 3.45.4.2.2.2 Message Information Model of the Patient Identifiers Message

Below is the Message Information Model for the Patient Identifiers message, as restricted for this transaction. The purpose of the model is to describe the data elements relevant for this transaction. It is a strict subset of the *Patient Identifiers (PRPA\_RM201304UV02)* RMIM.

The base RMIM can be found on the HL7 V3 2008 Edition CD at [http://www.hl7.org/standard/2008/08/01/editions/uvpa/editable/PRPA\\_RM201304UV.htm](http://www.hl7.org/standard/2008/08/01/editions/uvpa/editable/PRPA_RM201304UV.htm). The following restrictions were made on the original RMIMs to arrive at the restricted model:

- The focal entity choice is restricted to be only a person
- All optional classes are removed, except for the provider organization, and other identifiers
- All optional attributes in the Patient and Person class are removed

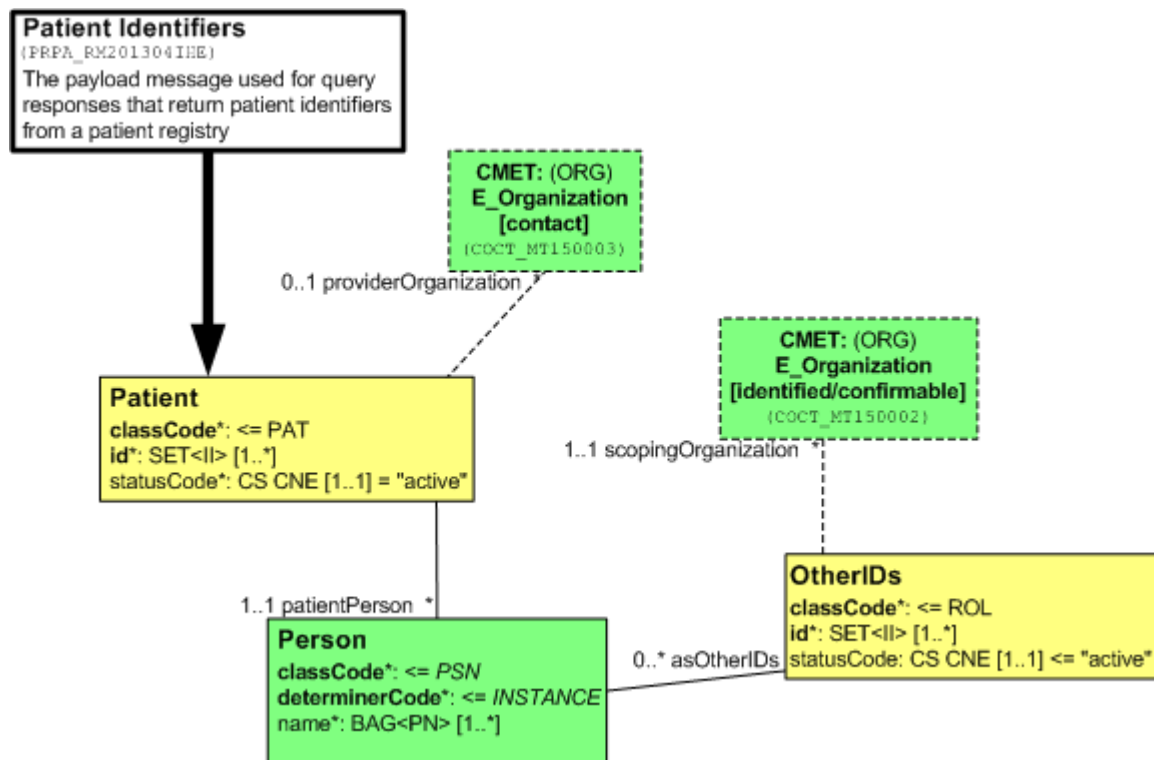


Figure 3.45.4.2.2-1

The attributes of this model are described in the following table.



**Table 3.45.4.2.2-3**

<b>PRPA_HD201304IHE PatientIdentifiers</b>	<b>This HMD extract defines the message used to respond to the Patient Registry Query By Identifier  Derived from Figure 3.45.4.2.2-1 (PRPA_RM201304IHE)</b>
<b>Patient</b>	The primary record for the focal person in a Patient Identity Cross-Reference Manager
classCode [1..1] (M) Patient (CS) {CNE:PAT}	Structural attribute; this is a "patient" role
id [1..*] (M) Patient (SET<II>)	Linked patient identifiers from one or more Patient Identity Domains
statusCode [1..1] Patient (CS) {CNE:active, fixed value= "active"}	A value specifying the state of this record in a patient registry (based on the RIM role class state-machine). This record is active.
<b>Person</b>	A subtype of LivingSubject representing a human being Both Person.name and Patient.id must be non-null
classCode [1..1] (M) Person (CS) {CNE:PSN, fixed value= "PSN"}	Structural attribute; this is a "person" entity
determinerCode [1..1] (M) Person (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific person
name [1..*] Person (BAG<PN>)	Name(s) for this person
<b>OtherIDs</b>	Used to capture additional identifiers for the person such as a Drivers' license or Social Security Number.
classCode [1..1] (M) Role (CS) {CNE:ROL}	Structural attribute. This can be any specialization of "role"
id [1..*] (M) Role (SET<II>)	One or more identifiers issued to the focal person by the associated scopingOrganization (e.g., a Driver's License number issued by a DMV)

### 3.45.4.2.2.3 Control Act and Transmission Wrappers

1205 Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.44.4.1.2-2 contains the Transmission and Control Act wrappers used for this interaction, and the associated constraints.

**Table 3.45.4.4.2-5 Wrappers and Constraints**

<b>Transmission Wrapper</b>	<b>Trigger Event Control Act Wrapper</b>
-----------------------------	--

MCCI_MT000300UV01 – Send Application Acknowledgement	MFMI_MT700711UV01 – Master File/Registry Query Response Control Act (Role Subject)
<p>The value of interactionId SHALL be set to PRPA_IN201310UV02</p> <p>The value of processingModeCode SHALL be set to T</p> <p>The acceptAckCode SHALL be set to NE</p> <p>There SHALL be only one receiver Device</p>	<p>The value of ControlActProcess.moodCode SHALL be set to EVN</p> <p>The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE201310UV02</p> <p>There SHALL be zero or one RegistrationEvents present in this message.</p> <p>If a RegistrationEvent is part of the message, there SHALL be exactly one Patient role present in the payload.</p> <p>There SHALL be no replacementOf act-relationship present in this message</p> <p>There SHALL be a QueryByParameter copy of the original query.</p>

The composite message schemas which describe the full payload of this interaction, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the schema from the HL7 V3 2008 Normative Edition are at [Edition2008/processable/multicacheschemas/PRPA\\_IN201310UV02.xsd](http://www.ihe.net/ftp/ITI/2008/processable/multicacheschemas/PRPA_IN201310UV02.xsd)).

#### 3.45.4.2.2.4 Web Services Types and Messages

Since this is a response to a query, please see ITI TF-2b: 3.45.4.1.2.4 for the web services components of this message.

#### 3.45.4.2.3 Expected Actions - Patient Identifier Cross-reference Manager

The Patient Identifier Cross-reference Manager shall return the attributes within the message that are required by the HL7 standard, as shown in Figure 3.45.4.2.2-1.

A RegistrationEvent, and the associated Patient class are returned only when the Patient Identifier Cross-reference Manager recognizes the specified Patient ID in the query parameter, and an identifier exists for the specified patient in at least one other domain. The Patient Identifier Cross-reference Manager shall use at one or more Patient.id attributes (and, optionally, zero or more OtherIDs.id attributes) to convey the patient IDs which uniquely identify the patient within each Patient Identification Domain. The identifiers are captured using an Instance Identifier (II) data type. See Appendix E for a detailed description of the use of the II data type for patient identifiers.

It is wholly the responsibility of the Patient Identifier Cross-reference Manager to perform the matching of patient identifiers based on the patient identifier it receives. The information provided by the Patient Identifier Cross-reference Manager to the Patient Identifier Cross-reference Consumer is a list of cross-referenced identifiers in one or more of the domains managed by the Patient Identifier Cross-reference Manager, in addition to the original identifier

used in the query. The identifier used in the query is returned only in the copy of the QueryByParameter parameter list. The list of cross-references is not made available until the set of policies and processes for managing the cross-reference function have been completed. The policies of administering identities adopted by the cooperating domains are completely internal to the Patient Identifier Cross-reference Manager and are outside of the scope of this framework. Possible matches should not be communicated until the healthcare institution policies and processes embodied in the Patient Identifier Cross-reference Manager reach a positive matching decision.

The Patient Identifier Cross-reference Manager shall respond to the query request as described by the following 6 cases:

**Case 1:** The Patient Identifier Cross-reference Manager recognizes the specified Patient ID sent by the Patient Identifier Cross-reference Consumer in PatientIdentifier.value, and corresponding identifiers exist for the specified patient in at least one of the domains requested in DataSource.value (one identifier per domain). (See Case 6 below for the required behavior if there are multiple identifiers recognized within a given Identifier Domain by the Patient Identifier Cross-reference Manager.)

**AA** (application accept) is returned in Acknowledgement.typeCode (transmission wrapper).

**OK** (data found, no errors) is returned in QueryAck.queryResponseCode (control act wrapper).

A single RegistrationEvent class is returned, where at least one of the identifiers, which the Patient Identifier Cross-reference Manager did recognize as belonging to a requested domain, is returned in Patient.id. Subsequent such identifiers, if any, are returned in either Patient.id or OtherIDs.id, not including the queried-for patient identifier that is returned in the QueryByParameter parameter list (control act wrapper).

**Case 2:** The Patient Identifier Cross-reference Manager recognizes the specified Patient ID sent by the Patient Identifier Cross-reference Consumer in PatientIdentifier.value, there are no specific domains requested in the query (no DataSource parameters are present), and corresponding identifiers exist for the specified patient in at least one other domain known to the Patient Identifier Cross-reference Manager (one identifier per domain).

**AA** (application accept) is returned in Acknowledgement.typeCode (transmission wrapper).

**OK** (data found, no errors) is returned in QueryAck.queryResponseCode (control act wrapper).

A single RegistrationEvent class is returned, where at least one of the identifiers, which the Patient Identifier Cross-reference Manager did recognize as belonging to a domain different from the domain of the queried-for patient identifier, is returned in Patient.id. Subsequent such identifiers, if any, are returned in either Patient.id or OtherIDs.id, not including the queried-for patient identifier, which is returned in the QueryByParameter parameter list (control act wrapper).

**Case 3:** The Patient Identifier Cross-reference Manager recognizes the specified Patient ID sent in PatientIdentifier.value, but no identifier exists for that patient in any of the domains sent in DataSource.value.

1270 **AA** (application accept) is returned in Acknowledgement.typeCode (transmission wrapper).

**NF** (no data found, no errors) is returned in QueryAck.queryResponseCode (control act wrapper).

No RegistrationEvent is returned.

1275 The queried-for patient identifier is returned in the QueryByParameter parameter list (control act wrapper).

**Case 4:** The Patient Identifier Cross-reference Manager does not recognize the Patient ID sent in the PatientIdentifier.value.

**AE** (application error) is returned in Acknowledgement.typeCode (transmission wrapper) and in QueryAck.queryResponseCode (control act wrapper).

1280 No RegistrationEvent is returned.

The queried-for patient identifier is returned in the QueryByParameter parameter list (control act wrapper).

An AcknowledgmentDetail class is returned in which the attributes typeCode, code, and location are valued as follows.

1285

Attribute	VALUE
typeCode	E
code	204 (Unknown Key Identifier)
location	XPath expression for the value element of the PatientIdentifier parameter

**Case 5:** The Patient Identifier Cross-reference Manager does not recognize one or more of the Patient Identification Domains for which an identifier has been requested.

**AE** (application error) is returned in Acknowledgement.typeCode (transmission wrapper) and in QueryAck.queryResponseCode (control act wrapper).

1290 No RegistrationEvent is returned.

The queried-for patient identification domains are returned in the QueryByParameter parameter list (control act wrapper).

For each domain that was not recognized, an AcknowledgmentDetail class is returned in which the attributes typeCode, code, and location are valued as follows:

1295

Attribute	VALUE
typeCode	E
Code	204 (Unknown Key Identifier)
Location	XPath expression for the value element of the DataSource parameter (which includes the repetition number of the parameter)

**Case 6:** The Patient Identifier Cross-reference Manager recognizes the specified Patient ID sent by the Patient Identifier Cross-reference Consumer in PatientIdentifier.value, and corresponding identifiers exist for the specified patient in at least one of the domains requested in DataSource.value, and there are multiple identifiers within at least one of the requested domains.

1300 **AA** (application accept) is returned in Acknowledgement.typeCode (transmission wrapper).

**OK** (data found, no errors) is returned in QueryAck.queryResponseCode (control act wrapper)

A single RegistrationEvent class is returned, where at least one of the identifiers, which the Patient Identifier Cross-reference Manager did recognize as belonging to a requested domain, is returned in Patient.id. Subsequent such identifiers, if any, are returned in either Patient.id or OtherIDs.id, not including the queried-for patient identifier that is returned in the QueryByParameter parameter list (control act wrapper).

1305

If the Patient Identifier Cross-reference Manager chooses to return multiple identifiers associated with the same domain, it shall return these identifiers either grouped in a single instance of the OtherIDs class, or all represented via repetitions of the Patient.id attribute.

#### 1310 **3.45.4.2.3.1 Web Services Port Type and Binding Definitions**

The WSDL snippets for this message are shown in ITI TF-2b: 3.45.4.1.3.1

#### **3.45.4.2.3.2 Message Examples**

Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### **3.45.4.2.4 Expected Actions - Patient Identifier Cross-reference Consumer**

1315 The Patient Identifier Cross-reference Consumer will use the list of patient identifier aliases provided by the Patient Identifier Cross-reference Manager to perform the functions, for which it requested the list. The identifiers found in both Patient.id and OtherIDs.id attributes shall be considered together to form a complete list of patient identifiers from the different Patient Identity domains (either requested or available).

1320 In the case where the returned list of identifiers contains multiple identifiers for a single domain, the Patient Identifier Cross-reference Consumer shall either use ALL of the multiple identifiers from the given domain or it shall ignore ALL of the multiple identifiers from the given domain.

This allows Patient Identifier Cross-reference Consumers capable of handling multiple identities for a single patient within a single domain (i.e., those that can correctly aggregate the information associated with the different identifiers) to do so. For those Patient Identifier Cross-reference Consumers not capable of handling this situation, ignoring the entire list of different identifiers prevents the consumer from presenting incomplete data.

### 3.45.5 Security Requirements

The relevant security requirements are discussed in the Patient Identity Feed HL7 V3 transaction (see ITI TF-2b: 3.44.5)

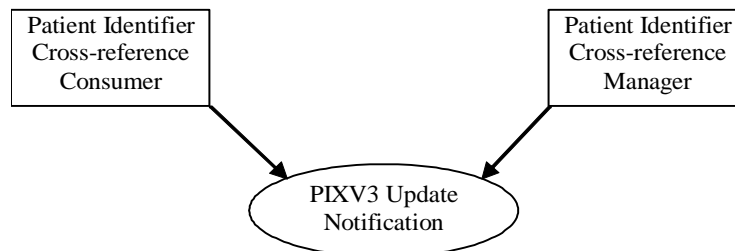
## 3.46 PIXV3 Update Notification

This section corresponds to Transaction ITI-46 of the IHE IT Infrastructure Technical Framework. Transaction ITI-46 is used by the Patient Identifier Cross-reference Consumer and Patient Identifier Cross-reference Manager actors.

### 3.46.1 Scope

The scope is identical to the scope of transaction ITI-10, described in section ITI TF-2a: 3.10.1.

### 3.46.2 Use Case Roles



**Actor:** Patient Identifier Cross-reference Manager

**Role:** It serves a well-defined set of Patient Identification Domains. The Patient Identifier Cross-reference Manager manages the cross-referencing of patient identifiers across Patient Identification Domains by providing a list of patient ID “aliases” via notification to a configured list of interested Patient Identifier Cross-reference Consumers.

#### Corresponding HL7 v3 Application Roles:

**Patient Registry Informer (PRPA\_AR201301UV02)**

**Actor:** Patient Identifier Cross-reference Consumer

**Role:** Receives notifications from the Patient Identifier Cross-reference Manager of changes to patient ID aliases. Typically the Patient Identifier Cross-reference Consumer uses this information to maintain information links about patients in a different patient ID domain.

1350      **Corresponding HL7 v3 Application Roles:**

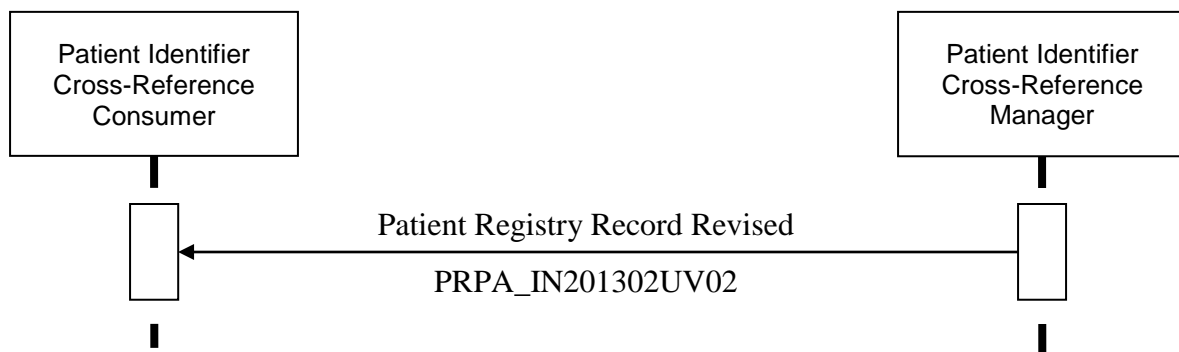
**Patient Registry Tracker (PRPA\_AR201302UV02)**

### 3.46.3 Referenced Standards

HL7 Version 3 Edition 2008 Patient Administration DSTU, Patient Topic (found at <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008>)

1355      Implementers of this transaction shall comply with all requirements described in ITI TF-2x: Appendix V Web Services for IHE Transactions.

### 3.46.4 Interaction Diagrams



#### 3.46-1 Update Patient Information Sequence

1360      **3.46.4.1 Update Patient Information**

##### 3.46.4.1.1 Trigger Events

1365      The Patient Identifier Cross-reference Manager shall notify a Patient Identifier Cross-reference Consumer when there is a change in a set of cross-referenced patient identifiers for any of the patient identifiers belonging to Patient Identifier Domains of interest to the consumer. The configuration of the domains of interest to a Patient Cross-reference Consumer is maintained by the Patient Cross-reference Manager.

Several notifications may have to be issued to communicate a single update to a set of cross-reference patient identifiers as required to reflect all the changes on the resulting sets of cross-reference patient Identifiers belonging to Patient Identifier Domains of interest to the Patient Identifier Cross-referencing Consumer.

The following HL7 trigger event will be used to update to the list of patient identifiers:

**Patient Registry Record Revised (PRPA\_TE201302UV02)**

This trigger event signals that patient information was revised in a patient registry.

**3.46.4.1.2 Message Semantics**

The PIX Update Notification transaction is conducted by the Patient Revise (PRPA\_MT201302UV02) message. The Patient Identifier Cross-reference Manager initiates this transaction whenever identifier list information is updated for a patient.

Each message shall be acknowledged by the HL7 V3 Accept Acknowledgement (MCCI\_MT000200UV01), which is described in ITI TF-2x: Appendix O.

It is wholly the responsibility of the Patient Identifier Cross-reference Manager to perform the matching of patient identifiers based on the patient traits it receives. The information provided by the Patient Identifier Cross-reference Manager to Patient Identifier Cross-reference Consumer Actors shall only contain a list of cross-referenced identifiers for the domains of interest as configured with the Patient Identifier Cross-reference Manager in two or more of the domains managed by the Patient Identifier Cross-reference Manager. Multiple notifications may need to be sent. For example:

Consumer CON\_A is configured to receive update notifications for domains DOM\_A and DOM\_AD. Notifications are sent as follows:

- A PIXV3 Patient Registry Record Add message is sent for a patient for DOM\_A. The update notification shall contain the patient identifier for DOM\_A.
- A PIXV3 Patient Registry Record Add message is processed for DOM\_AD. The Patient Identifier Cross-reference Manager cross references this patient with DOM\_A. The update notification shall contain the patient identifiers for both DOM\_A and DOM\_AD.
- A PIXV3 Patient Registry Record Revise message is processed for DOM\_AD changing the patient address. The Patient Identifier Cross-reference Manager cross references determines this patient is no longer the same patient as DOM\_A. Two update notifications shall be sent. One containing the patient identifier for DOM\_A. The other one containing the patient identifier for DOM\_AD.

The list of cross-references is not made available until the set of policies and processes for managing the cross-reference function have been completed. The policies of administering



identities adopted by the cooperating domains are completely internal to the Patient Identifier Cross-reference Manager and are outside of the scope of this profile. Possible matches should not be communicated until the healthcare institution policies and processes embodied in the Patient Identifier Cross-reference Manager reach a positive matching decision.

The Patient Identifier Cross-reference Manager shall have configuration indicating which Identity Consumers are interested in receiving the PIXV3 Update Notification Transactions. This configuration information shall include identification of the identity consumer systems interested in receiving notifications and, for each of those systems, a list of the patient identifier domains of interest. The Patient Identifier Cross-reference Manager should account for consumers interested in all domains.

Each message shall be acknowledged by the Accept Acknowledgment message sent by the receiver of the Patient Registry Record Revise message to its sender.

#### **3.46.4.1.2.1 Major Components of the Patient Registry Record Revised**

##### **Patient**

The *Patient* class is the entry point to the R-MIM for the *Patient Revise* (PRPA\_RM201302UV02). This is where the updated list of patient identifiers will be present.

##### **Person**

The *Person* class contains the name of the patient for additional verification purposes.

##### **Provider Organization**

The Patient class is optionally scoped by the provider organization where this person is a patient. The HL7 definition of the CMET requires that the provider organization needs to be identified by an id attribute, and at least one of address, telecommunications address, or contact person to be present. The id attribute SHALL have only a root, expressed as an ISO OID, and at least one of the id attributes of the Patient class SHALL have a matching root component (see ITI TF-2x: Appendix E on the use of the II data type for patient identifiers).

