

Integrating the Healthcare Enterprise



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**IHE Radiology (RAD)
Technical Framework**

10

**Volume 4
IHE RAD TF-4
National Extensions**

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**Revision 22.0 – Final Text
June 25, 2024**

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165 **1 Introduction**

This document, Volume 4, of the IHE Radiology (RAD) Technical Framework describes the country-based extensions to specific RAD transactions and content modules.

1.1 Introduction to IHE

170 Integrating the Healthcare Enterprise (IHE) is an international initiative to promote the use of standards to achieve interoperability among health information technology (HIT) systems and effective use of electronic health records (EHRs). IHE provides a forum for care providers, HIT experts and other stakeholders in several clinical and operational domains to reach consensus on standards-based solutions to critical interoperability issues.

175 The primary output of IHE is system implementation guides, called IHE profiles. IHE publishes each profile through a well-defined process of public review and Trial Implementation and gathers profiles that have reached Final Text status into an IHE Technical Framework, of which this volume is a part.

180 For more general information regarding IHE, refer to www.ihe.net. It is strongly recommended that, prior to reading this volume, the reader familiarizes themselves with the concepts defined in the [IHE Technical Frameworks General Introduction](#).

1.2 Intended Audience

The intended audience of IHE Technical Frameworks Volume 4 is:

- Those interested in integrating healthcare information systems and workflows on an international or country basis
- 185 • IT departments of healthcare institutions
- Technical staff of vendors participating in the IHE initiative
- Experts involved in standards development

1.3 Overview of Volume 4

190 This volume contains information about the scope of national extensions to the transactions and/or content modules defined in the IHE <Domain Name> <(Domain Acronym)> Technical Framework. Section 2 describes the permitted scope of national extensions and the process by which national IHE initiatives can propose such extensions for approval by the IHE Technical Committee and documentation in the IHE Technical Framework. Section 3 and beyond describe the national extensions, per country, which have been defined. Examples include specific
195 transaction or content changes for IHE Canada, IHE Germany, IHE Japan, etc.

For a brief overview of additional Technical Framework Volumes (TF-1, TF-2, TF-3), please see the IHE Technical Frameworks General Introduction, [Section 5](#).

1.4 Comment Process

200 IHE International welcomes comments on this document and the IHE initiative. They can be
submitted by sending an email to the co-chairs and secretary of the Radiology domain
committees at radiology@ihe.net.

1.5 Copyright Licenses

205 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, [Section 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.

1.6 Trademark

210 IHE[®] 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, [Section 10 - Trademark](#) for
information on their use.

1.7 Disclaimer Regarding Patent Rights

215 Attention is called to the possibility that implementation of the specifications in this document
may require use of subject matter covered by patent rights. By publication of this document, no
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225 disclosure process including links to forms for making disclosures is available at
http://www.ihe.net/Patent_Disclosure_Process. Please address questions about the patent
disclosure process to the secretary of the IHE International Board: secretary@ihe.net.

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1.8 History of Document Changes

This section provides a brief summary of changes and additions to this document.

235

| Date | Document Revision | Change Summary |
|------------|-------------------|---|
| 2020-09-18 | 19.0 | Updated to align with current template; no changes were made to National Extensions |
| 2022-03-10 | 20.0 | Integrate Management of Radiology Report Templates (MRRT) as a Final Text profile. Incorporate Change Proposals from 2020-2021 CP Ballots. Refer to the IHE RAD CP Tracking for details. |
| 2023-06 | 21.0 | Updated date and revision only to align with updates to other Volumes. |
| 2024-06 | 22.0 | Updated date and revision only to align with updates to other Volumes. |

2 Overview of National Extensions to the Technical Framework

The goal of IHE is to promote implementation of standards-based solutions to improve workflow and access to information in support of optimal patient care. To that end, IHE encourages the development of IHE National Deployment Committees to address issues specific to local health systems, policies and traditions of care. The role of these organizations and information about how they are formed is available at http://www.ihe.net/Governance/#National_Deployment.

2.1 Scope of National Extensions

National extensions to the IHE Technical Framework are allowed in order to address specific local healthcare needs and promote the implementation of the IHE Technical Frameworks. They may add (though not relax) requirements that apply to the Technical Framework generally or to specific transactions, actors and integration profiles. Some examples of appropriate national extensions are:

- Required support of character sets and national languages
- Provide translation of IHE concepts or data fields from English into other national languages
- Extensions of patient or provider information to reflect policies regarding privacy and confidentiality
- Changes to institutional information and financial transactions to conform to national health system payment structures and support specific local care practices

All national extensions shall include concise descriptions of the local need they are intended to address. They shall identify the precise transactions, actors, integration profiles and sections of the Technical Framework to which they apply. And they must provide technical detail equivalent to that contained in the Technical Framework in describing the nature of the extension.

2.2 Process for Developing National Extensions

National extension documents are to be developed, approved and incorporated in the Technical Framework in coordination with the IHE Technical Committee and its annual cycle of activities in publishing and maintaining the Technical Framework. The first prerequisite for developing a national extension document is to establish a national IHE initiative and make information regarding its composition and activities available to other IHE initiatives.

Established IHE national initiatives may draft a document describing potential national extensions containing the general information outlined above and similar in form to those found in Sections 3-10 of the current document. They submit this draft document to the IHE Technical Committee for review and comment. Based on discussion with the Technical Committee, they prepare and submit finalized version of the document in appropriate format for incorporation into the Technical Framework. The publication of National Extensions is to be coordinated with the annual publication cycle of other Technical Framework documents in the relevant domain. The annual cycle for Radiology is available at <http://wiki.ihe.net/index.php?title=Radiology>.

2.3 Process for Proposing Revisions to the Technical Framework

275 In addition to developing national extension documents to be incorporated in the Technical Framework, national IHE initiatives may also propose revisions to the global Technical Framework. These may take the form of changes to existing transactions, actors or integration profiles or the addition of new ones. Such general changes would be subject to approval by the IHE Technical and Planning Committees.

280 Changes that are minor in scope, such as suggestions for clarifications or corrections to documentation, may be submitted throughout the year via the ongoing errata tracking process, called the [Change Proposal Process](#). Comments on this document may be submitted at http://www.ihe.net/Radiology_Public_Comments.

285 More substantial revision proposals, such as proposals to add new integration profiles or major country-based extensions, should be submitted directly to the IHE Technical and Planning Committees via the process for submitting new proposals called the [Profile Proposal Process](#).

3 National Extensions for IHE France

290 The national extensions documented in this section shall be used in conjunction with the definitions of integration profiles, actors and transactions provided in Volumes 1-3 of the IHE Radiology Technical Framework. This section includes extensions and restrictions to effectively support the regional practice of healthcare in France. It also translates a number of English terms to ensure correct interpretation of requirements of the Radiology Technical Framework.

3.1 Comments

295 This national extension document was authored under the sponsorship and supervision of GMSIH and JFR, who welcome comments on this document and the IHE France initiative. Comments should be directed to:

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IHE-France Project Manager
Email: karima.bourquard@ihe-europe.net

300 3.2 Scope

The extensions, restrictions and translations specified apply to the following IHE integration profiles:

- Scheduled Workflow
- Patient Reconciliation
- 305 • Consistent Presentation of Images
- Key Image Notes
- Simple Image and Numerical Report
- Access to Radiology Information

3.3 Extended DICOM Character Sets

310 The support of accented characters is required for all actors with DICOM-based transactions. The Specific Character Set (0008,0005) Attribute shall contain the value “ISO_IR 100” in order to select ISO 8859/1 Latin-1 characters.

3.4 Extended HL7 Character set

315 The support of accented characters is required for all actors with HL7 based transactions. The Field MSH 18 shall contain the value “8859/1” in order to select the ISO 8859 Latin-1 characters.

3.5 Translation of Specific Fields of the PID Segment

The table below provides the translation of specific fields of the PID Segment:

La table ci-dessous fournit la traduction de champs specific du segment PID.

320

Table 3.5-1: Translation of PID Segment Fields

| Champ (Field) | Interprétation/Traduction |
|--|---|
| Patient Identifier List (PID – 3) | IPP (Identifiant Permanent du Patient) |
| Legal Name (PID – 5) | Nom patronymique |
| Maiden Name (PID – 5) | Nom de jeune fille |
| Display Name (PID – 5) | Nom usuel |
| SSN Number Patient (PID – 19) This is the personal social security number of the patient which may not be the social security number used for the insurance billing payment. | Numéro de Sécurité Social du patient. |
| Patient Account Number (PID – 18) Unique identifier for collecting and grouping all elements necessary for charging AND / OR the transmission to the insurance company for charging. | Numéro de compte patient Numéro unique qui permet de collecter et de grouper tous les éléments nécessaires à la facturation ET / OU à la transmission vers les organismes d'assurances et mutuelles, pour prise en charge |

3.6 Insurance Information

The IHE Radiology Technical Framework includes the IN1 and IN2 segments as an option for the purpose of communicating the insurance information of the patient.

325

IHE-France supports the optional use of the segments IN1 and IN2 in order to convey the social security number when used as an insurance number for the patient care. It is used when patient charge posting is made by the clinical / radiology department. It is conveyed through A01, A04 or A08.

Table 3.6-1: IHE profile – IN1 Segment

| SEQ | LEN | DT | OPT | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|----|-----|------|-------|----------------------|
| 1 | 4 | SI | R | | | Set ID – IN1 |
| 2 | 60 | CE | R | | | Insurance Plan ID |
| 3 | 59 | CX | R | | | Insurance Company ID |

Adapted from the HL7 Standard, version 2.3.1

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Table 3.6-2: IHE profile – IN2 Segment

| SEQ | LEN | DT | OPT | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|-----|-----|------|-------|--------------------------------|
| 1 | 60 | XON | O | | | Insured Employee ID |
| 2 | 60 | XON | O | | | Insured Social Security Number |

Adapted from the HL7 Standard, version 2.3.1

3.7 Forbidden PID Fields

In France, it is illegal to transmit the Fields PID-10 (Race) and PID-22 (Ethnic Group).

En France, il est interdit de transmettre les champs PID-10 (Race) et PID-22 (Groupe ethnique).

335 3.8 Syntax Rules for PID-5 (Patient Name)

Last name prefix (<family name (ST) & <last_name_prefix (ST)>) will be used for names with « particule ». Prefix sera utilisé pour la particule des noms à particules.

3.9 Syntax Rules for PID-11 (Patient Address)

The ZIP or Postal Code will contain the “code postal”.

340 Le “ZIP or Postal Code” devra contenir le Code Postal.

3.10 Extensions of PID-16 (Marital Status)

Two values, G for Living Together and P for Domestic Partner shall be added to The Marital Status table 002 of HL7 v2.3.1 (User defined table). No IHE-F implementation shall extend this table.

345 *Note: These G and P values have been obtained from HL7 2.4.*

3.11 Translations of PID-16 (Marital Status) and Selection of Values

The table below includes the translations of the PID-16, Marital Status:

La table ci-dessous fournit la traduction de champs specific du segment PID-16, Marital Status:

Table 3.11-1: Translation of PID-16, Marital Status

| Valeur | Description | Interprétation/Traduction |
|--------|------------------|----------------------------------|
| A | Separated | Séparé |
| D | Divorced | Divorcé |
| M | Married | Marié |
| S | Single | Célibataire |
| W | Widowed | Veuf/Veuve |
| G | Living together | Concubin |
| P | Domestic Partner | Pacte Civil de Solidarité (PACS) |

350

3.12 Translations of PV1-19, Visit Number

This number corresponds to physical visit of the patient into the hospital. The patient account number may group one or more visit number (PV1-19)

355 Ce numéro correspond à un passage physique dans l'établissement. Le patient account number (PID-18) regroupe un ou plusieurs «Visit number» (PV1-19).

