

Integrating the Healthcare Enterprise



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**IHE IT Infrastructure  
Technical Framework Supplement**

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**Cross-Community Patient Discovery  
(XCPD)  
Health Data Locator and Revoke Option**

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**Rev. 3.1 – Trial Implementation**

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

## Foreword

30 This is a supplement to the IHE IT Infrastructure Technical Framework V19.0. Each supplement undergoes a process of public comment and trial implementation before being incorporated into the volumes of the Technical Frameworks.

This supplement is published on May 4, 2023 for trial implementation and may 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  
35 Technical Framework. Comments are invited and may be submitted at [http://www.ihe.net/ITI\\_Public\\_Comments](http://www.ihe.net/ITI_Public_Comments).

This supplement describes changes to the existing technical framework documents.

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

40 

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

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

45

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

Information about the IHE IT Infrastructure domain can be found at [IHE Domains](http://IHE Domains).

Information about the organization of IHE Technical Frameworks and Supplements and the process used to create them can be found at [Profiles](http://Profiles) and [IHE Process](http://IHE Process).

50 The current version of the IHE IT Infrastructure Technical Framework can be found at <https://profiles.ihe.net/ITI/index.html>.

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## Introduction to this Supplement

140 This document adds two optional capabilities to the [Cross-Community Patient Discovery](#) Profile by adding new material to ITI TF Volumes 1 and 2 describing these options. These two options were extracted from the XCPD Profile prior to the XCPD Profile being moved from Trial Implementation to Final Text status due to these options not meeting the criteria for being promoted to final text.

## 145 Open Issues and Questions

- **X021:** Use of revoke when Initiating Gateway does not choose to send a patient identifier in the Patient Discovery request. This is only allowed when the Initiating Gateway is not grouped with a Responding Gateway. The Patient Discovery request receiver can also not send a revoke unless grouped with an Initiating Gateway. Assuming that both sides contain a grouping of Initiating and Responding, and the rule regarding specification of a patient identifier in the request is ignored, the responder to the Patient Discovery request has no patient identifier to create a correlation with, so will have difficulty, and no real purpose, for saving any information about the request. So it will most likely have no reason to send a revoke. So this function is not supported, the initiating side must supply a patient identifier in order to receive a revoke.
- **X022:** The supplement currently does not contain WSDL naming conventions and binding definitions for the Cross Gateway Revoke [ITI-107] transaction. These definitions were not generated during the initial development of this standard. Do implementers find them useful? The ITI technical committee would welcome a contribution of these definitions from the community.
- **X023:** The supplement currently does not contain auditing considerations for the Cross Gateway Revoke [ITI-107] transaction. These will be added in a later publication. The ITI technical committee would welcome community contribution of this content.

## Closed Issues

- **X004:** During the development of this profile we considered an environment where a Health Data Locator existed external to any community. This is slightly more complicated an environment than this capability within a community. Because of the lack of a clear requirement this environment is not currently addressed in the profile.
- **X005:** Should the QD and QDLA be merged? After review of the details of each it was agreed that only one transaction was needed, with an optional return attribute indicating support for the QIL transaction for this patient identifier.
- **X007:** Consider other names for Location Authority. Agreed to use Health Data Locator – all references to Location Authority replaced with Health Data Locator.
- **X010:** Need names for the transactions.
  - a. **QIL - Patient Location Query**
- **X015:** Should the Patient Location Query re-use the XDS error codes as described in Section 3.56.4.1.3 or should it create new error codes that are specific to the cross-community environment. Resolution: Create new error codes for the transaction. Error codes are delivered a SOAP faults, so no dependency on XDS in this transaction.

- 180
- **X016:** Should the Cross Gateway Patient Discovery transaction provide coded values to describe events like:
    - I know the person but I have no data for them and I don't have an identifier to share with you (in this case should respond as if you don't know this person)
    - I know the person but I'm not willing to share data with you unless you follow a manual procedure (in this case respond either way, and manual process is out of scope)
    - I can't give you that answer (all of the above generically?)
- 185
- The above can be coded within DetectedIssueManagement code value. Resolution: All the cases listed are reflected in one coded value "AnswerNotAvailable" – since they require human intervention it was felt that separate error codes were not necessary.
- 190
- **X018:** What standard should the Patient Location Query be based on? The following were considered: ebXML, HL7 V3, PIXV3. These were discarded because they did not directly address the need, which is very simple. By convoluting PIXV3 or any other HL7 V3 message we could carry the right information needed for the transaction, but it would have been extremely complicated and confusing. There would be significant excess baggage (meaning XML elements) carried on the transaction for no reason. For these reasons the implementation challenges were felt to be too great. ebXML was also considered, and while it does carry the data in a reasonable way, it seemed also too heavy handed for the simple transaction. So the transaction uses Web Services and an IHE defined schema to accomplish the need.
- 195
- 200
- **X019:** Patient Location Query support for multiple health data locators for different kinds of data. This requirement was not addressed because of the desire to keep the Patient Location Query strictly focused on location of potential data and not bleed into the transaction information beyond the location – like types of data at a location. It is felt that the XCA Query supports the ability to search for types of data and that function should be
- 205
- addressed at that layer of the workflow.

## IHE Technical Frameworks General Introduction

210 The [IHE Technical Framework General Introduction](#) is shared by all of the IHE domain technical frameworks. Each technical framework volume contains links to this document where appropriate.

### 9 Copyright Licenses

215 IHE technical documents refer to, and make use of, a number of standards developed and published by several standards development organizations. Please refer to the IHE Technical Frameworks General Introduction, [Chapter 9 - Copyright Licenses](#) for copyright license information for frequently referenced base standards. Information pertaining to the use of IHE International copyrighted materials is also available there.

### 10 Trademark

220 IHE<sup>®</sup> and the IHE logo are trademarks of the Healthcare Information Management Systems Society in the United States and trademarks of IHE Europe in the European Community. Please refer to the IHE Technical Frameworks General Introduction, [Chapter 10 - Trademark](#) for information on their use.

## IHE Technical Frameworks General Introduction Appendices

225 The [IHE Technical Framework General Introduction Appendices](#) are components shared by all of the IHE domain technical frameworks. Each technical framework volume contains links to these documents where appropriate.

230 *Update the following appendices to the General Introduction as indicated below. Note that these are **not** appendices to this domain’s Technical Framework (TF-1, TF-2, TF-3 or TF-4) but rather, they are appendices to the IHE Technical Frameworks General Introduction located [here](#).*

### [Appendix A – Actors](#)

235 *Add the following **new or modified** actors to the [IHE Technical Frameworks General Introduction Appendix A](#):*

Actor	Definition
No new actors	

### [Appendix B – Transactions](#)

240 *Add the following **new or modified** transactions to the [IHE Technical Frameworks General Introduction Appendix B](#):*

Transaction	Definition
Patient Location Query [ITI-56]	Supports the ability to query for a list of communities which may have relevant health data about particular patients
Cross Gateway Revoke Correlation [ITI-107]	Supports the ability for a community to notify other communities that specific patient correlations should no longer be retained.

245



## **Appendix D – Glossary**

250

*Add the following **new or modified glossary terms** to the [IHE Technical Frameworks General Introduction Appendix D](#):*

<b>Glossary Term</b>	<b>Definition</b>
Health Data Locator	Health Data Locator is a function provided by a community or external entity that manages the locations of patient health data for a selected set of patients. A Health Data Locator keeps track of communities that know a patient and provides a list of these communities to a requesting community.

255

# Volume 1 – Profiles

## 1.10 History of Document Changes

*Add the following bullet to the end of the bullet list in Section 1.10*

- 260
- Added XCPD Profile options that support the means to indicate a patient match should be revoked and added the option to locate communities which hold patient relevant health data.

## 27 Cross-Community Patient Discovery (XCPD)

265

...