##### **Other Identifiers**

The *OtherIDs* class can be optionally used to capture other identifiers associated with the person such as a driver's license number or social security number. It is important to recognize that the HL7 RIM distinguishes between person-level IDs and patient-level IDs. In this transaction, however, the Patient Identity Cross-Reference Manager has the option to send all identifiers in the id attributes of the Patient class. If that is the case, the OtherIDs class shall not be used. For the purposes of interoperability where both HL7 V3 and HL7 v2.x based transactions are used, and the OtherIDs class is present, the following requirement is imposed on the OtherIDs.id attribute and on the scopingOrganization.id attribute:

OtherIDs.id.root SHALL be identical to scopingOrganization.id.root

scopingOrganization.id.extension SHALL NOT have any value

### 3.46.4.1.2.2 Message Information Model of the Patient Registry Record Revise Message

1440 Below is the Message Information Model for the Patient Identifiers message, as restricted for this transaction. The purpose of the model is to describe the data elements relevant for this transaction. It is a strict subset of the *Patient Revise* (PRPA\_RM201302UV02) RMIM.

The base RMIM can be found on the HL7 V3 2008 Edition CD at

1445 [Edition2008/domains/uvpa/editable/PRPA\\_RM201302UV.htm](http://www.hl7.org/standard/2008/editions/uvpa/editable/PRPA_RM201302UV.htm). The following restrictions were made on the original RMIMs to arrive at the restricted model (note that the resulting model is identical to the one described in ITI TF-2b: 3.45.4.2.2.2):

- The focal entity choice is restricted to be only a person
- All optional classes are removed, except for the provider organization, and other identifiers
- All optional attributes in the Patient and Person class are removed

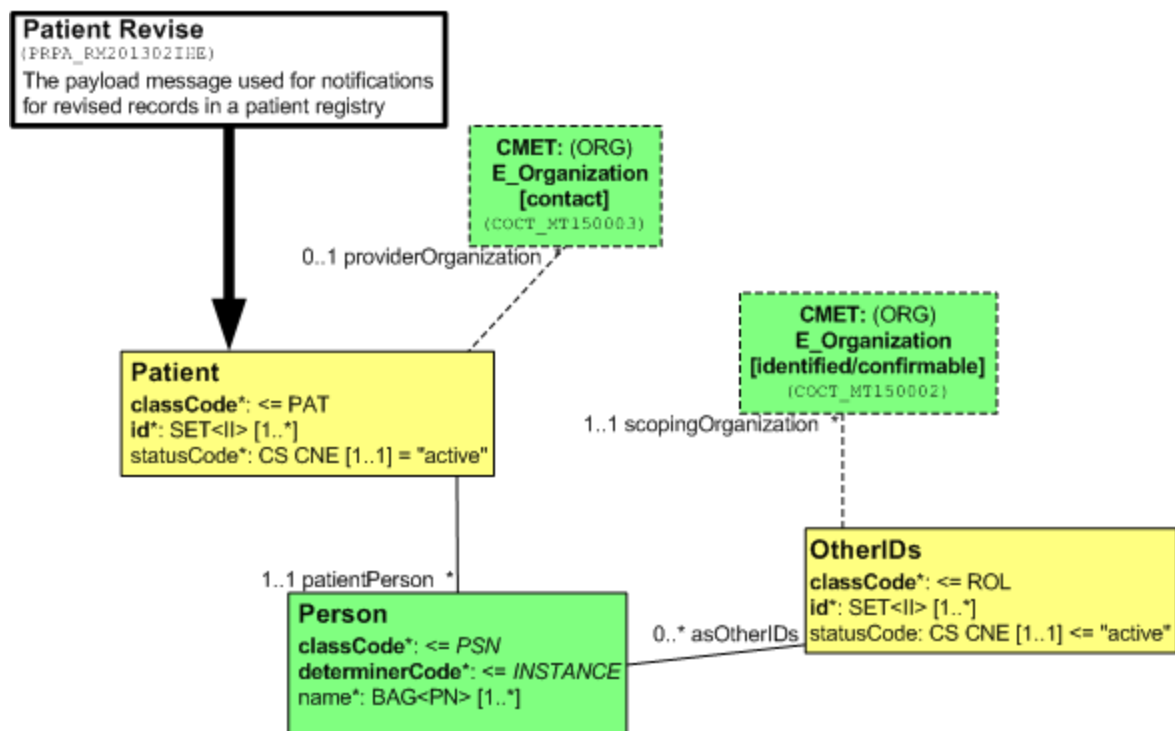


Figure 3.46.4.1.2-1

The attributes of this model are described in the following table.

1455

**Table 3.46.4.1.2-4**

<b>PRPA_HD201302IHE PatientRevise</b>	<b>This HMD extract defines the message used to send a Patient Update Notification Derived from Figure 3.46.4.1.2-1 (PRPA_RM201302IHE)</b>
<b>Patient</b>	The primary record for the focal person in a Patient Identity Cross-Reference Manager
classCode [1..1] (M) Patient (CS) {CNE:PAT}	Structural attribute; this is a "patient" role
id [1..*] (M) Patient (SET<II>)	Linked identifiers from one or more Identity Domains
statusCode [1..1] Patient (CS) {CNE:active, fixed value= "active"}	A value specifying the state of this record in a patient registry (based on the RIM role class state-machine). This record is active.
<b>Person</b>	A subtype of LivingSubject representing a human being Both Person.name and Patient.id must be non-null
classCode [1..1] (M) Person (CS) {CNE:PSN, fixed value= "PSN"}	Structural attribute; this is a "person" entity
determinerCode [1..1] (M) Person (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific person
name [1..*] Person (BAG<PN>)	Name(s) for this person
<b>OtherIDs</b>	Used to capture additional identifiers for the person such as a Drivers' license or Social Security Number.
classCode [1..1] (M) Role (CS) {CNE:ROL}	Structural attribute. This can be any specialization of "role"
id [1..*] (M) Role (SET<II>)	One or more identifiers issued to the focal person by the associated scopingOrganization (e.g., a Driver's License number issued by a DMV)

### 3.46.4.1.2.3 Control Act and Transmission Wrappers

Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.46.4.1.2-2 contains the Transmission and Control Act wrappers used for the two interactions, and the associated constraints.

1460

**Table 3.46.4.1.2-6 Wrappers and Constraints**

Transmission Wrapper	Trigger Event Control Act Wrapper
MCCI_MT000100UV01 – Send Message Payload	MFMI_MT700701UV01 – Master File / Registry Notification Control Act, Role Subject
<p>The value of interactionId SHALL be set to PRPA_IN201302UV02</p> <p>The value of processingModeCode SHALL be set to T</p> <p>The acceptAckCode SHALL be set to AL</p> <p>There SHALL be only one receiver Device</p>	<p>The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE201302UV02</p> <p>RegistrationEvent.statusCode SHALL be set to “active”</p> <p>There SHALL be no InReplacementOf act relationship for these interactions.</p>

The composite message schemas which describe the full payload of these interactions, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the schema from the HL7 V3 2008 Normative Edition can be found at [Edition2008/processable/multicacheschemas/PRPA\\_IN201302UV02.xsd](http://www.hl7.org/standard/2008/ed03/processable/multicacheschemas/PRPA_IN201302UV02.xsd))

#### 1465 3.46.4.1.2.4 Web Services Types and Messages

The Patient Registry Record Revised message will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

The following WSDL naming conventions SHALL apply:

1470       “revise” message -> "PRPA\_IN201302UV02\_Message"  
           acknowledgement -> "MCCI\_IN000002UV01\_Message"

The following WSDL snippet describes the types for these messages:

```

1475  <types>
    <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
      xmlns:hl7="urn:hl7-org:v3">
      <!-- Include the message schema -->
      <xsd:import namespace="urn:hl7-org:v3"
        schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201302UV02.xsd"/>
1480  <xsd:element name="PRPA_IN201302UV02"/>
    </xsd:schema>
    <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
      xmlns:hl7="urn:hl7-org:v3">
      <!-- Include the message schema -->
1485  <xsd:import namespace="urn:hl7-org:v3"
        schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/MCCI_IN000002UV01.xsd"/>
      <xsd:element name="MCCI_IN000002UV01"/>
    </xsd:schema>
1490  </types>
  
```

The messages are described by the following snippet:

```
...
1495 <message name="PRPA_IN201302UV02_Message">
    <part element="hl7:PRPA_IN201302UV02" name="Body"/>
    </message>
    <message name="MCCI_IN000002UV01_Message">
1500 <part element="hl7:MCCI_IN000002UV01" name="Body"/>
    </message>
    ...
```

The port types for the WSDL describing the Patient Identity Feed Service are described together with the expected actions of the actors which receive these messages in section ITI TF-2b: 3.46.4.1.3.

#### 3.46.4.1.3 Expected Actions - Patient Identifier Cross-reference Consumer

1505 Whenever the Patient Identifier Cross-reference Consumer receives updated identifier information in a Patient Revise message that results in a change to the cross-referencing of a patient, the actor shall update its internal identifier information for the affected patient(s) in all domains in which it is interested. The identifiers found in both Patient.id and OtherIDs.id attributes shall be considered together to form a complete list of patient identifiers from the  
1510 different Patient Identity domains in which this actor is interested.

In the case where the returned list of identifiers contains multiple identifiers for a single domain, the Patient Identifier Cross-reference Consumer shall either use ALL of the multiple identifiers from the given domain or it shall ignore ALL of the multiple identifiers from the given domain.

1515 This allows Patient Identifier Cross-reference Consumers capable of handling multiple identities for a single patient within a single domain (i.e., those that can correctly aggregate the information associated with the different identifiers) to do so. For those Patient Identifier Cross-reference Consumers not capable of handling this situation, ignoring the entire list of different identifiers prevents the consumer from presenting incomplete data.

##### 3.46.4.1.3.1 Web Services Port Type and Binding Definitions

1520 **IHE-WSP201) The attribute /wsdl:definitions/@name SHALL be “PIXConsumer”.**

The following WSDL naming conventions SHALL apply:

```
wsdl:definitions/@name="PIXConsumer":
PIX update message      -> "PRPA_IN201302UV02_Message"
acknowledgement        -> "MCCI_IN000002UV01_Message"
1525 portType            -> "PIXConsumer_PortType"
get identifiers operation -> "PIXConsumer_PRPA_IN201302UV02"
SOAP 1.2 binding        -> "PIXConsumer_Binding_Soap12"
SOAP 1.2 port           -> "PIXConsumer_Port_Soap12"
```

- 1530 The following WSDL snippets specify the Patient Update Port Type and Binding definitions, according to the requirements specified in ITI TF-2x: Appendix V.

#### 3.46.4.1.3.1.1 Port Type

```
1535     <portType name="PIXConsumer_PortType">
        <operation name="PIXConsumer_PRPA_IN201302UV02">
1535     <input message="tns:PRPA_IN201302UV02_Message" wsaw:Action="urn:hl7-
org:v3:PRPA_IN201302UV02"/>
1540     <output message="tns:MCCI_IN000002UV01_Message" wsaw:Action="urn:hl7-
org:v3:MCCI_IN000002UV01"/>
1540 </operation>
    </portType>
```

#### 3.46.4.1.3.1.2 Bindings

SOAP 1.2 binding:

```
1545 ...
    <binding name="PIXConsumer_Binding_Soap12" type="PIXConsumer_PortType">
        <soap12:binding style="document"
transport="http://schemas.xmlsoap.org/soap/http"/>
        <operation name="PIXConsumer_PRPA_IN201302UV02">
1550        <soap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201302UV02"/>
            <input>
                <soap12:body use="literal"/>
            </input>
            <output>
                <soap12:body use="literal"/>
1555        </output>
        </operation>
    </binding>
    ...
```

- 1560 An informative WSDL for the PIX Consumer implementing the PIXV3 profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### 3.46.4.1.3.2 Message Examples

Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### 3.46.5 Security Requirements

- 1565 The relevant security requirements are discussed in the Patient Identity Feed HL7 V3 transaction (see ITI TF-2b: 3.44.5)

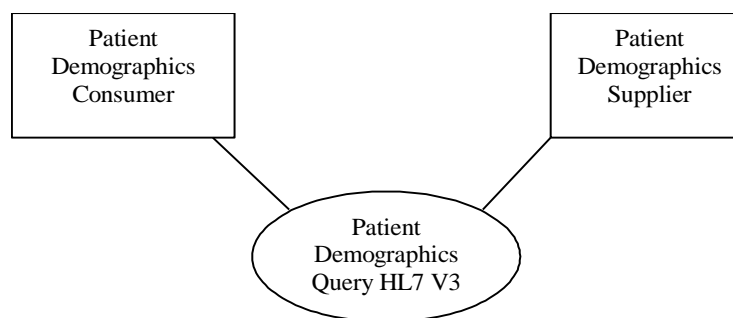
### 3.47 Patient Demographics Query HL7 V3

This section corresponds to Transaction ITI-47 of the IHE Technical Framework. Transaction ITI-47 is used by the Patient Demographics Consumer and Patient Demographics Supplier actors.

#### 1570 3.47.1 Scope

The scope is identical to ITI TF-2a: 3.21.1.

#### 3.47.2 Use Case Roles



**Actor:** Patient Demographics Consumer

1575 **Role:** Requests a list of patients matching a minimal set of demographic criteria (e.g., ID or partial name) from the Patient Demographics Supplier. Populates its attributes with demographic information received from the Patient Demographics Supplier.

**Corresponding HL7 v3 Application Roles:**

Person Registry Query Placer (PRPA\_AR201303UV02)

1580 **Actor:** Patient Demographics Supplier

**Role:** Returns demographic information for all patients matching the demographic criteria provided by the Patient Demographics Consumer.

**Corresponding HL7 v3 Application Roles:**

Person Registry Query Fulfiller (PRPA\_AR201304UV02)

#### 1585 3.47.3 Referenced Standards

HL7 Version 3 Edition 2008, Patient Administration DSTU, Patient Topic (found at <http://www.hl7.org/memonly/downloads/v3edition.cfm#V32008>)

Implementers of this transaction shall comply with all requirements described in ITI TF-2x: Appendix V Web Services for IHE Transactions.

1590

### 3.47.4 Interaction Diagrams

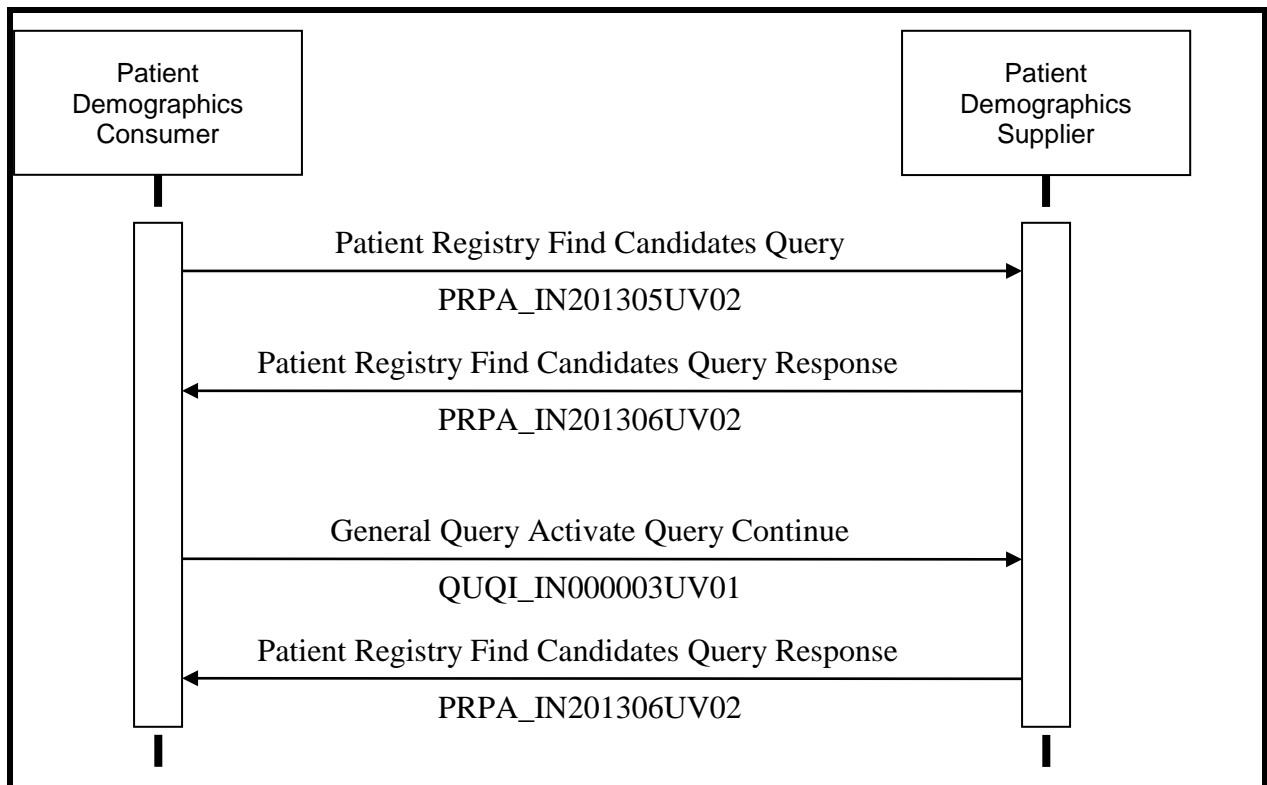


Figure 3.46.4-1 Find Candidates Query

#### 3.47.4.1 Patient Demographics Query

##### 1595 3.47.4.1.1 Trigger Events

A Patient Demographics Consumer's need to select a patient based on demographic information about patients whose information matches a set of known data will trigger the Patient Demographics Query based on the following HL7 trigger event:

##### **Find Candidates Query (PRPA\_TE201305UV02)**

1600 An application, in the role of Query Placer, sends a query-by-parameter message to request that the application return *all* person records that match the demographic information sent in the query parameters.



### 3.47.4.1.2 Message Semantics

1605 The Find Candidates Query is supported by the Patient Registry Query by Demographics (PRPA\_MT201306UV02) message. The Patient Demographics Consumer shall generate the query message whenever it needs to select from a list of patients whose information matches a set of demographic data.

1610 The components of the Patient Registry Query by Demographics message with cardinality greater than 0 (as shown below) are required, and the detailed description of the message is provided in ITI TF-2b: 3.47.4.1.2.1 to 3.47.4.1.2.4.

1615 The receiver shall respond to the query by sending the Patient Registry Find Candidates Response message (PRPA\_MT201310UV02), which uses the Application Level Acknowledgement transmission wrapper. This satisfies the requirements of original mode acknowledgment; no intermediate Accept Acknowledgement is to be sent. The response message shall contain demographic records that reflect the best fit to all of the search criteria received in the Patient Registry Query by Demographics message.

#### 3.47.4.1.2.1 Major Components of the Patient Registry Query by Demographics

##### LivingSubjectName Parameter

1620 This optional parameter specifies the name of the person whose information is being queried. For this parameter item, a single person name (PN) data item shall be specified in the LivingSubjectName.value attribute. Only certain name parts within the PN data type (e.g., family name) may be specified. If the sender needs to indicate that the name parts specified are not limited to an exact match, then the *use* attribute of the *value* element shall be set to "SRCH". Handling of phonetic issues, alternate spellings, upper and lower case, partial matching, accented characters, etc. if deemed appropriate, is to be supported by the Patient Demographics Supplier rather than by the Patient Demographics Consumer. The Supplier shall return at least all exact matches to the query parameters sent by the Consumer. IHE does not further specify matching requirements, however, the MatchAlgorithm parameter may be used to indicate more specific requirements for the Supplier, based on an existing agreement on allowable values for

1625 MatchAlgorithm.value. Wildcard characters of any kind shall not be used, since the combination of the use attribute and the MatchAlgorithm parameter are sufficient to describe a particular match request.

1630

##### LivingSubjectAdministrativeGender Parameter

1635 This optional parameter specifies the administrative gender of the person whose information is being queried. For this parameter item, a single administrative gender code shall be specified in the LivingSubjectAdministrativeGender.value attribute.

##### LivingSubjectBirthTime Parameter

This optional parameter specifies the birth data and time of the person whose information is being queried. This parameter can convey an exact moment (e.g., January 1, 1960 @ 03:00:00 EST), an approximate date (e.g., January 1960), or even a range of dates (e.g., December 1, 1959 through March 31, 1960).

#### **PatientAddress Parameter**

This optional parameter specifies one or more addresses associated with the person whose information is being queried.

#### **LivingSubjectId Parameter**

This optional repeating parameter specifies an identifier associated with the patient whose information is being queried (e.g., a local identifier, or an account identifier). If multiple instances of this parameter are provided in the query, all of the associated identifiers must match. The identifier specified in the LivingSubjectId.value attribute is expressed using the II data type. Please see Appendix E for the use of the II data type for patient identifiers.

#### **OtherIDsScopingOrganization Parameter**

This optional repeating parameter specifies the assigning authority/authorities of the Patient Identity Domain(s) for which identifiers are to be returned. The identifier specified in the OtherIDsScopingOrganization.value attribute shall be expressed using the II data type, where the *root* element contains a valid ISO OID, and there is no *extension* element. If no such parameter is supplied, the patient demographics supplier is required to return the identifiers from all Patient Identity Domains known to it. Any parameter value which is not recognized by the target patient information source shall cause an error condition.

### **3.47.4.1.2.2 Message Information Model of the Patient Registry Query by Demographics Message**

Below is the Message Information Model for the Query by Demographics message, as restricted for this transaction. The purpose of the model is to describe the data elements relevant for this transaction. It is a strict subset of the *Patient Registry Query by Demographics (PRPA\_RM201306UV02) RMIM*.