The table below provides the translation of specific fields of the PV1 Segment:

La Table ci-dessous donne la traduction de champs spécifiques du segment PV1:

Table 3.12-1: Translation of Specific Fields of PV-1 Segment

| Champ | Interprétation/Traduction |
|-------------------------|---|
| Visit Number (PV1 – 19) | Numéro de séjour / numéro de passage ou mouvement |

360 3.13 Extensions of PV1-2 (Patient Class)

Two values, W for Week in Hospital, S for Psychiatric, K for Newborn, shall be added to The Patient Class Table 004 of HL7 v2.3.1 (User defined table). No IHE-F implementation shall extend this table.

365 *Note: The Addition of the W, S and K values will be submitted to the HL7 French Chapter when created.*

3.14 Translations of PV1-2 (Patient Class) and Selection of Values

The table below includes the translations of the PV1-2, Patient Class and shall not be extended:

La table ci-dessous fournit la traduction de champs spécifiques du segment PV1-2, Patient Class et ne doit pas être étendue:

370 **Table 3.14-1: PV1-2 Values and Translations**

| Valeur | Description | Interprétation/Traduction |
|--------|-------------------|--|
| E | Emergency | Urgence |
| I | Inpatient | Hospitalisé |
| O | Outpatient | Externe |
| P | Preadmit | Peut comprendre les catégories nationale : Hospitalisation programmées, Consultants externes programmés, Psychiatrie programmées, Résidents programmés |
| R | Recurring Patient | Résident |
| B | Obstetrics | Obstétrique |
| D | Day hospital | Hopital du jour |
| W | Week hospital | Hopital de semaine |
| S | Psychiatric | Psychiatrie |
| K | Newborn | Nouveau né |

Note: For S=Psychiatry, in the context of patient admission in this class, the type of admission will be refined in the field PV2-3 Admit Reason (see Section A.4.15).

Note : Pour S= Psychiatrie, dans le cadre de l'admission d'un patient dans cette catégorie, le type d'admission sera précisé dans le champ PV2-3 Admit Reason (voir Section A.4.15).

375

3.15 Visit number usage and interpretation

Field PV1-2 Visit Number is a required field in IHE France.

If Field PV1-2 is « I » then PV1-19 is interpreted as n° de séjour.

If Field PV1-2 is « D or W » then PV1-19 is interpreted as n° de séjour.

380 If Field PV1-2 is « O » Outpatient then PV1-19 is interpreted as n° de consultation.

If Field PV1-2 is « R » Inpatient then PV1-19 is interpreted as n° de séance.

3.16 Patient Account Number

Field PID-18 Patient Account Number is an optional field in IHE France.

385 The field PID-18 may be used in cases when a patient may have multiple visits (each visit having independent transfer and discharge), but where all the visits need to be linked under one Case/Episode number (either for billing or clinical tracking reasons).

3.17 Translations of PV1-4 (Admission Type) and Selection of Values

The table below includes the translations of the PV1-4, Admission Type and shall not be extended:

390 La table ci-dessous fournit la traduction de champs spécifiques du segment PV1-4, Admission Type et ne doit pas être étendu:

| Valeur | Description | Interprétation/Traduction |
|--------|--|-----------------------------------|
| A | Accident | Accident de travail |
| C | Elective | Confort (chirurgie esthétique...) |
| E | Emergency | Urgence |
| L | Labor and Delivery | Accouchement |
| N | Newborn (Birth in Healthcare facility) | Nouveau Né |
| R | Routine | Routine |
| U | Urgent | Urgent |

3.18 Extension and Translations of Physician Types in PV1

395 The optionality status of PV1-7, PV1-8, PV1-9, and PV1-17 is R2 for French implementation.

The table below includes the translations of the PV1 Physician Types:

La table ci-dessous fournit la traduction de champs relatif aux types de docteurs dans PV1:

Table 3.18-1: Translation of PV1 Physician Types

| Field | Description | Interprétation/Traduction |
|-------------------------|---|--|
| PV1-7 Attending doctor: | The person primarily responsible for the care of the patient during a particular health care visit (generally used for inpatient events, but could be extended to an outpatient visit as well.) | Médecin responsable pendant la durée de l'admission. |

| Field | Description | Interprétation/Traduction |
|-------------------------|---|---|
| PV1-8Referring doctor | Is any physician who referred the patient to the care of another physician (generally a specialist) for a particular visit. The referring physician might be noted in an HL7 event so that she/he receives a copy of any test results or documentation of care. | Médecin (en général extérieur à l'établissement) qui a adressé le patient. |
| PV1-9Consulting doctor | Is generally a specialist who sees a patient as the result of a referral or a consultation order. She/he is not the attending physician for the case, although that status could be transferred to a consulting physician at some point. | Le médecin qui est consulté pour un deuxième avis. |
| PV1-17 Admitting doctor | Is the physician who decides that a patient meets the criteria for an inpatient admission to a hospital during a specific visit. The admitting physician is responsible for evaluating the patient so that their acuity satisfies admission criteria. | Médecin de l'établissement qui décide d'hospitaliser un patient. (ex. En cas d'urgence) |

400 3.19 Translation of PV1-51 Visit Indicator and Selection of Value

IHE France will only use the visit indicator at the visit level, there is no accounting information issued.

Table 3.19-1: Translation of PV1-51 Visit Indicator

| Valeur | Description | Interprétation/Traduction |
|--------|-------------|---------------------------|
| V | Visit | Venue |

405 3.20 Extension of PV2-3 (Admit Reason)

Two values listed in Table A.4-1 shall be added to the Table 004 of HL72.3.1 (User defined table). No IHE-F implementation shall extend this table.

3.21 Translation of PV2-3 (Admit Reason) and Selection of Value

410 In the case of the hospitalization of a patient in psychiatry, one shall use the field PV2-3 Admit Reason as defined below:

Dans le cadre d'une hospitalisation d'un patient en psychiatrie alors on devra utiliser le champ PV2-3 Admit Reason afin de préciser le mode de placement.

Table 3.21-1: PV2-3 Interpretation of Values

| Code | Mode de placement |
|------|-----------------------|
| HL | Hospitalisation Libre |
| HO | Placement d'office |

| Code | Mode de placement |
|------|---|
| HDT | Hospitalisation à la demande d'un tiers |
| LV | Levée d'hospitalisation |
| SE | Sortie à l'essai |

415 3.22 Management of Functional Units

A major difference between the management of responsibilities between the USA and France is that the responsibility for a patient is often managed at the level of a functional unit rather than at the level of an attending doctor. For this purpose the Z Segment ZFU has been created.

420 *Il y a une différence entre la manière dont les responsabilités sont gérées aux USA et en France. Alors qu'aux USA la responsabilité du patient est très souvent liée au médecin (Attending Doctor), en France, celle-ci est rattachée à l'unité fonctionnelle. C'est pourquoi le champ privé ZFU a été créé.*

For IHE-F, the ZFU segment is required for messages A01, A02, A04, A05, A06, A07, and A08.

425 *Pour IHE-F ce segment est obligatoire pour les messages: A01, A02, A04, A05, A06, A07, and A08.*

Field ZFU-1 Nursing Functional Unit is responsible for the care of the patient.
C'est l'unité fonctionnelle responsable des soins donnés au patient.

430 *Field ZFU-2 Housing Functional Unit is responsible for housing the patient.
C'est l'unité fonctionnelle d'hébergement.*

Field ZFU-3 Medical Functional Unit is the unit for which the attending doctor is operating.
C'est l'unité fonctionnelle qui a la responsabilité Médicale du patient.

Table 3.22-1: IHE profile - ZFU Segment

| SEQ | LEN | DT | OPT | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|-----|-----|------|-------|--|
| 1 | 60 | XON | C | | | Nursing Functional Unit: <i>UF soin</i> |
| 2 | 60 | TS | C | | | Nursing Functional Unit Start date/time |
| 3 | 60 | XON | C | | | Housing Functional Unit: <i>UF hébergement</i> |
| 4 | 60 | TS | C | | | Housing Functional Unit Start date/time |
| 5 | 60 | XON | C | | | Medical Functional Unit: <i>UF médicale</i> |
| 6 | 60 | TS | C | | | Medical Functional Unit Start date/time |

435 Conditions: At least one of these three functional units is required (name and date/time that the patient has “entered” the functional unit). Two or three of them can have the same value.

440 *Conditions : Au moins une des ces unités fonctionnelles est obligatoire (nom et la date/heure le patient est « entré » sous l’unité fonctionnelle). Deux ou trois d’entre eux peuvent avoir la même valeur.*

4 National Extensions for IHE Germany

445 The national extensions documented in this section shall be used in conjunction with the definitions of integration profiles, actors and transactions provided in Volumes 1-3 of the IHE Radiology Technical Framework. This section includes extensions and restrictions to effectively support the regional practice of healthcare in Germany.

4.1 Comments

450 The IHE-D Initiative welcomes comments on this document and the IHE Germany initiative. Comments should be directed to the IHE-D Working Group <ihe-d@rad.rwth-aachen.de> or to Marco Eichelberg <eichelberg@offis.de>, IHE-D Technical Project Manager.

4.2 Scope

The extensions, restrictions and translations specified apply to the following IHE integration profiles:

- 455
- Scheduled Workflow
 - Patient Reconciliation
 - Consistent Presentation of Images

4.3 DICOM: Support for ISO Latin 1

460 All actors with DICOM based transactions shall support the value “ISO_IR 100” for the attribute (0008,0005) “Specific Character Set” if this attribute is defined in the DICOM SOP class used by the IHE transaction. This attribute value specifies the ISO 8859-1 (Latin 1) character set.

4.4 HL7: Support for ISO Latin 1

465 All actors with HL7 based transactions shall support the value “8859/1” for the field “MSH-18 Character Set” in the MSH segment. This value specifies the printable characters from the ISO 8859-1 (Latin 1) character set (see Table 0211 in HL7 Appendix A).

4.5 HL7: German Semantics

470 The semantics (i.e., names) of the HL7 fields shall be used as defined in the German HL7 edition 2.3.1d published by the German HL7 Chapter (HL7-Benutzergruppe in Deutschland e. V., <http://www.hl7.de/>). In particular, the use of the following field deviates from the U.S. HL7 specification:

Table 4.5-1: Differences in HL7 Semantics in USA and Germany

| Field | HL7 USA Semantics | HL7 Germany Semantics |
|--------|-------------------------|--|
| PID-27 | Veteran Military Status | Beruf/Tätigkeit des Patienten (Patient’s Profession/Occupation) |

4.6 HL7: PID-18 “Patient Account Number” and PV1-19 “Visit Number”

475 *Field PV1-19 “Visit Number”* is required and shall be used to transmit the patient admission identifier (“Fallnummer”). *Field PID-18 “Patient Account Number”* is used to consolidate information relative to several visits and is generally not used in Germany.

4.7 Change PV1-8 “Referring Doctor” to Type R2 in all PV1 Segments Volume 2, Sections 4.1.4.1.2.4, 4.2.4.1.2.3, 4.4.4.1.2.3, and 4.12.4.2.2.4

480 In RAD TF-2: 4.1.4.1.2.4, 4.2.4.1.2.3, 4.4.4.1.2.3, and 4.12.4.2.2.4, the optionality of *field PV1-8, Referring Doctor*, is C: Conditional. Clinical situations have been identified in which an ORM message is sent for an outpatient, but the Referring Doctor is unknown and, therefore, field PV1-8 cannot be valued. In particular this affects the treatment of emergency outpatients in the German healthcare system.

485 Therefore, the optionality of *field PV1-8, Referring Doctor* shall be changed to R2, meaning that *field PV1-8 “Referring Doctor”* shall always be sent when a message contains the PV1 segment and the sending application has data for the field. It may be present otherwise. This change affects the following IHE transactions: Patient Registration, Placer and Filler Order Management, Procedure Scheduled and Patient Update.

Tables 4.1-3, 4.2-2, 4.4-2, and 4.12-4 and explanations following shall be modified as shown:

490

Table 4.7-1: Modifications to PV1-8

| SEQ | LEN | DT | OPT | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|-----|-----|------|-------|------------------|
| ... | | | | | | |
| 8 | 60 | XCN | R2 | 0010 | 00138 | Referring Doctor |
| ... | | | | | | |

Field *PV1-8 Referring Doctor* shall be valued when a procedure is scheduled for an outpatient, and the sending application has data for the field. It may be present otherwise.