*Replace existing XCPD Actor Diagram 27.1-1 with the following diagram:*

270

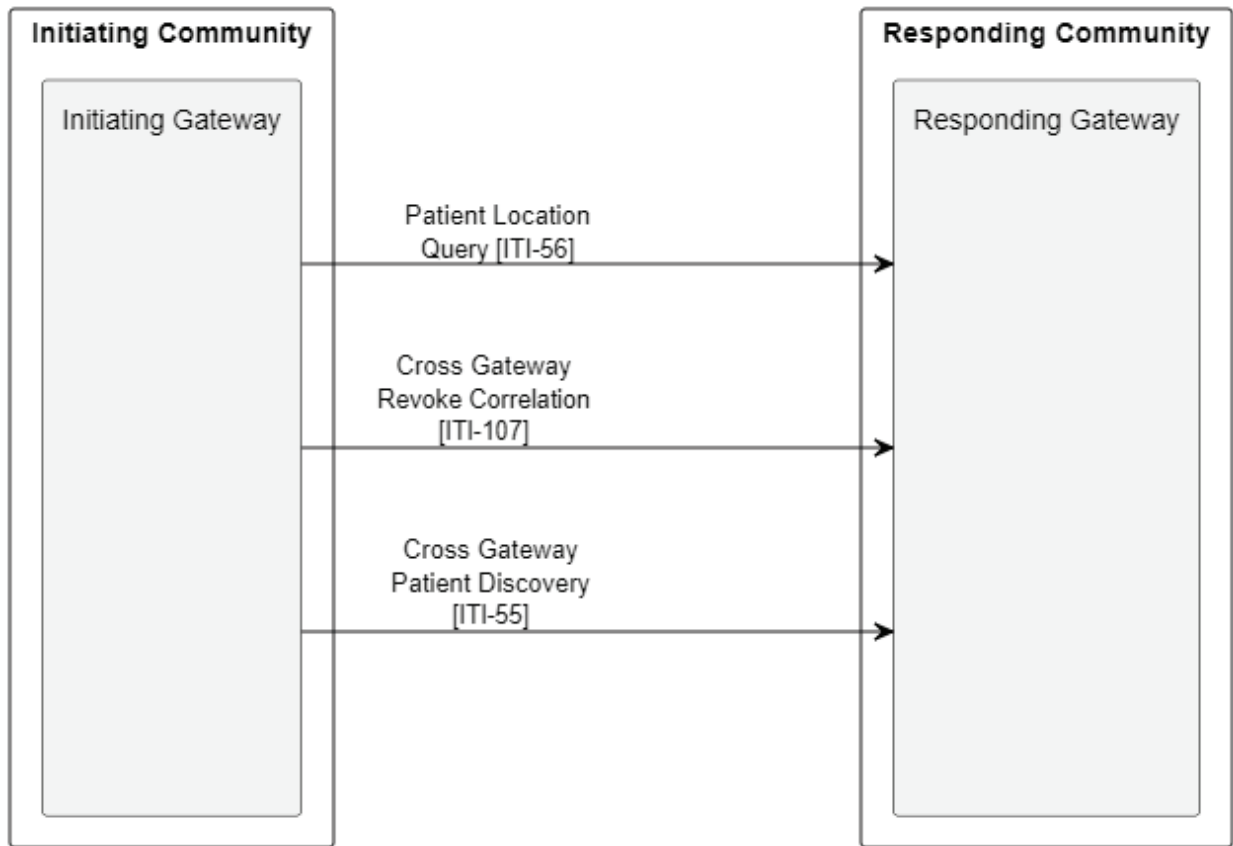


Figure 27.1-1: XCPD Actor Diagram

Update Table 27.1-1 as shown:

275

Table 27.1-1: XCPD Integration Profile - Actors and Transactions

Actors	Transactions	Optionality	Section
Initiating Gateway	Cross Gateway Patient Discovery [ITI-55]	R	ITI TF-2: 3.55
	<b><u>Patient Location Query [ITI-56]</u></b>	<b><u>O</u></b>	<b><u>ITI TF-2: 3.56</u></b>
	<b><u>Cross Gateway Revoke Correlation [ITI-107]</u></b>	<b><u>O</u></b>	<b><u>ITI TF-2: 3.107</u></b>
Responding Gateway	Cross Gateway Patient Discovery [ITI-55]	R	ITI TF-2: 3.55
	<b><u>Patient Location Query [ITI-56]</u></b>	<b><u>O</u></b>	<b><u>ITI TF-2: 3.56</u></b>
	<b><u>Cross Gateway Revoke Correlation [ITI-107]</u></b>	<b><u>O</u></b>	<b><u>ITI TF-2: 3.107</u></b>

Update [Section 27.1.1](#) as shown.

## 27.1.1 Actors

### 280 27.1.1.1 Initiating Gateway

The Initiating Gateway supports all outgoing inter-community communications. XCPD uses this actor to initiate the Cross Gateway Patient Discovery [ITI-55] **and, optionally, the Patient Location Query [ITI-56] and Cross Gateway Revoke Correlation [ITI-107] transactions.**

285 The Initiating Gateway is required to support synchronous transaction messaging and may declare an option to support Asynchronous Web Services Exchange. Choosing Asynchronous Web Services Exchange will allow the Initiating Gateway to support workflows which scale to large numbers of communities because Asynchronous Web Services Exchange allows for more efficient handling of latency and scale.

### 27.1.1.2 Responding Gateway

290 The Responding Gateway supports all incoming inter-community communications. XCPD uses this actor to receive the Cross Gateway Patient Discovery [ITI-55] **and, optionally, the Patient Location Query [ITI-56] and Cross Gateway Revoke Correlation [ITI-107] transactions.**

295 The Responding Gateway is required to support Asynchronous Web Services Exchange on all implemented transactions. This allows the Initiating Gateway to choose the best of the two messaging patterns (synchronous or asynchronous) that fit the needs of the workflow. Support for Asynchronous Web Services Exchange allows for workflows which scale to large numbers of communities because it can handle latency and scale more efficiently.

*Add new Section 27.1.2.2*

### 300 27.1.2.2 Patient Location Query [ITI-56]

The Patient Location Query supports the ability for an Initiating Gateway to query the Responding Gateway for a list of communities which may have relevant health data about particular patients.

This transaction can be used synchronously and asynchronously.

305

*Add new Section 27.1.2.3*

### 27.1.2.3 Cross Gateway Revoke Correlation [ITI-107]

310 The Cross Gateway Revoke Correlation transaction also supports the ability for Initiating Gateways to send a revoke message to Responding Gateways when a prior patient identifier correlation may no longer be valid. The revoke message is used when Responding Gateways and Initiating Gateways may have cached the correlation identified as part of a Cross Gateway Patient Discovery transaction.

This transaction can be used synchronously and asynchronously.

315 Update [Section 27.2](#) as shown:

## 27.2 XCPD Integration Profile Options

Options that may be selected for this Integration Profile are listed in Table 27.2-1 along with the actors to which they apply. Dependencies between options when applicable are specified in notes.  
320

**Table 27.2-1: XCPD - Actors and Options**

Actor	Options	Volume & Section
Initiating Gateway	Asynchronous Web Services Exchange	ITI TF-1: 27.2.1
	Deferred Response	ITI TF-1: 27.2.2
	<b><u>Health Data Locator</u></b>	<b><u>ITI TF-1: 27.2.3</u></b>
	<b><u>Revoke</u></b>	<b><u>ITI TF-1: 27.2.4</u></b>
Responding Gateway	Deferred Response	ITI TF-1: 27.2.2
	<b><u>Health Data Locator</u></b>	<b><u>ITI TF-1: 27.2.3</u></b>
	<b><u>Revoke</u></b>	<b><u>ITI TF-1: 27.2.4</u></b>

### 27.2.1 Asynchronous Web Services Exchange Option

Initiating Gateways which support Asynchronous Web Services Exchange shall support Asynchronous Web Services Exchange on the Cross Gateway Patient Discovery [ITI-55],  
325 **Patient Location Query [ITI-56], and Cross Gateway Revoke Correlation [ITI-107] transactions.** Asynchronous processing is necessary to support scaling to large numbers of communities because Asynchronous Web Services Exchange allows for more efficient handling of latency and scale.

### 330 27.2.2 Deferred Response Option

Responding Gateways which support the Deferred Response Option shall support Deferred Response as described in [ITI TF-2: 3.55.6.2](#) on the Cross Gateway Patient Discovery [ITI-55] transaction.

335 Initiating Gateways which support the Deferred Response Option shall support Deferred Response as described in [ITI TF-2: 3.55.6.2](#) on the Cross Gateway Patient Discovery [ITI-55] transaction.

The Deferred Response Option reflects the more detailed understanding and feedback from implementers regarding processing that may result in significant delay. The existing Asynchronous Web Services Exchange Option can support some scenarios with delayed  
340 response but not environments where the delay in responding may be as much as days or weeks. These cases require a mechanism that is managed by the application and which supports recovery through system restart. Deferred Response mode provides applications with such capability. In doing so it also adds responsibilities to the application, in particular for managing

345 message correlation, creating application level acknowledgements and determining where to send a Deferred Response message. The new flexibility allowed by the Deferred Response Option is deemed worthy of these additional requirements on the application. For more information about Deferred Response and Asynchronous messaging in general see [http://wiki.ihe.net/index.php?title=Asynchronous\\_Messaging](http://wiki.ihe.net/index.php?title=Asynchronous_Messaging).