The base RMIM can be found on the HL7 V3 2008 Edition CD at [Edition2008/domains/uvpa/editable/PRPA\\_RM201306UV.htm](#). The following restrictions were made on the original RMIMs to arrive at the restricted model:

- Exactly one value attribute shall be present in each parameter
- Only the LivingSubjectId, OtherIDsScopingOrganization, and LivingSubjectName parameters can have more than one instance

- The optional attributes ParameterList.id, MatchCriterionList.id, QueryByParameter responseElementGroupId, QueryByParameter.modifyCode, and QueryByParameter.executionAndDeliveryTime were omitted from the model
- QueryByParameter.responsePriorityCode is required and is fixed to I (Immediate)
- 1675 • QueryByParameter.responseModalityCode is required and is fixed to R (Real Time)
- QueryByParameter.statusCode is defaulted to "new".
- The data type of MatchAlgorithm.value is constrained to ST
- The data type of MinimumDegreeMatch.value is constrained to INT
- The data type of LivingSubjectName.value is constrained to PN
- 1680 • The optional SortControl was omitted from the model
- The optional MatchWeight was omitted from the model
- The following optional parameters were omitted from the model:
  - PatientTelecom
  - PrincipalCareProviderId
  - 1685 • PrincipalCareProvisionId
  - MothersMaidenName
  - LivingSubjectDeceasedTime
  - PatientStatusCode
  - LivingSubjectBirthPlaceName
  - 1690 • LivingSubjectBirthPlaceAddress

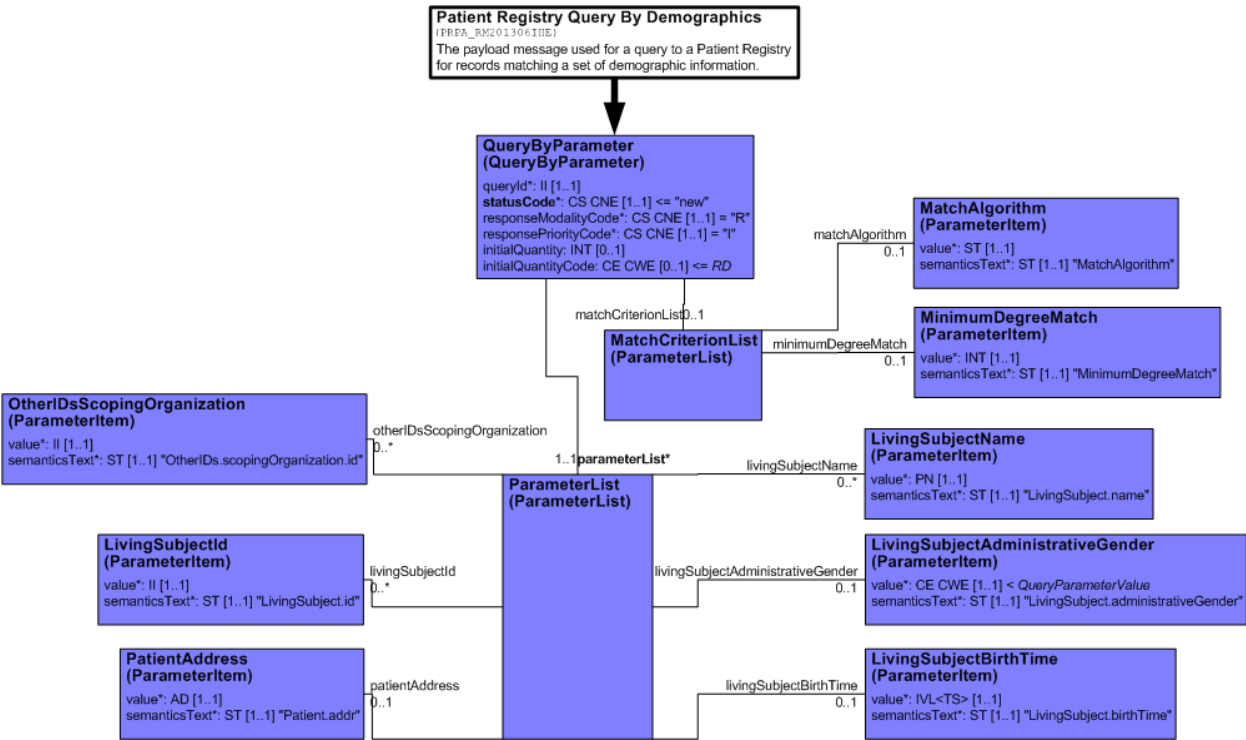


Figure 3.47.4.1.2-1

The attributes of this model are described in the following table:

1695

Table 3.47.4.1.2-1

PRPA_HD201306IHE Patient Registry Query by Demographics	This HMD extract defines the message used to query a patient registry for records matching a set of demographics information.  Derived from Figure 3.47.4.1.2-1 (PRPA_RM201306IHE)
<b>QueryByParameter</b>	The entry point for the domain content in this query
queryId [1..1] QueryByParameter (II)	Unique identifier for the query
statusCode [1..1] (M) QueryByParameter (CS) {CNE:QueryStatusCode, default="new"}	The status of the query, default is "new"
responseModalityCode [1..1] QueryByParameter (CS) {CNE:ResponseModality, fixed value="R"}	The mode of the response – always real-time.

<b>PRPA_HD201306IHE Patient Registry Query by Demographics</b>	<b>This HMD extract defines the message used to query a patient registry for records matching a set of demographics information.  Derived from Figure 3.47.4.1.2-1 (PRPA_RM201306IHE)</b>
responsePriorityCode [1..1] QueryByParameter (CS) {CNE:QueryPriority, fixed value="I"}	The Patient Demographics Supplier is required to send an immediate response.
initialQuantity [0..1] QueryByParameter (INT)	Defines the maximum size of the response that can be accepted by the requesting application
initialQuantityCode [0..1] QueryByParameter (CE) {CWE:QueryRequestLimit, default="RD"}	Defines the units associated with the initialQuantity; default is "records".
<b>MatchAlgorithm</b>	This parameter conveys instructions to the patient demographics supplier specifying the preferred matching algorithm to use
value [1..1] ParameterItem (ST)	The name of the algorithm
semanticsText [1..1] ParameterItem (ST){default= "MatchAlgorithm"}	
<b>MinimumDegreeMatch</b>	This parameter conveys instructions to the patient demographics supplier specifying minimum degree of match to use in filtering results
value [1..1] ParameterItem (INT)	The numeric value of the degree of match
semanticsText [1..1] ParameterItem (ST){default= "MatchAlgorithm"}	
<b>LivingSubjectAdministrativeGender</b>	This query parameter is a code representing the administrative gender of a person in a patient registry.
value [1..1] ParameterItem (CE) {CWE:AdministrativeGender}	
semanticsText [1..1] ParameterItem (ST){default= "LivingSubject.administrativeGender"}	
<b>LivingSubjectBirthTime</b>	This query parameter is the birth date of a living subject.
value [1..1] ParameterItem (IVL<TS>)	A date or date range. This parameter can convey an exact moment (e.g., January 1, 1960 @ 03:00:00 EST), an approximate date (e.g., January 1960), or even a range of dates (e.g., December 1, 1959 through March 31, 1960).
semanticsText [1..1] ParameterItem (ST){default=	

<b>PRPA_HD201306IHE Patient Registry Query by Demographics</b>	<b>This HMD extract defines the message used to query a patient registry for records matching a set of demographics information.  Derived from Figure 3.47.4.1.2-1 (PRPA_RM201306IHE)</b>
"LivingSubject.birthTime"	
<b>LivingSubjectId</b>	
value [1..1] (M) ParameterItem (II)	A patient identifier, used to assist in finding a match for the query.
semanticsText [1..1] ParameterItem (ST){default= "LivingSubject.id"}	
<b>LivingSubjectName</b>	This query parameter is the name of a person. If multiple instances of LivingSubjectName are provided, the receiver must consider them as possible alternatives, logically connected with an "or".
value [1..1] ParameterItem (PN)	The name "use" attribute can convey that a name is to be matched using "fuzzy" matching, and does not require exact match. Only some of the name parts may be populated. If, for example, only a family name part of a person's name is sent, then the query would match all persons with that family name regardless of their given names or initials.
semanticsText [1..1] ParameterItem (ST){default= "LivingSubject.name"}	
<b>PatientAddress</b>	This query parameter is a postal address for corresponding with a patient
value [1..1] ParameterItem (AD)	
semanticsText [1..1] ParameterItem (ST){default= "Patient.addr"}	
<b>OtherIDsScopingOrganization</b>	Optional parameter specifying the assigning authority of a Patient Identity Domain
value [1..1] ParameterItem (II)	The identifier for a Patient Identity Domain's assigning authority. IHE restriction: The value.root attribute SHALL be a valid ISO OID The value.extension attribute SHALL NOT be present
semanticsText [1..1] ParameterItem (ST){default= "OtherIDs.scopingOrganization.id"}	

### 3.47.4.1.2.3 Control Act and Transmission Wrappers

Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.44.4.1.2-2 contains the Transmission and Control Act wrappers used for this interaction, and the associated constraints.

**Table 3.47.4.1.2-7 Wrappers and Constraints**

Transmission Wrapper	Trigger Event Control Act Wrapper
MCCI_MT000100UV01 – Send Message Payload	QUQL_MT021001UV01 – Query Control Act Request: Query By Parameter
The value of interactionId SHALL be set to PRPA_IN201305UV02 The value of processingModeCode SHALL be set to T The acceptAckCode SHALL be set to AL There SHALL be only one receiver Device	The value of ControlActProcess.moodCode SHALL be set to RQO The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE201305UV02 If an authorOrPerformer participation is present, the value of authroOrPerformer.typeCode SHALL be set to AUT

The composite message schemas which describe the full payload of this interaction, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the schemas from the HL7 V3 2008 Normative Edition can be found at

[Edition2008/processable/multicacheschemas/PRPA\\_IN201305UV02.xsd](#))

### 3.47.4.1.2.4 Web Services Types and Messages

The Patient Registry Query by Demographics message will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

The following WSDL naming conventions SHALL apply:

query message -> "PRPA\_IN201305UV02\_Message"

The following WSDL snippet describes the type for this message:

```
...
<types>
<xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
xmlns:hl7="urn:hl7-org:v3">
<!-- Include the message schema -->
<xsd:import namespace="urn:hl7-org:v3"
schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201305UV02.xsd"/>
<xsd:element name="PRPA_IN201305UV02"/>
</xsd:schema>
</types>
...
```

The message is described by the following snippet:

...

```
<message name="PRPA_IN201305UV02_Message">
<part element="hl7:PRPA_IN201305UV02" name="Body"/>
</message>
```

...

- 1730 The port types for the WSDL describing the Patient Demographics Service are described together with the expected actions of the actors which receive these messages in section ITI TF-2b: 3.47.4.2.3.

### **3.47.4.1.3 Expected Actions**

#### **3.47.4.1.3.1 Immediate Response**

- 1735 The Patient Demographics Supplier shall immediately return a Find Candidates Response message as specified below in ITI TF-2b: 3.47.4.2. The response message uses the Application Acknowledgement transmission wrapper, as specified in ITI TF-2x: Appendix O.1.3, and no other acknowledgments are part of this transaction.

#### **3.47.4.1.3.2 Query Parameter Processing**

- 1740 The Patient Demographics Supplier shall be capable of accepting, searching on, and responding with attributes in the Query Person by Demographics message.

Handling of phonetic issues, alternate spellings, upper and lower case, partial matching, accented characters, etc., if deemed appropriate, is to be supported by the Patient Demographics Supplier rather than by the Patient Demographics Consumer. The Supplier shall return at least all exact

- 1745 matches to the query parameters sent by the Consumer; IHE does not further specify matching requirements, except as already discussed in the LivingSubjectName parameter description.

#### **3.47.4.1.3.3 Incremental Response Processing**

- 1750 The Patient Demographics Supplier, which supports the Continuation Option, shall be capable of accepting and processing the *QueryByParameter.responsePriorityCode* attribute. In particular, the Patient Demographics Supplier shall respond in immediate mode.

Also, the Patient Demographics Supplier shall be able to interpret *QueryByParameter.initialQuantity* to return successive responses of partial lists of records. When processing incremental responses, the Patient Demographics Consumer shall request additional responses using the Query Control Act Request Continue/Cancel message

- 1755 (QUQL\_MT000001UV01), as described in ITI TF-2b: 3.47.4.3.

#### **3.47.4.1.3.4 Web Services Port Type and Binding Definitions**

These definitions are part of the query response message. Please see ITI TF-2b: 3.47.4.2.3 for more information.



### 3.47.4.1.3.5 Message Examples

- 1760 Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

### 3.47.4.2 Patient Demographics Query Response

#### 3.47.4.2.1 Trigger Events

The Patient Demographics Supplier's response to the Find Candidates Query message is triggered by the following trigger:

1765 **Find Candidates Response (PRPA\_TE201306UV02)**

An application returns a Patient Registry Find Candidates Response message populated with information it holds for *each* person whose record matches the demographic information sent as parameters in a query-by-parameter message.

#### 3.47.4.2.2 Message Semantics

- 1770 The Patient Registry Find Candidates Response message (PRPA\_MT201310UV02) is sent by the Patient Demographics Supplier in direct response to the query (PRPA\_MT201306UV02) or, if the Continuation Option is supported, the query continuation (QUQI\_MT000001UV01) message previously received. The components of the message with cardinality greater than 0 (as shown below) are required, and the detailed description of the message is provided in ITI TF-2b:
- 1775 3.47.4.2.2.1 to 3.47.4.2.2.4. All other attributes of the message are optional.

#### 3.47.4.2.2.1 Major Components of the Patient Registry Find Candidates Response Message

- 1780 This message shares all the major components of the Patient Activate/Revise messages, as described in ITI TF-2b: 3.44.4.1.2.1. The only additional component is the QueryMatchObservation class.

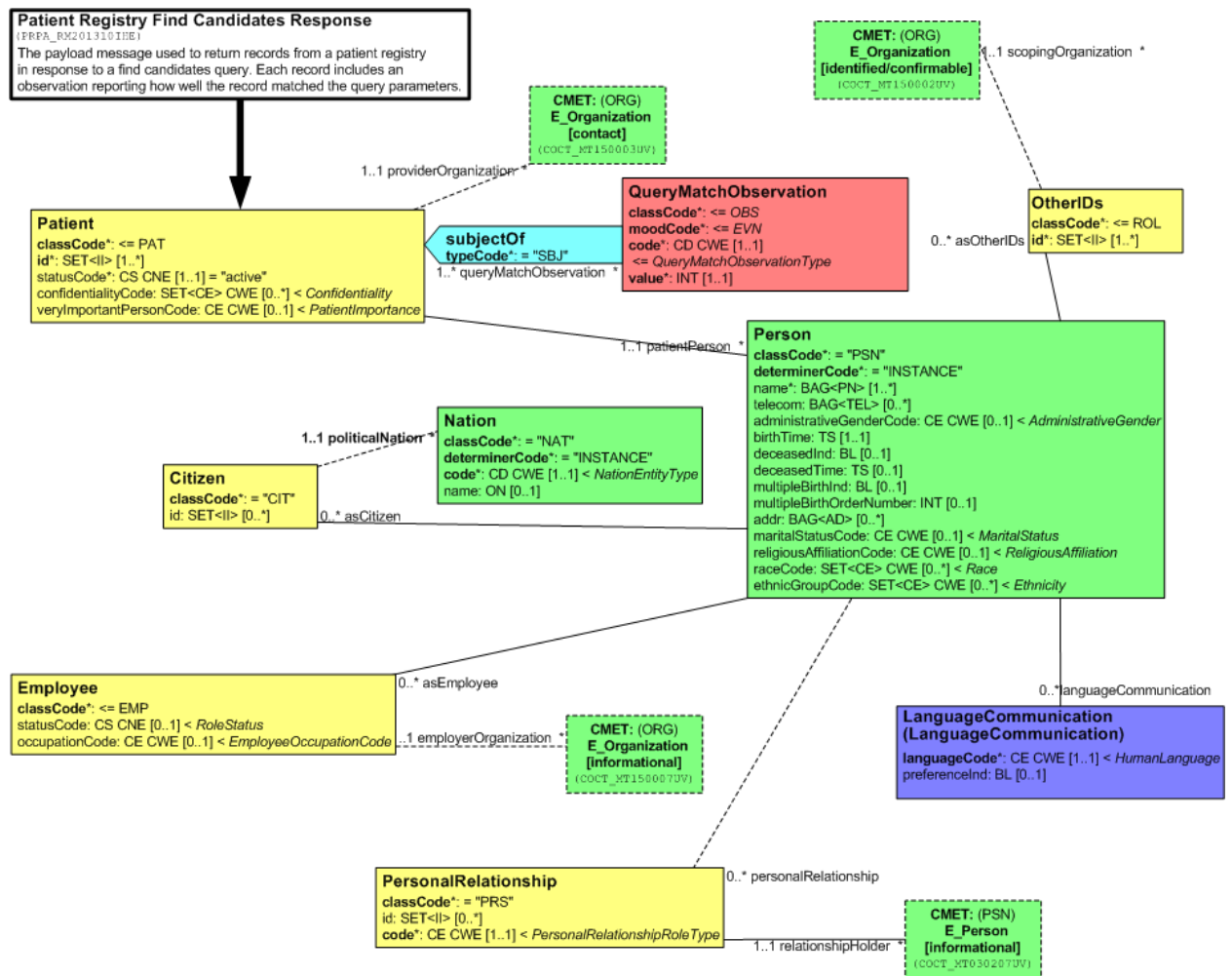
#### Query Match Observation

The *QueryMatchObservation* class is used to convey information about the quality of the match for each record returned by the query response.

1785 **3.47.4.2.2.2 Message Information Model of the Patient Registry Find Candidates Response Message**

Below is the Message Information Model for the Patient Registry Find Candidates Response message, as restricted for this transaction. The purpose of the model is to describe the data elements relevant for this transaction. It is a strict common subset of the *Patient Registry Find Candidates Response (PRPA\_RM201310UV02)* RMIM.

- 1790 The base RMIM can be found on the HL7 V3 2008 Edition CD at [Edition2008/domains/uvpa/editable/PRPA\\_RM201310UV.htm](#). The following restrictions were made on the original RMIMs to arrive at the restricted model:
- The focal entity choice is restricted to be only a person
  - The relationship holder of the personal relationship is restricted to be a person (using CMET COCT\_MT030207UV)
  - The following roles are omitted:
    - asPatientOfOtherProvider
    - birthPlace
    - guarantor
    - guardian
    - contactParty
    - asMember
    - careGiver
    - asStudent
  - The following participations are omitted:
    - subjectOf (administrativeObservation)
    - coveredPartyOf (coverage)



1810

Figure 3.47.4.2.2-1

The attributes of this model are described in the following table. Note that CMETs are not discussed, as the HL7 definitions for them are being used.

Table 3.47.4.2.2-8

PRPA_HD201310IHE Patient Registry Find Candidates Response	This HMD extract defines the message used to return records from a patient registry in response to a Find Candidates Query.  Derived from Figure 3.47.4.2.2-1 (PRPA_RM201310IHE)
<b>Patient</b>	The primary record for the focal person in a Patient Demographics Supplier
classCode [1..1] (M)	Structural attribute; this is a "patient" role

<b>PRPA_HD201310IHE Patient Registry Find Candidates Response</b>	<b>This HMD extract defines the message used to return records from a patient registry in response to a Find Candidates Query.  Derived from Figure 3.47.4.2.2-1 (PRPA_RM201310IHE)</b>
Patient (CS) {CNE:PAT}	
id [1..*] (M) Patient (SET<II>)	Patient identifiers. Patient Identifiers from different Identity Domains may be contained either here, or in the OtherIDs.id attributes, but not in both places. At least one Patient Identifier shall be present in this attribute
statusCode [1..1] Patient (CS) {CNE:active, fixed value= "active"}	A value specifying the state of this record in a patient registry (based on the RIM role class state-machine). This record is active.
confidentialityCode [0..*] Patient (SET<CE>) {CWE:Confidentiality}	Value(s) that control the disclosure of information about this living subject as a patient
veryImportantPersonCode [0..1] Patient (CE) {CWE:PatientImportance}	A code specifying the patient's special status granted by the scoper organization, often resulting in preferred treatment and special considerations. Examples include board member, diplomat.
<b>Person</b>	A subtype of LivingSubject representing a human being Either Person.name or Patient.id must be non-null
classCode [1..1] (M) Person (CS) {CNE:PSN, fixed value= "PSN"}	Structural attribute; this is a "person" entity
determinerCode [1..1] (M) Person (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific person
name [1..*] Person (BAG<PN>)	Name(s) for this person
telecom [0..*] Person (BAG<TEL>)	Telecommunication address(es) for communicating with this person
administrativeGenderCode [0..1] Person (CE) {CWE:AdministrativeGender}	A value representing the gender (sex) of this person. Note: this attribute does not include terms related to clinical gender which is a complex physiological, genetic and sociological concept that requires multiple observations in order to be comprehensively described.
birthTime [0..1] Person (TS)	The date and time this person was born
deceasedInd [0..1] Person (BL)	An indication that this person is dead

<b>PRPA_HD201310IHE Patient Registry Find Candidates Response</b>	<b>This HMD extract defines the message used to return records from a patient registry in response to a Find Candidates Query.  Derived from Figure 3.47.4.2.2-1 (PRPA_RM201310IHE)</b>
deceasedTime [0..1] Person (TS)	The date and time this person died
multipleBirthInd [0..1] Person (BL)	An indication that this person was part of a multiple birth
multipleBirthOrderNumber [0..1] Person (INT)	The order in which this person was born if part of a multiple birth
addr [0..*] Person (BAG<AD>)	Address(es) for corresponding with this person
maritalStatusCode [0..1] Person (CE) {CWE:MaritalStatus}	A value representing the domestic partnership status of this person
religiousAffiliationCode [0..1] Person (CE) {CWE:ReligiousAffiliation}	A value representing the primary religious preference of this person
raceCode [0..*] Person (SET<CE>) {CWE:Race}	A set of values representing the races of this person
ethnicGroupCode [0..*] Person (SET<CE>) {CWE:Ethnicity}	A set of values representing the ethnic groups of this person
<b>OtherIDs</b>	Used to capture additional identifiers for the person such as a Drivers' license or Social Security Number.
classCode [1..1] (M) Role (CS) {CNE:ROL}	Structural attribute. This can be any specialization of "role" except for Citizen, or Employee.,
id [1..*] (M) Role (SET<II>)	One or more identifiers issued to the focal person by the associated scopingOrganization (e.g., identifiers from a different Patient Identity Domain).
<b>PersonalRelationship</b>	A personal relationship between the focal living subject and another living subject
classCode [1..1] (M) Role (CS) {CNE:PRS, fixed value= "PRS"}	Structural attribute; this is a "personal relationship" role
id [0..*] <u>Role</u> (SET<II>)	Identifier(s) for this personal relationship
code [1..1] (M)	A required value specifying the type of personal relationship between the relationshipHolder and the scoping living subject drawn

<b>PRPA_HD201310IHE Patient Registry Find Candidates Response</b>	<b>This HMD extract defines the message used to return records from a patient registry in response to a Find Candidates Query.  Derived from Figure 3.47.4.2.2-1 (PRPA_RM201310IHE)</b>
Role (CE) {CWE:PersonalRelationshipRoleType}	from the PersonalRelationshipRoleType domain, for example, spouse, parent, unrelated friend
<b>Citizen</b>	Used to capture person information relating to citizenship.
classCode [1..1] (M) Role (CS) {CNE:CIT, fixed value= "CIT"}	Structural attribute; this is a "citizen" role
id [0..*] Role (SET<II>)	Identifier(s) for the focal person as a citizen of a nation
<b>Nation</b>	A politically organized body of people bonded by territory and known as a nation.
classCode [1..1] (M) Organization (CS) {CNE:NAT, fixed value= "NAT"}	Structural attribute; this is a 'nation' type of entity
determinerCode [1..1] (M) Organization (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific entity
code [1..1] (M) Organization (CD) {CWE:NationEntityType}	A value that identifies a nation state
name [0..1] Organization (ON)	A non-unique textual identifier or moniker for this nation
<b>Employee</b>	A relationship of the focal person with an organization to receive wages or salary. The purpose of this class is to identify the type of relationship the employee has to the employer rather than the nature of the work actually performed. For example, it can be used to capture whether the person is a Military Veteran or not..
classCode [1..1] (M) Employee (CS) {CNE:EMP}	Structural attribute; this is an "employee" role
statusCode [0..1] Employee (CS) {CNE:RoleStatus}	A value specifying the state of this employment relationship (based on the RIM Role class state-machine), for example, active, suspended, terminated.
occupationCode [0..1] Employee (CE) {CWE:EmployeeOccupationCode}	A code qualifying the classification of kind-of-work based upon a recognized industry or jurisdictional standard. OccupationCode is used to convey the person's occupation as opposed to jobClassCode (not used in this transaction) which characterizes this particular job. For example, it can be used to capture whether the person is a Military Veteran or not.