4.8 HL7: ZBE Segment in ADT

495 The ZBE segment is an HL7 extension defined by the German Chapter of HL7. It introduces a field called “Movement ID” which allows, upon the reception of a change message (e. g. ADT^A08), to exactly determine the original message (ADT^A01, ADT^A02) to which the change is related. The following table contains an English translation of the original ZBE definition table which is part of the German HL7, edition 2.3.1d and available online at
500 https://wiki.hl7.de/index.php?title=Segment_ZBE.

Table 4.8-1: Translation of IHE-Germany ZBE Table

| SEQ | LEN | DT | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|----|-----|------|------|-------|---|
| 1 | | EI | R | Y | | 49071 | Movement ID |
| 2 | | TS | O | | | 49072 | Start of Movement Date/Time |
| 3 | | TS | O | | | 49073 | End of Movement Date/Time |
| 4 | | ST | O | | | 49074 | Reason for Triggering the Movement / Processing Identifier (“INSERT”, “UPDATE”, “DELETE”) |

505 The use of this Z-segment is optional, but allowed and recommended in IHE-D for all ADT messages.

Note: It is the intention of the IHE-D working group to declare support of the ZBE segment mandatory for all ADT messages sent by an ADT actor in a future version of the German Technical Framework Addendum. Implementations of an ADT actor according to this Technical Framework Addendum are strongly recommended to support the ZBE segment.

510 **5 National Extensions for IHE United States**

The national extensions documented in this section shall be used in conjunction with the definitions of integration profiles, actors and transactions provided in Volumes 1-3 of the IHE Radiology Technical Framework. This section includes extensions and restrictions to effectively support the regional practice of healthcare in the U.S.A.

515 **5.1 PID Segment**

In the US, *PID-18 Patient Account Number* must be valued and *PVI-19 Visit Number* is required when PID-18 identifies an account that spans more than one encounter or visit.

6 National Extensions for IHE Italy

520 The national extensions documented in this section shall be used in conjunction with the definitions of integration profiles, actors and transactions provided in Volumes 1-3 of the IHE Radiology Technical framework. This section includes extensions and restrictions to effectively support the regional practice of healthcare in Italy. It also translates a number of English terms to ensure correct interpretation of requirements of the Technical Framework.

525 6.1 Comments

This national extension document was authored under the sponsorship and supervision of SIRM, welcome comments on this document and the IHE Italy initiative. They should be directed to the National Project Manager:

530 Claudio Saccavini
IHE-Italy project manager
Email: csaccavini@rad.unipd.it

6.2 Scope

The extensions, restrictions and translations specified apply to the following IHE Integration profiles:

- 535
- Scheduled Workflow
 - Patient Reconciliation
 - Consistent Presentation of Images
 - Key Image Notes
 - Simple Image and Numerical Report
- 540
- Access to Radiology Information

6.3 Extended DICOM Character Sets

The support of accented characters is required for all actors with DICOM-based transactions. The Specific Character Set (0008,0005) Attribute shall contain the value "ISO_IR 100" in order to select ISO 8859/1 Latin-1 characters.

545 6.4 Extended HL7 Character Set

The support of accented characters is required for all actors with HL7 based transactions. The Field MSH-18 shall contain the value "8859/1" in order to select the ISO 8859 Latin-1 characters.

6.5 Translation of specific Fields of the PID Segment

550 The table below provides the translation of specific fields of the PID Segment:

La tabella sotto riporta la traduzione di alcuni campi specifici del segmento PID:

Table 6.5-1: Translation of PID Segment Fields

| Campo (Field) | Traduzione/Traduction |
|---------------------------------|---|
| Patient Identifier List (PID 3) | Identificativo univoco del paziente all'interno della singola struttura sanitaria. Normalmente può essere il codice sanitario |
| Legal Name (PID 5) | Cognome e Nome del paziente. Nel caso delle donne sposate non si utilizza ma il cognome del marito. |
| Maiden Name (PID 5) | Campo non utilizzato in Italia |
| SSN Number Patient (PID 19) | Numero della tessera sanitaria del Servizio Sanitario Nazionale della Regione di Residenza del paziente. |
| Patient Account Number (PID 18) | Codice Fiscale del Paziente |
| Campo (Field) | Traduzione/Traduction |

6.6 Syntax Rules for PID-11 (Patient Address)

555 The ZIP or Postal Code will contain the "code postal".
Il "ZIP or Postal Code" dovrà contenere il Codice di Avviamento Postale.

6.7 Translations of PV1-19, Visit Number

This number corresponds to physical visit of the patient into the hospital.
Questo numero corrisponde al numero di ricovero per i pazienti interni, o al numero di richiesta nel caso di pazienti esterni.

560

6.8 Extensions of PV1-2 (Patient Class)

We introduce three new types of Patient Class, the Day Hospital, the After Dismission and the Protected Dismission.
Sono stati introdotte tre nuove classi di paziente: il Day Hospital, il Post-Ricovero e la Dimissione Protetta.

565

Table 6.8-1: Translation of PV1-2 Segment Fields Patient Class

| Value | Description | Translation/Traduzione |
|-------|-------------------|--|
| E | Emergency | Paziente proveniente dal Pronto Soccorso |
| I | Inpatient | Paziente in Ricovero Ordinario |
| O | Outpatient | Paziente Esterno o Ambulatoriale |
| P | Preadmit | Paziente in Ricovero Programmato |
| R | Recurring Patient | Paziente con ricovero che prevede cicli di cura |
| B | Obstetrics | Valore non utilizzato in Italia |
| D | Day Hospital | Paziente in regime di ricovero giornaliero |
| C | After Dismission | Paziente in regime di prestazioni di post-ricovero |

| Value | Description | Translation/Traduzione |
|-------|----------------------|---|
| X | Protected Dismission | Paziente in regime di Dimissione Protetta |

6.9 Patient Account Number

Field PID-18 Patient Account Number is a required field in IHE Italy.

570 *Il Campo PID-18 Patient Account Number è obbligatorio per IHE-Italy*

6.10 Extension and Translations of Physician Types in PV1

The table below includes the translations of the PV1 Physician Types:

La tabella sotto riportata fornisce l'interpretazione dei Tipi Medici:

Table 6.10-1: Translation of Physician Types in PV1

| Campo (Field) | Translation/Traduzione |
|-------------------------|---|
| PV1-7 Attending doctor | Medico responsabile della cura del paziente durante il ricovero, il medico di medicina generale nel caso di un paziente esterno o ambulatoriale |
| PV1-8 Referring doctor | Il medico che richiede la consulenza e che è indicato come il destinatario della risposta dello specialista. |
| PV1-9 Consulting doctor | Il medico che esegue la consulenza richiesta dal Referring Doctor |
| PV1-17 Admitting doctor | Il medico che decide il ricovero del paziente |

575 **7 National Extensions for IHE United Kingdom**

7.1 Introduction

This appendix to the IHE Radiology Technical Framework document shall be used in conjunction with the integration profiles defined in the IHE Radiology Technical Framework. This document includes provisions that must be implemented by UK participants in the European Connectathon to be held from 2003 onward.

7.2 Scope

The extensions, restrictions and translations specified apply to the following IHE Integration Profiles:

- Scheduled Workflow
- 585 • Patient Reconciliation
- Consistent Presentation of Images

7.3 HL7: PID-18 “Patient Account Number”

Field PID-18 “Patient Account Number “is not supported in the UK (i.e., ignored).

7.4 HL7: PV1-19 “Visit Number”

590 Field PV1-19 “Visit Number” shall contain a locally unique patient admission identifier (Enterprise Visit Identifier).

7.5 HL7: PV1-8 “Referring Doctor”

Field PV1-8 “Referring Doctor” shall always be sent when a message contains the PV1 segment.

Note: In the Technical Framework, rev. 5.5, PV1-8 is only required for ADT^A04 messages.

595 Note: In HL7 UK standard this field is optional

The table below shows PV1 Field Physician Types as given in IHE France specifics:

| Field | Description |
|--------------------------------|---|
| PV1-7 Attending doctor: | The person primarily responsible for the care of the patient during a particular healthcare visit (generally used for inpatient events, but could be extended to an outpatient visit as well.) |
| PV1-8 Referring doctor: | Is any physician who referred the patient to the care of another physician (generally a specialist) for a particular visit. The referring physician might be noted in an HL7 event so that she/he receives a copy of any test results or documentation of care. |
| PV1-9 Consulting doctor: | Is generally a specialist who sees a patient as the result of a referral or a consultation order. She/he is not the attending physician for the case, although that status could be transferred to a consulting physician at some point. |

| Field | Description |
|-------------------------------|---|
| PV1-17 Admitting doctor | Is the physician who decides that a patient meets the criteria for an inpatient admission to a hospital during a specific visit. The admitting physician is responsible for evaluating the patient so that their acuity satisfies admission criteria. |

7.6 DICOM: Support for ISO Latin 1

600 All actors with DICOM based transactions shall support the value “ISO_IR 100” for the attribute (0008,0005) “Specific Character Set” if this attribute is defined in the DICOM SOP class used by the IHE transaction. This attribute value specifies the ISO 8859-1 (Latin 1) character set.

Note: this character set supports the Welsh language

7.7 HL7: Support for ISO Latin 1

605 All actors with HL7 based transactions shall support the value “8859/1” for the field “MSH-18 Character Set” in the MSH segment. This value specifies the printable characters from the ISO 8859-1 (Latin 1) character set (see Table 0211 in HL7 Appendix A).

Note: this character set supports the Welsh language

8 National Extensions for IHE Canada

610 The national extensions documented in this section shall be used in conjunction with the definitions of integration profiles, actors and transactions provided in Volumes 1-3 of the IHE Radiology Technical Framework. This section includes extensions and restrictions to effectively support the regional practice of healthcare in Canada. It also translates a number of English terms to French to ensure correct interpretation of requirements of the Technical Framework.

615 8.1 Comments

This national extension document was authored by the Radiology committee of IHE Canada. Comments and suggestions should be sent to infocentral@infoway-inforoute.ca

The extensions, restrictions and translations specified apply to the IHE Radiology Technical Framework.

620 8.2 Extended DICOM Character Sets

The support of accented characters is required for all actors with DICOM-based transactions. The Specific Character Set (0008,0005) Attribute shall contain the value “ISO_IR 100” in order to select ISO 8859/1 Latin-1 characters.

8.3 Extended HL7 Character set

625 The support of accented characters is required for all actors with HL7 based transactions. The Field MSH 18 shall contain the value “8859/1” in order to select the ISO 8859 Latin-1 characters.

8.4 Translation of Specific Fields of the PID Segment

The table below provides the translation of specific fields of the PID Segment:

630 La table ci-dessous fournit la traduction de champs spécifiques du segment PID.

Table 8.4-1: Translation of PID Segment Fields or component values

| Champ (Field) | Interprétation/Traduction |
|--|---|
| Patient Identifier List (PID – 3) | Numéro de dossier |
| Legal Name (in table 0200 for name type in PID – 5) | Nom de famille |
| Maiden Name (in table 0200 for name type in PID – 5) | Nom de fille |
| Display Name (in table 0200 for name type in PID – 5) | Nom usuel |
| SSN Number Patient (PID – 19) This is the personal social security number of the patient which may not be the social security number used for the insurance billing payment. | Numéro de Sécurité Social du patient. |
| Patient Account Number (PID – 18) Unique identifier for collecting and grouping all elements necessary for charging AND / OR the transmission to the insurance company for charging. | Numéro de compte patient Numéro unique qui permet de collecter et de grouper tous les éléments nécessaires à la facturation ET / OU à la transmission vers les organismes d'assurances et mutuelles, pour prise en charge |

8.5 Syntax Rules for PID-5 (Patient Name)

Last name prefix (<family name (ST) & <last_name_prefix (ST)>) will be used for names with « particule ». Prefix sera utilisé pour la particule des noms à particules.