### **27.2.3 Health Data Locator Option**

350 **Initiating Gateways which support the Health Data Locator Option shall support the Patient Location Query [ITI-56] transaction to request the location of a patient (or set of patients) health data.**

355 **Responding Gateways which support the Health Data Locator Option shall collect locations of health data for selected patients and make that information available to Initiating Gateways from other communities via the Patient Location Query [ITI-56] transaction.**

### **27.2.4 Revoke Option**

360 **XCPD allows for the caching of correlations resulting from the Cross Gateway Patient Discovery [ITI-55] transaction. This caching is not required of any XCPD implementation but when used may be combined with use of the Cross Gateway Revoke Correlation [ITI-107] transaction to invalidate cached correlations.**

**Initiating Gateways which support the Revoke Option shall be able to use the Cross Gateway Revoke Correlation [ITI-107] transaction to notify a Responding Gateway that a patient identifier correlation may no longer be valid.**

365 **Responding Gateways which support the Revoke Option shall be able to receive the Cross Gateway Revoke Correlation [ITI-107] transaction to be notified by an Initiating Gateway that a patient identifier correlation is no longer valid.**

*Add the following use case to the end of [Section 27.3.1](#)*

370 **Use Case: Patient Merge**

**After completing one of the above use cases, it is found that the patient had duplicate medical records at a single medical facility. After merging the records at the local facility, the staff at the medical facility need to communicate to other facilities that the patient correlation might now be invalid.**

375

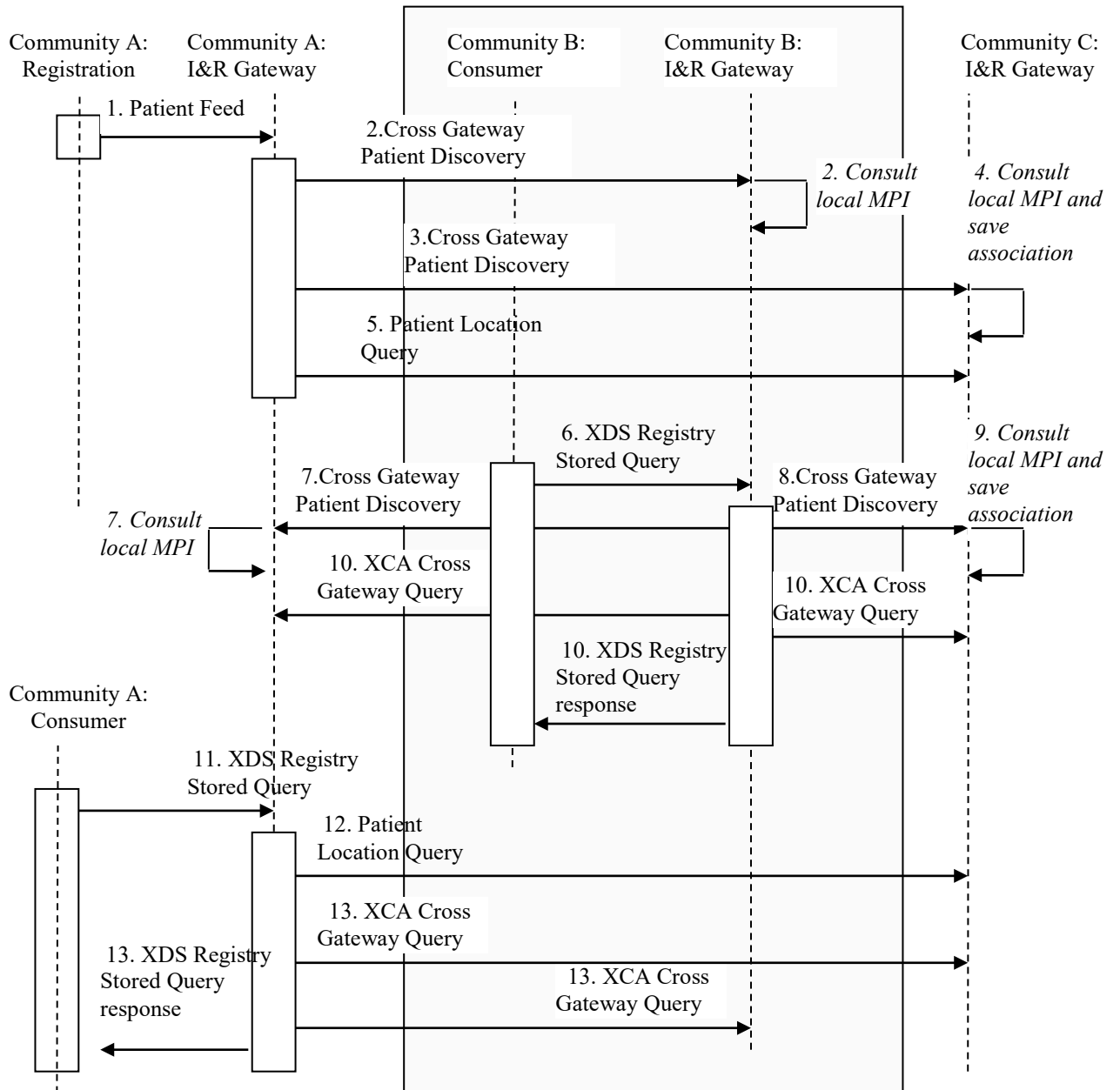
*Add the following text to the end of [Section 27.3.2.1](#)*

#### **27.3.2.1 Illustration of use of Transactions (Informative)**

...

380 Scenario # 2: Use of Health Data Locator (Informative)

**Figure 27.3.2.1-2 shows the transactions involved in sharing healthcare data for one patient among three communities. In this scenario community C is a Health Data Locator for the patient. Details on each interaction follow the diagram.**



385

**Figure 27.3.2.1-2: Detailed Interactions Health Data Locator (Informative)**

- [1] The patient registers within Community A and a Patient Feed is sent to the Gateway.
- 390 • [2] The Gateway uses the Cross Gateway Patient Discovery transaction to determine if this patient is known in community B. Community B consults with its local MPI and responds with no matches, indicating the patient is not known in community B.
- [3] The Gateway uses the Cross Gateway Patient Discovery transaction to determine if this patient is known in community C. Community C responds with one match
- 395 including the patient identifier in C and the indication that community C is a Health Data Locator for this patient.
- [4] Community C consults with its local MPI and finds a match. It saves the association that the identifier designated on the Cross Gateway Patient Discovery transaction is community A's identifier for this patient.
- 400 • [5] Community A pre-loads locations for this patient by sending a Patient Location Query to community C which has identified itself as a Health Data Locator.
- [6] This patient is seen, for the first time, within an organization in community B which subsequently requests data about this patient and sends an XDS Registry Stored Query to its local Gateway.
- 405 • [7] The Gateway uses the Cross Gateway Patient Discovery transaction to determine if this patient is known in community A. Community A consults with its local MPI and responds with one match including the patient identifier in A.
- [8] The Gateway uses the Cross Gateway Patient Discovery transaction to determine if this patient is known in community C. Community C responds with one match
- 410 including the patient identifier in C and the indication that community C is a Health Data Locator for this patient.
- [9] Community C consults with its local MPI and finds a match. It saves the association that the identifier designated on the Cross Gateway Patient Discovery transaction is community B's identifier for this patient.
- 415 • [10] The community B gateway sends an XCA Cross Gateway Query to both Community A and C because both responded positively to the Cross Gateway Patient Discovery transaction. Both responses are combined by the community B gateway and returned to the organization which originated the XDS Registry Stored Query in step [6].
- 420 • [11] An organization in community A requests data about this patient and sends an XDS Registry Stored Query to its local Gateway.
- [12] The Gateway has saved the locations retrieve from community C in step [5] but this query may happen days or weeks or years later. To get a fresh copy of the locations for this patient, community A's gateway sends another Patient Location
- 425 Query to C. By doing so it discovers that B also knows this patient.
- [13] Community A sends an XCA Cross Gateway Query to both community B and C and combines the responses in order to respond to the XDS Registry Stored Query



430

## Volume 2 – Transactions

Update [Section 3.55.1](#) the second from last paragraph to add to the end of the paragraph as shown:

### 3.55 Cross Gateway Patient Discovery [ITI-55]

...

435

Update [Section 3.55.4.1.2](#) the second to last paragraph to add a sentence to the end of it as shown:

#### 3.55.4.1.2 Message Semantics

...

440

The Initiating Gateway may specify a duration value in the SOAP Header element of the request. This value suggests to the Responding Gateway a length of time that the Initiating Gateway recommends caching any correlation resulting from the interaction. The duration value is specified in the SOAP Header using the CorrelationTimeToLive element and contains a value conformant with the xs:duration type defined in <http://www.w3.org/TR/xmlschema-2/#duration>. If no CorrelationTimeToLive element is specified in the SOAP Header the Responding Gateway shall interpret this as a recommendation against caching, unless a mutually agreed policy states otherwise. **Mutually agreed policies may also be used to bind an Initiating Gateway to a specific timeframe for use of the Cross Gateway Revoke Correlation [ITI-107] message.**

445

...