<b>PRPA_HD201310IHE Patient Registry Find Candidates Response</b>	<b>This HMD extract defines the message used to return records from a patient registry in response to a Find Candidates Query.  Derived from Figure 3.47.4.2.2-1 (PRPA_RM201310IHE)</b>
<b>LanguageCommunication</b>	A language communication capability of the focal person
languageCode [1..1] (M) LanguageCommunication (CE) {CWE:HumanLanguage}	A value representing a language for which the focal person has some level of proficiency for written or spoken communication. Examples: Spanish, Italian, German, English, American Sign
preferenceInd [0..1] LanguageCommunication (BL)	An indicator specifying whether or not this language is preferred by the focal person for the associated mode
<b>QueryMatchObservation</b>	Used to convey information about the quality of the match for each record.
classCode [1..1] (M) Observation (CS) {CNE:, default= "OBS"}	Structural attribute – this is an observation
moodCode [1..1] (M) Observation (CS) {CNE:, default= "EVN"}	Structural attribute – this is an event
code [1..1] (M) Observation (CD) {CWE:QueryMatchObservationType}	A code, identifying this observation as a query match observation.
value [1..1] (M) QueryMatchObservation (INT)	A numeric value indicating the quality of match for this record. It shall correspond to the MinimumDegreeMatch.value attribute of the original query, and it shall have the same meaning (e.g., percentage, indicating confidence in the match).

### 3.47.4.2.2.3 Control Act and Transmission Wrappers

1815 Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.44.4.1.2-2 contains the Transmission and Control Act wrappers used for this interaction, and the associated constraints.

**Table 3.47.4.4.2-9 Wrappers and Constraints**

<b>Transmission Wrapper</b>	<b>Trigger Event Control Act Wrapper</b>
MCCI_MT000300UV01 – Send Application Acknowledgement	MFMI_MT700711UV01 – Master File/Registry Query Response Control Act (Role Subject)
The value of interactionId SHALL be set to PRPA_IN201306UV02  The value of processingModeCode SHALL be set to T  The acceptAckCode SHALL be set to NE  There SHALL be only one receiver Device	The value of ControlActProcess.moodCode SHALL be set to EVN  The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE201306UV02  There SHALL be zero or more RegistrationEvents present in this message.

	<p>For each matching record returned, there SHALL be exactly one RegistrationEvent present in this message.</p> <p>If a RegistrationEvent is part of the message, there SHALL be exactly one Patient role present in the payload.</p> <p>There SHALL be no replacementOf act-relationship present in this message</p> <p>There SHALL be a QueryByParameter copy of the original query.</p> <p>The QueryAck.resultTotalQuantity, QueryAck.resultCurrentQuantity, and QueryAck.resultRemainingQuantity attributes SHALL have the appropriate values populated.</p>
--	--

1820 The composite message schemas which describe the full payload of this interaction, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the schemas from the HL7 V3 2008 Normative Edition can be found at [Edition2008/processable/multicacheschemas/PRPA\\_IN201306UV02.xsd](#)).

#### 3.47.4.2.2.4 Web Services Types and Messages

1825 The Patient Registry Query by Demographics message will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

The following WSDL naming conventions SHALL apply:

response message -> "PRPA\_IN201306UV02\_Message"

The following WSDL snippet describes the type for these message:

1830 ...  
 <types>  
 <xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"  
 xmlns:hl7="urn:hl7-org:v3">  
 <!-- Include the message schema -->  
 <xsd:import namespace="urn:hl7-org:v3"  
 1835 schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/PRPA\_IN201306UV02.xsd"/>  
 <xsd:element name="PRPA\_IN201306UV02"/>  
 </xsd:schema>  
 </types>  
 1840 ...

The message is described by the following snippet:

1845 ...  
 <message name="PRPA\_IN201306UV02\_Message">  
 <part element="hl7:PRPA\_IN201306UV02" name="Body"/>  
 </message>  
 ...



### 3.47.4.2.3 Expected Actions

- 1850 The Patient Demographics Supplier shall perform the matching of patient data based on the query parameter values it receives. The information provided by the Patient Demographics Supplier to Patient Demographics Consumers is a list of possible matching patients from the patient information source associated with the value that the Consumer sent in the *Device* class of the transmission wrapper of the query message.
- 1855 If *OtherIDsScopingOrganization* parameters were part of the query, and they were recognized by the Patient Demographics Supplier as identifying known Patient Identity Domains, the response will also, for each patient, contain any Patient ID values found in the specified domains.
- The mechanics of the matching algorithms used are internal to the Patient Demographics Supplier and are outside of the scope of this framework.
- The Patient Demographics Supplier shall respond to the query request as described by the following 3 cases:
- 1860 **Case 1** The Patient Demographics Supplier finds (in the patient information source associated with *Receiver.Device* in the query transmission wrapper) at least one patient record matching the criteria sent in the query parameters. There were no *OtherIDsScopingOrganization* parameters in the query.
- AA** (application accept) is returned in *Acknowledgement.typeCode* (transmission wrapper).
- 1865 **OK** (data found, no errors) is returned in *QueryAck.queryResponseCode* (control act wrapper)
- One *RegistrationEvent* (and the associated Patient role, subject of that event) is returned from the patient information source for each patient record found. If the Patient Demographics Supplier returns data for multiple patients, it shall return these data in successive occurrences of the *RegistrationEvent* class within the transmission wrapper.
- 1870 For each patient, one or more identifiers from the Patient ID Domain associated with the target patient information source identified by *Receiver.Device* are represented as *Patient.id* attributes.
- If an incremental number of records are specified in *QueryByParamter.initialQuantity* (i.e. the Consumer supports the Continuation option), and the number of records to be sent exceeds that incremental number, the Supplier shall return only up to the incremental number of records. If
- 1875 the Supplier supports the Continuation option, it shall correctly populate the *resultTotalQuantity*, *resultCurrentQuantity*, and *resultRemainingQuantity* attributes of the *QueryAck* class in the control act wrapper. If the Supplier does not support the Continuation option, in addition to returning only up to the incremental number of records requested, it shall return AE (application error in the *Acknowledgement.typeCode* (transmission wrapper) and AE (application error) is
- 1880 returned in *QueryAck.queryResponseCode* (control act wrapper).
- The Consumer may then send a query continuation message as a subsequent query request for the next increment of responses.

**Case 2:** The Patient Demographics Supplier finds (in the patient information source associated with *Receiver.Device* in the query transmission wrapper) at least one patient record matching the criteria sent in the query parameters. One or more *OtherIDsScopingOrganization* parameters are present in the query; the Supplier recognizes all the requested domains.

**AA** (application accept) is returned in *Acknowledgement.typeCode* (transmission wrapper).

**OK** (data found, no errors) is returned in *QueryAck.queryResponseCode* (control act wrapper)

One *RegistrationEvent* (and the associated *Patient* role, subject of that event) is returned from the patient information source for each patient record found. If the Patient Demographics Supplier returns data for multiple patients, it shall return these data in successive occurrences of the *RegistrationEvent* class within the transmission wrapper.

For each patient, the identifiers from all the Patient ID Domains requested via the *OtherIDsScopingOrganization* parameter are returned either as values of the *Patient.id* attribute, or as values of the *OtherIDs.id* attribute. The same patient identifier value shall not appear in both the *Patient.id* and *OtherIDs.id* attributes. The Patient Demographics consumer shall consider the identifiers from both places as equivalently valid. If the Patient Demographics supplier cannot provide a patient ID for some of the requested Patient ID Domains, then an *OtherIDs.id* attribute shall have an appropriate null value, and the *ScopingOrganization* class shall identify the corresponding domain.

If an incremental number of records are specified in *QueryByParamter.initialQuantity*, and the number of records to be sent exceeds that incremental number, and the Patient Demographics Supplier supports the Continuation Option, the Supplier returns only the incremental number of records, correctly populating the *resultTotalQuantity*, *resultCurrentQuantity*, and *resultRemainingQuantity* attributes of the *QueryAck* class in the control act wrapper. The consumer will sent a query continuation message as a subsequent query request for the next increment of responses. If the Supplier does not support the Continuation Option, then **AE** (application error) is returned in the *Acknowledgement.typeCode* (transmission wrapper) and **AE** (application error) is returned in *QueryAck.queryResponseCode* (control act wrapper).

**Case 3:** The Patient Demographics Supplier does not recognize one or more *OtherIDsScopingOrganization* parameters as representing valid Patient Identity Domains.

**AE** (application error) is returned in *Acknowledgement.typeCode* (transmission wrapper) and in *QueryAck.queryResponseCode* (control act wrapper).

No *RegistrationEvent* is returned.

The queried-for patient identification domains are returned in the *QueryByParameter* parameter list (control act wrapper).

For each domain that was not recognized, an *AcknowledgmentDetail* class is returned in which the attributes *typeCode*, *code*, and *location* are valued as follows:

Attribute	VALUE
typeCode	E
code	204 (Unknown Key Identifier)
location	XPath expression for the value element of the OtherIDsScopingOrganization parameter (which includes the repetition number of the parameter)

### 1920 3.47.4.2.3.1 Web Services Port Type and Binding Definitions

**IHE-WSP201) The attribute /wsdl:definitions/@name SHALL be “PDSupplier”.**

The following WSDL naming conventions SHALL apply:

```

1925 wsdl:definitions/@name="PDSupplier":
      patient demographics query    -> "PRPA_IN201305UV02_Message"
      patient demographics response -> "PRPA_IN201306UV02_Message"
      continuation query            -> "QUQI_IN000003UV01_Message"
      accept acknowledgement        -> "MCCI_IN000002UV01_Message"
      portType                      -> "PDSupplier_PortType"
      get candidates operation       -> "PDSupplier_PRPA_IN201305UV02"
1930 continuation operation        ->
      "PDSupplier_PRPA_IN201305UV02_Continue"
      cancel operation              -> "PDSupplier_PRPA_IN201305UV02_Cancel"
      SOAP 1.2 binding              -> "PDSupplier_Binding_Soap12"
1935 SOAP 1.2 port                 -> "PDSupplier_Port_Soap12"

```

The following WSDL snippets specify the Patient Demographics Query Port Type and Binding definitions, according to the requirements specified in ITI TF-2x: Appendix V.

#### 3.47.4.2.3.1.1 Port Type

```

1940 <portType name="PDSupplier_PortType">
      <operation name="PDSupplier_PRPA_IN201305UV02">
<input message="tns:PRPA_IN201305UV02_Message" wsaw:Action="urn:hl7-
org:v3:PRPA_IN201305UV02"/>
1945 <output message="tns:PRPA_IN201306UV02_Message" wsaw:Action="urn:hl7-
org:v3:PRPA_IN201306UV02"/>
      </operation>
      <operation name="PDSupplier_QUQI_IN000003UV01_Continue">
<input message="tns:QUQI_IN000003UV01_Message" wsaw:Action="urn:hl7-
org:v3:QUQI_IN000003UV01_Continue"/>
1950 <output message="tns:PRPA_IN201306UV02_Message" wsaw:Action="urn:hl7-
org:v3:PRPA_IN201306UV02"/>
      </operation>
      <operation name="PIXManager_QUQI_IN000003UV01_Cancel">
1955 <input message="tns:QUQI_IN000003UV01_Message" wsaw:Action="urn:hl7-org:v3:
QUQI_IN000003UV01_Cancel"/>

```

```
<output message="tns:MCCI_IN000002UV01_Message" wsaw:Action="urn:hl7-
org:v3:MCCI_IN000002UV01"/>
</operation>
</portType>
```

### 1960 3.47.4.2.3.1.2 Bindings

SOAP 1.2 binding:

```
...
  <binding name="PDSupplier_Binding_Soap12" type="PDSupplier_PortType">
    <wssoap12:binding style="document"
1965 transport="http://schemas.xmlsoap.org/soap/http"/>
    <operation name="PDSupplier_PRPA_IN201305UV02">
      <wssoap12:operation soapAction="urn:hl7-org:v3:PRPA_IN201305UV02"/>
      <input>
1970      <wssoap12:body use="literal"/>
      </input>
      <output>
      <wssoap12:body use="literal"/>
      </output>
    </operation>
1975 <operation name="PDSupplier_QUQI_IN000003UV01_Continue">
      <wssoap12:operation soapAction="urn:hl7-
org:v3:QUQI_IN000003UV01_Continue"/>
      <input>
      <wssoap12:body use="literal"/>
1980 </input>
      <output>
      <wssoap12:body use="literal"/>
      </output>
    </operation>
1985 <operation name="PDSupplier_QUQI_IN000003UV01_Cancel">
      <wssoap12:operation soapAction="urn:hl7-org:v3:
QUQI_IN000003UV01_Cancel"/>
      <input>
      <wssoap12:body use="literal"/>
1990 </input>
      <output>
      <wssoap12:body use="literal"/>
      </output>
    </operation>
1995 </binding>
...
```

An informative WSDL for the Patient Demographics Supplier implementing the PDQV3 profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

2000    **3.47.4.2.3.2 Message Examples**

Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

**3.47.4.3 Patient Demographics Query HL7V3 Continuation**

**3.47.4.3.1 Trigger Events**

2005    A Patient Demographics Consumer's need to get another set of matching records to a previously sent Patient Demographics query will trigger the Patient Demographics Query Continuation based on the following HL7 trigger event:

**Query General Activate Query Continuation (QUQL\_TE000003UV01)**

2010    An application, in the role of Query Placer, sends a query continuation message to request that the application return up to a specified number of matching records based on a previous demographics query.

**3.47.4.3.2 Message Semantics**

2015    The Query continuation is supported by the Query Control Act Request Continue / Cancel (QUQL\_MT000001UV01) message. The Patient Demographics Consumer shall generate the continuation message whenever it needs to receive another set of matching records based on the results of a previously sent query.

2020    If the Supplier supports the Continuation Option, it shall respond to the continuation request by sending the Patient Registry Find Candidates Response message (PRPA\_MT201310), which uses the Application Level Acknowledgement transmission wrapper. This satisfies the requirements of original mode acknowledgment; no intermediate Accept Acknowledgement is to be sent.

If a cancellation request is sent by the Patient Demographics Consumer, then the receiver shall respond by sending an Accept Acknowledgement (see ITI TF-2x: Appendix O for the descriptions of the Accept Acknowledgement transmission wrapper).

**3.47.4.3.2.1 Major Components of the Query Continuation Message**

2025    This message contains no domain payload, it is built from a transmission and control act wrappers.

**3.47.4.3.2.2 Message Information Model of the Query Continuation Message**

2030    Please see ITI TF-2x: Appendix O for the description of the transmission and control act wrappers used by this message. The next section discusses the wrappers, and the specific constraints relevant to this transaction.

### 3.47.4.3.2.3 Control Act and Transmission Wrappers

Please see ITI TF-2x: Appendix O for details on the IHE guidelines for implementing the wrappers. Table 3.47.4.3.2-1 contains the Transmission and Control Act wrappers used for this interaction, and the associated constraints.

2035

**Table 3.47.4.3.2-1 Wrappers and Constraints**

Transmission Wrapper	Trigger Event Control Act Wrapper
MCCI_MT000300UV01 – Send Application Acknowledgement	QUQI_MT000001UV01 – Query Control Act Request Continue / Cancel
The value of interactionId SHALL be set to QUQI_IN000003UV01 The value of processingModeCode SHALL be set to T The acceptAckCode SHALL be set to AL There SHALL be only one receiver Device The Acknowledgement.typeCode SHALL be set to AA The TargetMessage.id SHALL be the message ID of the immediately preceding Query response message	The trigger event code in ControlActProcess.code SHALL be set to PRPA_TE000003UV01 QueryContinuation.queryId SHALL be set to the original query identifier

The composite message schemas which describe the full payload of this interaction, including the wrappers, can be found online on the IHE FTP site, see ITI TF-2x: Appendix W (the schemas from the HL7 V3 2008 Normative Edition can be found at [Edition2008/processable/multicacheschemas/QUQI\\_IN000003UV01.xsd](#))

2040

### 3.47.4.3.2.4 Web Services Types and Messages

The Query Continuation message will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

The following WSDL naming conventions SHALL apply:

query continuation -> "QUQI\_IN000003UV01\_Message"

2045

The following WSDL snippet describes the type for this message:

```
...
<types>
<xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
xmlns:hl7="urn:hl7-org:v3">
2050 <!-- Include the message schema -->
<xsd:import namespace="urn:hl7-org:v3"
schemaLocation="../../../schema/HL7V3/NE2008/multicacheschemas/QUQI_IN000003UV01.xsd"/>
<xsd:element name="QUQI_IN000003UV01"/>
2055 </xsd:schema>
</types>
...
```

The message is described by the following snippet:

2060     ...  
          <message name="QUQI\_IN000003UV01\_Message">  
          <part element="hl7:QUQI\_IN000003UV01" name="Body"/>  
          </message>  
          ...

2065     The port types for the WSDL describing the Patient Demographics Service are described together with the expected actions of the actors which receive these messages in section ITI TF-2b: 3.47.4.2.3.

### 3.47.4.3.3 Expected Actions

2070     If a number of records is specified in the *initialQuantity* of the original quantity, and the Patient Demographics Supplier supports the Continuation Option, the Patient Demographics Supplier Actor shall return an incremental response of that number of records when the number of matching records it finds exceeds the number of records specified. In subsequent query continuation messages, the Patient Demographics Consumer may specify a different number of records to be returned from now on for this query session by populating the *continuationQuantity* attribute. In addition, the consumer may specify from which record the next set of matches should start by populating the *startResultNumber* attribute. If the Patient Demographics Supplier does not support the Continuation Option and the number of matching records to the original query exceeds the number specified, then, in addition to returning up to that number of records, the Supplier shall return AE (application error) in the Acknowledgement.typeCode (transmission wrapper) and AE (application error) in QueryAck.queryResponseCode (control act wrapper).

2080     The Patient Demographics Supplier shall always populate the *resultTotalQuantity*, *resultCurrentQuantity*, and *resultRemainingQuantity* in the *QueryAck* class. This information will indicate to the Patient Demographics Consumer whether there are any remaining records to be returned in subsequent continuations.

2085     The Patient Demographics Consumer shall indicate a query session cancellation by sending a continuation message, and setting the continuationQuantity attribute to 0, and setting the statusCode to "aborted". In such case, the Patient Demographics Supplier shall respond with an Accept Acknowledgement (as described in ITI TF-2x: Appendix O).

2090     Sending a query cancellation message is optional. The Patient Demographics Supplier may simply not send any continuation messages once a record has been selected. How long the Patient Demographic Supplier retains query results (for incremental response) is an implementation decision and therefore beyond the scope of IHE.

#### 3.47.4.3.3.1 Web Services Port Type and Binding Definitions

This information is part of the specification of the Patient Demographics Query response in ITI TF-2b: 3.47.4.2.3.1.

- 2095 An informative WSDL for the Patient Demographics Supplier implementing the PDQV3 profile is available online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### **3.47.4.2.3.2 Message Examples**

Message examples can be found online on the IHE FTP site, see ITI TF-2x: Appendix W.

#### **3.47.5 Security Requirements**

- 2100 This transaction is generally used in profiles that require actors to be grouped with a Secure Node as defined in the IHE Audit Trail and Node Authentication Integration profile. This use of the ATNA profile in an XDS Affinity Domain does not require a centralized XDS Affinity Domain Audit Record Repository.
- 2105 The use of ATNA along with XDS does require that each member of the XDS Affinity Domain have audit and security mechanisms in place. See ITI TF-1: Appendix G and ITI TF-2x: Appendix K.
- The individual actors involved are often members of different secure domains. The data transfers between different secure domains need different protection than transfers within a secure domain and shall be encrypted with TLS authentication of both hosts.
- 2110 Transfers within a single secure domain may choose to omit encryption if it is unnecessary, so it is recommended that the online transfer security mechanisms be configurable. Certificate management and exchange is defined as part of the XDS Affinity Domain business relationships and no IHE Integration Profile is specified at this time, see ITI TF-1: Appendix L.
- 2115 Each transaction will result in audit records describing the transaction. Each secure domain has its own audit server to capture the records for the actors that are within that domain. Access to audit records by other enterprises within the XDS Affinity Domain is managed and controlled by the business relationship terms of the XDS Affinity Domain. There is no automatic IHE transaction for such access.



*Change the existing Appendix E to Section E.1 in Appendix E, and adjust all sub-section numbers. The following is added as E.2.*

## 2120 **Appendix E: IHE Requirements for Patient Identifier Data Types in HL7 Messages**

### **E.2 HL7 V3 II Data Type**

- 2125 The Health Level Seven Standard Version 3 (HL7 V3) uses data type II to express an identifier that uniquely identifies a thing or object (see HL7 Version 3 Standard Data Types), including medical record number or other patient identifiers. We discuss here how IHE IT Infrastructure profiles the use of II data type to express patient identifiers in HL7 V3 messages and HL7 V3 CDA Document Templates defined or referenced in this Technical Framework. In the following text of this section, all requirements for the II data type are specified solely in the context of patient identifier expression.
- 2130 Since IHE adds additional constraints to the II data type, requirements for populating its elements vary slightly, depending on what actor is originating a transaction (or create a CDA document), in which Patient ID is expressed. If the Patient Identifier Cross-reference Manager is the source of the Patient ID in a message, the requirements (specifically, with respect to populating the assigningAuthorityName elements) are more rigorous than otherwise.
- 2135 The IHE IT Infrastructure Technical Framework adds constraints to the II data type for Patient ID expression in HL7 V3 messages or CDA documents, in order to maintain compatibility with the explicit relationship between a Patient ID Domain (assigning authority) and a Patient ID issued in the Domain present in the HL7 V2 CX data type. In HL7 V2 messages defined in the IHE IT Infrastructure Technical Framework, Patient ID is expressed in the form of an identifier value (CX.ID) issued in a domain (CX.AssigningAuthority) (seeITI TF-2x: E.1). Even though
- 2140 HL7 V3 provides additional mechanisms for an explicit expression of the key concept of Patient ID Domain (via scoping organizations), the constraints added to the II data type in this section enable a seamless interoperability among HL7 V2 messages, HL7 V3 messages, as well as CDA documents, which may participate in the same IHE IT Infrastructure Integration Profile.
- 2145 At the same time, it is also important to represent the RIM-based association between assigning authority and patient identifiers, which is expected by systems using the rich semantics of the RIM. In order to achieve that IHE imposes several constraints regarding patient IDs on the HL7 V3 models used in IHE transactions:
- 2150 1. Identifiers for the patient are class attributes of a specific role, and never of the Person class of the patient.