635 8.6 Extensions of PID-16 (Marital Status)

One value, G for Living Together shall be added to The Marital Status table 002 of HL7 v2.3.1 (User defined table).

Note: The value G has been obtained from HL7 v2.4.

Table 8.6-1: Translation of PID-16, Marital Status

| Valeur | Description | Interprétation/Traduction |
|--------|-----------------|---------------------------|
| A | Separated | Séparé |
| D | Divorced | Divorcé |
| M | Married | Marié |
| S | Single | Célibataire |
| W | Widowed | Veuf/Veuve |
| G | Living together | Concubin |

640

8.7 Translations of PV1-2 (Patient Class) and Selection of Values

The value ‘D’, for ‘Day hospital’ or ‘Hospitalisation d’un jour’ shall be added to the table 0004.

8.8 Visit number usage and interpretation

PV1-19 (Visit Number) is an identifier for the visit or consult episode.

645 If Field PV1-2 is « I » Inpatient then PV1-19 is interpreted as visit number, or n° de séjour.

If Field PV1-2 is « D » Day Patient then PV1-19 is interpreted as visit number, or n° de séjour.

If Field PV1-2 is « O » Outpatient then PV1-19 is interpreted as consult number, or n° de consultation.

650 If Field PV1-2 is « R » Recurring Inpatient then PV1-19 is interpreted as session number, or n° de séance.

8.9 Extension and Translations of Physician Types in PV1

The optionality status of PV1-8 is R for the Canadian implementation.

The table below includes the translations of the PV1 Physician Types:

La table ci-dessous fournit la traduction de champs relatif aux types de médecins dans PV1:

655

Table 8.9-1: Translation of PV1 Physician Types

| Field | Description | Interprétation/Traduction |
|-------------------------|---|--|
| PV1-7 Attending doctor: | The person primarily responsible for the care of the patient during a particular health care visit (generally used for inpatient events, but could be extended to an outpatient visit as well.) | Médecin traitant. |
| PV1-8 Referring doctor | Is any physician who referred the patient to the care of another physician (generally a specialist) for a particular visit. The referring physician might be noted in an HL7 event so that she/he receives a copy of any test results or documentation of care. | Médecin référent. |
| PV1-9 Consulting doctor | Is generally a specialist who sees a patient as the result of a referral or a consultation order. She/he is not the attending physician for the case, although that status could be transferred to a consulting physician at some point. | Le médecin qui est consulté pour un deuxième avis. |
| PV1-17 Admitting doctor | Is the physician who decides that a patient meets the criteria for an inpatient admission to a hospital during a specific visit. The admitting physician is responsible for evaluating the patient so that their acuity satisfies admission criteria. | Médecin responsable de l'admission. |

9 National Extensions for IHE Spain

660 The national extensions documented in this section shall be used in conjunction with the definitions of integration profiles, actors and transactions provided in Volumes 1-3 of the IHE Radiology Technical Framework. This section includes extensions and restrictions to effectively support the regional practice of healthcare in Spain. IHE Spain provides a translation tool to ensure correct interpretation of requirements of the Technical Framework (see www.ihe-e.org).

9.1 Comments

665 IHE-Spain (from now on IHE-E) welcomes comments on this document and the IHE Spain initiative. Comments can be directed to the IHE-E technical manager, following the links of the IHE-E web site: www.ihe-e.org.

9.2 Scope

The extensions, restrictions and translations specified apply to HL7 and DICOM requirements as used in IHE integration profiles: such as Scheduled Workflow.

9.3 Translation of IHE terms into Spanish

670 A JAVA tool has been developed to support the translation of the main IHE terms into Spanish. This tool provides a dictionary that contains integration profiles, actors and transactions, and for each one, the domain/TF document where they are referenced (if applicable), acronym, the translation of the term into Spanish, and a short description.

675 The last version of this JAVA tool can be downloaded from the web site of the Spanish IHE initiative (www.ihe-e.org).

9.4 Support for ISO Latin 1

9.4.1 HL7

680 All actors with HL7 based transactions shall support the value “8859/1” for the field “MSH-18 Character Set” in the MSH segment. This value specifies the printable characters from the ISO 8859 (Latin 1) character set.

Note: this character set supports all languages which are official in Spain.

9.4.2 DICOM

685 All actors with DICOM based transactions shall support the value “ISO_IR_100” for the attribute (0008, 0005) “Specific Character Set” if this attribute is defined in the DICOM SOP class used by the IHE transaction. This attribute specifies the ISO 8859-1 (Latin 1) character set.

Note: this character set supports all languages which are official in Spain.

9.5 Patient Identification Data

690 This section is intended to give an orientation in the use of the main attributes related to the patient entity and which can be subject to an ambiguous interpretation. Likewise, we will focus on the use or adoption or codifications that allow a higher interoperability between systems.

9.5.1 Spanish naming convention: the second family name

In Spain, people use two family names. In this document they will be referred to as the first family name and the second family name. The first family name is the father's first family name and the second family name is the mother's first family name.

695 For instance, Picasso is known for his second family name. His real name was Pablo Ruiz Picasso, son of José Ruiz Blasco, and Maria Picasso Lopez.

Another example useful for non-Spanish readers: The daughter of the actors Antonio Banderas and Melanie Griffith is named Estela Banderas Griffith.

700 Note that, as women in Spain don't change names when they get married, a person's second family name is as well his/her mother's maiden name.

The patient's second family name is an essential attribute for a person's identification in Spain. However, if a person is not of Spanish descent, it is possible that he or she does not have a second family name

Handling particles

705 It is quite common in Spain that names have particles. Some examples of this are Felipe de Borbon y Grecia or Teresa Garcia de la Vega. These particles are not handled consistently across hospitals (or other information systems) and its codification is beyond the scope of this national extension. Common solutions are either adding de particle at the end of the name (|BORBON>Y GRECIA^FELIPE DE|) or before the surname (|DE BORBON>Y GRECIA^FELIPE|)

710 9.5.2 HL7

Most of the identification data of a patient are specified in the PID segment as described in the table below (Table 1. PID attributes, HL7 version 2.3.1. Chapter 3, Section 3.4.2)

Table 9.5.2-1: IHE profile –PID Segment

| SEQ | LEN | DT | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|-----|-----|------|------|-------|----------------------------|
| 1 | 4 | SI | O | | | 00104 | Set ID – PID |
| 2 | 20 | CX | B | | | 00105 | Patient ID |
| 3 | 20 | CX | R | Y | | 00106 | Patient Identifier List |
| 4 | 20 | CX | B | Y | | 00107 | Alternate Patient ID – PID |
| 5 | 48 | XPN | R | Y | | 00108 | Patient Name |
| 6 | 48 | XPN | O | Y | | 00109 | Mother's Maiden Name |
| 7 | 26 | TS | O | | | 00110 | Date/Time of Birth |
| 8 | 1 | IS | O | | 0001 | 00111 | Sex |

| SEQ | LEN | DT | OPT | RP/# | TBL# | ITEM# | ELEMENT NAME |
|-----|-----|-----|-----|------|------|-------|-----------------------------------|
| 9 | 48 | XPN | O | Y | | 00112 | Patient Alias |
| 10 | 80 | CE | O | Y | 0005 | 00113 | Race |
| 11 | 106 | XAD | O | Y | | 00114 | Patient Address |
| 12 | 4 | IS | B | | 0289 | 00115 | County Code |
| 13 | 40 | XTN | O | Y | | 00116 | Phone Number – Home |
| 14 | 40 | XTN | O | Y | | 00117 | Phone Number – Business |
| 15 | 60 | CE | O | | 0296 | 00118 | Primary Language |
| 16 | 80 | CE | O | | 0002 | 00119 | Marital Status |
| 17 | 80 | CE | O | | 0006 | 00120 | Religion |
| 18 | 20 | CX | O | | | 00121 | Patient Account Number |
| 19 | 16 | ST | B | | | 00122 | SSN Number – Patient |
| 20 | 25 | DLN | O | | | 00123 | Driver’s License Number - Patient |
| 21 | 20 | CX | O | Y | | 00124 | Mother’s Identifier |
| 22 | 80 | CE | O | Y | 0189 | 00125 | Ethnic Group |
| 23 | 60 | ST | O | | | 00126 | Birth Place |
| 24 | 1 | ID | O | | 0136 | 00127 | Multiple Birth Indicator |
| 25 | 2 | NM | O | | | 00128 | Birth Order |
| 26 | 80 | CE | O | Y | 0171 | 00129 | Citizenship |
| 27 | 60 | CE | O | | 0172 | 00130 | Veterans Military Status |
| 28 | 80 | CE | O | | 0212 | 00739 | Nationality |
| 29 | 26 | TS | O | | | 00740 | Patient Death Date and Time |
| 30 | 1 | ID | O | | 0136 | 00741 | Patient Death Indicator |

Adapted from the HL7 Standard, version 2.3.1

715

9.5.2.1 Second family name

Patient’s second family name

720 Amongst the fields defined for the PID segment, there is no specific location for the second family name. In most current implementations, the field selected to convey this information is PID-6 Mother’s Maiden Name (XPN). This is a composed data type, whose description according to HL7 v2.3.1 is the following:

725 XPN Components: <family name (ST)> & <last_name_prefix (ST)> ^ <given name (ST)> ^ <middle initial or name (ST)> ^ <suffix (e.g., JR or III) (ST)> ^ <prefix (e.g., DR) (ST)> ^ <degree (e.g., MD) (IS)> ^ <name type code (ID)> ^ <name representation code (ID)>

The second name shall be positioned in the following XPN route:

PID-6 Mother’s maiden name → Family Name

730 However, this solution can't be extended to reporting other second family names, i.e., attending doctor. To achieve a rule that is consistent for reporting second family names of all person's involved, it is suggested that the second family name is coded as a subcomponent of the patient's family name as well.

Therefore the component <family name (ST)> can have two parts the first family name and the second family name, separated by a >, as shown in the following example:

```
[BANDERAS>GRIFFITH^ESTELA]
```

735 As people who are not Spanish descendants may not have second family name this field PID-6 is not required to be filled.

Professional's second family name

740 The second family name is used for any persons, including patients. An example can be the name of the physician visiting a patient (i.e., PV1 9, Consulting Doctor XCN).

In HL7 v2.3.1 a subcomponent of the family name component can be used in the same way is done for the patient name.

In v2.5 the definition for XCN data type is changed, and it is recommended to place both patient and professional names of XCN fields such as "Consulting Doctor", in the following XCN route:

745 "Field x" → Second and Further Given Names or Initials Thereof

9.5.2.2 Patient Identifiers

The identifier associated to a patient shall be located in the PID-3 Patient Identifier List field.

