

**ACC, HIMSS and RSNA  
Integrating the Healthcare Enterprise**



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**IHE Patient Care Device Technical Framework  
Supplement 2007-2008**

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**Patient Identity Binding Option for Device  
Enterprise Communication  
(DEC-PIB)**

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**Draft for Trial Implementation  
August 31, 2007**

20 **Foreword**

Integrating the Healthcare Enterprise (IHE) is an initiative designed to stimulate the integration of the information systems that support modern healthcare institutions. Its fundamental objective is to ensure that in the care of patients all required information for medical decisions is both correct and available to healthcare professionals. The IHE initiative is both a process and a forum for encouraging integration efforts. It defines a technical framework for the implementation of established messaging standards to achieve specific clinical goals. It includes a rigorous testing process for the implementation of this framework. And it organizes educational sessions and exhibits at major meetings of medical professionals to demonstrate the benefits of this framework and encourage its adoption by industry and users.

25  
30 The approach employed in the IHE initiative is not to define new integration standards, but rather to support the use of existing standards, HL7, DICOM, IETF, and others, as appropriate in their respective domains in an integrated manner, defining configuration choices when necessary. IHE maintain formal relationships with several standards bodies including HL7, DICOM and refers recommendations to them when clarifications or extensions to existing standards are necessary.

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40 This initiative has numerous sponsors and supporting organizations in different medical specialty domains and geographical regions. In North America the primary sponsors are the American College of Cardiology (ACC), the Healthcare Information and Management Systems Society (HIMSS) and the Radiological Society of North America (RSNA). IHE Canada has also been formed. IHE Europe (IHE-EUR) is supported by a large coalition of organizations including the European Association of Radiology (EAR) and European Congress of Radiologists (ECR), the Coordination Committee of the Radiological and Electromedical Industries (COCIR), Deutsche Röntgengesellschaft (DRG), the EuroPACS Association, Groupement pour la Modernisation du Système d'Information Hospitalier (GMSIH), Société Française de Radiologie (SFR), Società Italiana di Radiologia Medica (SIRM), the European Institute for health Records (EuroRec), and the European Society of Cardiology (ESC). In Japan IHE-J is sponsored by the Ministry of Economy, Trade, and Industry (METI); the Ministry of Health, Labor, and Welfare; and MEDIS-DC; cooperating organizations include the Japan Industries Association of Radiological Systems (JIRA), the Japan Association of Healthcare Information Systems Industry (JAHIS), Japan Radiological Society (JRS), Japan Society of Radiological Technology (JSRT), and the Japan Association of Medical Informatics (JAMI). Other organizations representing healthcare professionals are invited to join in the expansion of the IHE process across disciplinary and geographic boundaries.

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50  
55 The IHE Technical Frameworks for the various domains (IT Infrastructure, Cardiology, Laboratory, Radiology, etc.) defines specific implementations of established standards to achieve integration goals that promote appropriate sharing of medical information to support optimal patient care. It is expanded annually, after a period of public review, and maintained regularly through the identification and correction of errata. The current version for these Technical Frameworks may be found at [www.ihe.net/Technical\\_Framework](http://www.ihe.net/Technical_Framework).

- 60 The IHE Technical Framework identifies a subset of the functional components of the healthcare enterprise, called IHE Actors, and specifies their interactions in terms of a set of coordinated, standards-based transactions. It describes this body of transactions in progressively greater depth. The volume I provides a high-level view of IHE functionality, showing the transactions organized into functional units called Integration Profiles that highlight their capacity to address specific clinical needs. The subsequent volumes provide detailed technical descriptions of each IHE transaction.
- 65

This IHE Patient Care Device Technical Framework Supplement is issued for Trial Implementation through March 2008.

- 70 Comments and change proposals arising from Trial Implementation may be submitted to <http://forums.rsna.org> under the forum:

***“Integrating the Healthcare Enterprise”***

Select the sub-forum:

***“IHE Patient Care Device 2007 Supplement for Trial Implementation”***

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The IHE Patient Care Device Technical Committee will address these comments resulting from implementation, connect-a-thon testing, and demonstrations such as HIMSS 2008. Final text is expected to be published in June 2008.