2. When the Patient role is scoped by a Provider organization, only patient IDs assigned by the provider organization are allowed in the Patient class, the root element of the patient IDs shall match the root element of the provider organization ID, and the provider organization ID shall have no extension element.
3. When any other role associated with the Person class of the patient is scoped by an organization, the root element of the role IDs shall match the root element of the scoping organization ID, and the scoping organization ID shall have no extension element.
4. A receiver of an HL7 v3 message shall consider the IDs in all roles associated with the Person class of the patient as valid patient IDs.
5. A receiver of an HL7 v3 message shall not be required to maintain the various roles associated with the Person class of the patient, as long as, when becoming a sender, it can appropriately send all relevant patient IDs according to the requirements of a particular transaction.

## E.2.1 Patient Identifier Cross-reference Manager requirements

The Patient Identifier Cross-reference Manager is expected to have access to complete information for a Patient ID value and its issuing Patient ID Domain (assigning authority). To facilitate interoperability, it is required that the Patient Identifier Cross-reference Manager provide all this information in an instance of II the data type to express Patient ID. Table E-2 specifies the requirements of the II data type to the Patient Identifier Cross-reference Manager.

**Table E-2.1-1 Usage of HL7 V3 II Data Type by the PIX Manager**

Name	Type	Opt	Name
Root	OID	R	An ISO OID of the Patient ID Domain (assigning authority) that guarantees the global uniqueness of the patient identifier.
Extension	ST	R+	A character string as a unique identifier within the scope of the Patient ID Domain (assigning authority) represented by the identifier root.
assigningAuthorityName	ST	R+	A human readable name or mnemonic for the assigning authority. The Assigning Authority Name has no computational value. The purpose of a Assigning Authority Name is to assist an unaided human interpreter of an II value to interpret the authority. Note: no automated processing must depend on the assigning authority name to be present in any form.
Displayable	BL	O	Specifies if the identifier is intended for human display and data entry (displayable = true) as opposed to pure machine interoperation (displayable = false).

IHE specifies that the Patient Identifier Cross-reference Manager must populate both elements root and extension for Patient ID Domain and Patient ID value, respectively, and element root must be an ISO OID. If the same patient identifier is populated in a HL7 V2 message, element root and extension shall correspond to CX.4.2 and CX.1, respectively, and CX.4.3 shall be ISO (see ITI TF-2x: E.1).

In addition, IHE requires that the Patient Identifier Cross-reference Manager populates element assigningAuthorityName. Though there is no additional requirement for the data type of this element than a text string in a HL7 V3 message or CDA document, it shall be the same value as populated in CX.4.1, if the actor participates in transactions of both HL7 V3 and HL7 V2 messages. In this case, element assigningAuthorityName shall contain a value of HL7 V2 data type IS, a code taken from user-defined Table 0363, *Assigning Authority*, see ITI TF-2x: E.1.

## E.2.2 Other actor requirements

The patient identifier information may also appear in HL7 V3 messages or CDA documents generated by other IHE Actors, including the Patient ID Cross-reference Consumer, the Patient Information Source, XDS Document Source. Table E-3 specifies requirements for these actors when populating a value of the II data type to express a patient identifier.

**Table E-2.2-2: Usage of HL7 Data Type CX by other IHE Actors**

Name	Type	Opt	Name
Root	OID	R	An ISO OID of the Patient ID Domain (assigning authority) that guarantees the global uniqueness of the patient identifier.
Extension	ST	R+	A character string as a unique identifier within the scope of the Patient ID Domain (assigning authority) represented by the identifier root.
assigningAuthorityName	ST	O	A human readable name or mnemonic for the assigning authority. The Assigning Authority Name has no computational value. The purpose of a Assigning Authority Name is to assist an unaided human interpreter of an II value to interpret the authority. Note: no automated processing must depend on the assigning authority name to be present in any form.
Displayable	BL	O	Specifies if the identifier is intended for human display and data entry (displayable = true) as opposed to pure machine interoperation (displayable = false).

These actors are not required to provide a value for element assigningAuthorityName. However, if they choose to provide a value of this element and generate both HL7 V2 messages and HL7

V3 messages or CDA documents, the same requirement for the Patient Identifier Cross-reference Manager (ITI TF-2x: E.2.1) applies.

### E.2.3 Examples of use

2195 The similar case of Metropolitan Medical Center in ITI TF-2x: E.1.3 is used to provide HL7 V3 II data type for patient identifier expression in this section. Since element root of the II data type is always required and must be an ISO OID, the example case is adopted (compared to ITI TF-2x: E.1.3).

#### E.2.3.1 Data sent by source systems

- 2200 The source systems provide data to the Patient Identifier Cross-reference Manager. These data are sent in a Patient Identity Feed HL7 V3 transaction [ITI-44].
- Patient Smith's Social Security number is 999-99-4452. This number is assigned by the U.S. Social Security Administration, which uses a known ISO Object Identifier for issuing the Social Security Numbers, 2.16.840.1.113883.4.1.<sup>1</sup>
  - 2205 • Patient Smith's medical record number is 9990-99497. This number is assigned by Metropolitan Medical Center. The ISO OID of its medical record number domain is 1.2.xx.yyyyy.123.4567<sup>2</sup>.
  - Patient Smith's medical insurance number is 99998410. This number is assigned by MLH Life & Casualty Company, whose ISO OID for issuing insurance numbers is
  - 2210 1.2.xxx.yyyyy.987.6543<sup>2</sup>

The source system will include the patient identifier information of the II data type in a HL7 V3 message generated for the Patient Identity Feed transaction or Patient Identity Cross-Reference or Patient Demographics Query Request as shown in the following:

```
2215 <identifiedPerson>
      <id root="2.16.840.1.113883.4.1" extension="999-99-4452"
/>
      <id root="1.2.xx.yyyyy.123.4567" extension="9990-99497"
/>
      <id root="1.2.xx.yyyyy.987.6543" extension="99998410" />
2220 :
    </identifiedPerson>
```

---

<sup>1</sup> As registered in the HL7 OID registry at <http://www.hl7.org/oid/index.cfm>

<sup>2</sup> These OIDs are fictitious, which is emphasized by the incorrect formatting using letters

### E.2.3.2 Data sent by the Patient Identifier Cross-reference Manager

2225 The Patient Identifier Cross-reference Manager implements HL7 V2 Table 0363, *Assigning Authority*, which includes the names of identifier domains (assigning authorities) used in the example of ITI TF-2x: E.2.3.1:

- US Social Security Administration: USSSA
- Medical record number domain of Metropolitan Medical Center: 99MMC
- 2230 • Insurance number domain of MLH Life & Casualty Company: 99MLHLIFE

To send the patient identifiers, the Patient Identifier Cross-reference Manager builds a HL7 V3 message as follows:

```
2235     <identifiedPerson>
          <id root="2.16.840.1.113883.4.1" extension="999-99-4452"
assigningAuthorityName="USSSA"/>
          <id root="1.2.xx.yyyyyy.123.4567" extension="9990-99497"
assigningAuthorityName="99MMC"/>
          <id root="1.2.xx.yyyyyy.987.6543" extension="99998410"
2240 assigningAuthorityName="99MLHLIFE"/>
          :
          :
     </identifiedPerson>
```

2245

## Appendix O HL7 v3 Transmission and Trigger Event Control Act Wrappers

*Add this section to describe the HL7v3 attributes in the Transmission and Trigger Event Control Act Wrappers.*

2250 An HL7 Version 3 Interaction is composed of 2 parts:

1. An "HL7 Transmission wrapper(s)" (always)
2. The "HL7 Transmission Content" (optional)

### O.1 HL7 V3 Transmission Wrappers

2255 An "HL7 Transmission wrapper" includes information needed by a sending application or message handling service to package and route the V3 interaction to the designated receiving application(s) and/or message handling service(s). This wrapper also includes attributes that influence the message handling behavior of the receiving application that is consistent with the HL7 defined messaging interaction for which the interaction has been created.

*NOTE: These wrappers loosely equate to the MSH, MSA, and ERR segments in HL7 v2.5.*

2260 All HL7 Version 3 interactions have an appropriately configured "HL7 Transmission wrapper".

The HL7 Transmission Wrapper exists in two different forms:

1. The Message Transmission Wrapper. This wrapper contains zero or one instances of HL7 Transmission Content.
2. The Batch Transmission Wrapper. This wrapper contains zero or more Message Transmission Wrappers. Each Message Transmission Wrapper contains zero or one instances of HL7 Transmission Content. The Batch wrapper is occasionally used to group Message Transmissions.

2270 An interaction that has the Message Transmission Wrapper as its "outermost" wrapper is commonly referred to as a "message" or a "message-based interaction". An interaction that has the Batch Transmission Wrapper as its "outermost" wrapper is commonly referred to as a "batch" or a "batch-based interaction".

For the Refined Message Information Models, Hierarchical Message Definitions and Message Type Table Views, refer to:

[http://hl7.org/v3ballot2007may/html/domains/uvci/uvci\\_GenericMessageTransmission.htm](http://hl7.org/v3ballot2007may/html/domains/uvci/uvci_GenericMessageTransmission.htm)

2275 **O.1.1 Send Message Payload Information Model (MCCI\_RM000100IHE)**

Below is the Message Information Model for this transmission wrapper. The purpose of the model is to describe the data elements relevant for use with IHE transactions based on HL7 V3 messages. It is a strict subset of the *Send Message Payload (MCCI\_RM000100UV01)* RMIM, which can be found on the HL7 V3 2008 Edition CD at:

2280 [Edition2008/domains/uvci/editable/MCCI\\_RM000100UV.htm](http://Edition2008/domains/uvci/editable/MCCI_RM000100UV.htm)

The following restrictions were made on the original RMIM to arrive at the restricted model:

- The following optional class attributes have been omitted:

- Message.profileId
- Message.responseCode
- 2285 • Message.attachmentText
- Sender.telecom
- Receiver.telecom
- Device.desc
- Device.existenceTime

- 2290 • The following optional classes have been omitted:

- AttentionLine
- RespondTo
- LocatedEntity
- 2295 • scopedRole(Organization)

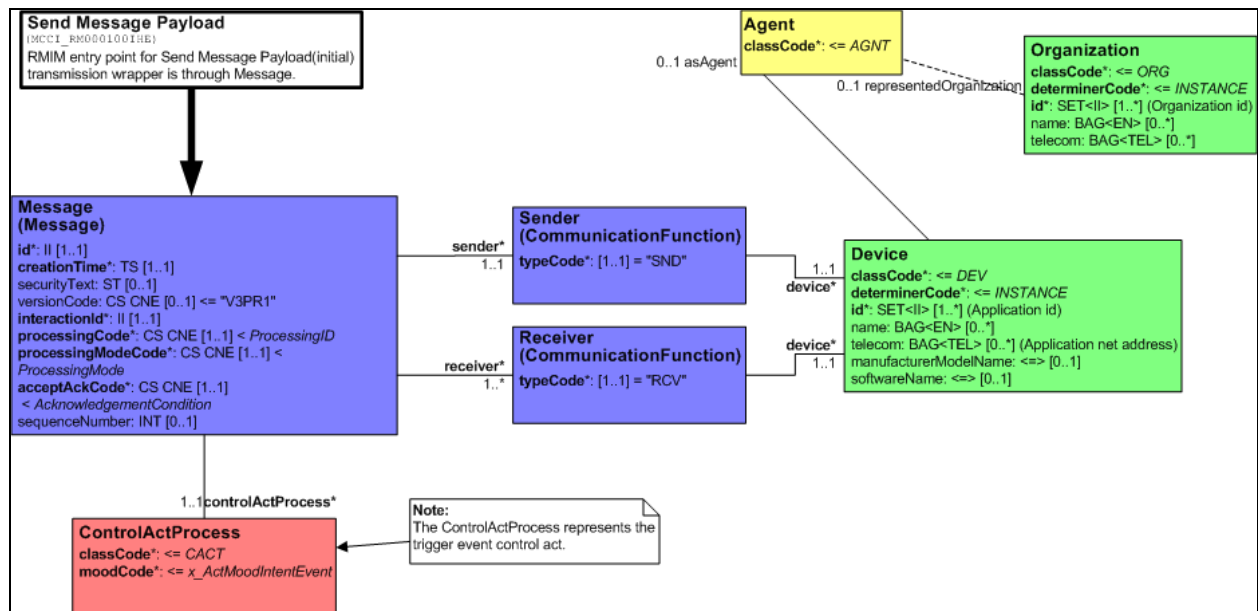


Figure O.1.1-1

The attributes of this model are described in the following table.

Table O.1.1-1

MCCI_HD000100IHE Send Message Payload	This HMD extract defines the transmission wrapper used to send HL7 V3 Message Payload. Derived from Figure O.1.1-1 (MCCI_RM000100IHE)
<b>Message</b>	The transmission focal class. According of the XML ITS, the root XML element representing this class will be the HL7 interaction ID
id [1..1] (M) Transmission (II)	Unique message ID
creationTime [1..1] (M) Transmission (TS)	Time stamp representing the time the message was created. Note that this is different from the time when the event which triggered the message occurred.
versionCode [0..1] Message (CS) {CNE:HL7StandardVersionCode, default= "V3PR1"}	The HL7 Version used in this message
interactionId [1..1] (M) Message (II)	The HL7 Interaction ID represented by this message
processingCode [1..1] (M) Message (CS) {CNE:ProcessingID}	This attribute defines whether the message is part of a production, training, or debugging system. Valid values are D (Debugging), T (Testing), P (Production) – see <a href="http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingID.htm">http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingID.htm</a>



<b>MCCI_HD000100IHE Send Message Payload</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Message Payload. Derived from Figure O.1.1-1 (MCCI_RM000100IHE)</b>
processingModeCode [1..1] (M) Message (CS) {CNE:ProcessingMode}	This attribute defines whether the message is being sent in current processing, archive mode, initial load mode, restore from archive mode, etc. Valid values are A (Archive), T (Current processing), I (Initial Load), R (Restore from archive) – see <a href="http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingMode.htm">http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingMode.htm</a>
acceptAckCode [1..1] (M) Message (CS) {CNE:AcknowledgementCondition}	Acknowledgement Condition codes describe the conditions under which accept or application level acknowledgements are required to be returned in response to the message send operation. Valid values are AL (Always), ER (Error/reject only), NE (Never).
sequenceNumber [0..1] Message (INT)	An optional sequence number.
<b>Sender</b>	
typeCode [1..1] (M) CommunicationFunction (CS) {CNE:SND, fixed value= "SND"}	Structural attribute; this is a "Sender" communication function
<b>Receiver</b>	
typeCode [1..1] (M) CommunicationFunction (CS) {CNE:RCV, fixed value= "RCV"}	Structural attribute; this is a "Receiver" communication function
<b>Device</b>	
classCode [1..1] (M) Entity (CS) {CNE:DEV, default= "DEV"}	Structural attribute; this entity is a "Device"
determinerCode [1..1] (M) Entity (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific device
id [1..*] (M) Entity (SET<II>)	The application ID(s). IHE restriction: id.root SHALL be an ISO OID, and id.extension SHALL NOT have a value.
name [0..*] Entity (BAG<EN>)	Optional Sender or Receiver name
telecom [0..*] Entity (BAG<TEL>)	Optional network address of the application
manufacturerModelName [0..1] Device (SC)	Optional application brand name
softwareName [0..1] Device (SC)	Optional software name
<b>Agent</b>	This role links the application with the organization to which it belongs

<b>MCCI_HD000100IHE Send Message Payload</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Message Payload. Derived from Figure O.1.1-1 (MCCI_RM000100IHE)</b>
classCode [1..1] (M) Role (CS) {CNE:AGNT, default= "AGNT"}	Structural attribute; this is the Agent role
<b>Organization</b>	The sender or receiver organization
classCode [1..1] (M) Entity (CS) {CNE:ORG, default= "ORG"}	Structural attribute; this entity is an organization
determinerCode [1..1] (M) Entity (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific organization
id [1..*] (M) Entity (SET<II>)	The organization ID(s). IHE restriction: id.root SHALL be an ISO OID, and id.extension SHALL NOT have a value.
name [0..*] Entity (BAG<EN>)	Optional organization name
telecom [0..*] Entity (BAG<TEL>)	Optional telecommunications address
<b>ControlActProcess</b>	This is the stub where the focal class of the transmission content will be placed in the message.

### O.1.2 Send Accept Acknowledgement Information Model (MCCI\_RM000200IHE)

Below is the Message Information Model for the accept acknowledgment. The purpose of the model is to describe the data elements relevant for use with IHE transactions based on HL7 V3 messages. It is a strict subset of the *Send Accept Acknowledgement (MCCI\_RM000200UV01)* RMIM, which can be found on the HL7 V3 2008 Edition CD at: Edition2008/domains/uvci/editable/MCCI\_RM000200UV.htm

The following restrictions were made on the original RMIM to arrive at the restricted model:

- The following optional class attributes have been omitted:
  - Message.profileId
  - Message.attachmentText
  - Sender.telecom
  - Receiver.telecom
  - Device.desc
  - Device.existenceTime

- 2315
- Acknowledgement.messageWaitingNumber
  - Acknowledgement.messageWaitingPriorityCode
  - The following optional classes have been omitted:
    - AttentionLine
    - RespondTo
- 2320
- LocatedEntity
  - scopedRole(Organization)
  - The following constraints have been applied:
    - Message.acceptAckCode is fixed to NE (don't ack an ack)
    - Acknowledgment is a required class
- 2325

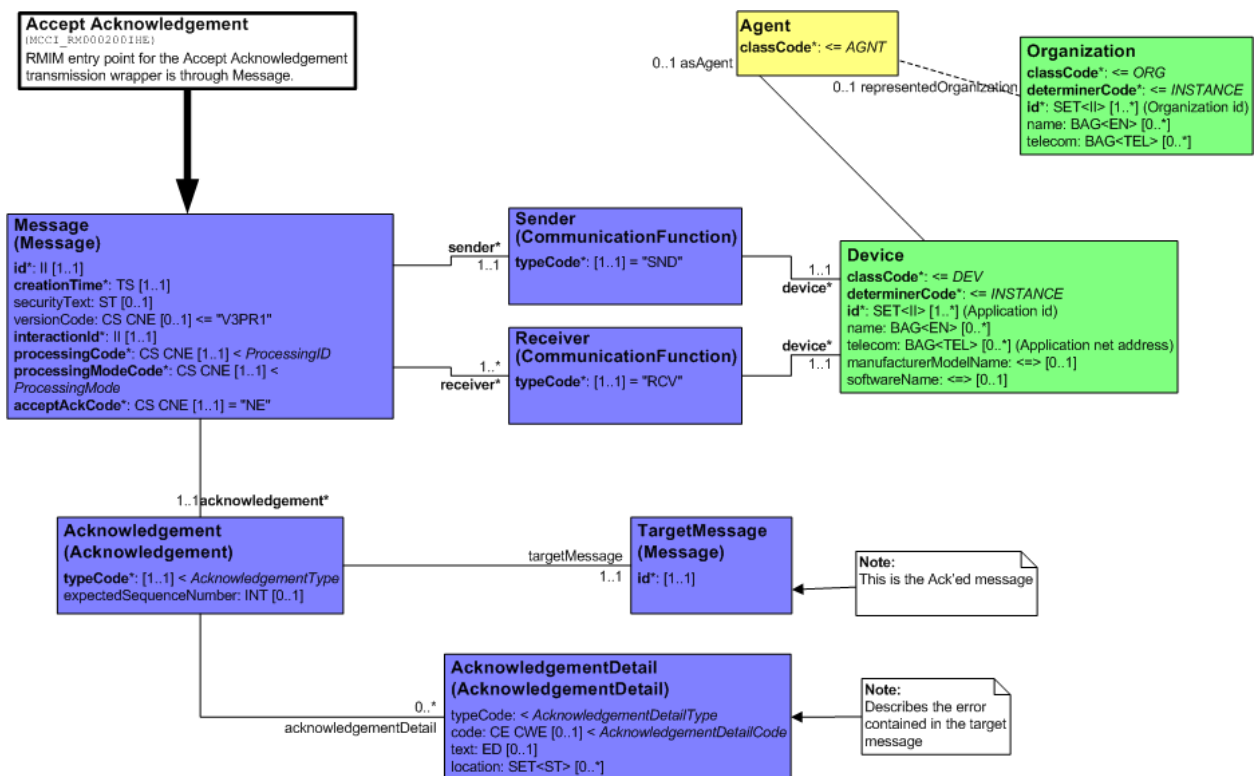


Figure O.1.2-1

The attributes of this model are described in the following table:

2330

**Table O.1.2-1**

<b>MCCI_HD000200IHE Send Accept Acknowledgement</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Accept Acknowledgement. Derived from Figure O.1.2-1 (MCCI_RM000200IHE)</b>
<b>Message</b>	The transmission focal class. According of the XML ITS, the root XML element representing this class will be the HL7 interaction ID
id [1..1] (M) Transmission (II)	Unique message ID of the acknowledgment
creationTime [1..1] (M) Transmission (TS)	Time stamp representing the time the message was created. Note that this is different from the time when the event which triggered the message occurred.
versionCode [0..1] Message (CS) {CNE:HL7StandardVersionCode, default= "V3PR1"}	The HL7 Version used in this message
interactionId [1..1] (M) Message (II)	The HL7 Interaction ID represented by this message
processingCode [1..1] (M) Message (CS) {CNE:ProcessingID}	This attribute defines whether the message is part of a production, training, or debugging system. Valid values are D (Debugging), T (Testing), P (Production) – see <a href="http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingID.htm">http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingID.htm</a>
processingModeCode [1..1] (M) Message (CS) {CNE:ProcessingMode}	This attribute defines whether the message is being sent in current processing, archive mode, initial load mode, restore from archive mode, etc. Valid values are A (Archive), T (Current processing), I (Initial Load), R (Restore from archive) – see <a href="http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingMode.htm">http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingMode.htm</a>
acceptAckCode [1..1] (M) Message (CS) {CNE:AcknowledgementCondition, fixed="NE"}	Acknowledgement Condition codes describe the conditions under which accept or application level acknowledgements are required to be returned in response to the message send operation. Fixed to NE (Never) as this is an acknowledgment itself.
<b>Sender</b>	The sender is the one which is acknowledging the receipt of a message
typeCode [1..1] (M) CommunicationFunction (CS) {CNE:SND, fixed value= "SND"}	Structural attribute; this is a "Sender" communication function
<b>Receiver</b>	The receiver in the one which sent the message being acknowledged
typeCode [1..1] (M) CommunicationFunction (CS) {CNE:RCV, fixed value= "RCV"}	Structural attribute; this is a "Receiver" communication function
<b>Device</b>	
classCode [1..1] (M) Entity (CS) {CNE:DEV, default= "DEV"}	Structural attribute; this entity is a "Device"
determinerCode [1..1] (M)	Structural attribute; this is a specific device

<b>MCCI_HD000200IHE Send Accept Acknowledgement</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Accept Acknowledgement. Derived from Figure O.1.2-1 (MCCI_RM000200IHE)</b>
Entity (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	
id [1..*] (M) Entity (SET<II>)	The application ID(s). IHE restriction: id.root SHALL be an ISO OID, and id.extension SHALL NOT have a value.
name [0..*] Entity (BAG<EN>)	Optional Sender or Receiver name
telecom [0..*] Entity (BAG<TEL>)	Optional network address of the application
manufacturerModelName [0..1] Device (SC)	Optional application brand name
softwareName [0..1] Device (SC)	Optional software name
<b>Agent</b>	This role links the application with the organization to which it belongs
classCode [1..1] (M) Role (CS) {CNE:AGNT, default= "AGNT"}	Structural attribute; this is the Agent role
<b>Organization</b>	The sender or receiver organization
classCode [1..1] (M) Entity (CS) {CNE:ORG, default= "ORG"}	Structural attribute; this entity is an organization
determinerCode [1..1] (M) Entity (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific organization
id [1..*] (M) Entity (SET<II>)	The organization ID(s). IHE restriction: id.root SHALL be an ISO OID, and id.extension SHALL NOT have a value.
name [0..*] Entity (BAG<EN>)	Optional organization name
telecom [0..*] Entity (BAG<TEL>)	Optional telecommunications address
<b>Acknowledgement</b>	
typeCode [1..1] (M) Acknowledgement (CS) {CNE:AcknowledgementType}	The acknowledgement type. Since this is an Accept Acknowledgement, the possible values are CA (Accept Acknowledgement Commit Accept), CE (Accept Acknowledgement Commit Error), or CR (Accept Acknowledgement Commit Reject).
expectedSequenceNumber [0..1] Acknowledgement (INT)	

<b>MCCI_HD000200IHE Send Accept Acknowledgement</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Accept Acknowledgement. Derived from Figure O.1.2-1 (MCCI_RM000200IHE)</b>
<b>TargetMessage</b>	The message being acknowledged
id [1..1] (M) Transmission (II)	Unique message ID of the message being acknowledged
<b>AcknowledgementDetail</b>	Describes the error(s) contained in the target message
typeCode [0..1] AcknowledgementDetail (CS) {CNE:AcknowledgementDetailType}	Optional detail type indicating if the problem was an error (E), a warning (W), or informational (I).
code [0..1] AcknowledgementDetail (CE) {CWE:AcknowledgementDetailCode}	An optional coded value, representing the acknowledgement detail being transmitted.
text [0..1] AcknowledgementDetail (ED)	Optional description of the acknowledgement detail being transmitted
location [0..*] AcknowledgementDetail (SET<ST>)	The location within the message where the problem occurred. It is recommended that this is represented via an XPath expression.