450

Update [Section 3.55.4.1.2.4](#) as follows:

#### 3.55.4.1.2.4 Values used by Responding Gateway for a reverse Cross Gateway Query

...

455

The Responding Gateway uses the homeCommunityId to obtain the Web Services endpoint of services that provide access to data in the Initiating Gateway's community. **The Responding Gateway may also use the specified value as an entry in its response to a Patient Location Query transaction.**

...

460

The Responding Gateway may use the specified assigning authority to identify which of the LivingSubjectID values to use in a reverse Cross Gateway Query. **The Responding Gateway may also use the identified LivingSubjectID value as an entry in its response to a Patient Location Query transaction.**

...

465 *Update [Section 3.55.4.1.3](#) as follows:*

### 3.55.4.1.3 Expected Actions

...

The community associated with the Responding Gateway may make use of the homeCommunityId and community patient identifier assigning authority by initiating a Cross Gateway Query **and/or saving the information for use in a Patient Location Query response.** See [ITI TF-2: 3.55.4.1.2.4](#) for more information. This provisioning of the Responding Gateway community may be cached indefinitely, but efforts are needed to ensure that changes are properly reflected. For more detail about this issue refer to [ITI TF-2: 3.55.4.2.3.1](#) **and the Cross Gateway Revoke Correlation [ITI-107] transaction.**

475

**The Responding Gateway shall indicate in the response to the Cross Gateway Patient Discovery transaction whether it is acting as a Health Data Locator for this patient. See [Section 3.55.4.2.2](#) for more information.**

480 *Update [Section 3.55.4.2.2](#) to the 2<sup>nd</sup> to last paragraph adding the sentence at the end.*

### 3.55.4.2.2 Message Semantics

...

The Responding Gateway may specify a duration value in the SOAP Header element of the request. This value suggests to the Initiating Gateway a length of time that the Responding Gateway recommends caching any correlation resulting from the interaction. The duration value is specified in the SOAP Header using the CorrelationTimeToLive element and contains a value conformant with the xs:duration type defined in <http://www.w3.org/TR/xmlschema-2/#duration>. If no CorrelationTimeToLive element is specified in the SOAP Header the Initiating Gateway shall interpret this as a recommendation against caching, unless a mutually agreed policy states otherwise. **Mutually agreed policies may also be used to bind a Responding Gateway to a specific timeframe for use of the Cross Gateway Revoke Correlation [ITI-107] message.**

490

...

*Update [Section 3.55.4.2.2.5](#) as shown.*

### 3.55.4.2.2.5 Specifying support as a Health Data Locator

495 The Responding Gateway shall specify its support for this patient as a Health Data Locator. This specification is a coded value within the assignedEntity of the custodian of the RegistrationEvent. The valid codes for this designation are described in Table 3.55.4.2.2.5-1. The codeSystem for these code elements is 1.3.6.1.4.1.19376.1.2.27.2.

500 **If the response contains multiple RegistrationEvent elements with different homeCommunityId values this indicates that there may be multiple Health Data Locators**

**operating within the community. To access all locations for the patient the Initiating Gateway is encouraged to send multiple Patient Location Query transactions, one for each RegistrationEvent with a unique homeCommunityId and declaring SupportsHealthDataLocator.**

505 **Table 3.55.4.4.2.2.5-1: Coded values for codeSystem=1.3.6.1.4.1.19376.1.2.27.2**

Value for code	Meaning of code
NotHealthDataLocator	This community does not maintain externally available location information about this patient and will respond with no data to a Patient Location Query transaction related to this patient.
<b><u>SupportsHealthDataLocator</u></b>	<b><u>This community maintains location information about this patient and makes it available to other communities via the Patient Location Query transaction.</u></b>

*Add the identified text to the end of Case 1 in [Section 3.55.4.2.3](#) and add line-feeds to list to improve readability.*

### 3.55.4.2.3 Expected Actions

510 **Case 1:** The Responding Gateway finds exactly one patient record matching the criteria sent in the query parameters.

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

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

515 One RegistrationEvent (and the associated Patient role, subject of that event) is returned from the patient information source for the patient record found. The community associated with the Initiating Gateway may use the patient demographics and identifiers to:

a) run an independent matching algorithm to ensure the quality of the match

520 b) use the designated patient identifier in a Cross Gateway Query to get information about records related to the patient

c) cache the correlation for future use (see [ITI TF-2: 3.55.4.2.3.1](#) for more information about caching)

**d) use a Patient Location Query [ITI-56] transaction to get a list of patient data locations.**

525

*Update [Section 3.55.4.2.3.1](#) as follows:*

#### 3.55.4.2.3.1 Caching (Informative)

...

530 Both the requesting and responding side of the Cross Gateway Patient Discovery [\[ITI-55\]](#) transaction gain knowledge through this transaction. That knowledge may be used immediately,

by sending a **Patient Location Query [ITI-56] or** Cross Gateway Query [**ITI-38**] transaction or may be cached for use at some other time (or both). This section addresses caching considerations when the Cross Gateway Patient Discovery [**ITI-55**] transaction is used in the Demographic Query and Feed mode. Other modes are a simplification of this mode with  
535 corresponding simplifications of the considerations presented.

...

#### **Local changes in demographics, merge/link**

When a local change in demographics or a merge/link event affects the LocalPid, the community may initiate a Cross Gateway Patient Discovery request to validate the correlation **or use the**  
540 **Cross Gateway Revoke Correlation [ITI-107] transaction to remove any correlation previously identified.**

#### **External changes in demographics, merge/link**

When an external change in demographics or merge/link event occurs, the external community may initiate a Cross Gateway Patient Discovery request which, when received, can be used to re-  
545 assess the correlation and adjust accordingly. **Alternately, the external community may initiate a Cross Gateway Revoke Correlation [ITI-107] transaction. If the external community chooses not to initiate a Cross Gateway Patient Discovery request or Cross Gateway Revoke Correlation request, then the local community cannot know about**  
550 **changes.** Mutually agreed policies for use of the CorrelationTimeToLive SOAP header may enable greater assurance that changes are reflected when needed.

*Add Section 3.56.*

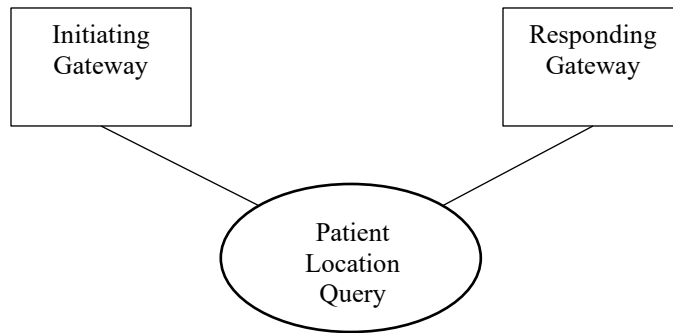
### 555 **3.56 Patient Location Query [ITI-56]**

This section corresponds to transaction [ITI-56] of the IHE ITI Technical Framework. Transaction [ITI-56] is used by the Initiating Gateway and Responding Gateway Actors.

#### **3.56.1 Scope**

The Patient Location Query transaction supports a query that retrieves a list of communities  
560 which may have healthcare data for a patient referenced by patient identifier.

### 3.56.2 Use Case Roles



**Actor:** Initiating Gateway

565 **Role:** Requests the Responding Gateway to provide patient data locations in the form of a list of community identifiers (homeCommunityId) that reference communities that may have healthcare records for the patient identifier specified in the request.

**Actor:** Responding Gateway

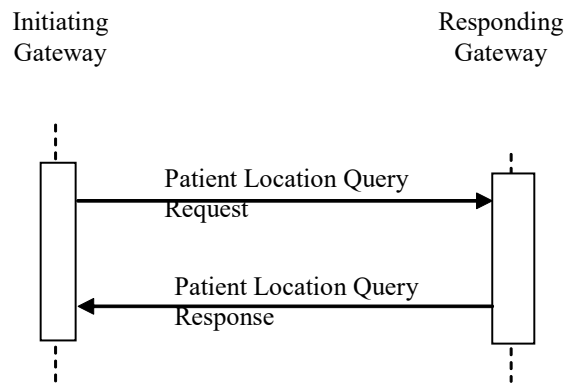
**Role:** Responds with a list of patient data locations.

### 570 3.56.3 Referenced Standards

HL7 V3 Datatypes 2008 Normative Edition

[ITI TF-2: Appendix V](#): Web Services for IHE Transactions - Contains references to all Web Services standards and requirements of use.