According to HL7 v2.3.1 the patient identifier list is defined as follows.

```
PID-3 Patient identifier list (CX) 00106
```

750 Components: <ID (ST)> ^ <check digit (ST)> ^ <code identifying the check digit scheme employed (ID)> ^ <assigning authority (HD)> ^ <identifier type code (IS)> ^ <assigning facility (HD)>

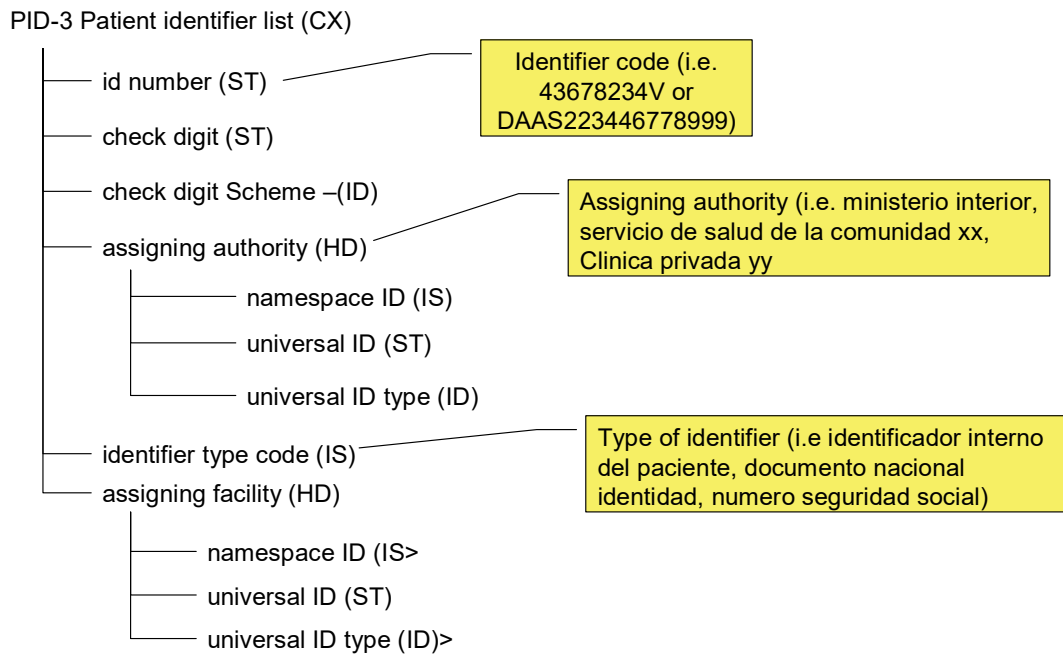
```
Subcomponents of assigning authority: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)>
```

755 Subcomponents of assigning facility: <namespace ID (IS)> & <universal ID (ST)> & <universal ID type (ID)>

This is a mixed type that allows great flexibility of use due to its subcomponents. With the goal of simplifying the patient identifier's management, the use of the components shown in Table 9.5.2-2 is required.

760

Table 9.5.2-2: HL7 v2.3.1 PID-3



765

There are many approaches for the management of these identifiers (for more details in other possible strategies see [1]). The technical subcommittee has decided to use specific values for assigning authorities and identifier type codes. These are summarized in Table 3. The last column, assigning jurisdiction is a field added in HL7 v2.5, and is shown here only as a recommendation for future HL7 v2.5 implementations.

Table 9.5.2-3: Spain’s local codes for HL7 v2.3.1 PID-3, assigning authority fields

| Description | | Codes to be used | | |
|---------------------------|----------------------------------|---------------------|----------------------|---|
| Identifier (Spanish name) | Identifier (English description) | Assigning Authority | Identifier Type Code | Assigning Jurisdiction (recommendation for HL7 v2.5) |
| DNI | National identify card | NamespaceID: MI | NNESP ¹ | Identifier ESP ² Name of Coding System: ISO3166 (3 char) |
| Pasaporte | Passport | NamespaceID: MI | PPN | Identifier ESP ² Name of Coding System: ISO3166 (3 char) |

¹ The last 3 characters correspond to the ISO3166 code (3 characters) of the country that issues the document. See reference [6].

² This applies only for Spain. For other countries, their ISO codification should be taken into.

| Description | | Codes to be used | | |
|------------------------------------|--|-------------------------------|----------------------|--|
| Identifier (Spanish name) | Identifier (English description) | Assigning Authority | Identifier Type Code | Assigning Jurisdiction (recommendation for HL7 v2.5) |
| Trajeta residencia | Spanish identity card for foreigners resident in Spain | NamespaceID: MI | PRC | Identifier: ESP2 Name of Coding System: ISO3166 (3 char) |
| Número afiliación Seguridad Social | Social Security id | NamespaceID: SS | SS | Identifier: ESP Name of Coding System: ISO3166 (3 char) |
| CIP autonómico | Regional authority unique patient identifier | NamespaceID:CAXX ³ | JHN | Identifier: AN, AR, .. Name of Coding System: ISO3166-2 ⁴ |
| CIP del SNS | National health authority unique patient identifier | Namespace ID: MS | HC | Identifier: ESP Name of Coding System: ISO3166 (3 char) |
| CIP europeo | European patient identifier | NamespaceID: TSE | HC | Identifier: EU Name of Coding System: ISO3166 |
| ID interno | Internal patient identifier | Definition pending | PI | Definition pending |

9.5.2.3 Contact Data

770 For the contact data (mail, telephone, etc.) the use of PID-13 Phone Number – Home shall be used. This field is of the type XTN (extended telecommunication number data type)

The following fields shall be used:

- *phone number* (NM): this field contains the telephone number (without country code)
- *telecommunication use code*: in this field the values suggested in the HL7 0201 table shall be used.
- *telecommunication equipment type*: in this field, the values suggested in the HL7 0202 shall be used.
- *country code*: the international code for Spain, +34, is optional. Foreign international codes shall be filled in.

780 9.5.2.4 Address Data

The field used in the PID segment to store the possible addresses of the patient is PID-11 Patient Address.

³ The ISO code should be replaced with the regional authority (“Comunidad autonoma” - CA) ISO (see following note). See reference [5] for autonomous regions codification.

⁴ ISO regional authority (CCAA) Codification. See reference [5].

785

Components: <street address (ST)> ^ <other designation (ST)> ^ <city (ST)> ^ <state or province (ST)> ^ <zip or postal code (ST)> ^ <country (ID)> ^ < address type (ID)> ^ <other geographic designation (ST)> ^ <county/parish code (IS)> ^ <census tract (IS)> ^ <address representation code (ID)>

To identify the type of address, it is recommended that the values from the HL7 table 0190 be used in the following way:

790

Table 9.5.2-4: Spain’s recommended local codes for address type

| Type of address | “Address Type” Field |
|---------------------------------|----------------------|
| Fiscal (tax) | L |
| Empadronamiento (city register) | H |
| Contacto (contact) | M |
| Empresa (company) | B |
| Desplazado (temporal) | C |

In the event that the “address type” is not filled in, the address is considered to be the city register’s postal address (H).

The components of the address field are recommended to be used as follows:

795

Table 9.5.2-5: Spain’s recommended interpretation for HL7 v.2.3.1 PID-11 components.

| PID-11 component | Recommended interpretation | Recommended coding scheme |
|--------------------------------|--|---------------------------|
| “Street Address” | Tipo de vía, nombre de la vía y número de la vía | n/a |
| “City”: | Municipio | INE code ⁵ |
| “State or Province”: | Provincia | INE code ⁵ |
| “Zip or postal code” | Código Postal | |
| “Country” | País | ISO3166 (3 characters) |
| “Other geographic designation” | Población ⁶ | n/a |

In HL7 v2.5 the street address component is modified to include a set of subfields. The recommendation for future HL7 v2.5 implementations is:

⁵ Spain’s recommended interpretation for HL7 v.2.3.1 PID-11 components.

⁶ Only used in case that the name of the city does not match the name of the INE codified district.

800

Table 9.5.2-6: Spain’s recommended interpretation for HL7 v.2.5 PID-11 Street address subfields.

| Subfields of “Street Address” component | Recommended interpretation |
|---|----------------------------|
| “Street or mailing address” | Tipo de vía |
| “Street name” | Nombre de la vía |
| “Dwelling number” | Número de la vía |

9.5.3 DICOM: Patient Identification Module

805

The DICOM Standard provides definitions for the information objects [9]. Most of the identification data of a patient are specified in the Patient Modules. (DICOM PS 3.3. Patient Identification Module). Patient Identification Attributes are summarized in DICOM PS 3.3. Table C.2-2.

9.5.3.1 Second family name

810

Attribute Patient’s Name (0010, 0010) has a value representation ([10] 6.2. Value Representation, VR) of person name (PN), which does not allow to distinguish [11] between the first and the second family name.

Amongst the patient’s personal data fields available in the Patient Identification Modules, there is as well no specific location for the second family name.

815

Therefore, it is recommended that the first and second family names are placed in the first component of PN, family name, in the above mentioned order, using the character “>” (ANSI 003E hex) as delimiter.

Other Patient Name (0010,1001) attribute was not chosen to specify second family name because there are other Names in the system such as the Referring Physician which can be encoded in the same way.

820

825

Other examples besides the Referring Physician’s Name (0008, 0090), are Performing Physician’s Name (0008, 1050), Name of Physician’s Reading Study (0008, 1060), Operator’s Name (0008, 1070), Names of Intended Recipients of Results (0040,1010), Order Entered By (0040,2008), Human Performer’s Name (0040,4037), Verifying Observer Name (0040,A075), Content Creator’s Name (0070,0084), Reviewer Name (300E,0008), Interpretation Recorder (4008,0102), and Interpretation Transcriber (4008,010A).

9.5.3.2 Patient Identifiers

The main patient identifier shall be reported in:

(0010, 0020) “Patient ID”

830 (0010, 0021) “Issuer of Patient ID” (Corresponds to HL7 “Assigning authority”, see Table 3 for recommended codes)

835 In some cases the Assigning authority alone is not enough to ensure a unique interpretation of the patient id (see Table 3), and additional information regarding the “Identifier Type Code” is needed. This is supported in HL7 v2.3, but not in the current DICOM specification. Please note that this issue may lead to errors if an assigning authority uses only the identifier type code to distinguish between the patient identifiers.

To code more than one patient identifier, the attribute (0010,1002) "Other Patient IDs Sequence" (DICOM PS 3.3 - 2007 Page 242) can be used.

840 **9.6 Insurance Data**

This section recommends a representation for insurance data. It focuses on the identification of the Insurance Company and does not cover the specific conditions of the insurance. This last aspect depends mainly on implementation and it goes beyond the aim of this national extension.

845 The proposal for the identification of the patient’s main insurance data can be found in document [8].

9.6.1 HL7: Insurance Data Mapping

Table 9.6.1-1 describes the elements of the HL7 v2.3.1 IN1 segment (chapter 6, section 6.4.6) that shall be used and their recommended interpretation. Fields 1,2, and 3 are required according to HL7 v2.3.1 definition.

850 IN1 segment should not be sent if the information in IN1-3 (Insurance company ID) is not relevant.

Table 9.6.1-1: Spain’s recommended interpretation for HL7 v.2.3.1 IN1

| IN1 Field | Recommended interpretation | Optionality |
|------------------------------|---|-------------|
| In1-1 Set id IN1 | Number that identifies the transaction. If the patient has more than one insurance company, the message shall be repeated for each company, using a different transaction ID. | Required |
| In1-2 Insurance Plan ID | Coverage Plan identifier. | Required |
| In1-3 Insurance Company ID | Unique company identifier. | Required |
| In1-4 Insurance Company Name | Name of the company. We suggest repeated use of this field to identify the name of the company’s delegation. | Optional |
| In1-12 Plan effective date | The date the Coverage Plan comes into force. | Optional |
| In1-13 Plan expiration date | The date the Coverage Plan finishes. | Optional |
| In1-36 Policy Number | Policy number. | Optional |

9.7 Examples

9.7.1 HL7 Example 1

855 The first example provided is the PID information of a patient living in the Extremadura region. Only information addressed within this document is shown.

| Datos del paciente | Patient data | |
|------------------------------------|--|---------------------------------------|
| Nombre | Name | Manuel |
| Primer Apellido | First family name | Fernández |
| Segundo Apellido | Second family name | Ferrer |
| Identificadores | Identifiers | |
| DNI | National identity card | 37456765V |
| CIP autonómico | Regional authority unique patient identifier | CAEX123456789088 (extremadura =EX) |
| Número afiliación Seguridad Social | Social Security id | 061081880847 |
| Identificador interno del HIS | Internal patient id at the HIS | 9987765 |
| Datos de contacto | Contact information | |
| Teléfono de casa | Home phone | 924678564 |
| Móvil | Cell phone | 659877877 |
| Correo electrónico | e-mail | mfernandez@hl7spain.org |
| Direcciones | Addresses | |
| Dirección de empadronamiento | Address for the city register | |
| Tipo de vía | Street type (avenue, square,..) | Avenida |
| Nombre de la vía | Street name | Alange |
| Número | Street number | 8 |
| Piso | Floor | 4ª-3ª |
| Escalera | Stair | B |
| Código Postal | Zip code | 06800 |
| Municipio | City | Mérida |
| Población | City | Mérida |
| Provincia | Province | Badajoz |
| País | Country | España |
| Dirección de contacto | Contact address | |
| Tipo de vía | Street type | Calle |
| Nombre de la vía | Street name | Constitución |
| Número | Street number | 34 |
| Piso | Floor | 1º-C |
| Escalera | Stair | |
| Código Postal | Zip code | 06800 |
| Municipio | City | Mérida |

| Datos del paciente | Patient data | |
|--------------------|--------------|---------|
| Población | City | Mérida |
| Provincia | Province | Badajoz |
| País | Country | España |