The Accept Acknowledgement does not contain any additional content defined elsewhere. It will be transmitted using Web Services, according to the requirements specified in ITI TF-2x: Appendix V.

The following WSDL naming conventions SHALL apply:

2335        accept acknowledgment        -> "MCCI\_IN000002UV01\_Message"

The following WSDL snippet describes the type for this message:

```

...
<types>
  <xsd:schema elementFormDefault="qualified"
2340   targetNamespace="urn:hl7-org:v3"
    xmlns:hl7="urn:hl7-org:v3">
    <!-- Include the message schema -->
    <xsd:import namespace="urn:hl7-org:v3"
2345     schemaLocation="../schema/HL7V3/NE2008/multicacheschemas/MCCI_IN0
      00002UV01.xsd"/>
    <xsd:element name="MCCI_IN000002UV01"/>
    </xsd:schema>
  </types>
...

```

2350    The message is described by the following snippet:

```

...
<message name="MCCI_IN000002UV01_Message">

```

```
<part element="hl7:MCCI_IN000002UV01" name="Body"/>
</message>
```

2355

...

Various WSDL examples describing IHE transactions as web services are found in the transaction definitions in ITI TF-2a and 2b, together with the expected actions of the actors which provide these services.

### **O.1.3 Send Application Acknowledgement Information Model (MCCI\_RM000300IHE)**

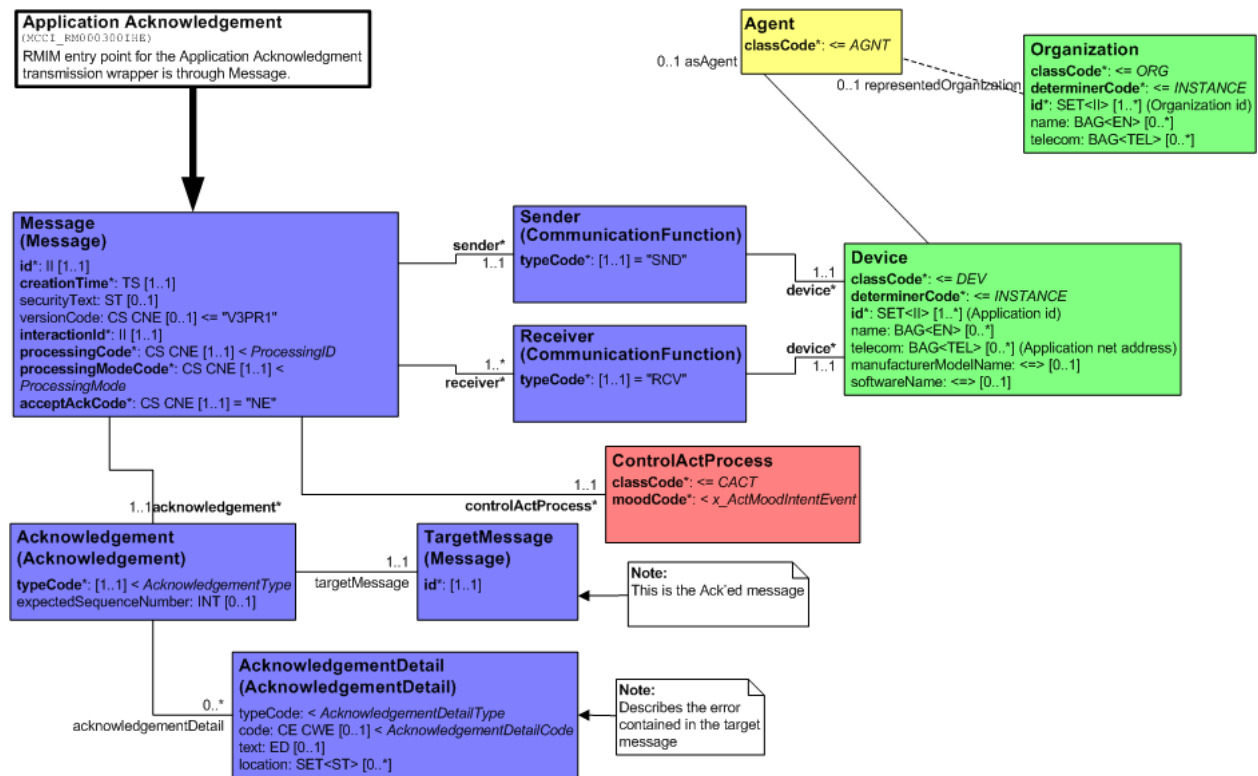
2360

Below is the Message Information Model for the application acknowledgment. The purpose of the model is to describe the data elements relevant for use with IHE transactions based on HL7 V3 messages. It is a strict subset of the *Send Application Acknowledgement (MCCI\_RM000300UV01)* RMIM, which can be found on the HL7 V3 2008 Edition CD at: Edition2008/domains/uvci/editable/MCCI\_RM000300UV.htm

2365

The following restrictions were made on the original RMIM to arrive at the restricted model:

- The following optional class attributes have been omitted:
  - Message.profileId
  - Message.attachmentText
  - 2370 • Sender.telecom
  - Receiver.telecom
  - Device.desc
  - Device.existenceTime
  - Acknowledgement.messageWaitingNumber
  - 2375 • Acknowledgement.messageWaitingPriorityCode
- The following optional classes have been omitted:
  - AttentionLine
  - RespondTo
  - LocatedEntity
  - 2380 • scopedRole(Organization)
- The following constraints have been applied:
  - Message.acceptAckCode is fixed to NE (don't ack an ack)
  - Acknowledgment is a required class



### Figure O.1.3-2

The attributes of this model are described in the following table:

### Table O.1.3-2

<b>MCCI_HD000300IHE</b> <b>Send Application</b> <b>Acknowledgement</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Application Acknowledgement.</b>  <b>Derived from Figure O.1.3-1 (MCCI_RM000300IHE)</b>
<b>Message</b>	The transmission focal class. According of the XML ITS, the root XML element representing this class will be the HL7 interaction ID
id [1..1] (M) Transmission (II)	Unique message ID of the acknowledgment
creationTime [1..1] (M) Transmission (TS)	Time stamp representing the time the message was created. Note that this is different from the time when the event which triggered the message occurred.
versionCode [0..1] Message (CS) {CNE:HL7StandardVersionCode, default= "V3PR1"}	The HL7 Version used in this message



<b>MCCI_HD000300IHE Send Application Acknowledgement</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Application Acknowledgement. Derived from Figure O.1.3-1 (MCCI_RM000300IHE)</b>
interactionId [1..1] (M) Message (II)	The HL7 Interaction ID represented by this message
processingCode [1..1] (M) Message (CS) {CNE:ProcessingID}	This attribute defines whether the message is part of a production, training, or debugging system. Valid values are D (Debugging), T (Testing), P (Production) – see <a href="http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingID.htm">http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingID.htm</a>
processingModeCode [1..1] (M) Message (CS) {CNE:ProcessingMode}	This attribute defines whether the message is being sent in current processing, archive mode, initial load mode, restore from archive mode, etc. Valid values are A (Archive), T (Current processing), I (Initial Load), R (Restore from archive) – see <a href="http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingMode.htm">http://hl7.org/v3ballot2007may/html/infrastructure/vocabulary/ProcessingMode.htm</a>
acceptAckCode [1..1] (M) Message (CS) {CNE:AcknowledgementCondition, fixed="NE"}	Acknowledgement Condition codes describe the conditions under which accept or application level acknowledgements are required to be returned in response to the message send operation. Fixed to NE (Never) as this is an acknowledgment itself.
<b>Sender</b>	The sender is the one which is acknowledging the receipt of a message
typeCode [1..1] (M) CommunicationFunction (CS) {CNE:SND, fixed value= "SND"}	Structural attribute; this is a "Sender" communication function
<b>Receiver</b>	The receiver in the one which sent the message being acknowledged
typeCode [1..1] (M) CommunicationFunction (CS) {CNE:RCV, fixed value= "RCV"}	Structural attribute; this is a "Receiver" communication function
<b>Device</b>	
classCode [1..1] (M) Entity (CS) {CNE:DEV, default= "DEV"}	Structural attribute; this entity is a "Device"
determinerCode [1..1] (M) Entity (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific device
id [1..*] (M) Entity (SET<II>)	The application ID(s). IHE restriction: id.root SHALL be an ISO OID, and id.extension SHALL NOT have a value.
name [0..*] Entity (BAG<EN>)	Optional Sender or Receiver name
telecom [0..*] Entity (BAG<TEL>)	Optional network address of the application
manufacturerModelName [0..1] Device (SC)	Optional application brand name

<b>MCCI_HD000300IHE Send Application Acknowledgement</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Application Acknowledgement. Derived from Figure O.1.3-1 (MCCI_RM000300IHE)</b>
softwareName [0..1] Device (SC)	Optional software name
<b>Agent</b>	This role links the application with the organization to which it belongs
classCode [1..1] (M) Role (CS) {CNE:AGNT, default= "AGNT"}	Structural attribute; this is the Agent role
<b>Organization</b>	The sender or receiver organization
classCode [1..1] (M) Entity (CS) {CNE:ORG, default= "ORG"}	Structural attribute; this entity is an organization
determinerCode [1..1] (M) Entity (CS) {CNE:INSTANCE, fixed value= "INSTANCE"}	Structural attribute; this is a specific organization
id [1..*] (M) Entity (SET<II>)	The organization ID(s). IHE restriction: id.root SHALL be an ISO OID, and id.extension SHALL NOT have a value.
name [0..*] Entity (BAG<EN>)	Optional organization name
telecom [0..*] Entity (BAG<TEL>)	Optional telecommunications address
<b>Acknowledgement</b>	
typeCode [1..1] (M) Acknowledgement (CS) {CNE:AcknowledgementType}	The acknowledgement type. Since this is an Accept Acknowledgement, the possible values are CA (Accept Acknowledgement Commit Accept), CE (Accept Acknowledgement Commit Error), or CR (Accept Acknowledgement Commit Reject).
expectedSequenceNumber [0..1] Acknowledgement (INT)	
<b>TargetMessage</b>	The message being acknowledged
id [1..1] (M) Transmission (II)	Unique message ID of the message being acknowledged
<b>AcknowledgementDetail</b>	Describes the error(s) contained in the target message
typeCode [0..1] AcknowledgementDetail (CS) {CNE:AcknowledgementDetailType}	Optional detail type indicating if the problem was an error (E), a warning (W), or informational (I).
code [0..1] AcknowledgementDetail (CE) {CWE:AcknowledgementDetailCode}	An optional coded value, representing the acknowledgement detail being transmitted.

<b>MCCI_HD000300IHE Send Application Acknowledgement</b>	<b>This HMD extract defines the transmission wrapper used to send HL7 V3 Application Acknowledgement. Derived from Figure O.1.3-1 (MCCI_RM000300IHE)</b>
text [0..1] AcknowledgementDetail (ED)	Optional description of the acknowledgement detail being transmitted
location [0..*] AcknowledgementDetail (SET<ST>)	The location within the message where the problem occurred. It is recommended that this is represented via an XPath expression.
<b>ControlActProcess</b>	The transmission content sent as part of the application acknowledgement.

2390

## O.2 HL7 V3 Transmission Content

The HL7 Transmission Content is comprised of 2 parts:

1. A "Trigger Event Control Act" (required for all messages except accept-level acknowledgements, for which it is not permitted)
2. The "HL7 Domain Content" specified by an HL7 domain specific technical committee (required for each Trigger Event Control Act)

2395

The "Trigger Event Control Act" contains administrative information related to the "controlled act" which is being communicated as a messaging interaction. It is also the part of HL7 messages that can convey status or commands for logical operations being coordinated between healthcare applications, e.g., the coordination of query specification/query response interactions and registry act interactions.

2400

*NOTE: The Trigger Event Control Act loosely equates to the EVN segment in HL7 v2.5.*

The "HL7 Domain Content" is the primary domain content of the messaging interaction (when it is present). It contains domain specific content that is specified by an HL7 technical committee to satisfy a use case driven requirement for an HL7 messaging interaction. If an interaction contains HL7 Domain Content, then it also contains a Trigger Event Control Act.

2405

For the Refined Message Information Models, Hierarchical Message Definitions and Message Type Table Views, refer to the HL7 V3 2008 Edition CD at:

[Edition2008/domains/uvai/uvai\\_TriggerEventControlAct.htm](#) and  
[Edition2008/domains/uvmi/uvmi\\_MasterFile-Registry.htm](#)

2410

### O.2.1 Master File/Registry Event Notification Control Act (Role Subject) Information Model (MFMI\_MT700701IHE)

Below is the Message Information Model for this control act wrapper. The purpose of the model is to describe the data elements relevant for use with IHE transactions based on HL7 V3

messages. It is a strict subset of the *Master File / Registry Event Notification* (MFMI\_RM700700UV01) RMIM, which can be found on the HL7 V3 2008 Edition CD at: Edition2008/domains/uvmi/editable/MFMI\_RM700700UV.htm

The following restrictions were made on the original RMIM to arrive at the restricted model:

- The following optional class attributes have been omitted:
  - ControlActProcess.text
  - ControlActProcess.priorityCode
  - ControlActProcess.reasonCode
- All participations related to the ControlActProcess have been omitted
- The reasonOf act relationship has been omitted
- The following act relationships to the RegistrationEvent have been omitted:
  - inFullfilmentOf
  - definition
  - subject2

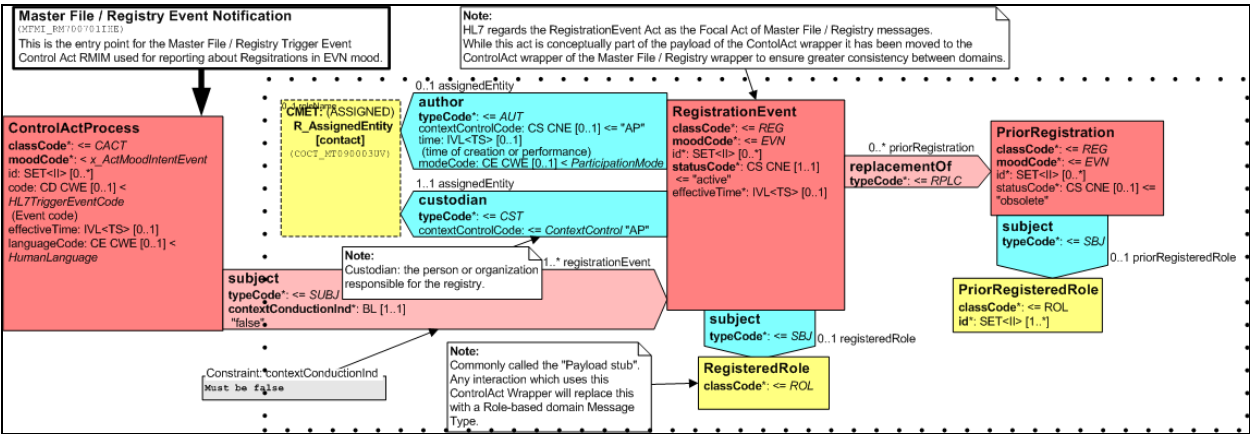


Figure O.2.1-1

The attributes of this model are described in the following table.

Table O.2.1-1

<b>MFMI_HD700701IHE</b> <b>Master File / Registry Event</b> <b>Notification (Role Subject)</b>	<b>This HMD extract defines the control act wrapper used to send HL7</b> <b>V3 master file or registry messages with the subject being a role.</b> <b>Derived from Figure O.2.1-1 (MFMI_RM700701IHE)</b>
--	--

<b>MFMI_HD700701IHE Master File / Registry Event Notification (Role Subject)</b>	<b>This HMD extract defines the control act wrapper used to send HL7 V3 master file or registry messages with the subject being a role. Derived from Figure O.2.1-1 (MFMI_RM700701IHE)</b>
<b>Control Act Process</b>	The entry point from the transmission wrapper
classCode [1..1] (M) Act (CS) {CNE:CACT, default="CACT"}	Structural attribute; this is a Control Act
moodCode [1..1] (M) Act (CS) {CNE:x_ActMoodIntentEvent}	Structural attribute; possible values are INT (intent), RQO (request), EVN (event, occurrence), PRP (proposal), RMD (recommendation), APT (appointment), ARQ (appointment request), or PRMS (promise).
id [0..*] Act (SET<II>)	Optional Control Act ID
code [0..1] Act (CD) {CWE:HL7TriggerEventCode}	The HL7 Trigger Event code
effectiveTime [0..1] Act (IVL<TS>)	Optional time stamp or time interval indication when the ControlActProcess took place
languageCode [0..1] Act (CE) {CWE:HumanLanguage}	Optional language code
<b>subject</b>	Act relationship linking the ControlActProcess to the Registration event
typeCode [1..1] (M) ActRelationship (CS) {CNE:SUBJ, fixed value="SUBJ"}	Structural attribute; this act relationship is "Subject"
contextConductionInd [1..1] (M) ActRelationship (BL){default="false"}	The context conduction Indicator value in this control act wrapper SHALL be 'false'
<b>RegistrationEvent</b>	Although this part of the model has been included in a specialization of the Trigger Event Control Act wrapper for reasons of consistency, it is conceptually part of the payload of a HL7 interaction. The Focal Act of all interactions that use this model is the RegistrationEvent act, not the subject Role.
classCode [1..1] (M) Act (CS) {CNE:REG, fixed value="REG"}	Structural attribute; this act is a registration
moodCode [1..1] (M) Act (CS) {CNE:EVN, fixed value="EVN"}	Structural attribute; this is an occurrence of the act
id [0..*] Act (SET<II>)	Optional registration event identifier(s).
statusCode [1..1] (M) Act (CS) {CNE:ActStatus, default="active"}	The status of the registration event. The default is "active".

<b>MFMI_HD700701IHE Master File / Registry Event Notification (Role Subject)</b>	<b>This HMD extract defines the control act wrapper used to send HL7 V3 master file or registry messages with the subject being a role. Derived from Figure O.2.1-1 (MFMI_RM700701IHE)</b>
effectiveTime [0..1] Act (IVL<TS>)	Optional time stamp or interval indicating when the registration event took place. IHE constraint: if this attribute is valued, the author.time SHALL be valued with the same time expression.
<b>subject</b>	The participation linking the Registration Event to the payload focal role (usually Patient).
typeCode [1..1] (M) Participation (CS) {CNE:SBJ, default="SBJ"}	Structural attribute; this is a "subject" participation
<b>RegisteredRole</b>	The payload stub. Replaced by a role-based payload from the domain content
<b>author</b>	This participation represents the entity which authored the registration. The Assigned Entity SHOULD be a person, MAY be a device or an organization, and SHALL NOT be a non-person living subject.
typeCode [1..1] (M) Participation (CS) {CNE:AUT, fixed value="AUT"}	Structural attribute; this participation is of type "Author"
contextControlCode [0..1] Participation (CS) {CNE:ContextControl, default="AP"}	Optional contextControlCode, the default is "AP"
time [0..1] Participation (IVL<TS>)	Time of creation or performance. IHE constraint: If this attribute is valued, the RegistrationEvent.effectiveTime SHALL be valued with the same time expression
modeCode [0..1] Participation (CE) {CWE:ParticipationMode}	This is the optional participation mode
<b>custodian</b>	The application or organization responsible for the patient identity source. This participation is required. IHE restriction: the assigned entity SHALL be either an organization or a device.
typeCode [1..1] (M) Participation (CS) {CNE:CST, fixed value="CST"}	Structural attribute; this participation id of type "Custodian"
contextControlCode [0..1] Participation (CS) {CNE:ContextControl, default="AP"}	Optional contextControlCode, the default is "AP"
<b>ReplacementOf</b>	The relationship between the current Registration Event and other registration events which are being replaced by the current one.
typeCode [1..1] (M) ActRelationship (CS) {CNE:RPLC, fixed value="RPLC"}	Structural attribute; this is a "Replace" relationship

<b>MFMI_HD700701IHE Master File / Registry Event Notification (Role Subject)</b>	<b>This HMD extract defines the control act wrapper used to send HL7 V3 master file or registry messages with the subject being a role. Derived from Figure O.2.1-1 (MFMI_RM700701IHE)</b>
<b>PriorRegistration</b>	The previous registration event, which is being replaced by the current one. An example is the Resolve Duplicates message, where the prior registration contains the subject role with the identifiers which have been merged into the role of the current registration event.
classCode [1..1] (M) Act (CS) { CNE:REG, fixed value="REG" }	Structural attribute; this act is a registration
moodCode [1..1] (M) Act (CS) { CNE:EVN, fixed value="EVN" }	Structural attribute; this is an occurrence of the act
id [0..*] Act (SET<II>)	Optional prior registration event identifier(s).
statusCode [1..1] (M) Act (CS) { CNE:ActStatus, default="obsolete" }	The status of the registration event. The default is "obsolete".
<b>PriorRegisteredRole</b>	The role subject of the prior registration.
classCode [1..1] (M) Act (CS) { CNE:ROL, fixed value="ROL" }	Structural attribute; this class is a role
id [1..*] (M) Role (SET<II>)	Identifiers of the role subject of the prior registration. Usually contains the merged ID of a patient after duplicate resolution.