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    3.Y <Transaction Name> NOTE – There are no new transactions associated with this  
    supplement. ITI-PAM and ITI-PDQ are used in total and may be found in the ITI TF  
100 and Supplements..... 18

    <Appendix letter> Appendix\_Name..... 19

## 2 Introduction

105 Patient Identification is perhaps the most essential infrastructure component of any  
interoperability and communication process, particularly when Patient Care Device data is  
exported to the enterprise. It is the key element in medical device, communication, data analysis,  
reporting and record keeping. DEC provides an HL7 patient identity segment for all  
Communicate PCD Data (PCD-01) transactions. Identification of the patient by name and  
110 identification number is required in all messages. Manual keystroke entry and authentication of  
patient name and identification number for patient data from medical devices employing DEC is  
very inefficient and subject to error. The Patient Identity Binding Option (DEC-PIB) provides a  
method of automating the authentication process, allowing the caregiver to pick the patient from  
a list of valid patients, using constrained standard IHE ITI transactions. Automation of the entry  
of patient identification to Patient Care Devices has the potential for improving throughput,  
115 reducing errors, increasing safety and efficiency and increasing the effectiveness of devices and  
drugs. The Patient Identity Binding Option (PIB) for Device Enterprise Communication (DEC)  
provides a means of binding authenticated patient identity information to transactions created  
under the DEC Profile.

### 120 2.0.1 Editorial Notes

1. All major sections of the DEC profile published as the 2006 – 2007 Trial  
Implementation Technical Framework must be renumbered to accommodate this and  
future multiple profiles and comply with standard IHE documentation schema.
- 125 2. Section numbering in this segment refers to the numbering in the 2006-7 TF Trial  
Implementation Version Publication Date 20060815. Dates referred to in the text as  
“Year ‘n’” are defined as follows: Year 1 is the 2006-2007 development cycle. Year 2  
is the 2007-2008 development cycle. Year 3 is the 2008-2009 development cycle.

### 2.5 Open Issues and Questions

- 130 1. Unbinding Patient: Unbinding between patients is a process problem which will be  
addressed in year 3. For year 2, it is assumed that caregiver will reliably bind new  
patients to the PCD before starting data transmission and that this new binding will break  
the prior binding. It is also assumed that the DOR may receive an unbinding command  
as a result of patient discharge or other intervention; however this is also out of scope for  
Year 2.
- 135 2. Other out of scope issues for Year 2 includes fully automated binding and coordination  
with FDA activity in the areas of device and/or patient identification.
3. In situations where more than one device is to be associated with a single patient, it  
would be advantageous to bind multiple devices with a single transaction. This will

- 140 require the development of additional plug and play profiles under PCD and is out of  
scope for Year 2.
- 145 4. The formalized security audit has not been completed for this option and it must be  
pursued. Security of data integrity may include verification by MAC address or other  
hardened parametrers. The current DEC profile and its options assume that  
implementations are only on closed systems in hospitals or other secure locations. This  
will be addressed in Year 3.