### 3.56.4 Messages



575

**Figure 3.56.4-1: Interaction Diagram**

### 3.56.4.1 Patient Location Query Request

This message carries a request for a list of communities which may have healthcare data about the identified patient.

#### 580 3.56.4.1.1 Trigger Events

A new patient arrives at a medical provider and medical records for this patient are desired from outside the medical provider's community. In cases of an existing patient, this transaction may be used to determine if there is new data available outside the community.

#### 3.56.4.1.2 Message Semantics

585 The Patient Location Query request is a Web Service request complying with all requirements in [ITI TF-2: Appendix V](#): Web Services for IHE Transactions. The content of the message is a single `<xcpd:PatientLocationQueryRequest/>` element which contains a single `<xcpd:RequestedPatientId/>` element. The `<xcpd:RequestedPatientId/>` contains the patient identifier which shall be coded consistent with the HL7 V3 II Data Type.

590 The Responding Gateway shall support Asynchronous Web Services Exchange as described in [ITI TF-2: Appendix V.5](#) Synchronous and Asynchronous Web Services Exchange. If the Initiating Gateway declares the Asynchronous Web Services Exchange Option, it shall also support Asynchronous Web Services Exchange as described in [ITI TF-2: Appendix V.5](#). Use of Asynchronous Web Services Exchange is necessary when transactions scale to large numbers of  
595 communities because it allows for more efficient handling of latency and scale.

The Initiating Gateway has acquired the correct patient identifier to use in this transaction through some other interactions outside the scope of this transaction. One approach is to use the Cross Gateway Patient Discovery transaction, which returns the identifier associated with a set of demographics.

600 An example of the Patient Location Query request:

```
605 <xcpd:PatientLocationQueryRequest xmlns:xcpd="urn:ihe:iti:xcpd:2009
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="urn:ihe:iti:xcpd:2009">
  <xcpd:RequestedPatientId
      root="1.2.840.114350.1.13.99997.2.3412" extension="38273N237"/>
</xcpd:PatientLocationQueryRequest>
```

#### 3.56.4.1.2.1 Web Services Transport

See Section 3.56.6.

#### 610 3.56.4.1.2.2 Example request message

A complete example of the request message is:

```

615 <s:Envelope xmlns:s="http://www.w3.org/2003/05/soap-envelope"
      xmlns:a="http://www.w3.org/2005/08/addressing">
      <s:Header>
      <a:Action
620 s:mustUnderstand="1">urn:ihe:iti:2009:PatientLocationQuery</a:Action>
      <a:MessageID>urn:uuid:a02ca8cd-86fa-4afc-a27c-16c183b2055</a:MessageID>
      <a:ReplyTo>
        <a:Address>http://www.w3.org/2005/08/addressing/anonymous</a:Address>
      </a:ReplyTo>
      <a:To
625 s:mustUnderstand="1">http://localhost:2647/Service/IHERespondingGateway.svc</
      a:To>
      </s:Header>
      <s:Body>
      <xcpd:PatientLocationQueryRequest xmlns:xcpd="urn:ihe:iti:xcpd:2009
630 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
        xsi:schemaLocation="urn:ihe:iti:xcpd:2009">
      <xcpd:RequestedPatientId
        root="1.2.840.114350.1.13.99997.2.3412" extension="38273N237"/>
      </xcpd:PatientLocationQueryRequest>
      </s:Body>
635 </s:Envelope>
  
```

**3.56.4.1.3 Expected Actions**

The Responding Gateway shall respond with the Patient Location Query Response Message indicating the data it has related to the specified patient identifier.

640 The Responding Gateway shall use the SOAP Faults defined in Table 3.56.4.1.3-1 when appropriate. Initiating Gateways shall be capable of accepting other values beyond the ones specified here.

**Table 3.56.4.1.3-1: SOAP Faults**

Description of error	Code	Reason Text
The Responding Gateway is too busy to respond to the request	Receiver	Busy
The Responding Gateway resources are too low to respond to the request	Receiver	Resources Low
The Responding Gateway is not a Health Data Locator for the patient specified in the request.	Sender	Not a Health Data Locator for the specified patient identifier

An example of a SOAP Fault is:

645

650

```
<env:Envelope xmlns:env="http://www.w3.org/2003/05/soap-envelope"
              xmlns:xml="http://www.w3.org/XML/1998/namespace">
  <env:Body>
    <env:Fault>
      <env:Code>
        <env:Value>env:Receiver</env:Value>
      </env:Code>
      <env:Reason>
        <env:Text xml:lang="en">Busy</env:Text>
      </env:Reason>
    </env:Fault>
  </env:Body>
</env:Envelope>
```

### 3.56.4.2 Patient Location Query Response

665 This message carries a response to a request for a list of communities which may have healthcare data about the identified patient.

#### 3.56.4.2.1 Trigger Events

A Patient Location Query Request Message is received.

#### 3.56.4.2.2 Message Semantics

670 The Patient Location Query response is a Web Services response complying with all requirements in [ITI TF-2: Appendix V](#): Web Services for IHE Transactions.

The Responding Gateway shall support Asynchronous Web Services Exchange as described in [ITI TF-2: Appendix V.5](#) Synchronous and Asynchronous Web Services Exchange. If the Initiating Gateway declares the Asynchronous Web Services Exchange Option, it shall also support Asynchronous Web Services Exchange as described in [ITI TF-2: Appendix V.5](#). Use of Asynchronous Web Services Exchange is necessary when transactions scale to large numbers of communities because it allows for more efficient handling of latency and scale.

680 The Responding Gateway has acquired the data returned in this transaction through some other interactions outside the scope of this transaction. One approach is to use the Cross Gateway Patient Discovery transaction.

The content of the message is a single <ihe:PatientLocationQueryResponse/> element which is defined as:

- An optional sequence of <xcpd:PatientLocationResponse/> elements which contain:
  - 685 ○ A required <xcpd:HomeCommunityId/> element. The value of this element shall be the identifier of a community which might have data about the patient identified in the request. Shall be coded consistent with the anyURI Data Type.
  - 690 ○ A required <xcpd:CorrespondingPatientId/> element that contains the patient identifier that the requested patient is known by within the community identified by the ihe:HomeCommunityId element. Shall be coded consistent with the HL7 V3 II Data Type.
  - A required <xcpd:RequestedPatientId/> that is the same identifier specified in the query request. Shall be coded consistent with the HL7 V3 II Data Type



695 The <xcpd:PatientLocationResponse> element in the schema may have additional sub-elements defined by national committees. Initiating Gateways shall accept extra sub-elements and may ignore them. National committees are responsible for providing an extended schema if the schema is extended. The schema shall not be extended outside of IHE national/regional committees.

If the Responding Gateway is not managing patient data locations for the identified patient, or does not know the patient identifier, it shall respond with a SOAP Fault see Section 3.56.4.1.3.

### 700 3.56.4.2.2.1 Web Services Transport

See Section 3.56.6.

### 3.56.4.2.2.2 Example response message

A complete example of the response message is:

```
705 <xcpd:PatientLocationQueryResponse
  xmlns:xcpd="urn:ihe:iti:xcpd:2009"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:ihe:iti:xcpd:2009">
710   <xcpd:PatientLocationResponse>
     <xcpd:HomeCommunityId>urn:oid:1.2.333495.30291</xcpd:HomeCommunityId>
     <xcpd:CorrespondingPatientId
       root="1.2.840.114350.1.13.99997.12" extension="38273N237"/>
     <xcpd:RequestedPatientId
       root="1.2.840.114350.1.13.99997.2.3412"
715       extension="38273N237"/>
     </xcpd:PatientLocationResponse>
     <xcpd:PatientLocationResponse>
       <xcpd:HomeCommunityId>urn:oid:555.324.1.2.3</xcpd:HomeCommunityId>
       <xcpd:CorrespondingPatientId
         root="555.324.1.2.3.12" extension="7382931"/>
720       <xcpd:RequestedPatientId
         root="1.2.840.114350.1.13.99997.2.3412" extension="38273N237"/>
       </xcpd:PatientLocationResponse>
     </xcpd:PatientLocationQueryResponse>
```

725

### 3.56.4.2.3 Expected Actions

730 The Initiating Gateway may use the list of communities to send a [Cross Gateway Query \[ITI-38\]](#) transaction to each, using the value of the CorrespondingPatientId, to find all data about the patient. The Initiating Gateway may also cache the information, maintaining its cache through repeated polling of the original responder, or through receipt of subsequent [Cross Gateway Patient Discovery \[ITI-55\]](#) transactions. Support for subscription to updates to the list is not profiled by IHE.