## 2435 O.2.2 Master File/Registry Query Response Control Act (Role Subject) Information Model (MFMI\_MT700711IHE)

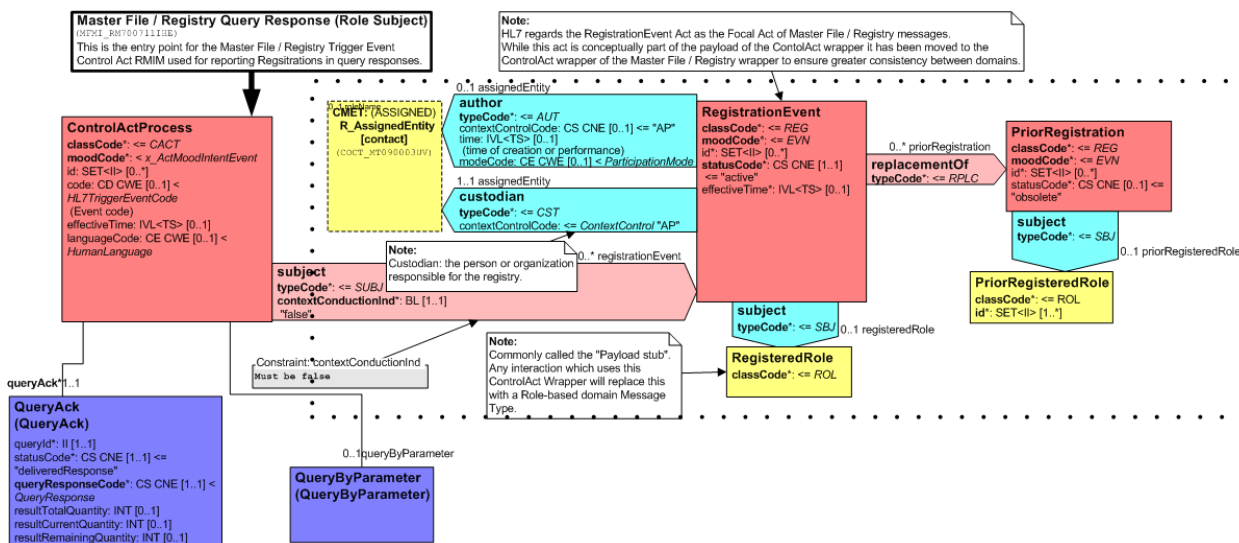
Below is the Message Information Model for this control act wrapper. The purpose of the model is to describe the data elements relevant for use with IHE transactions based on HL7 V3 messages. It is a strict subset of the *Master File / Registry Query Response* (MFMI\_RM700710UV01) RMIM, which can be found on the HL7 V3 2008 Edition CD at: Edition2008/domains/uvmi/editable/MFMI\_RM700710UV.htm. The following restrictions were made on the original RMIM to arrive at the restricted model:

- The following optional class attributes have been omitted:
  - ControlActProcess.text
  - ControlActProcess.priorityCode
  - ControlActProcess.reasonCode
- All participations related to the ControlActProcess have been omitted

- The reasonOf act relationship has been omitted
- The following act relationships to the RegistrationEvent have been omitted:

2450

- inFullfilmentOf
- definition
- subject2



2455

Figure 0.2.2-2

The attributes of this model are described in the following table.

Table 0.2.2-2

MFMI_HD700711IHE Master File / Registry Event Notification (Role Subject)	This HMD extract defines the control act wrapper used to send HL7 V3 master file or registry query responses with the subject being a role.  Derived from Figure 0.2.2-1 (MFMI_RM700711IHE)
<b>Control Act Process</b>	The entry point from the transmission wrapper
classCode [1..1] (M) Act (CS) {CNE:CACT, default="CACT"}	Structural attribute; this is a Control Act
moodCode [1..1] (M) Act (CS) {CNE:x_ActMoodIntentEvent}	Structural attribute; possible values are INT (intent), RQO (request), EVN (event, occurrence), PRP (proposal), RMD (recommendation), APT (appointment), ARQ (appointment request), or PRMS (promise).
id [0..*] Act (SET<II>)	Optional Control Act ID



<b>MFMI_HD700711IHE Master File / Registry Event Notification (Role Subject)</b>	<b>This HMD extract defines the control act wrapper used to send HL7 V3 master file or registry query responses with the subject being a role.  Derived from Figure O.2.2-1 (MFMI_RM700711IHE)</b>
code [0..1] Act (CD) {CWE:HL7TriggerEventCode}	The HL7 Trigger Event code
effectiveTime [0..1] Act (IVL<TS>)	Optional time stamp or time interval indication when the ControlActProcess took place
languageCode [0..1] Act (CE) {CWE:HumanLanguage}	Optional language code
<b>subject</b>	Act relationship linking the ControlActProcess to the Registration event. Note that in the event of a query for which there are no results, the ControlActProcess will still be returned, but no RegistrationEvent will be present.
typeCode [1..1] (M) ActRelationship (CS) {CNE:SUBJ, fixed value= "SUBJ"}	Structural attribute; this act relationship is "Subject"
contextConductionInd [1..1] (M) ActRelationship (BL){default= "false"}	The context conduction Indicator value in this control act wrapper SHALL be 'false'
<b>RegistrationEvent</b>	Although this part of the model has been included in a specialization of the Trigger Event Control Act wrapper for reasons of consistency, it is conceptually part of the payload of a HL7 interaction. The Focal Act of all interactions that use this model is the RegistrationEvent act, not the subject Role. In cases where a query response has no records to return, there will be no RegistrationEvent being returned.
classCode [1..1] (M) Act (CS) {CNE:REG, fixed value= "REG"}	Structural attribute; this act is a registration
moodCode [1..1] (M) Act (CS) {CNE:EVN, fixed value= "EVN"}	Structural attribute; this is an occurrence of the act
id [0..*] Act (SET<II>)	Optional registration event identifier(s).
statusCode [1..1] (M) Act (CS) {CNE:ActStatus, default= "active"}	The status of the registration event. The default is "active".
effectiveTime [0..1] Act (IVL<TS>)	Optional time stamp or interval indicating when the registration event took place. IHE constraint: it this attribute is valued, the author.time SHALL be valued with the same time expression.
<b>subject</b>	The participation linking the Registration Event to the payload focal role (usually Patient).
typeCode [1..1] (M) Participation (CS) {CNE:SBJ, default=	Structural attribute; this is a "subject" participation

<b>MFMI_HD700711IHE Master File / Registry Event Notification (Role Subject)</b>	<b>This HMD extract defines the control act wrapper used to send HL7 V3 master file or registry query responses with the subject being a role.  Derived from Figure O.2.2-1 (MFMI_RM700711IHE)</b>
"SBJ"	
<b>RegisteredRole</b>	The payload stub. Replaced by a role-based payload from the domain content
<b>author</b>	This participation represents the entity which authored the registration. The Assigned Entity SHOULD be a person, MAY be a device or an organization, and SHALL NOT be a non-person living subject.
typeCode [1..1] (M) Participation (CS) {CNE:AUT, fixed value= "AUT"}	Structural attribute; this participation is of type "Author"
contextControlCode [0..1] Participation (CS) {CNE:ContextControl, default= "AP"}	Optional contextControlCode, the default is "AP"
time [0..1] Participation (IVL<TS>)	Time of creation or performance. IHE constraint: If this attribute is valued, the RegistrationEvent.effectiveTime SHALL be valued with the same time expression
modeCode [0..1] Participation (CE) {CWE:ParticipationMode}	This is the optional participation mode
<b>custodian</b>	The application or organization responsible for the patient identity source. This participation is required. IHE restriction: the assigned entity SHALL be either an organization or a device.
typeCode [1..1] (M) Participation (CS) {CNE:CST, fixed value= "CST"}	Structural attribute; this participation id of type "Custodian"
contextControlCode [0..1] Participation (CS) {CNE:ContextControl, default= "AP"}	Optional contextControlCode, the default is "AP"
<b>ReplacementOf</b>	The relationship between the current Registration Event and other registration events which are being replaced by the current one.
typeCode [1..1] (M) ActRelationship (CS) {CNE:RPLC, fixed value= "RPLC"}	Structural attribute; this is a "Replace" relationship
<b>PriorRegistration</b>	The previous registration event, which is being replaced by the current one. An example is the Resolve Duplicates message, where the prior registration contains the subject role with the identifiers which have been merged into the role of the current registration event.
classCode [1..1] (M) Act (CS) {CNE:REG, fixed value= "REG"}	Structural attribute; this act is a registration

<b>MFMI_HD700711IHE Master File / Registry Event Notification (Role Subject)</b>	<b>This HMD extract defines the control act wrapper used to send HL7 V3 master file or registry query responses with the subject being a role.  Derived from Figure O.2.2-1 (MFMI_RM700711IHE)</b>
moodCode [1..1] (M) Act (CS) {CNE:EVN, fixed value="EVN"}	Structural attribute; this is an occurrence of the act
id [0..*] Act (SET<II>)	Optional prior registration event identifier(s).
statusCode [1..1] (M) Act (CS) {CNE:ActStatus, default="obsolete"}	The status of the registration event. The default is "obsolete".
<b>PriorRegisteredRole</b>	The role subject of the prior registration.
classCode [1..1] (M) Act (CS) {CNE:ROL, fixed value="ROL"}	Structural attribute; this class is a role
id [1..*] (M) Role (SET<II>)	Identifiers of the role subject of the prior registration. Usually contains the merged ID of a patient after duplicate resolution.
<b>QueryAck</b>	Information about the query to which this message is a response
queryId [1..1] (R) QueryEvent (II)	The query ID to which this message is a response.
statusCode [1..1] (R) QueryEvent (CS) {CNE:QueryStatusCode, default="deliveredResponse"}	The status of the query event. The default is "deliveredResponse". Possible values are "aborted", "executing", "new", "waitContinuedQueryResponse"
queryResponseCode [1..1] (M) QueryAck (CS) {CNE:QueryResponse}	Code representing the content of the response. Possible values are AE (application error), OK (data found), NF (no data found), QE (query parameter error).
resultTotalQuantity [0..1] QueryAck (INT)	Total number of results found.
resultCurrentQuantity [0..1] QueryAck (INT)	The number of results in this message.
resultRemainingQuantity [0..1] QueryAck (INT)	The number of results not transmitted yet.
queryByParameter	The stub to an optional copy of the Query By Parameter payload of the original query.

### O.2.3 Query Control Act Request: Query By Parameter Information Model (QUQI\_MT021001IHE)

Below is the Message Information Model for this control act wrapper. The purpose of the model is to describe the data elements relevant for use with IHE transactions based on HL7 V3 messages. It is a strict subset of the *Query Specification Control Act: Query By Parameter (QUQI\_RM021000UV01)* RMIM, which can be found on the HL7 V3 2008 Edition CD at: Edition2008/domains/uvqi/editable/QUQI\_RM021000UV.htm. The following restrictions were made on the original RMIM to arrive at the restricted model:

- The following optional class attributes have been omitted:
  - ControlActProcess.text
  - ControlActProcess.priorityCode
  - ControlActProcess.reasonCode
- The following participations related to the ControlActProcess have been omitted:
  - overseer
  - dataEnterer
  - informationRecipient
- The reasonOf act relationship has been omitted

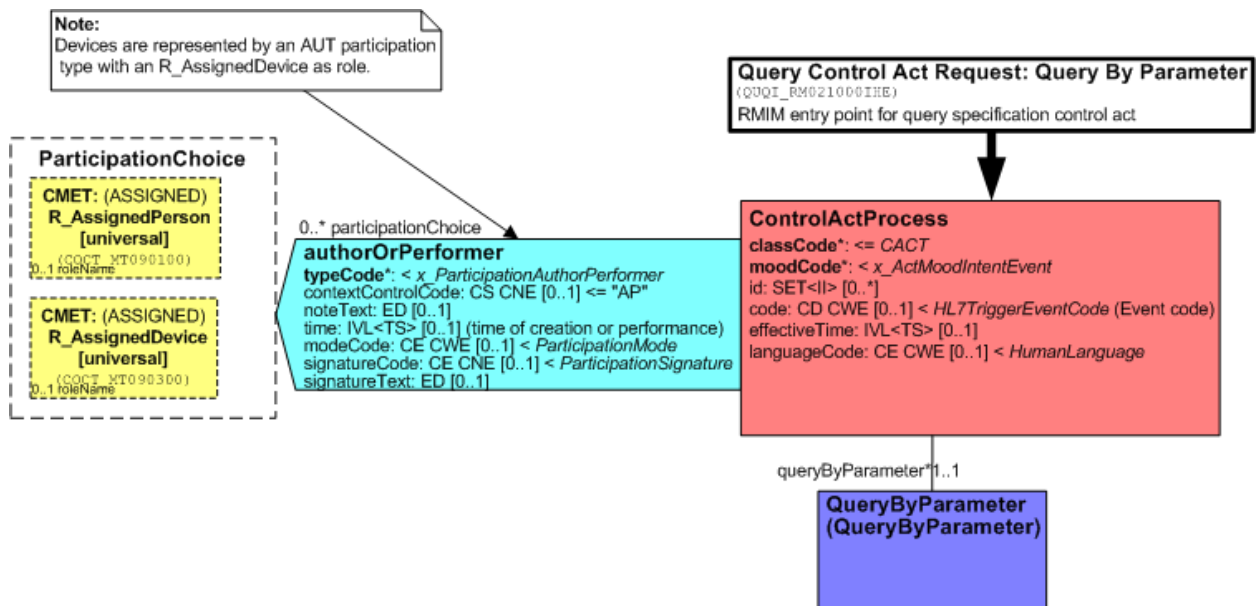


Figure O.2.3-3

The attributes of this model are described in the following table.

**Table O.2.3-3**

<b>QUQI_HD021000IHE Query Control Act Request: QueryByParameter</b>	<b>This HMD extract defines the control act wrapper used to send HL7 V3 query by parameter messages.  Derived from Figure O.2.3-1 (QUQI_RM021000IHE)</b>
<b>Control Act Process</b>	The entry point from the transmission wrapper
classCode [1..1] (M) Act (CS) {CNE:CACT, default="CACT"}	Structural attribute; this is a Control Act
moodCode [1..1] (M) Act (CS) {CNE:x_ActMoodIntentEvent}	Structural attribute; possible values are INT (intent), RQO (request), EVN (event, occurrence), PRP (proposal), RMD (recommendation), APT (appointment), ARQ (appointment request), or PRMS (promise).
id [0..*] Act (SET<II>)	Optional Control Act ID
code [0..1] Act (CD) {CWE:HL7TriggerEventCode}	The HL7 Trigger Event code
effectiveTime [0..1] Act (IVL<TS>)	Optional time stamp or time interval indication when the ControlActProcess took place
languageCode [0..1] Act (CE) {CWE:HumanLanguage}	Optional language code
<b>authorOrPerformer</b>	This optional participation represents the entity which made the query. The author of the query SHOULD be a person, or it MAY be a device.
typeCode [1..1] (M) Participation (CS) {CNE:x_ParticipationAuthorPerformer}	Structural attribute; this participation is of type "AUT" or "PRF"
contextControlCode [0..1] Participation (CS) {CNE:ContextControl, default="AP"}	Optional contextControlCode, the default is "AP"
time [0..1] Participation (IVL<TS>)	Time of creation or performance.
modeCode [0..1] Participation (CE) {CWE:ParticipationMode}	This is the optional participation mode
<b>queryByParameter</b>	The stub to the Query By Parameter payload.

#### 2480 **O.2.4 Query Control Act Request Continue/Cancel Information Model (QUQI\_MT000001IHE)**

Below is the Message Information Model for this control act wrapper. The purpose of the model is to describe the data elements relevant for use with IHE transactions based on HL7 V3

2485 messages. It is a strict subset of the *Query Continuation/Cancel Control Act* (*QUQI\_RM000001UV01*) RMIM, which can be found on the HL7 V3 2008 Edition CD at: Edition2008/domains/uvqi/editable/QUQI\_RM000001UV.htm

The following restrictions were made on the original RMIM to arrive at the restricted model:

- The following optional class attributes have been omitted:
  - ControlActProcess.text
  - 2490     • ControlActProcess.priorityCode
  - ControlActProcess.reasonCode
- All participations related to the ControlActProcess have been omitted
- The reasonOf act relationship has been omitted
- ControlActProcess.moodCode is fixed to RQO
- 2495     • QueryContinuation.queryId is Mandatory
- QueryContinuation.statusCode is defaulted to "waitContinuedQueryResponse"

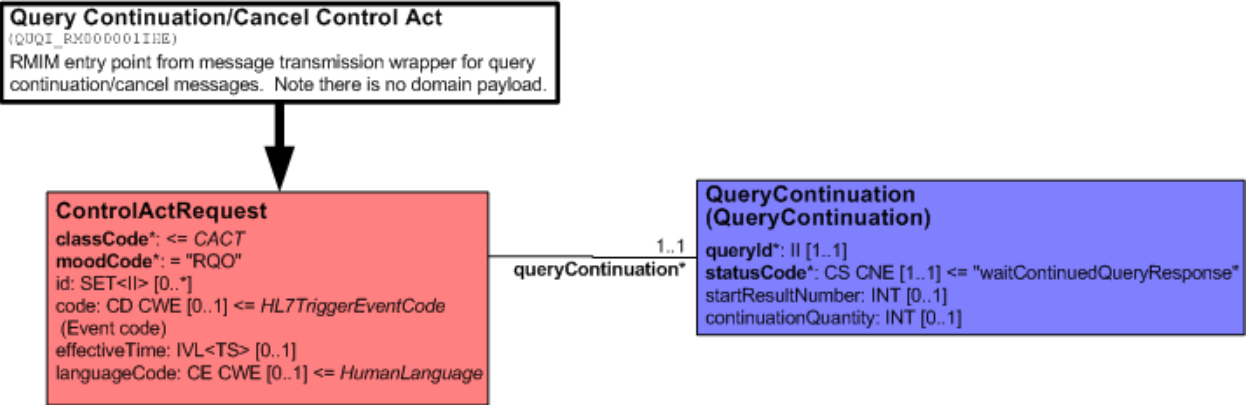


Figure O.2.4-1

The attributes of this model are described in the following table.

2500 Table O.2.4-4

QUQI_HD000001IHE Query Control Act Request Continuation/Cancelation Control Act	This HMD extract defines the control act of the query continuation request. Note that there is no payload. Derived from Figure O.2.4-1 (QUQI_RM021000IHE)
<b>Control Act Process</b>	The entry point from the transmission wrapper
classCode [1..1] (M) Act (CS) {CNE:CACT, default="CACT"}	Structural attribute; this is a Control Act

<b>QUQI_HD000001IHE Query Control Act Request Continuation/Cancelation Control Act</b>	<b>This HMD extract defines the control act of the query continuation request. Note that there is no payload. Derived from Figure O.2.4-1 (QUQI_RM021000IHE)</b>
moodCode [1..1] (M) Act (CS) {CNE:x_ActMoodIntentEvent, fixed="RQO"}	This is a request
id [0..*] Act (SET<II>)	Optional Control Act ID
code [0..1] Act (CD) {CWE:HL7TriggerEventCode}	The HL7 Trigger Event code
effectiveTime [0..1] Act (IVL<TS>)	Optional time stamp or time interval indication when the ControlActProcess took place
languageCode [0..1] Act (CE) {CWE:HumanLanguage}	Optional language code
<b>QueryContinuation</b>	The information about the query, which is being continued
queryId [1..1](M) QueryEvent (II)	The query identifier, which links this continuation request with the original query.
statusCode [1..1] (M) QueryEvent (CS) {CNE:QueryStatusCode, default="waitContinuedQueryResponse"}	The query status. The only other possible value is "aborted", indicating that no more results are needed from the query fulfiller.
startResultNumber [0..1] QueryContinuation (INT)	Optionally, the query placer may request that the list of responses starts from a particular unit (based on the total number of responses returned by the query fulfiller to the original query)
continuationQuantity [0..1] QueryContinuation (INT)	Optionally, the query placer may specify the maximum number of responses to be returned by the query fulfiller. If 0 is specified, this is an indication that the query is cancelled. If this attributed is not valued, the query fulfiller shall use the quantity specified in the most recent query or continuation request.

### O.3 IHE Transactions and Corresponding Transmission and Control Act Wrappers

The following table lists the wrappers for the currently defined IHE transactions, which use HL7 V3 messages.

**Table O.3-1**

<b>Transaction Reference</b>	<b>Transmission Wrapper</b>	<b>Control Act Wrapper</b>
3.44.4 – Patient Add or Revise	MCCL_MT000100UV01	MFMI_MT700701UV01
3.44.4 – Resolve Duplicates	MCCL_MT000100UV01	MFMI_MT700701UV01
3.44.4 – Acknowledgement	MCCL_MT000200UV01	None

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

---

3.45.4 – Get Corresponding Identifiers	MCCI_MT000100UV01	QUQI_MT021001UV01
3.45.4 – Get Corresponding Indenters Response	MCCI_MT000300UV01	MFMI_MT700711UV01
3.46.4 – Revise Demographic Data	MCCI_MT000100UV01	MFMI_MT700701UV01
3.46.4 – Acknowledgement	MCCI_MT000200UV01	None
3.47.4 – Find Candidates Query	MCCI_MT000100UV01	QUQI_MT021001UV01
3.47.4 – Find Candidates Response	MCCI_MT000300UV01	MFMI_MT700711UV01
3.47.4 – Query Continuation	MCCI_MT000300UV01	QUQI_MT000001UV01
3.47.4 – Acknowledgement	MCCI_MT000200UV01	None



## Appendix P HL7 V3 Sample Messages

The following examples are available for information purposes on the IHE ftp site at <ftp://ftp.ihe.net>. See ITI TF-2x: Appendix W. The examples are organized by transactions.