## 2.5 Closed Issues

- 150 1. The question of whether DEC-PIB constitutes a new Integration Profile has been  
resolved for year 2 as follows. Patient Identity Binding is a core component of any data  
transmission, whether to the Enterprise or to any other system. A separate profile for  
Patient Identity Binding is not needed in year 2 as there exist prior IHE methods for  
obtaining patient identity, namely the ITI-30 Patient Identity Feed transaction of ITI-  
Patient Administration Management (PAM) and the ITI-Patient Demographics Query  
155 (PDQ) profile.. For the existing PCD-Device Enterprise Communication (DEC)  
Profile, a grouping of the Patient Demographics Consumer Actor with the Device  
Observation Reporter Actor will provide an IHE compliant and consistent methodology  
for binding patient identity to the DOR data stream.
- 160 2. Issues related to the use of PAM vs PDQ are as follows: ITI-PAM is used for ADT  
based broadcasts of patient demographic information, however ADT is not always  
timely in tracking patient movements and there may be cases where the DOR is not  
continuously connected to the network and able to receive ADT data before the patient  
appears on the nursing unit. Therefore, ITI-PDQ is allowed as an option.  
Implementations may use the Patient Identity Feed Transaction (ITI-30) of PAM, or the  
165 PDQ profile, or both. The PDQ profile permits the clinician to query the organization’s  
patient demographic database. Implementations need to consider the need to simplify  
caegiver workflow in the binding of patient identity. Either the PAM Patient Identity  
Feed transaction or PDQ can provide the caregiver with a simple pick-list from which  
to select the patient identity to bind.
- 170 3. Is binding done at the DOR, the DOC, or at the device? Binding is done at the DOR –  
it is the role of the DOR to send the PID message segment. The DOR also knows the  
identity of the devices to which it is connected. In practice, the binding could be done  
in a remote system or DOC, acting as a DOR for the purpose of DEC-PIB. In the  
future, under the PNP profile, for example, a device / device manager can bind the  
patient ID to its data, however that is out of scope for Year 2.
- 175 4. The question of “What happens if a device is put in use but the patient has not been  
bound?” is resolved by consideration of hospital processes. Hospital protocols, even  
for use cases as extreme as an external disaster, provide for unique temporary

180 identification of unknown patients. Under the DEC-PIB Option, if this temporary  
identification is admitted to the patient registry, it can be bound to the patient and  
linked to the correct identity, once known, via a Patient Administration Management  
(ITI PAM) “Link Patient Identifiers” or other transaction.

185 In the case where the temporary (or the correct) patient identification has not yet been  
admitted to the patient registry, the patient must be bound manually by the caregiver,  
with the caregiver providing authentication. This may be done by keystroke entry or  
other means.

5. The set of demographic patient information to be used for specifying the patient must  
be defined. By adopting existing ITI profiles, PAM and PDQ, the available  
demographics are defined by constraining the existing profiles and transactions.
6. The question of multiple IDs in the enterprise which are domain based is addressed in  
190 that both PAM and PDQ profiles allow for specifying the domain of interest.

### 3 Abstract

Patient Identification is perhaps the most essential infrastructural component of any  
interoperability and communication process, particularly when Patient Care Device data is  
exported to the enterprise. It is the key element in medical device, communication, data analysis,  
195 reporting and record keeping. DEC provides for a patient identity segment for all Communicate  
PCD Data (PCD-01) transactions. Identification of the patient by name and identification  
number is required in all messages. Manual keystroke entry and authentication of patient name  
and identification number is very inefficient and subject to error. The Patient Identity Binding  
Option (DEC-PIB) provides a method of automating the authentication process, allowing the  
200 caregiver to pick the patient from a list of valid patients, using standard IHE ITI transactions.  
Automation of the entry of patient identification to Patient Care Devices has the potential for  
improving throughput, reducing errors, increasing safety and efficiency and increasing the  
effectiveness of devices and drugs. The Patient Identity Binding Option (PIB) for Device  
Enterprise Communication (DEC) provides a means of binding authenticated patient identity  
205 information to transactions created under the DEC Profile.

## **GLOSSARY**

Grouping – Associating Actors together in one system such that information transferred between the actors is accomplished through direct application program interfaces, is out of scope in the IHE.

210 DEC-PIB – Device Enterprise Communication profile, Patient Identity Binding option.

The Joint Commission – Formerly The Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

PAM – Patient Administration Management, an IHE-ITI Implementation Profile

PDQ – Patient Demographics Query, an IHE-ITI Implementation Profile

215 MAC – Media Access Control - A unique identification/serial number associated with every device used in network communications.

FDA – The United States Food and Drug Administration

PnP – Plug and Play

Unbinding – The undoing of a binding.