The location of these data in an HL7 message would be the following:

860

| | | | | |
|-------------------------------|------------------------------|--------------|-----------------------------------|--|
| PID-3 Patient identifier List | ID Number | | 37456765V | |
| | Assigning Authority | | | |
| | | Namespace ID | MI | |
| | Identifier Type Code | | NNESP | |
| | ID Number | | CAEX123456789088 | |
| | Assigning Authority | | | |
| | | Namespace ID | CAEX | |
| | Identifier Type Code | | JHN | |
| | ID Number | | 61081880847 | |
| | Assigning Authority | | | |
| | | Namespace ID | SS | |
| | Identifier Type Code | | SS | |
| ID Number | | 9987765 | | |
| Assigning Authority | | | | |
| | Namespace ID | HC | | |
| Identifier Type Code | | PI | | |
| PID-5 Patient Name | Family Name | | | |
| | | Surname | Fernández | |
| | Given Name | | Manuel | |
| PID-6 Mother's Maiden Name | Family Name | | | |
| | | Surname | Ferrer | |
| | Given Name | | | |
| PID-11 Patient Address | Street Address | | Avenida Alange 8 4º-3ª Escalera B | |
| | Other Designation | | | |
| | City | | 06083 | |
| | State or Province | | 06 | |
| | Zip or Postal Code | | 06800 | |
| | Country | | ESP | |
| | Address Type | | H | |
| | Other Geographic Designation | | | |
| | Street Address | | Calle Constitución 34 1ª - C | |
| | Other Designation | | | |

| | | |
|----------------------------|------------------------------|------------------------|
| | City | 06083 |
| | State or Province | 06 |
| | Zip or Postal Code | 06800 |
| | Country | ESP |
| | Address Type | M |
| | Other Geographic Designation | |
| PID-13 Phone Number - Home | Telecommunication Use Code | PRN |
| | Telecomm. Equipment Type | PH |
| | Country code | +34 |
| | Phone Number | 924678564 |
| | Telecommunication Use Code | WPN |
| | Telecomm. Equipment Type | CP |
| | Country code | +34 |
| | Phone Number | 659877877 |
| | Telecommunication Use Code | NET |
| | Telecomm. Equipment Type | Internet |
| | Email Address | mfernandez_f@ihe-e.org |

And the corresponding PID segment in a message would be:

```

865 PID|
1|
37456765V^^MI&&^NNESP^~
CAEX123456789088^^CAEX&&^JHN^~
61081880847^^SS&&^SS^~
9987765^^HC&&^PI^~||
870 FERNANDEZ>FERRER^MANUEL|
FERRER||
F|||
Avenida Alange 8 4º-3ª Escalera B^^06083^06^06800^ESP^H^^^~
Calle Constitución 34 1ª - C^^06083^06^06800^ESP^M^^^||
875 ^PRN^PH^^924678564~
^WPN^CP^^659877877~
^NET Internet^^mfernandez_f@ihe-e.org
    
```

9.7.2 HL7 Example 2

880 This example shows the data of a patient admitted in the Emergency Room of the “Hospital Virgen de la Salud” at Toledo (Castilla La Mancha Region).

| Datos del paciente | Patient data | |
|--------------------|--------------|--------|
| Nombre | Name | Estela |

| Datos del paciente | Patient data | |
|------------------------------------|--|-------------------------------------|
| Primer Apellido | First family name | Banderas |
| Segundo Apellido | Second family name | Griffith |
| Fecha de nacimiento | Date of birth | June 1st, 1970 |
| Identificadores | Identifiers | |
| DNI | National identity card | 00000001R |
| CIP autonómico | Regional authority unique patient identifier | HOPN700641916019 |
| Número afiliación Seguridad Social | Social Security id | 2803800541502 |
| Identificador interno del HIS | Internal patient id at the HIS | 40004 |
| Datos de contacto | Contact information | |
| Teléfono de casa | Home phone | 925 123 456 |
| Otro teléfono de contacto | Secondary contact telephone | 925 654 321 |
| Móvil | Cell phone | 660 445 566 |
| Correo electrónico | e-mail | |
| Direcciones | Adresses | |
| Dirección de contacto | Contact address | |
| Nombre de la vía | Street name | Plaza de Alfares 2 , Apt. 2º “A” |
| Código Postal | Zip code | 45002 |
| Municipio | City | Toledo |
| Población | City | |
| Provincia | Province | Toledo |
| País | Country | |

The patient identifiers are coded as follows:

| | |
|--|--------------------------------|
| CIP autonómico | HOPN700641916019^^^CACM&&^JHN^ |
| DNI | 00000001R^^^MI&&^NNEESP^ |
| Identificador interno del HIS (Número de historia clínica) | 40004^^^PI&&^ |
| Número afiliación Seguridad Social | 2803800541502^^^SS&&^SS^ |

885

The address is coded taking into account that the code for the city of TOLEDO is (45 1685) and the province of is TOLEDO(45) 45002 ESP M

Plaza de Alfares 2, Apt. 2º A^451685^45^45002^ ESP^M

890 The resulting patient identification segment (PID) is as follows:

PID|1|HOPN700641916019^^CACM&&^JHN^~
 00000001R^^MI&&^NNESP^~
 40004^^^PI&&^^^~
 895 2803800541502^^SS&&^SS^^~||
 BANDERAS>GRIFFITH^ESTELA|
 GRIFFITH|
 19700601|
 F|||
 900 Plaza de Alfares 2 , Apt. 2º A^451685^45^45002^ ESP^M||
 ^PRN^PH^^^925123456~
 ^ORN^PH^^^925654321~
 ^ORN^CP^^^660445566

9.7.3 DICOM Example 1

905 The patient information described in Section 9.7.1 HL7 example 1 would be codified as follows in DICOM.

| Tag | Value |
|-------------|-----------------------------------|
| (0010,0010) | FERNANDEZ>FERRER^MANUEL |
| (0010,0020) | 9987765 |
| (0010,0021) | PEND |
| (0010,1002) | |
| (0010,0020) | CAEX123456789088 |
| (0010,0021) | CAEX |
| (0010,0022) | TEXT |
| (0010,0020) | 61081880847 |
| (0010,0021) | SS |
| (0010,0022) | TEXT |
| (0010,0020) | 37456765V |
| (0010,0021) | MI |
| (0010,0022) | TEXT |
| (0010,1040) | Avenida Alange 8 4º-3ª Escalera B |
| (0010,1060) | FERRER> |
| (0010,2150) | ESP |
| (0010,2152) | 06083 |
| (0010,2154) | +34924678564 / +34659877877 |

9.7.4 DICOM Example 2

910 The patient information described in Section 9.7.2 HL7 example 2 would be codified as follows in DICOM.

| TAG | Value -according to option 1 |
|--------------|--|
| (0010,0010) | BANDERAS>GRIFFITH^ESTELA |
| (0010,0020) | 40004 |
| (0010,0021) | PEND |
| (0010,0022) | TEXT |
| >(0010,1002) | |
| >(0010,0020) | 2803800541502 |
| >(0010,0021) | SS |
| >(0010,0022) | TEXT |
| >(0010,0020) | 00000001R |
| >(0010,0021) | MI |
| (0010,0022) | TEXT |
| (0010,1040) | Plaza de Alfares 2, Apt. 2º A |
| (0010,1060) | GRIFFITH |
| (0010,2150) | ESP |
| (0010,2152) | 451685 |
| (0010,2154) | +34925123456 / +34925654321 / +34660445566 |

9.8 References

- 915 [1] Proposal for Identifiers Management
(Technical Subcommittee HL7 Spain, <http://www.hl7spain.org/>)
- [2] Minutes of Meeting – Technical Subcommittee ADT 03-02-2005
(Technical Subcommittee HL7 Spain, <http://www.hl7spain.org/>)
- [3] Minutes of Conference Call Technical Subcommittee ADT 14-02-2005
(Technical Subcommittee HL7 Spain, <http://www.hl7spain.org/>)
- 920 [4] Minutes of Meeting Technical Subcommittee ADT 10-03-2005
(Technical Subcommittee HL7 Spain, <http://www.hl7spain.org/>)
- [5] ISO Codification for Regions (autonomous regions) in Spain
(ISO, <http://www.iso.org/iso/en/prods-services/iso3166ma/03updates-on-iso-3166/nli-4.pdf>)
- 925 [6] ISO Codification for Countries
(ISO, http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/iso_3166-1_decoding_table.html#EU)
- [7] INE Codification for Districts and Provinces
(<http://www.ine.es/inebase/cgi/um?M=%2Ft20%2Fe245%2Fcodmun&O=inebase&N=&L=0>)

- 930 [8] Proposal for Insurance data associated with the patient
(Technical Subcommittee HL7 Spain, <http://www.hl7spain.org/>)
- [9] DICOM Part 3: IOD, information Object Definitions
- [10] DICOM Part 5, Data Structures and Encoding
- [11] ANSI HISPP MSDS: COMMON DATA TYPES for Harmonization of Communications
- 935 Standards in Medical Informatics

10 National Extensions for IHE Japan

See Section 10.5 for examples of messages illustrating the requirements specified here.

10.1 Comment Submission

940 This national extension document was authored under the sponsorship and supervision of JRS, JAMI, MEDIS, JIRA, JSRT, and JAHIS by the IHE Japan initiative, who welcome comments on this document and the IHE Japan initiative.

Comments should be directed to:

Shirou Endou, IHE-J Secretary, endou@ihe-j.org

10.2 Referenced Standards

945 This National Extension depends on the following standards (which are approved by the Ministry of Health, Welfare and Labour of Japan):

- The JAHIS Protocol for Radiology Data Communication v.3.0C (JRDC), issued by Japanese Association of Healthcare Information System Industry (JAHIS), which is found at <http://www.jahis.jp/>.
- 950 • Radiology Procedure Codes Standard (JJ1017 V3.3), issued by Japanese Society of Radiological Technology (JSRT), which is found at <http://www.jsrt.or.jp/>.
- Standard Master for Pharmaceutical (known as “HOT code”, which lists government approved drugs and provides codes to use for ordering, charging and record keeping), issued by Medical Information System Development Center (MEDIS), which is found at
- 955 <http://www.medis.or.jp/master/hcode>.
- Standard codes for pharmaceutical units (MR9P) are included as part of the MERIT9 (Medical Record Image Text - Information Exchange) data exchange standard issued by Japan Association for Medical Informatics (JAMI), which is found at http://www.mi.hama-med.ac.jp/emr/medic/merit9_051220.pdf.

960 10.3 All Profiles

The following requirements apply to HL7 messages across all Radiology profiles.

10.3.1 Character Set Codes

All senders and receivers of HL7 transactions:

- shall support the use of two-byte characters in any character field
- 965 • shall use the ASCII character set code (ISO IR6) for single-byte characters
- shall use Japan Industrial Standard Kanji code (ISO IR87) for two-byte characters. MSH-18 shall be "ISO IR87". Characters not defined in ISO IR87 shall be replaced by phonetic characters, i.e., Kana (Hiragana or Katakana).

- 970 • shall use ISO 2022-1994 (JIS-X0202) for switching between single- and two-byte characters, e.g., Kanji, Hiragana, Katakana and alphabet. MSH-20 shall be "ISO 2022-1994".
- shall not use ISO IR13.
- should not use ISO IR159.