### 3.56.5 Security Considerations

#### 3.56.5.1 Security Audit Considerations

735 The Patient Location Query transaction is a Query Information event as defined in ITI TF-2: Table 3.20.4.1.1.1-1. The actors involved shall record audit events according to the following:

##### 3.56.5.1.1 Initiating Gateway audit message:

	Field Name	Opt	Value Constraints
<b>Event</b> AuditMessage/ EventIdentification	EventID	M	EV(110112, DCM, "Query")
	EventActionCode	M	"E" (Execute)
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	M	EV("ITI-56", "IHE Transactions", "Patient Location Query")
<b>Source (Initiating Gateway) (1)</b>			
<b>Human Requestor (0..n)</b>			
<b>Destination (Responding Gateway) (1)</b>			
<b>Audit Source (Initiating Gateway) (1)</b>			
<b>Patient (1..n)</b>			
<b>Query Parameters(1)</b>			

Where:

<b>Source</b> AuditMessage/ ActiveParticipant	UserID	M	If Asynchronous Web Services Exchange is being used, the content of the <wsa:ReplyTo/> element. Otherwise, not specialized.
	AlternativeUserID	M	the process ID as used within the local operating system in the local system logs.
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	M	EV(110153, DCM, "Source Role ID")
	NetworkAccessPointTypeCode	M	"1" for machine (DNS) name, "2" for IP address
	NetworkAccessPointID	M	The machine name or IP address.

740

<b>Human Requestor (if known)</b> AuditMessage/ ActiveParticipant	UserID	M	Identity of the human that initiated the transaction.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	U	Access Control role(s) the user holds that allows this transaction.
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized

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<b>Destination</b> AuditMessage/ ActiveParticipant	UserID	M	SOAP endpoint URI.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	“false”
	RoleIDCode	M	EV(110152, DCM, “Destination Role ID”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address

<b>Audit Source</b> AuditMessage/ AuditSourceIdentification	AuditSourceID	U	not specialized
	AuditEnterpriseSiteID	U	not specialized
	AuditSourceTypeCode	U	not specialized

<b>Patient</b> AuditMessage/ ParticipantObjectIdentification	ParticipantObjectTypeCode	M	“1” (Person)
	ParticipantObjectTypeCodeRole	M	“1” (Patient)
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	not specialized
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID in HL7 CX format.
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized

745

<b>Query Parameters</b> AuditMessage/ ParticipantObjectIdentification	ParticipantObjectTypeCode	M	“2” (system object)
	ParticipantObjectTypeCodeRole	M	“24” (query)
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV(“ITI-56”, “IHE Transactions”, “Patient Location Query”)
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	“PatientLocationQueryRequest”
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	M	the PatientLocationQueryRequest, base64 encoded.
	ParticipantObjectDetail	U	not specialized

### 3.56.5.1.2 Responding Gateway audit message:

	Field Name	Opt	Value Constraints
<b>Event</b> AuditMessage/ EventIdentification	EventID	M	EV(110112, DCM, “Query”)
	EventActionCode	M	“E” (Execute)
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	M	EV(“ITI-56”, “IHE Transactions”, “Patient Location Query”)
<b>Source (Initiating Gateway) (1)</b>			
<b>Destination (Responding Gateway) (1)</b>			
<b>Audit Source (Initiating Gateway) (1)</b>			

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<b>Patient (0..n)</b>
<b>Query Parameters(1)</b>

Where:

<b>Source</b> AuditMessage/ ActiveParticipant	UserID	M	If Asynchronous Web Services Exchange is being used, the content of the <wsa:ReplyTo/> element. Otherwise, not specialized.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	M	EV(110153, DCM, “Source Role ID”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address

750

<b>Destination</b> AuditMessage/ ActiveParticipant	UserID	M	SOAP endpoint URI.
	AlternativeUserID	M	the process ID as used within the local operating system in the local system logs.
	UserName	U	not specialized
	UserIsRequestor	M	“false”
	RoleIDCode	M	EV(110152, DCM, “Destination Role ID”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address

<b>Audit Source</b> AuditMessage/ AuditSourceIdentification	AuditSourceID	U	not specialized
	AuditEnterpriseSiteID	U	not specialized
	AuditSourceTypeCode	U	not specialized

<b>Patient</b> AuditMessage/ ParticipantObjectIdentification	ParticipantObjectTypeCode	M	“1” (Person)
	ParticipantObjectTypeCodeRole	M	“1” (Patient)
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	not specialized
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID in HL7 CX format.
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	U	not specialized

<b>Query Parameters</b> AuditMessage/ ParticipantObjectIdentification	ParticipantObjectTypeCode	M	“2” (system object)
	ParticipantObjectTypeCodeRole	M	“24” (query)
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	EV(“ITI-56”, “IHE Transactions”, “Patient Location Query”)
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	“PatientLocationQueryRequest”
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	M	The PatientLocationQueryRequest, base64 encoded.
	ParticipantObjectDetail	U	not specialized

755 The Patient Location Query transaction does not require auditing of the returned result because the result contains only opaque identifiers. Implementers are free to audit more extensively if it is desired.

### 3.56.6 Protocol Requirements

760 The Patient Location Query request and response will be transmitted using Web Services, according to the requirements specified in [ITI TF-2: Appendix V](#). The specific values for the WSDL describing the Patient Location Query transaction are described in this section.

765 The Responding Gateway shall accept a Patient Location Query Request formatted as a SIMPLE SOAP message and respond with a Patient Location Query Response formatted as a SIMPLE SOAP message. The Initiating Gateway shall generate the Patient Location Query Request formatted as a SIMPLE SOAP message and accept a Patient Location Query Response formatted as a SIMPLE SOAP message.

**IHE-WSP201)** The attribute `/wsdl:definitions/@name` shall be “RespondingGateway”.

The following WSDL naming conventions shall apply:

```
wsdl:definitions/@name="RespondingGateway":  
query message -> "PatientLocationQuery_Message"  
770 query response -> "PatientLocationQueryResponse_Message"  
portType -> "RespondingGateway_PortType"  
operation -> "PatientLocationQuery"  
SOAP 1.2 binding -> "RespondingGateway_Binding_Soap12"  
SOAP 1.2 port -> "RespondingGateway_Port_Soap12"
```

775

**IHE-WSP202)** The targetNamespace of the WSDL shall be “urn:ihe:iti:xcpd:2009”

These are the requirements for the Patient Location Query transaction presented in the order in which they would appear in the WSDL definition:

- 780 • The following types shall be imported (xsd:import) in the `/definitions/types` section:
  - `namespace="urn:ihe:iti:xcpd:2009"`
- The `/definitions/message/part/@element` attribute of the Patient Location Query Request message shall be defined as “xcpd: PatientLocationQueryRequest”
- The `/definitions/message/part/@element` attribute of the Patient Location Query Response message shall be defined as “xcpd: PatientLocationQueryResponse”
- 785 • The `/definitions/portType/operation/input/@wsaw:Action` attribute for the Patient Location QueryRequest message shall be defined as “urn:ihe:iti:2009:PatientLocationQuery”
- The `/definitions/portType/operation/output/@wsaw:Action` attribute for the Patient Location Query Response message shall be defined as  
790 “urn:ihe:iti:2009:PatientLocationQueryResponse”

- The /definitions/binding/operation/soap12:operation/@soapActionRequired attribute shall be defined as “false”

A full WSDL for the Initiating and Responding Gateway Actors is available online; see [ITI TF-2: Appendix W](#).

795

*Add Section 3.107*

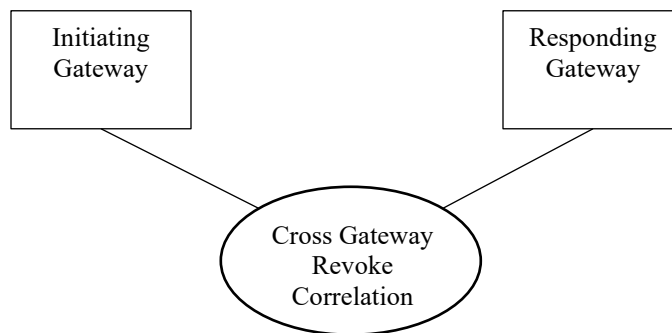
### 3.107 Cross Gateway Revoke Correlation [ITI-107]

800 This section corresponds to transaction [ITI-107] of the IHE ITI Technical Framework. Transaction [ITI-107] is used by the Initiating Gateway and Responding Gateway Actors.

#### 3.107.1 Scope

The Cross Gateway Revoke Correlation transaction is used to remove a previously cached patient identity correlation between two communities.

#### 3.107.2 Use Case Roles



805

**Actor:** Initiating Gateway

810 **Role:** Informs the Responding Gateway that a previously communicated patient identity in the initiating community should no longer be correlated with any identities in responding community without additional confirmation using the Cross Gateway Query [ITI-55] transaction.