### P.44 Patient Identity Feed HL7 V3 – Sample Messages

- Patient Registry Record Added message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/01\\_PatientRegistryRecordAdded1.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/01_PatientRegistryRecordAdded1.xml)
- Patient Registry Record Revised message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/04\\_PatientRegistryRecordRevised2.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/04_PatientRegistryRecordRevised2.xml)
- Patient Registry Duplicates Resolved message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/05\\_PatientRegistryDuplicatesResolved.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/05_PatientRegistryDuplicatesResolved.xml)
- HL7 V3 Accept Acknowledgement message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/02\\_PatientRegistryRecordAdded1Ack.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/02_PatientRegistryRecordAdded1Ack.xml)

### P.45 PIXV3 Query – Sample Messages

- Patient Registry Get Identifiers Query message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/06\\_PIXQuery1.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/06_PIXQuery1.xml)
- Patient Registry Get Identifiers Query Response message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/07\\_PIXQuery1Response.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/07_PIXQuery1Response.xml)

### P.46 PIXV3 Update Notification – Sample Messages

- Patient Registry Record Revised message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/04\\_PatientRegistryRecordRevised2.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/04_PatientRegistryRecordRevised2.xml)
- HL7 V3 Accept Acknowledgement message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PIXV3/02\\_PatientRegistryRecordAdded1Ack.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PIXV3/02_PatientRegistryRecordAdded1Ack.xml)

### P.47 Patient Demographics Query HL7 V3 – Sample Messages

- Patient Registry Find Candidates Query message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PDQV3/01\\_PDQQuery1.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PDQV3/01_PDQQuery1.xml)
- 2540 • Patient Registry Find Candidates Query Response message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PDQV3/02\\_PDQQuery1Response.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PDQV3/02_PDQQuery1Response.xml)
- General Query Activate Query Continue message:  
2545 [ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PDQV3/03\\_PDQQuery1Continuation.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PDQV3/03_PDQQuery1Continuation.xml)
- General Query Activate Query Continue Response message:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PDQV3/04\\_PDQQuery1ContinuationResponse.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PDQV3/04_PDQQuery1ContinuationResponse.xml)
- General Query Activate Query Cancel message:  
2550 [ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PDQV3/05\\_PDQQuery1Cancel.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PDQV3/05_PDQQuery1Cancel.xml)
- General Query Activate Query Cancel Acknowledgment message:  
2555 [ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/examples/PDQV3/06\\_PDQQuery1CancelAck.xml](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/examples/PDQV3/06_PDQQuery1CancelAck.xml)

## Appendix Q HL7 V3 Sample Payload XML Schemas

The following examples are available for information purposes on the IHE ftp site at <ftp://ftp.ihe.net>. See ITI TF-2x: Appendix W. The examples are organized by transactions.

### Q.44 Patient Identity Feed HL7 V3 – Sample Schemas

- 2560 • Patient Registry Record Added schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201301UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201301UV02.xsd)
- Patient Registry Record Revised schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201302UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201302UV02.xsd)
- 2565 • Patient Registry Duplicates Resolved schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201304UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201304UV02.xsd)
- HL7 V3 Accept Acknowledgment schema:  
2570 [ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/MCCI\\_IN000002UV01.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/MCCI_IN000002UV01.xsd)

### Q.45 PIXV3 Query – Sample Schemas

- Patient Registry Get Identifiers Query schema:  
2575 [ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201309UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201309UV02.xsd)
- Patient Registry Get Identifiers Query Response schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201310UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201310UV02.xsd)

### Q.46 PIXV3 Update Notification – Sample Schemas

- 2580 • Patient Registry Record Revised schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201302UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201302UV02.xsd)
- HL7 V3 Accept Acknowledgment schema:  
2585 [ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/MCCI\\_IN000002UV01.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/MCCI_IN000002UV01.xsd)

### Q.47 Patient Demographics Query HL7 V3 – Sample Schemas

- Patient Registry Find Candidates Query schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201305UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201305UV02.xsd)
- 2590 • Patient Registry Find Candidates Query Response schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA\\_IN201306UV02.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201306UV02.xsd)
- General Query Activate Query Continue schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/QUOI\\_IN000003UV01.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/QUOI_IN000003UV01.xsd)
- 2595 • HL7 V3 Accept Acknowledgment schema:  
[ftp://ftp.ihe.net/TF\\_Implementation\\_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/MCCI\\_IN000002UV01.xsd](ftp://ftp.ihe.net/TF_Implementation_Material/ITI/schema/HL7V3/NE2008/multicacheschemas/MCCI_IN000002UV01.xsd)

## 2600 Appendix R: Mapping of HL7v2.5 to HL7v3 for PIX and PDQ

*Add this section to illustrate the message mapping from HL7 v2.5 to HL7v3 for PIX transactions.*

### R.1 Data Types

The following table describes the mapping between HL7 v2.5 and HL7 v3 data types:

HL7 v2.5 Data Type	HL7 v3 Data Type
HD (on the field level)	Instance Identifier (II)
Namespace ID	Assigning Authority Name (optional)
Universal ID	root
Universal ID Type	Not mapped – the universal ID/root must be an ISO OID
	extension is not used
CX	Instance Identifier (II)
ID (ST)	extension
Check digit (ST)	Not mapped
Code identifying the check digit (ST)	Not mapped

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

HL7 v2.5 Data Type		HL7 v3 Data Type
assigning authority (HD)	Namespace ID (IS)	Assigning Authority Name (optional)
	Universal ID (ST)	root
	Universal ID Type (IS) (required to be “ISO”)	Not mapped – the universal ID/root must be an ISO OID
identifier type code (ID)		Not mapped
assigning facility (HD)		Not mapped
effective date (DT)		ValidTime
expiration date (DT)		ValidTime
XPN		Person Name (PN)
ID Number (ST)		
Family Name (FN)		Family Part type
given name (ST)		Given Part type
Second or other given names or initials thereof (ST)		Given Part type – order of parts matters
suffix (e.g., JR or III) (ST)		Suffix Part type
prefix (e.g., DR) (ST)		Prefix Part type
degree (e.g., MD) (IS)		Suffix Part type Qualifier
Name Representation code (ID)		
name context (CE)		
name validity range (DR)		ValidTime
name assembly order (ID)		
Name type code (ID)		Name Use Code
XTN		Telecom (TEL)
[999-] 999-9999 [x999999][C any text] (TN)		
telecommunication use code (ID)		Telecom Use Code
telecommunication equipment type (ID)		Reflected in the URL scheme of the URI (e.g., fax:) – see RFC

HL7 v2.5 Data Type	HL7 v3 Data Type
	2806
Email address (ST)	URL Scheme code = mailto
Country Code (NM)	Part of the tel: URI (see RFC 3966)
Area/city code (NM)	Part of the tel: URI (see RFC 3966)
Phone Number (NM)	Part of the tel: URI (see RFC 3966)
Extension (NM)	Use of ";ext=" in the URI (see RFC 3966)
any text (ST)	Not mapped

2605

## R.2 Add New Person Message

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
M S H										
	Field Separator		ST	R		Not Applicable				
	Encoding Characters		ST	R		Not Applicable				
	Sending Application		HD	R	MCCI_RM000 100IHE - Send Message Payload	Device.id	SET<I>		R	Mapped SET<II> data type components to v2.5 HD components. See table above.
		Namespace ID	IS	O				Y	R	
		Universal ID	ST	O				Y	R	
		Universal ID Type	ID	O				Y	R	
	Sending Facility		HD	R	MCCI_RM000 100IHE - Send Message Payload	Organization.id	SET<I>		R	Mapped SET<II> data type components to v2.5 HD

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
							I>			components. See table above.
		Namespace ID	IS	O				Y	R	
		Universal ID	ST	O				Y	R	
		Universal ID Type	ID	O				Y	R	
	Receiving Application		HD	R	MCCL_RM000 100IHE - Send Message Payload	Device.id	S E T <I I>		R	Mapped SET<II> data type components to v2.5 HD components. See table above.
		Namespace ID	IS	O				Y		
		Universal ID	ST	O				Y		
		Universal ID Type	ID	O				Y		
	Receiving Facility		HD	R	MCCL_RM000 100IHE - Send Message Payload	Organization.id	S E T <I I>		R	Mapped SET<II> data type components to v2.5 HD components. See table above.
		Namespace ID	IS	O				Y		
		Universal ID	ST	O				Y		



IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		Universal ID Type	ID	O				Y		
	Date/Time Of Message		TS	R	MCCI_RM0001 00IHE - Send Message Payload	Message.creationTime	TS	Y	R	
		Date/Time	NM	O	MCCI_RM0001 00IHE - Send Message Payload	Message.creationTime	TS	Y	R	
		Degree of Precision	ST	O						
	Security		ST	O	MCCI_RM0001 00IHE - Send Message Payload	Message.securityText	ST		O	
	Message Type		CM_M SG	R						
		Message type	ID	R	MCCI_RM0001 00IHE - Send Message Payload	Message.interactionId	II	Y	R	
		Trigger event	ID	R	MFMI_RM7002 00 - Registry Control Act	ControlActProcess.code	CDCWE	Y	R	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		Message structure	ID	R		Not mapped as interaction.Id expresses both message type and message structure				
	Message Control ID		ST	R		Message.id	II	Y	R	Only the id.root is valued
	Processing ID		PT	R	MCCI_RM0001 00IHE - Send Message Payload	Message.processingCode	C S C N E		R	
		Processing ID	ID	O	MCCI_RM0001 00IHE - Send Message Payload	Message.processingCode	C S C N E		R	
		Processing Mode	ID	O	MCCI_RM0001 00IHE - Send Message Payload	Message.processingModeCode	C S C N E		R	
	Version ID		VID	R	MCCI_RM0001 00IHE - Send Message Payload	Message.versionCode	C S C N E		O	
		Version ID	ID	O	MCCI_RM0001 00IHE - Send	Message.versionCode	C S		O	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
					Message Payload		C N F			
		Internationalization Code	CE	O						
		International version ID	CE	O						
	Sequence Number		NM	O	XCCI_RM000100 - Send Message Payload	Message.sequenceNumber	I N T		R	
	Continuation Pointer		ST	O						
	Accept Acknowledgment Type		ID	O	XCCI_RM000100 - Send Message Payload	Message.acceptAckCode	C S C N E		R	
	Accept Acknowledgment Type		ID	O	XCCI_RM000100 - Send Message Payload	Message.acceptAckCode	C S C N E		R	
	Country Code		ID	O						Mapped Country Code to AD data type. See Table Below.
	Character Set		ID	O						Part of the XML preamble

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
	Principal Language of Message		CE	O	MFMI_RM700 200 - Registry Control Act	ControlActProce ss.languageCode	C E C W E	Y	R	
		Identifier	ST					Y	R	
		Text	ST	O				Y	R	
		Name of coding system	IS	O				Y	R	
	Alternate Character Set Handling Scheme		ID	O						
	Conformance Statement ID		ID	O						
E V N										
	Event Type Code		ID	R	MFMI_RM700 200 - Registry Control Act	ControlActProce ss.code	C D C W E		O	
	Recorded Date/Time		TS	R	MFMI_RM700 200 - Registry Control Act	ControlActProce ss.effectiveTime	I V L <		O	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
							TS			
		Date/Time	NM	O	MFMI_RM700 200 - Registry Control Act	ControlActProce ss.effectiveTime	IVL <TS>		O	
		Degree of Precision	ST	O						
	Date/Time Of Planned Event		TS	O						
		Date/Time	NM	O						
		Degree of Precision	ST	O						
	Event Reason Code		IS	RE	MFMI_RM700 200 - Registry Control Act	ControlActProce ss.reasonCode	SET <CWE>		O	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
	Operator ID		XCN	R	MFMI_RM700 200 - Registry Control Act	dataEnterer.type Code	C E C W E	Y	R	
		ID Number (ST)	ST	R	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090100
		Family Name	FN	O	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090101 - PN data type
		given name	ST	O	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090101 - PN data type
		Second or other given names or initials thereof	ST	O	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal)

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
										COCT_MT090101 - PN data type
		suffix (e.g., JR or III)	ST	O	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090101 - PN data type
		prefix (e.g., DR)	ST	O	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090101 - PN data type
		degree (e.g., MD)	IS	O	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090101 - PN data type
		source table	IS	O	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		assigning authority	HD	R	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
		name type code	ID	O	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
		Identifier check digit	ST	O	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
		Code identifying the check digit scheme employed	ID	O	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
		identifier type code (IS)	IS	R	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson



IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
										n (universal) COCT_MT090107 - II data type
		assigning facility	HD	R	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
		Name Representation code	ID	O	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
		name context	CE	O	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
		name validity range	DR	O	MFMI_RM700200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		name assembly order	ID	O	MFMI_RM700 200 - Registry Control Act			Y	R	Map to CMET (ASSIGNED) R_AssignedPerson (universal) COCT_MT090107 - II data type
	Event Occurred		TS	O						
		Date/Time	NM	O						
		Degree of Precision	ST	O						
	Event Facility		HD	O	MCCI_RM000 100 - Send Message Payload	Organization.id	SET<II>	Y	R	Mapped SET<II> data type components to v2.5 HD components. See table above.
		Namespace ID	IS	O				Y	R	
		Universal ID	ST	O				Y	R	
		Universal ID type	ID	O				Y	R	
PI D										

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
	Patient Identifier List		CX	RE	PRPA_RM201 301IHE - Patient Activate/Revise					
		ID	ST	R		Patient.id OtherIDs.id	SET<I>	Y	R	Mapped II data type components to v2.5 CX components. See table above.
		Check digit	ST	O		Not applicable				
		Code identifying the check digit	ID	O		Not applicable				
		assigning authority	HD	R				Y		
		identifier type code (ID)	ID	R				Y		
		assigning facility	HD	R				Y		
		effective date (DT)	DT	RE		Patient.effective Time	IVLTSS>	N	O	
		expiration date	DT	R				Y		

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
				E						
	Patient Name		XP N	R E	PRPA_RM201 301IHE - Patient Activate/Revise					
		Family Name	FN	R		Person.name	LI S T < P N >	Y	R	Mapped LIST<PN> and II data types components to v2.5 XPN components. See Table Below.
		given name	ST	O				Y		
		Second or other given names or initials thereof	ST	O				Y		
		suffix (e.g., JR or III)	ST	O				Y		
		prefix (e.g., DR)	ST	O				Y		
		degree (e.g., MD)	IS	O				Y		
		name type code	ID	R				Y		
		Name Representation	ID	O				Y		

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		code								
		name validity range	DR	O				Y		
		name assembly order	ID	O				Y		
	Mother's Maiden Name		XP N	R E	PRPA_RM201 301IHE - Patient Activate/Revise	ParentClient.id				Reference CMET COCT_MT03020 0. Map LIST<PN> and II data types components to v2.4 CX components.
		Family Name	FN	R				Y		
		given name	ST	O				Y		
		Second or other given names or initials thereof	ST	O				Y		
		suffix (e.g., JR or III)	ST	O				Y		
		prefix (e.g., DR)	ST	O				Y		
		degree (e.g., MD)	IS	O				Y		

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		name type code	ID	R				Y		
		Name Representation code	ID	O				Y		
		name context	CE	O				Y		
		name validity range	DR	O				Y		
		name assembly order	ID	O				Y		
	Date/Time of Birth		TS	RE	PRPA_RM201 301IHE - Patient Activate/Revise					
		Date/Time	NM	R		Person.birthTime	TS		O	
		Degree of Precision	ST	O						
	Administrative Sex		IS	RE	PRPA_RM201 301IHE - Patient Activate/Revise	Person.administrativeGenderCode	CSCE		R	
	Patient Alias		XP	NO	PRPA_RM201 301IHE - Patient					Mapped PN and II data types components to

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
					Activate/Revise					v2.5 XPN components. See table above.
		Family Name	FN	O		Person.name	B A G < P N >	Y	R	
		given name	ST	O				Y	R	
		Second or other given names or initials thereof	ST	O				Y	R	
		suffix (e.g., JR or III)	ST	O				Y	R	
		prefix (e.g., DR)	ST	O				Y	R	
		degree (e.g., MD)	IS	O				Y	R	
		name type code	ID	O				Y	R	
		Name Representation code	ID	O				Y	R	
		name context	CE	O				Y	R	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		name validity range	DR	O				Y	R	
		name assembly order	ID	O				Y	R	
	Patient Address		XAD	RE	PRPA_RM201 301IHE - Patient Activate/Revise					
		street address (SAD)	SAD	R		Person.addr	BAG < AD >	Y	R	Mapped AD data type components to v2.5 XAD components. See table below.
		city	ST	R				Y	R	
		state or province	ST	R				Y	R	
		zip or postal code	ST	R				Y	R	
		country	ID	R				Y	R	
		address type	ID	R				Y	R	
		address representation code	ID	O				Y	R	



IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		address validity range	DR	O				Y	R	
	Phone Number - Home		XTN	RE	PRPA_RM201 301IHE - Patient Activate/Revise					
			TN	R		Person.telecom	BAG < TEL >	Y	R	Mapped TEL data type components to v2.5 XTN components. See table above.
		telecommunication use code	ID	R				Y	R	
		telecommunication equipment type (ID)	ID	O				Y	R	
		Email address	ST	O				Y	R	
		Country Code	NM	O				Y	R	
		Area/city code	NM	O				Y	R	
		Phone Number	NM	O				Y	R	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		Extension	N M	O				Y	R	
		any text	ST	O				Y	R	
	Phone Number - Business		XT N	R E						Mapped TEL data type components to v2.5 XTN components. See table above.
			TN	R				Y	R	
		telecommunication use code	ID	R				Y	R	
		telecommunication equipment type (ID)	ID	O				Y	R	
		Email address	ST	O				Y	R	
		Country Code	N M	O				Y	R	
		Area/city code	N M	O				Y	R	
		Phone Number	N M	O				Y	R	
		Extension	N M	O				Y	R	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		any text	ST	O				Y	R	
	Primary Language		CE	RE	PRPA_RM201 301IHE - Patient Activate/Revise					
		Identifier	ST	O		LanguageCommunication.languageCode	C E C W E		R	
		text	ST	O					R	
		Name of coding system	IS	O					R	
	SSN Number - Patient		ST	O	PRPA_RM201 301IHE - Patient Activate/Revise	OtherIDs.id	S E T <I I>		R	
	Driver's Licence Number - Patient		DLN	O	PRPA_RM201 301IHE - Patient Activate/Revise	OtherIDs.id	S E T <I I>		R	
		Driver's Licence Number	ST	O				Y	R	Mapped II data type for DLN data type. See table

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
										above.
		Issuing State, province, country	IS	O				Y	R	
		expiration date	DT	O				Y	R	
	Mother's Identifier		CX	R E	PRPA_RM201 301IHE - Patient Activate/Revise	PersonalRelationship.relationship Holder.id	II	Y	R	Mapped II data type for CX data type. See table above.
		ID	ST	R				Y	R	
		Check digit	ST	O				Y	R	
		check identifying the check digit scheme employed	ID	O				Y	R	
		assigning authority	HD	O				Y	R	
		identifier type code(ID)	ID	R				Y	R	
		assigning facility	HD	O				Y	R	
		effective date (DT)	DT	O				Y	R	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		expiration date	DT	O				Y	R	
	Ethnic Group		CE	O						
	Birth Order		N M	R E	PRPA_RM201 301IHE - Patient Activate/Revise	Person.multiple BirthOrderNumber			R	
	Patient Death Date and Time		TS	R E	PRPA_RM201 301IHE - Patient Activate/Revise			Y	R	
		Date/Time	N M	O	PRPA_RM201 301IHE - Patient Activate/Revise	Person.deceased Time	T S		O	
		Degree of Precision	ST	O						
	Patient Death Indicator		ID	R E	PRPA_RM201 301IHE - Patient Activate/Revise	Person.deceased Ind	B L		O	
	Last Update Date/Time		TS	O						Metadata
		Date/Time	N M	O						Metadata
		Degree of	ST	O						

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		Precision								
	Last Update Facility		HD	O						Metadata
		Namespace ID	IS	O						Metadata
		Universal ID	ST	O						Metadata
		Universal ID type	ID	O						Metadata
NK1										
	Set ID - NK1		SI	R	PRPA_RM201301IHE - Patient Activate/Revise	PersonalRelationship.id				
	Name		XP N	O	COCT_MT030207UV – E_Person (informational) CMET	Person.name	LIST < PN >	Y	R	Mapped PN data type components to v2.5 XPN components. See table above.
		family name	FN	O				Y	R	
		given name	ST	O				Y	R	
		Second or other given names or	ST	O				Y	R	

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		initials thereof								
		suffix (e.g., JR or III)	ST	O				Y	R	
		prefix (e.g., DR)	ST	O				Y	R	
		degree (e.g., MD)	IS					Y	R	
		name type code	ID	O				Y	R	
		Name Representation code	ID	O				Y	R	
		name context	CE	O				Y	R	
		name validity range	DR	O				Y	R	
		name assembly order	ID	O				Y	R	
	Relationship		CE	R	PRPA_RM201 301IHE - Patient Activate/Revise	PersonalRelationship.code			R	
		identifier	ST	O						
		text	ST	O						
		Name of coding	IS	O						

IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		system								
	Date/Time of Birth		TS	O					R	
		Date/Time	N M	O				Y	R	
		Degree of Precision	ST	O				Y	R	
	Next of Kin/Associated Party's Identifiers		CX	R	COCT_MT030 207UV – E_Person (informational) CMET	Person.id	S E T <I I>			Mapped II data type to CX data components. See table above.
		ID	ST	R				Y	R	
		Check digit	ST	O				Y	R	
		check identifying the check digit scheme employed	ID	O				Y	R	
		assigning authority	HD	R				Y	R	
		identifier type code(ID)	ID	R				Y	R	



IHE IT Infrastructure Technical Framework – Patient Identifier Cross-Reference HL7 V3 (PIXV3) and Patient Demographic Query HL7 V3 (PDQV3) Supplement

---

Version 2.5 Conformance Profile					Version 3 Message					
Message Segment	Field Name	Components	Data Type	Conf	Message Information Model	Attribute Name	Data Type	Component Mapping Req'd?	Conf	Comments
		assigning facility	HD	R				Y	R	