975 Note: The backslash character “\”, which is used as the Escape character, appears in Japanese fonts as a “¥” character when viewing the raw byte stream.

10.3.2 PID Segment Usage

All senders and receivers of HL7 transactions:

- should put the legal name in PID-5
- shall include the name written in Katakana.
- 980 • shall support the name written also in Kanji
- should support the name written also in Roman Alphabet
- shall support the Katakana, Kanji, and alphabet appearing in any order.
- shall not use PID-9 (Patient Alias)
- 985 • shall represent Japanese addresses by populating component 8 of PID-11 <Other Geographic Designation> with Japanese characters organized as described in https://en.wikipedia.org/wiki/Japanese_addressing_system
- shall structure component 8 as a single string without delimiting the subcomponents using a subcomponent delimiter
- 990 • should not use components 1, 2, 3 or 4 of PID-11 for Japanese addresses (they do not have appropriate structure/semantics for Japanese addresses), although it is appropriate to use them for non-Japanese addresses.
- shall use component 12 of PID-13 and PID-14 <Unformatted Telephone Number> for phone numbers
- 995 • should not use components 4, 5 or 6 of PID-13 and PID-14 for phone numbers (they do not have appropriate structure/semantics for Japanese phone numbers)

Example value of PID-5:

Yamada^ Taro^^^^L^A~山田^太郎^^^^L^I~ヤマダ^タロウ^^^^L^P

In this example, the order is Alphabet, Kanji and Katakana.

Example value of PID-11:

1000 ^^^^105-0004^^H^^東京都港区新橋 2 – 5 – 5

Example of value of PID-13 and 14:

^PRN^PH^^^^^^^^^03-3506-8010

10.3.3 Message Control Codes (“0B”)

1005 The IHE Radiology Technical Framework requires that "0B" be present at the beginning of all HL7 messages as part of the Minimal Lower Layer Protocol mandated in RAD TF-2: 2.4.1.1.

JRDC v3.0C (a national standard of Japan, proposed by JAHIS and approved by Ministry of Health, Labour and Welfare of Japan) requires omission of "0B" at the initial part of a message.

All senders and receivers of HL7 transactions shall be configurable to operate successfully with and without the beginning "0B" character.

1010 **10.4 Scheduled Workflow.b (SWF.b)**

The Japanese National Extension adds requirements to SWF.b. The same requirements apply to implementations of SWF with the HL7 v2.5.1 Option (see the IHE Radiology Technical Framework, Revision 11 (July 24, 2012) or later).

10.4.1 SWF.b – OBX Segment Usage for Common Observations

1015 The observations and observation values in this section are commonly used in Japan.

ADT, Order Placer and Order Filler Actors are recommended to support sending the observations in Table 10.4.1-1 in one or more OBX segments in [RAD-1], [RAD-2], [RAD-4], [RAD-12], and [RAD-13].

1020 The Observation Code will appear in OBX-3, the Data Type in OBX-2, and the result value in OBX-5.

Note: Allergy information is communicated in an AL1 segment according to HL7 V2.5.

Note: Fields for "History of ..." may contain a Yes/No, a date, a statement that such information was not requested or is not available or may contain a text description of the history itself such as the specific procedure performed. As a result this field is mostly for human viewing (e.g., by the technologist or the radiologist), not for any kind of automated processing or decision support.

1025

Table 10.4.1-1: Common Observation Identifiers in Japan

| Observation Code (OBX-3) | Meaning | English Translation | Data Type (OBX-2) | Observation Value (OBX-5) |
|--------------------------|---------|-------------------------------|-------------------|---------------------------|
| 01-01 | 身長 | Body height | NM | - |
| 01-02 | 体重 | Body weight | NM | - |
| 01-03 | ABO式血液型 | ABO blood type | CWE | Table 10.4.1-4 |
| 02-01 | 造影剤副作用 | Side effect of contrast media | TX | - |
| 02-02 | 気管支喘息 | Asthma | TX | - |
| 02-03 | 腎機能障害 | Renal dysfunction | TX | - |
| 02-04 | 胃の手術 | History of gastric surgery | TX | - |

| Observation Code (OBX-3) | Meaning | English Translation | Data Type (OBX-2) | Observation Value (OBX-5) |
|--------------------------|-----------|---------------------------------|-------------------|---------------------------|
| 02-05 | 大腸の手術 | History of colon surgery | TX | - |
| 02-06 | 胆嚢の手術 | History of gall bladder surgery | TX | - |
| 02-07 | その他腹部の手術歴 | History of abdominal surgery | TX | - |
| 02-08 | 体内ペースメーカー | Implanted pacemaker | TX | - |
| 02-09 | 体内金属 | Metal in body | TX | - |
| 03-01 | HBs抗原 | Hepatitis B surface antigen | CWE | Table 10.4.1-2 |
| 03-02 | HCV抗体 | Anti-Hepatitis C Virus antibody | CWE | Table 10.4.1-2 |
| 03-03 | TPHA法 | Treponema PHA | CWE | Table 10.4.1-2 |
| 03-04 | STS法 | Serological Test for Syphilis | CWE | Table 10.4.1-2 |
| 03-05 | ツ反 | PPD skin test | CWE | Table 10.4.1-2 |
| 03-06 | TB塗抹 | TB smear | CWE | Table 10.4.1-2 |
| 03-07 | TB培養 | TB culture | CWE | Table 10.4.1-2 |
| 03-08 | HIV抗体 | HIV antibody | CWE | Table 10.4.1-2 |
| 03-09 | HTLV-I抗体 | HTLV-I antibody | CWE | Table 10.4.1-2 |
| 03-10 | MRSA | MRSA | CWE | Table 10.4.1-2 |
| 03-11 | クレアチニン値 | Serum creatinine | NM | - |
| 03-12 | BUN値 | Blood urea nitrogen | NM | - |
| 04-01 | 聴覚障害 | Hearing impairment | CWE | Table 10.4.1-3 |
| 04-02 | 言語障害 | Speech disturbance | CWE | Table 10.4.1-3 |
| 04-03 | 視覚障害 | Impairment in vision | CWE | Table 10.4.1-3 |
| 04-04 | 運動障害 | Motor dysfunction | CWE | Table 10.4.1-3 |
| 04-05 | 意識障害 | Disturbance of consciousness | CWE | Table 10.4.1-3 |

Source: JRDC v3.0C, JHSR 001

1030 ADT, Order Placer, and Order Filler Actors are recommended to support sending the observation values in Table 10.4.1-2, Table 10.4.1-3, and Table 10.4.1-4 for the observations indicated in Table 10.4.1-1 in [RAD-1], [RAD-2], [RAD-4], [RAD-12], and [RAD-13].

The Code Value (left column) will appear in the "Code Value" of OBX-5, the Meaning (middle column) in the "Code Meaning" of OBX-5. The English Translation does not typically appear in messages in Japan. The coding system name shall be "JHSR002"

1035 Note: Observation value of "not tested" is represented by "Unknown" if needed.

Table 10.4.1-2: Common Observation Values for Test Result

| Code Value | Meaning | English Translation |
|------------|---------|---------------------|
| 0 | - | Negative |
| 1 | 擬陽性 | Equivocal |
| 2 | + | Positive |
| 3 | ++ | Moderately positive |
| 4 | +++ | Strongly positive |

Source: JRDC v3.0C, JHSR 002

Table 10.4.1-3: Common Observation Values for Evaluation Level

| Code Value | Meaning | English Translation |
|------------|---------|---------------------|
| SV | 重度 | Severe |
| MO | 中等度 | Moderate |
| MI | 軽度 | Mild |
| U | 不明 | Unknown |

Source: JRDC v3.0C, JHSR 002

1040

Table 10.4.1-4: Common Observation Values for Blood Type

| Code Value | Meaning | English Translation |
|------------|---------|---------------------|
| A | A | Blood type A |
| B | B | Blood type B |
| O | O | Blood type O |
| AB | AB | Blood type AB |

Source: JRDC v3.0C, JHSR 002

10.4.2 SWF.b – PV1 Segment Usage

1045

ADT, Order Placer, and Order Filler Actors shall support sending the values in Table 10.4.2-1, Table 10.4.2-2, and Table 10.4.2-3 in PV1-2, PV1-3, and PV1-4 in [RAD-1], [RAD-2], [RAD-3], [RAD-4], [RAD-12], and [RAD-13].

The Code Value (left column) will appear in the "Code Value" and the Meaning (middle column) may be used when presenting the information to a human. The English Translation does not typically appear in messages in Japan.

1050

Table 10.4.2-1: PV1-2 Patient Class (HL7 Table 0004)

| Code Value | Meaning | English Translation |
|------------|---------|---------------------|
| E | 救急 | Emergency |
| I | 入院患者 | Inpatient |
| O | 外来患者 | Outpatient |
| P | 事前登録 | Preadmit |
| R | 通院患者 | Recurring Patient |
| B | 産科来院 | Obstetrics |
| C | 商用アカウント | Commercial Account |
| N | 適用なし | Not Applicable |
| U | 不明 | Unknown |

*Source: JRDC v3.0C***Table 10.4.2-2: PV1-3 Assigned Patient Location, Component 6 Person Location Type (HL7 Table 0305)**

| Code Value | Meaning | English Translation |
|------------|---------|--------------------------|
| C | 診察室 | Clinic |
| D | 部門 | Department |
| H | 在宅 | Home |
| N | 病棟 | Nursing Unit |
| O | 依頼医の部屋 | Provider's Office |
| P | 電話 | Phone |
| S | 高度看護施設 | Skilled Nursing Facility |

Source: JRDC v3.0C

1055

For Patient Class Inpatient, Component 6 shall be N and PV1-3 may be formatted as follows:

```
<Ward>^<Room>^<Bed>^^^N
```

For Patient Class Outpatient, Component 6 shall be C and PV1-3 may be formatted as follows:

```
<Clinic>^^^^^C
```

1060

For other Patient Class values, the PV1-3 format and values are not further constrained in Japan.

Table 10.4.2-3: PV1-4 Admission Type (HL7 Table 03065)

| Code Value | Meaning | English Translation |
|------------|-------------|--|
| A | 事故 | Accident |
| E | 救急 | Emergency |
| L | 陣痛と出産 | Labor and Delivery |
| R | 通常 | Routine |
| N | 新生児 (院内で誕生) | Newborn (Birthed in Healthcare Facility) |
| U | 緊急 | Urgent |
| C | 選択的 | Elective |

Source: JRDC v3.0C

10.4.3 SWF.b – TQ1 Segment Usage

1065 Order Placer and Order Filler Actors shall support sending the values in Table 10.4.3-1 in TQ1-9 in [RAD-2], [RAD-3], [RAD-4], and [RAD-13].

The Code Value (left column) will appear in the "Code Value" and the Meaning (middle column) may be used when presenting the information to a human. The English Translation does not typically appear in messages in Japan.

Table 10.4.3-1: TQ1-9 Extended Priority Codes (HL7 Table 0485)

| Code Value | Meaning | English Translation |
|------------|----------|---|
| S | 緊急 | Urgent, with the highest priority |
| A | S オーダの後 | As soon as possible |
| R | ルーチン | Routine |
| P | 術前 | Preoperative patient, fulfill an order before the planned date of surgery |
| C | 返信(呼び戻し) | Callback |
| T | 時期厳守 | Timing is critical. Fulfill order at the specified timing. |
| PRN | 必要に応じて | As needed. Fulfill order when condition is met. The condition must be defined by an ordering provider beforehand. |

1070 Source: JRDC v3.0C

10.4.4 SWF.b – Drug Coding with HOT & MR9P

Order Placer and Order Filler Actors shall support using HOT coding for any drugs and MR9P coding (see Table 10.4.4-1) for any drug amounts encoded in [RAD-2], [RAD-3], [RAD-4], and

1075

[RAD-13]. For example contrast in an OBX segment in an order, or consumed drugs in the ZE1 segment.