**Actor:** Responding Gateway

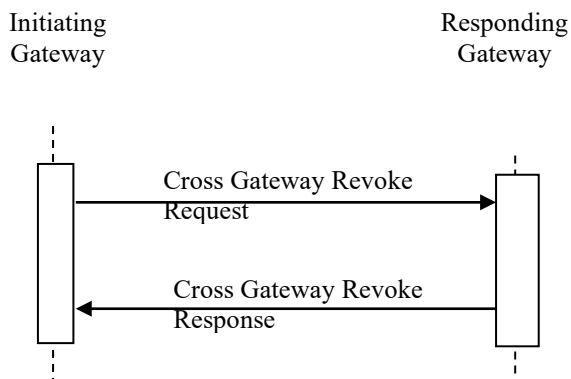
**Role:** Responds with an acknowledgement of the receipt of the revocation request and removes correlations as appropriate.

#### 3.107.3 Referenced Standards

815 HL7 Version 3 Edition 2008, Patient Administration DSTU, Patient Topic (found at [https://www.hl7.org/implement/standards/product\\_brief.cfm?product\\_id=186](https://www.hl7.org/implement/standards/product_brief.cfm?product_id=186) )

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

### 3.107.4 Messages



820

**Figure 3.107.4-1: Interaction Diagram**

#### 3.107.4.1 Cross Gateway Revoke Request

This message carries a notice that a previously communicated patient correlation should no longer be cached and should be called into question. The Revoke Message is implemented using the HL7 Patient Registry Record Nullified (PRPA\_IN201303UV02) message.

825

##### 3.107.4.1.1 Trigger Events

The initiating community has cached a correlation between a local patient identifier and an external patient identifier. A significant change has occurred related to the local identifier which suggests that the cached correlation may no longer be valid. The Initiating Gateway sends this message to notify the responding community that the previously identified correlation may no longer be valid.

830

##### 3.107.4.1.2 Message Semantics

The Responding Gateway shall support Asynchronous Web Services Exchange as described in [ITI TF-2: Appendix V.5](#), Synchronous and Asynchronous Web Services Exchange. If the Initiating Gateway declares the Asynchronous Web Services Exchange Option, it shall also support Asynchronous Web Services Exchange as described in [ITI TF-2: Appendix V.5](#). Use of Asynchronous Web Services Exchange is necessary when transactions scale to large numbers of communities because it allows for more efficient handling of latency and scale.

835

The Initiating Gateway should specify a coded reason that explains why the correlation is believed to be invalid. This is specified in the SOAP header using the RevocationReason element with attributes code and system to be the code and code system of the code, respectively. The value of the element should be a brief human readable description of the reason and shall not be longer than 250 characters.

840

The code and code system should be taken from the following value set:

845

**Table 3.107.4.1.2-1: Coded values for codeSystem=1.3.6.1.4.1.19376.1.2.27.4**

Value for code	Meaning of code
PatientMerge	The patient has been merged with another patient and the patient's identifier was subsumed in the merge. Recorrelation is recommended.
PatientUnmerge	A previously performed patient merge operation has been reverted. Recorrelation and re-evaluation of previously received data recommended.
IncorrectPatient	The community believes that this correlation was made in error.
DemographicsUpdate	Patient demographics have been updated
Overlay	Another patient's care was documented on this patient's record, and the issue has been corrected. Recorrelation and re-evaluation of previously received data recommended.
Requested	The correlation should be removed for administration or patient privacy reasons. This might be at the request of a patient, an administrator, or for some other reason as dictated by policy.
Technical	The correlation should be re-established due to some technical reason.
Other	
Unknown	The reason is not known.

An example of specifying that the revocation reason is because a patient was unmerged:

850

```
<xcpd:RevocationReason code="PatientUnmerge"
system="1.3.6.1.4.1.19376.1.2.27.4">Patient merge operation has been
reverted.</xcpd:RevocationReason>
```

### 3.107.4.1.2.1 Message Information Model of the Patient Nullify Message

855

Below is the Message Information Model for the Patient Nullify 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 Nullify Message (PRPA\_RM201305UV) RMIM.

The base RMIM can be found on the HL7 V3 2008 Edition CD at: Edition2008/domains/uvpa/editable/PRPA\_RM201305UV.htm. The following restrictions were made on the original RMIMs to arrive at the restricted model:

860

- The focal entity choice is restricted to be only a person.
- The Patient shall have exactly two patient identifiers.
- Person.name shall be null and all other optional elements shall be omitted. For example:
  - administrativeGender
  - birthTime
  - birthplace

865



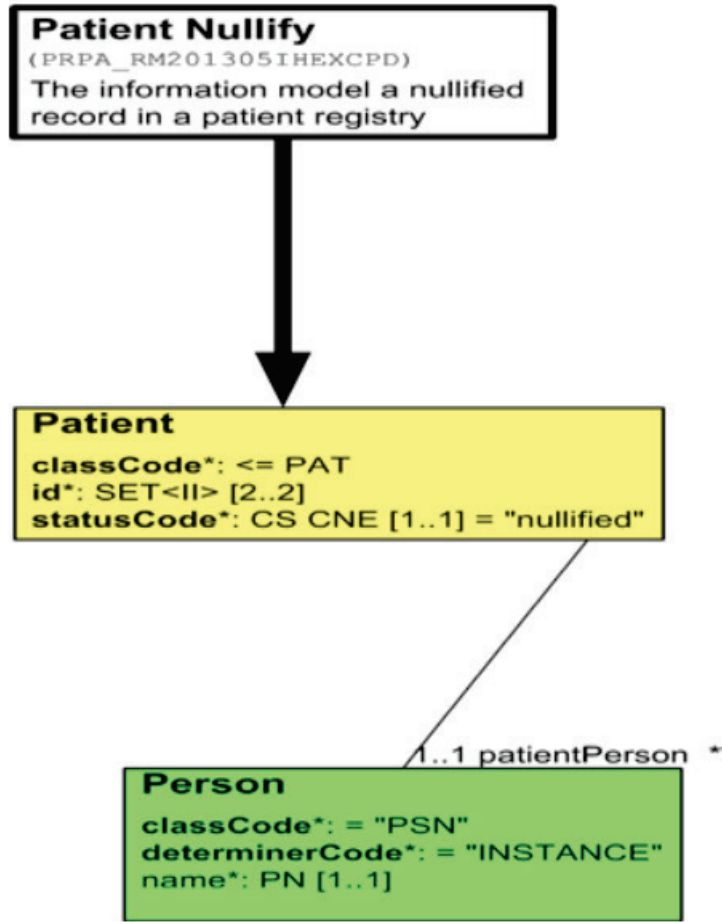


Figure 3.107.4.1.2.1-1: Patient Nullify Message

870 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 3.107.4.1.2.1-1: Patient Nullify Message

PRPA_HD201305IHE Patient Registry Record Nullified	This HMD extract defines the message used to ... Derived from Figure 3.Y1.4.1.2.1-1 (PRPA_RM201305IHEXCPD)
<b>Patient</b>	The primary record for the focal person
classCode [1..1] (M) Patient (CS) {CNE: PAT}	Structural attribute; this is a "patient" role
id [2..2] (M) Patient (SET<II>)	Shall contain two elements reflecting the correlation that is no longer valid. One of the identifiers is the patient identifier from the Initiating Gateway domain, the other is the identifier from the Responding Gateway domain.
statusCode [1..1] Patient (CS) {CNE: active, fixed value= "nullified"}	A value specifying the state of this record in a patient registry (based on the RIM role class state-machine). This record is nullified.

<b>PRPA_HD201305IHE Patient Registry Record Nullified</b>	<b>This HMD extract defines the message used to ... Derived from Figure 3.Y1.4.1.2.1-1 (PRPA_RM201305IHEXCPD)</b>
<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..1] Person (BAG<PN>)	Name(s) for this person; shall contain null i.e., <name nullFlavor="NA"/>

### 3.107.4.1.2.2 Control Act and Transmission Wrappers

875 Please see [ITI TF-2: Appendix O](#) for details on the IHE guidelines for implementing the wrappers. Table 3.Y1.4.1.2.2-1 contains the Transmission and Control Act wrappers used for this interaction, and the associated constraints.

**Table 3.107.4.1.2.2-1: 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_IN201303UV02 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_TE201303UV02 RegistrationEvent.statusCode shall be set to “active” There shall be no InReplacementOf act relationship for these interactions.

880 The composite message schemas which describe the full payload of these interactions, including the wrappers, can be found online; see (the HL7 V3 2008 Normative Edition schemas are at: Edition2008/processable/multicacheschemas/PRPA\_IN201303UV02.xsd).