220 **Volume I – Integration Profiles**

*This section describes the changes required in Volume I of the Technical Framework that result from this DEC-PIB modification to the DEC Profile*

**History of Annual Changes**

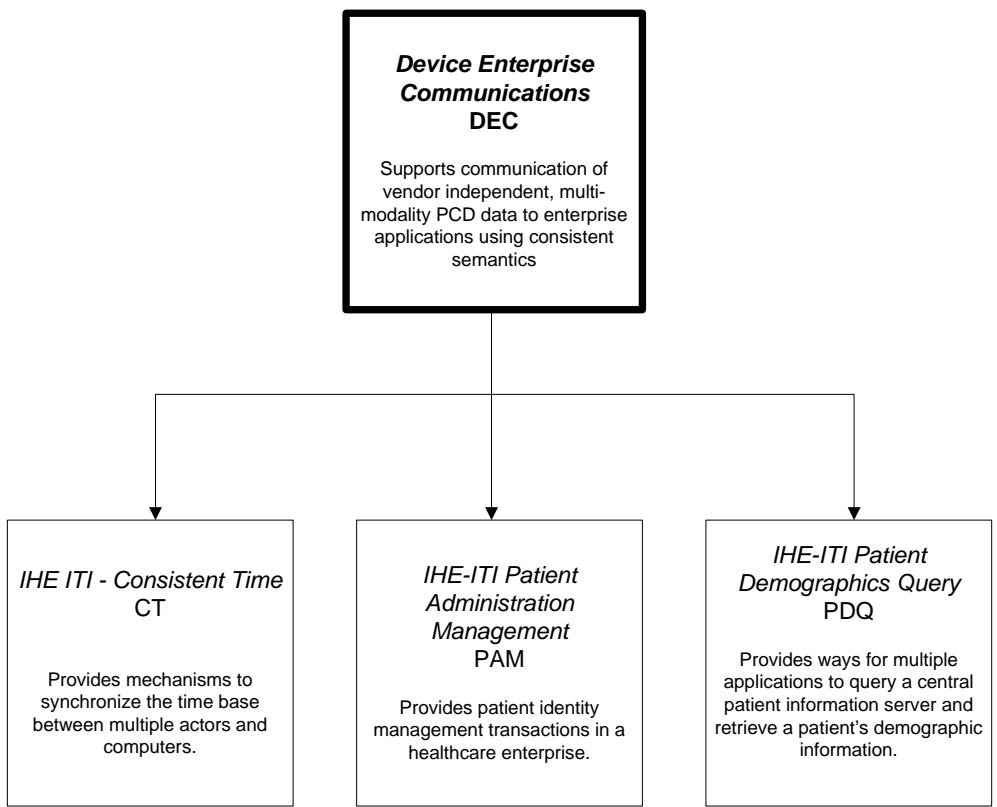
225 <Brief description of what to add to Volume I, section 1.7 which gives a brief overview of “what’s new” in the given year of the Technical Framework.>

*Add the following bullet to the end of the bullet list in section 1.7*

- The addition of a Patient Identity Binding Option (DEC-PIB) to the Device Enterprise Communication (DEC) Profile

*Add the following section to Table 2-1 Integration Profiles Dependencies in section 2.1*

230 NOTE: Edit the existing Figure 2 to match the dependency diagram below:



*Change Table 1 to reflect the following, with added text that follows*

235

**Table 1 Patient Care Device Integration Profiles and Dependencies**

Integration Profile	Depends on	Dependency Type	Purpose
Device Enterprise Communication (DEC)	Consistent Time	Each Actor implementing DEC shall be grouped with the Time Client Actor	Required for consistent time-stamping of PCD data.
Device Enterprise Communication (DEC)	Patient Administration Management <sup>1</sup>	Each Actor implementing DOR-PIB shall be grouped with the Patient Demographics Consumer Actor <sup>2</sup> (See below)	Required for consistent binding of patient identity
Device Enterprise Communication (DEC)	Patient Demographics Query	Each Actor implementing DOR-PIB shall be grouped with the Patient Demographics Consumer Actor <sup>2</sup> (See below)	Required for consistent binding of patient identity

<sup>1</sup> ITI-30 Patient Identity Feed only.

<sup>2</sup> Vendor products supporting the DEC Integration Profile with Patient Identity Binding are required to provide a means for consistent binding of patient identity to the PCD data. This may be provided by implementing either ITI-PAM Patient Identity Feed, or ITI-PDQ, grouped with the DOR. Optionally, both ITI-PAM Patient Identity Feed and ITI-PDQ may be implemented. The method of grouping, e.g. single system, multiple devices from different vendors, is outside the scope of this Profile.

240

*Edit/Add the following text in section 2.2.*

245 **2.2.1 Device Enterprise Communication (DEC)**

In a recent HIMSS survey of requirements for patient care devices the respondents identified Enterprise Sharing of patient care device data as their highest priority. Goals include shortening decision time, increasing productivity, minimizing transcription errors, and obtaining increased contextual information regarding the data.

250 Patient care device data includes periodic physiologic data (heart rate, invasive blood pressure, respiration rate, etc.), aperiodic physiologic data (non-invasive blood pressure, patient weight, cardiac output, etc.), CLIA waived (or equivalent international waiver) point-of-care laboratory tests (i.e. home blood glucose, etc.), and continuous data (ECG and invasive blood pressure waveforms). It must include patient identity data and may include contextual data such as  
 255 caregiver identification, and patient care device configuration information.

The Device Enterprise Communication (DEC) profile addresses the need for consistent communication of periodic, aperiodic, and CLIA waived patient care device data to the enterprise. Enterprise recipients of patient care device data include, but are not limited to,

- 260 Clinical Decision Support applications, Clinical Data Repositories (CDRs), Electronic Medical Record (EMRs) applications, and Electronic Health Records (EHRs).
- Manual entry of required patient identification to patient care devices is inefficient and subject to error. Patient identification is perhaps the most essential infrastructure component of any interoperability and communication process, particularly when PCD data is exported to the enterprise. It is the key element in medical device communication, data analysis, reporting and record keeping. Automation of the entry of patient identification to patient care devices has the potential for improving throughput, reducing errors, increasing safety and efficiency and increasing the effectiveness of devices and drugs. The current Profile, by grouping the DOR Actor with the ITI-Patient Demographics Consumer Actor, provides for pick-list selection of patient identity based on known demographic information.
- 265
- 270 The current profile does not address the suspension/resumption of patient care device data flow or the unbinding of the patient identity, assuming these to be process controlled issues and out of the scope of this Profile, but which may be defined in a later year.
- The current profile assumes that the transactions take place within a secure closed environment such as a hospital and depend upon the policies and architecture of the technology to assure data security and privacy of identifiable patient information. A full risk assessment is beyond the scope of this profile but will be considered in future versions.
- 275

*Note: Continue with ... “The current profile does not address use cases and transactions associated with either open loop....”*

*The section shall be added to Vol 1*

## 280 **2.3 Actor Descriptions**

Add to Existing Actors:

- Patient Demographics Consumer – For implementations using ITI Patient Demographics Query (ITI-21), the Patient Demographics Consumer is defined under ITI TF-2:3.21.2 as an Actor that requests a list of patients matching a minimal set of demographic data from the Patient Demographics Supplier Actor and populates its attributes with the information received.
- 285
- For implementations using ITI Patient Administration Management / Patient Identity Feed (ITI-30), the Patient Demographics Consumer is defined under ITI PAM Supplement: 14.2 as an Actor that receives patient demographics from a broadcast Patient Demographics Supplier Actor
- 290 Figure X. shows the actors directly involved in the Patient Identity Binding, which are grouped, and the relevant transactions related to the process. Other actors that may be indirectly involved due to their participation in other related profiles, or other reason may also be shown. Grouped Actors are shown as joined together.