### 3.107.4.1.3 Expected Actions

885 The Responding Gateway shall send an accept acknowledgement for any properly formatted Patient Nullify Message. The Responding Gateway may update its cached patient correlations and/or initiate a workflow to update the cache.

### 3.107.5 Security Considerations

This transaction assumes that the communities that are using Initiating Gateways and Responding Gateways have an agreement defining when they can interchange PHI.

### 3.107.5.1 Security Audit Considerations

890 This transaction is recorded as a Delete action on the Query correlation using the Application Activity pattern.

#### 3.107.5.1.1 Initiating Gateway audit message:

	Field Name	Opt	Value Constraints
<b>Event</b> AuditMessage/ EventIdentification	EventID	M	EV(110100, DCM, “Application Activity”)
	EventActionCode	M	“D” (Delete)
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	M	EV(“ITI-107”, “IHE Transactions”, “Cross Gateway Revoke Correlation”)
<b>Source (Initiating Gateway) (1)</b>			
<b>Human Requestor (0..n)</b>			
<b>Destination (Responding Gateway) (1)</b>			
<b>Audit Source (Initiating Gateway) (1)</b>			
<b>Patient (1..1)</b>			

Where:

<b>Source</b> AuditMessage/ ActiveParticipant	UserID	M	If Asynchronous Web Services Exchange is being used, the content of the <wsa:ReplyTo/> element. Otherwise, not specialized.
	AlternativeUserID	M	the process ID as used within the local operating system in the local system logs.
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	M	EV(110153, DCM, “Source Role ID”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address.

895

<b>Human Requestor (if known)</b> AuditMessage/ ActiveParticipant	UserID	M	Identity of the human that initiated the transaction.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	U	Access Control role(s) the user holds that allows this transaction.
	NetworkAccessPointTypeCode	U	not specialized
	NetworkAccessPointID	U	not specialized

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<b>Destination</b> AuditMessage/ ActiveParticipant	UserID	M	SOAP endpoint URI.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	M	“false”
	RoleIDCode	M	EV(110152, DCM, “Destination Role ID”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address

<b>Audit Source</b> AuditMessage/ AuditSourceIdentification	AuditSourceID	U	not specialized
	AuditEnterpriseSiteID	U	not specialized
	AuditSourceTypeCode	U	not specialized

<b>Patient</b> AuditMessage/ ParticipantObjectIdentifi- cation	ParticipantObjectTypeCode	M	“1” (Person)
	ParticipantObjectTypeCodeRole	M	“1” (Patient)
	ParticipantObjectDataLifeCycle	U	not specialized
	ParticipantObjectIDTypeCode	M	not specialized
	ParticipantObjectSensitivity	U	not specialized
	ParticipantObjectID	M	The patient ID in HL7 CX format.
	ParticipantObjectName	U	not specialized
	ParticipantObjectQuery	U	not specialized
	ParticipantObjectDetail	M	Revocation Reason

900

### 3.107.5.1.2 Responding Gateway audit message:

	Field Name	Opt	Value Constraints
<b>Event</b> AuditMessage/ EventIdentification	EventID	M	EV(110100, DCM, “Application Activity”)
	EventActionCode	M	“D” (Delete)
	EventDateTime	M	not specialized
	EventOutcomeIndicator	M	not specialized
	EventTypeCode	M	EV(“ITI-107”, “IHE Transactions”, “Cross Gateway Revoke Correlation”)
<b>Source (Initiating Gateway) (1)</b>			
<b>Destination (Responding Gateway) (1)</b>			
<b>Audit Source (Initiating Gateway) (1)</b>			
<b>Patient (1..1)</b>			

Where:

<b>Source</b> AuditMessage/ ActiveParticipant	UserID	M	If Asynchronous Web Services Exchange is being used, the content of the <wsa:ReplyTo/> element. Otherwise, not specialized.
	AlternativeUserID	U	not specialized
	UserName	U	not specialized
	UserIsRequestor	U	not specialized
	RoleIDCode	M	EV(110153, DCM, “Source Role ID”)

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	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address

<b>Destination</b> AuditMessage/ ActiveParticipant	UserID	M	SOAP endpoint URI.
	AlternativeUserID	M	the process ID as used within the local operating system in the local system logs.
	<i>UserName</i>	<i>U</i>	<i>not specialized</i>
	UserIsRequestor	M	“false”
	RoleIDCode	M	EV(110152, DCM, “Destination Role ID”)
	NetworkAccessPointTypeCode	M	“1” for machine (DNS) name, “2” for IP address
	NetworkAccessPointID	M	The machine name or IP address

905

<b>Audit Source</b> AuditMessage/ AuditSourceIdentification	<i>AuditSourceID</i>	<i>U</i>	<i>not specialized</i>
	<i>AuditEnterpriseSiteID</i>	<i>U</i>	<i>not specialized</i>
	<i>AuditSourceTypeCode</i>	<i>U</i>	<i>not specialized</i>

<b>Patient</b> AuditMessage/ ParticipantObjectIdentification	ParticipantObjectTypeCode	M	“1” (Person)
	ParticipantObjectTypeCodeRole	M	“1” (Patient)
	<i>ParticipantObjectDataLifeCycle</i>	<i>U</i>	<i>not specialized</i>
	<i>ParticipantObjectIDTypeCode</i>	<i>M</i>	<i>not specialized</i>
	<i>ParticipantObjectSensitivity</i>	<i>U</i>	<i>not specialized</i>
	ParticipantObjectID	M	The patient ID in HL7 CX format.
	<i>ParticipantObjectName</i>	<i>U</i>	<i>not specialized</i>
	<i>ParticipantObjectQuery</i>	<i>U</i>	<i>not specialized</i>
	<i>ParticipantObjectDetail</i>	M	Revocation Reason

### 3.107.6 Protocol Requirements

910 The Cross Gateway Patient Discovery request and response will be transmitted using Synchronous or Asynchronous Web Services Exchange, according to the requirements specified in ITI TF-2: Appendix V.

The following WSDL naming conventions SHALL apply:

revoke message -> "PRPA\_IN201303UV02\_Message"

acknowledgement -> "MCCI\_IN000002UV01\_Message"

915 The following WSDL snippet describes the types for this message:

```
...
<wsdl:types>
<xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
xmlns:hl7="urn:hl7-org:v3">
<xsd:include
schemaLocation=" ../schema/HL7V3/NE2008/multicacheschemas/MCCI_IN000002UV01.xs
d"/>
</xsd:schema>
<xsd:schema elementFormDefault="qualified" targetNamespace="urn:hl7-org:v3"
xmlns:hl7="urn:hl7-org:v3">
<xsd:include
schemaLocation=" ../schema/HL7V3/NE2008/multicacheschemas/PRPA_IN201303UV02.xs
d" />
</xsd:schema>
</wsdl:types>
...
```

The messages are described by the following snippet:

```
...
<wsdl:message name="MCCI_IN000002UV01_Message">
  <wsdl:part name="Body" element="hl7:MCCI_IN000002UV01"/>
</wsdl:message>
<wsdl:message name="PRPA_IN201303UV02_Message">
  <wsdl:part element="hl7:PRPA_IN201303UV02" name="Body" />
</wsdl:message>
...
```

### 3.107.6.1 Web Services Port Type and Binding Definitions

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

The following WSDL naming conventions shall apply:

920           wsdl:definitions/@name="RespondingGateway":  
              revoke message   -> " PRPA\_IN201303UV02\_Message"  
              acknowledgement  -> " MCCI\_IN000002UV01\_Message"

portType -> "RespondingGateway\_PortType"  
operation -> " RespondingGateway\_PRPA\_IN201303UV02"  
925 SOAP 1.2 binding -> "RespondingGateway\_Binding\_Soap12"  
SOAP 1.2 port -> "RespondingGateway\_Port\_Soap12"

**IHE-WSP202)** The targetNamespace of the WSDL shall be “urn:ihe:iti:xcpd:2009”

930 These are the additional requirements for the Cross Gateway Revoke Correlation transaction presented in the order in which they would appear in the WSDL definition:

- The /definitions/portType/operation/input/@wsaw:Action attribute for the Cross Gateway Revoke Correlation Request message shall be defined as “urn:hl7-org:v3:PRPA\_IN201303UV02”
- 935 • The /definitions/portType/operation/output/@wsaw:Action attribute for the Patient Location Query Response message shall be defined as “urn:hl7-org:v3:MCCI\_IN000002UV01”
- The /definitions/binding/operation/soap12:operation/@soapActionRequired attribute shall be defined as “false”

940 A full WSDL for the Initiating and Responding Gateway Actors is available online; see [ITI TF-2: Appendix W](#).