**Figure X DEC with DEC-PIB Option Actor Diagram**

295 The following table shows which actors are used in which Integration Profiles.

**Table 2 Integration Profile Actors**

Actor	Integration Profile	DEC
Device Observation Reporter		X
Device Observation Consumer		X
Time Client		X
Patient Demographics Consumer		X

The following table shows which transactions are used in which Integration Profiles.

**Table 3 Integration Profile Transactions**

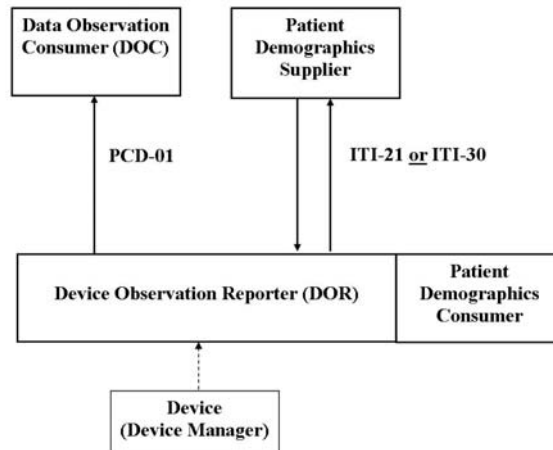
Transaction	Integration Profile	DEC
(ITI-30) Patient Identity Feed		X
(ITI-21) Query by Parameter		X
(PCD-01) Communicate PCD Data		X
(ITI-1) Maintain Time		X

300

## 2.4 Actor Transaction Diagram / Table

The following Figure diagrams the actors involved with the DEC-PIB transaction. Grouped Actors are directly connected

DEC with Patient Identity Binding



305 125

<Table describing the options available for this integration profile>

310 Table 4 DEC-PIB - Actors and Transactions lists the transactions for each actor directly involved in the DEC Integration Profile PIB Option. In order to claim support of DEC-PIB, an implementation must perform the required transactions (labeled “R”). Transactions labeled “O” are optional. A complete list of options defined by this Integration Profile that implementations may choose to support is listed in Section 3.2.

**Table 4 DEC-PIB - Actors and Transactions**

Actors	Transactions	Optionality	Section
Device Observation Consumer	Communicate PCD Data [PCD-01]	R	PCD TF-2:3.1.7
Device Observation Reporter	Communicate PCD Data [PCD-01] Patient Identity Feed [ITI-030] Patient Demographics Query [ITI-21]	R O <sup>1</sup> O <sup>1</sup>	PCD TF-2:3.1.7 ITI PAM Supplement-14.2 ITI TF-2:3.2.1

<sup>1</sup>Implementations of Patient Identity Binding may use either the Patient Identity Feed Transaction or the Patient Demographics Query Transaction, or both transactions.

## 315 2.5 Product Implementations

*Edit From lines 569 through end of section as follows:*

When two or more actors are grouped together, internal communication between actors is assumed to be sufficient to allow the necessary information flow to support their functionality; for example, the Patient Demographics Consumer provides necessary information updates to the Device Observation Reporter to populate the Patient ID segment of its Communicate PCD Data functionality. The exact mechanisms of such internal communication are outside the scope of the IHE PCD Technical Framework.

The following examples describe which actors typical systems might be expected to support. This is not intended to define requirements, but rather to provide illustrative examples.

- A general purpose observation reporting gateway which combines the Device Observation Reporter and the Patient Demographics Consumer.
- A patient care device which bundles the Device Observation Reporter and Patient Demographics Consumer.

330 Patient demographic data that can be used in identifying the patient includes the following:

- Partial or complete patient name (printed on the patient record or wrist band, or related by the patient)
- Patient ID (from printed barcode, bedside chart, scan, etc)
- Date of Birth / age range (e.g. year of birth)

335 Note – Bed ID is not accepted by the Joint Commission as a means of patient identity verification.

## 3.3 DEC Interaction Diagram

*Add the following use cases.*

340 Patient Identification Binding Use Cases: The caregiver connects the patient to a patient care device which includes a DOR. The patient is physically identified by the caregiver, using an institutionally unique protocol for identification such as verification of information contained on a wristband. The caregiver uses the information from the physical patient identification to authorize an electronic identification, made by the device or an independent device or system, binding the patient's electronic identity to all data communicated from the DOR. The verification may involve direct entry of data to the device being bound, to a gateway, or to an actor residing in a separate system. It may be based on direct physical identification of the patient by the caregiver, or on confirmation by the caregiver of an electronic identification made by the device in concert with other devices or systems. The verification may also include fully automated binding when a unique logical authentication can be made. The end result is that data

350 communicated from the DOR contains an authoritative institutionally unique electronic identifier.

DEC-PIB-1: True Patient ID known by Patient Demographics Supplier and available locally: A patient is connected to a bedside monitor of a cardiac monitoring system (e.g. central station with continuous PAM Patient Identity Feed) that includes a number of bedside monitors. The patient may or may not be able to provide positive ID information. Demographic information used to identify patient includes: partial or complete patient name (printed on the patient record or told by the patient); patient Medical Record Number (MRN) (this may be obtained from printed barcode, a bed-side chart, etc.); Partial ID entry or scan; date of birth / age range. *Note: Bed ID is not permitted as an identifier in the U.S. in accord with Joint Commission standards.*

355  
360 Caregiver selects the patient from a pick-list on the system console, in response to prompts by caregiver. System information may include the MRN, full name, age, sex, room/bed, and admit date. The central station binds the validated patient identity information with the device data.

DEC-PIB-2: True Patient ID known by Patient Demographic Supplier but not available locally: In the event that the patient above is not registered in the cardiac monitoring system, due to Patient Identity Feed lag or other situations, caregiver can execute a PDQ query of the patient registry to receive a pick list of patients and bind the patient identity information with the device data

DEC-PIB-3: True Patient ID not known by Patient Demographic Supplier but Proxy Identification is known and available locally: This is the John/Jane Doe patient in the Emergency Room for whom the institution has created a temporary Proxy Identification. The Proxy Identification is determined and bound by either a PAM Patient Identity Feed or a PDQ Query. Once the True Patient ID is known, the bound Proxy Identification can be linked with the True Patient ID via ITI-PAM “Link Patient Identifiers” or other transaction in the DOC or further upstream.

375  
380 DEC-PIB-4: Neither True Patient ID nor Proxy Identification are known by Patient Demographic Supplier, but Proxy Identification is available locally: This is the case of undocumented patients presenting in the Emergency Room who are not registered in the system, and who require care and communication of data to the Enterprise before becoming known to the Patient Demographics System. In this case, the caregiver must manually enter the Proxy Identification into the system, using the information provided, such as a proxy wristband. Automation tools such as bar code readers can be used however the authentication of the binding resides with the caregiver. Once the True Patient ID is known, the bound Proxy Identification can be linked with the True Patient ID via ITI-PAM “Link Patient Identifiers” or other transaction. transaction in the DOC or further upstream.

385 Other Clinical Examples of Binding

DEC-PIB-A: A patient is connected to an infusion device. The infusion device is connected to the network but is not managed by an infusion or drug administration management application. Caregiver scans barcode of the patient and the device. Caregiver is presented with a display of

390 patient IDs received through the Patient Identity Feed transaction and device ID from an authoritative database. Caregiver confirms.

395 DEC-PIB-B: A patient is connected to an infusion device. The infusion device is connected to the network but is not managed by an infusion or drug administration management application. No Patient Identity Feed is available to confirm the ID. Caregiver confirms patient's wristband identity through interactive communication with patient. The Patient ID wristband is scanned (barcode, RFID, etc.) and bound to the patient care device

400 DEC-PIB-C A patient is connected to a ventilator. The ventilator is connected to the network but is not managed by a system. Ventilator and patient have RFID tags. Proximity of the tags implies binding of patient's identification and device's ID from an authoritative database. Verification of an existing Order for the ventilator for the identified patient is required. If verified, Patient ID is bound to patient care device.

#### **X.4 <DEC-PIB Integration Profile> Security Considerations**

*<Description of the Profile specific security considerations. This should include the outcomes of a risk assessment. This likely will include profile groupings, and residual risks that need to be assigned to the product design, system administration, or policy.>*

405 **4 Actor Summary Definitions**

**2.5 New actors**

**2.5 Existing actors**

4..1 Patient Demographics Consumer – See ITI-TF

4..2 Patient Demographics Supplier – See ITI-TF

410 4..3 Time Client – See ITI-TF

## **5 Transaction Summary Definitions**

No New Transactions

## Volume 2 - Transactions

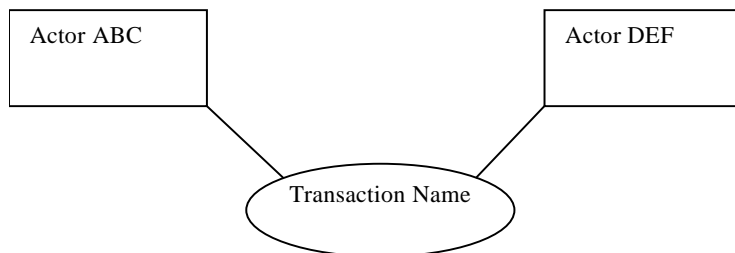
415 **Add sections 3.Y**

**3.Y <Transaction Name> NOTE – There are no new transactions associated with this supplement. ITI-PAM and ITI-PDQ are used in total and may be found in the ITI TF and Supplements.**

420 This section corresponds to Transaction Y of the IHE Technical Framework. Transaction Y is used by the <ABC> and <DEF> actors.

### 3.Y.1 Scope

### 3.Y.2 Use Case Roles



425 **Actor:**

**Role:**

**Actor:**

**Role:**

**Actor:**

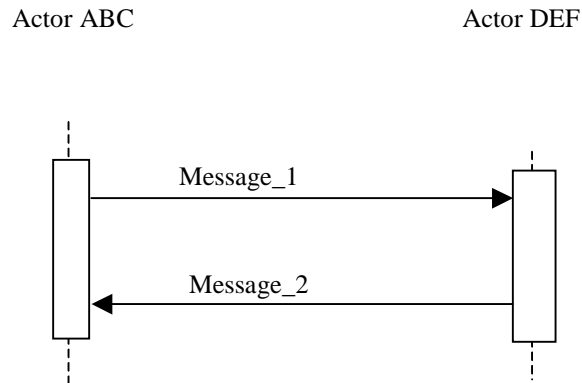
430 **Role:** .

### 3.Y.3 Referenced Standard

<e.g., HL7 2.3.1 Chapters 2, 3>

### 3.Y.4 Interaction Diagram

435 <the interaction diagram shows the detailed standards-based message exchange that makes up the IHE transaction>



### 3.Y.4.1 <Transaction Name>

440 <One or two sentence description of the above interaction diagram, typically relating the transaction to the relevant standard>

#### 3.Y.4.1.1 Trigger Events

<description of the real world events that cause the initiation of the transaction>

#### 3.Y.4.1.2 Message Semantics

445 <detailed description of the meaning of the transaction including any IHE specific clarifications of the message format, attributes, etc.>

#### 3.Y.4.1.3 Expected Actions

<description of the actions expected by each of the actors that send/ receive this transaction>

#### 3.Y.4.1.4 Security Considerations

450 <description of the transaction specific security consideration. Such as use of security profiles. This section should specify any specific ATNA security audit event that is associated with this transaction and requirements on the encoding of that audit event. It may be appropriate to use an Appendix where multiple transactions and/or multiple actors interact with security events. >

### <Appendix letter> Appendix\_Name