The coding system name for HOT shall be “HOT9”.

The coding system name for MR9P shall be “MR9P”.

Table 10.4.4-1: Units of Drug Dose (MR9P)

| Code Value | Meaning | English Translation |
|------------|---------|---|
| TAB | 錠 | Tablet |
| CAP | カプセル | Capsule |
| G | グラム | Gram |
| MG | ミリグラム | Milligram |
| MCG | マイクログラム | Microgram |
| L | リットル | Liter |
| ML | ミリリットル | Milliliter |
| UNT | 単位 | Unit |
| AMP | 管、アンプル | Ampule |
| BAG | 袋 | Bag |
| BTL | 瓶 | Bottle |
| HON | 本 | Hon (a unit for counting drugs or drug containers with a stick-like shape) |
| KO | 個 | Ko (a unit for counting drugs or drug containers whose unit is not otherwise specified) |
| PCK | 包 | Pack |
| SHT | 枚 | Sheet |
| VIL | バイアル | Vial |

Source: JRDC v3.0C

1080

10.4.5 SWF.b – Parent & Child Orders

Order Placers shall be able to generate compound orders containing both parent (PA) and child (CH) order components and send them in Placer Order Management [RAD-2].

Order Fillers shall include any compound orders received from the Order Placer into Procedure Scheduled [RAD-4] and Procedure Update [RAD-13].

1085

A parent order transmits information common to both the parent order and its child orders. Each child order transmits information specific to that child order. For example the parent order might specify a digital radiography (DR) exam, and child order(s) specify that it is a DR exam of the Abdomen with AP & Lateral views. The parent order sometimes serves as a coarse order, useful

1090 for scheduling the modality resource (since the anatomy and views might not be relevant to scheduling) and for showing in the GUI of the EMR as a summary description of the study (it's a DR study). The child order is a refined order that is complete for the tech to perform since the child order also contains all the information in the parent order.

A parent order is indicated by the value "PA" in ORC-1 of an ORC segment. A parent order segment is followed by one or more child order segments.

1095 A child order is indicated by the value "CH" in ORC-1 of an ORC segment. An NW ORC segment is placed before the PA ORC segment.

When child orders are generated by the Order Placer, the Placer Order Number is assigned by the Order Placer. The Order Placer might be configured to use a certain pattern, such as prefixing "999" to the beginning of child order numbers.

1100 In child orders, ORC-8 and OBR-29 shall contain the Placer Order Number of the parent order.

Table 10.4.5-1 shows an example of a single compound order with one parent and two child orders to demonstrate the sequence in which the segments appear and show example values in relevant "linking fields".

Table 10.4.5-1: Parent and Child Order Example

| Seg | Order Control (ORC-1) | Comment | Placer Order Number (ORC-2) | Parent (ORC-8) | Placer Order Number (OBR-2) | Parent (OBR-29) |
|-----|-----------------------|------------|-----------------------------|----------------|-----------------------------|-----------------|
| ORC | NW | New Order | "A00" | <i>blank</i> | | |
| ORC | PA | 1st Parent | "A00" | <i>blank</i> | | |
| ORC | CH | 1st Child | "A01" | "A00" | | |
| OBR | | 1st Child | | | "A01" | "A00" |
| ORC | CH | 2nd Child | "A02" | "A00" | | |
| OBR | | 2nd Child | | | "A02" | "A00" |

1105 **10.4.6 SWF.b – Procedure Coding with JJ1017**

Order Placers, Order Fillers and Image Manager/Archives shall support using JJ1017 codes to describe the procedures ordered, procedures scheduled and procedures performed in OBR-4 fields in [RAD-2], [RAD-3], [RAD-4], and [RAD-13].

1110 JJ1017-16P codes are used for “parent orders”. They are strings of 16 characters where the last 13 characters are zeros.

Other JJ1017 codes are made by combining a 16-character JJ1017-16M code and a 16-character JJ1017-16S code.

The OBR-4 field of a parent order shall contain one JJ1017-16P code.

1115 The OBR-4 field of each of child order shall contain one JJ1017 code (JJ1017-16M + JJ1017-16S, 32 characters) corresponding to a single procedure from the set of procedures included in the parent order.

See Appendix A for examples of JJ1017 usage.

10.4.7 SWF.b – Notification of Patient Presence

1120 Order Fillers shall be able to send a Status Update [RAD-3] with a status of IP (In Progress), when triggered by arrival of the patient.

When a patient presents for a study, an operator of the Order Filler (RIS) logs this fact and a [RAD-3] message is sent to notify the Order Placer that they can no longer change or cancel the study electronically. Communication with a radiology technician or other relevant personnel in charge of the study may be required for any "last minute" discontinuation.

1125 10.5 Examples for Japan National Extension

This appendix provides example messages that illustrate features and requirements of the IHE Japan National Extension as specified in RAD TF-4: 10. The examples were translated from the Radiology Data Exchange Standard (JRDC), ver3.0C © JAHIS 2014.

1130 Some message segments are preceded by explanatory comments which would not appear in the message.

In these examples person names are written with the family name first and given name second in accordance with the customs in Japan. In the explanatory text English information is often followed by the corresponding Japanese words in the same order in parentheses in blue text, for example [Tokyo Taro](#) (東京太郎).

1135 10.5.1 Case: Radiography

10.5.1.1 Placing an Order (HIS to RIS)

HIS_ALPHA sends a message for an imaging service request with the message number 100001 to RIS_BETA on the 20th of January, 2005.

1140

```
MSH|^~\&|HIS_ALPHA||RIS_BETA||20050120||OMG^O19^OMG_O19|100001|P|2.5||||JPN|A
SCII~ISO IR87|| ISO 2022-1994<cr>
```

The Patient is [Tokyo Taro](#) (東京太郎), male, born 14th of December, 1950. The Patient ID is 12345678; the patient's address, preceded by postal code, is 105-0004 [Shinbashi 2-5-5, Minato-ku, Tokyo-to](#) (東京都港区新橋 2 – 5 – 5); and the patient's home telephone number is 03-3506-8010.

1145

```
PID||||12345678^^^^P||東京^太郎^^^^L^|~トウキョウ^タロウ^^^^L^P||19501214|M
||||^^^105-0004^^H^^東京都港区新橋2 – 5 – 5||^PRN^PH^^^^^^^03-3506-8010<cr>
```

The patient is seen by Dr. [Nakada Takashi](#) (中田隆) in the out-patient clinic of the [Internal Medicine](#) (内科) department.

```
PV1||O|01^^^^C||||112233^中田^隆^^^^^^L^^^^^|||01<cr>
```

1150 Dr. Nakada orders radiography of the chest in two projections (AP and LR lateral) and radiography of the abdomen in two projections (AP and LR lateral) at 10:10 AM in 20th of

January, 2005. The assigned placer order number is 2005012000100. The **blood type** (血液型) of the patient is A. The patient has **severe** (重度) **impairment in vision** (視力障害).

1155 ORC|NW|2005012000100||SC|||20050120101000|112233^中田^隆^^^^^^L^^^^||
 112233^中田^隆^^^^^^L^^^^||01^^^^C|||01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>
 OBR||2005012000100||1000000000000000^X線単純撮影^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||O||||WALK<cr>

1160 ORC|PA|2005012000100||SC|||20050120101000|112233^中田^隆^^^^^^L^^^^||
 112233^中田^隆^^^^^^L^^^^||01^^^^C|||01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>
 OBR||2005012000100||1000000000000000^X線単純撮影^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||O||||WALK<cr>

1165 OBX|1|CWE|01-03^血液型-ABO式^JHSR001|1|A^A^JHSR002|||||F<cr>
 OBX|2|CWE|04-03^視覚障害^JHSR001||SV^重度^JHSR002|||||F<cr>
 ORC|CH|2005012000101||SC|||2005012000100|20050120101000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||
 01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>

1170 OBR||2005012000101||
 10000002000002000000010000000000^胸部.X線単純撮影.正面(A→P)^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||O|||||2005012000100|WALK<cr>

1175 ORC|CH|2005012000102||SC|||2005012000100|20050120101000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||
 01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>
 OBR||2005012000102||
 10000002000006000000010000000000^胸部.X線単純撮影.側面(L→R)^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||O|||||2005012000100|WALK<cr>

1180 ORC|CH|2005012000103||SC|||2005012000100|20050120101000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||
 01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>

1185 OBR||2005012000103||
 10000002510002000000010000000000^腹部(KUB).X線単純撮影.正面(A→P)^JJ1017
 |||||112233^中田^隆^^^^^^L^^^^|||O|||||2005012000100|WALK<cr>

ORC|CH|2005012000104||SC|||2005012000100|20050120101000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||
 01^内科^MML028|||||||O<cr>

1190 TQ1|||||200501201010||R<cr>
 OBR||2005012000104||
 10000002510006000000010000000000^腹部(KUB).X線単純撮影.側面(L→R)^JJ1017
 |||||||112233^中田^隆^^^^^^L^^^^^|||||||2005012000100|WALK<cr>

10.5.1.2 Radiography Order Response (RIS to HIS)

1195 In response to the message in A.1.1, RIS_BETA sends a message to HIS_ALPHA on the 20th of January, 2005.

MSH|^~\&|RIS_BETA||HIS_ALPHA||20050120||ORG^O20^ORG_O20|100002|P|2.5||||JPN|A
 SCII~ISO IR87||ISO 2022-1994<cr>
 MSA|AA|100001<cr>

1200 10.5.1.3 Conveying the Radiography Order (RIS to PACS)

Following receipt of the message A.1.1, RIS_BETA sends message number 110001 to PACS_GAMMA on the 20th of January, 2005 informing it of the order contents. The Accession Number is A2005012000100 and the Study Instance UID is 1.2.392.1114.2004.543233.1. The Modality is CR.

1205 MSH|^~\&|RIS_BETA||PACS_GAMMA||20050120||OMI^O23^OMI_O23|110001|P|2.5||||JPN|
 ASCII~ISO IR87||ISO 2022-1994<cr>
 PID|||12345678^^^^P||
 東京^太郎^^^^L^|~トウキョウ^タロウ^^^^L^P~TOKYOU^TAROU^^^^L^A||19501214|M||
 ^^^105-0004^^H^^東京都港区新橋2-5-5||^PRN^PH^^^^^^03-3506-8010<cr>

1210 PV1||O|01^^^^C|||112233^中田^隆^^^^^^L^^^^^|||01<cr>
 ORC|NW|2005012000100||SC|||20050120101000|112233^中田^隆^^^^^^L^^^^^||
 112233^中田^隆^^^^^^L^^^^^||01^^^^C|||01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>

1215 OBR||2005012000100||10000000000000000000^X線単純撮影^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^^|||||||WALK|||||||
 10000000000000000000^X線単純撮影^JJ1017<cr>
 IPC|A2005012000100||1.2.392.1114.2004.543233.1||CR<cr>
 ORC|PA|2005012000100||SC|||20050120101000|112233^中田^隆^^^^^^L^^^^^||
 112233^中田^隆^^^^^^L^^^^^||01^^^^C|||01^内科^MML028|||||||O<cr>

1220 TQ1|||||200501201010||R<cr>
 OBR||2005012000100||10000000000000000000^X線単純撮影^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^^|||||||WALK|||||||
 10000000000000000000^X線単純撮影^JJ1017<cr>
 OBX|1|CWE|01-03^血液型-ABO式^JHSR001|1|A^A^JHSR002|||||F<cr>

1225 OBX|2|CWE|04-03^視覚障害^JHSR001||SV^重度^JHSR002|||||F<cr>

IPC|A2005012000100||1.2.392.1114.2004.543233.1||CR<cr>
 ORC|CH|2005012000101||SC||2005012000100|20050120101000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||
 01^内科^MML028|||||||O<cr>

1230 TQ1|||||200501201010||R<cr>
 OBR||2005012000101||
 10000002000002000000010000000000^胸部.X線單純攝影.正面(A→P)^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||2005012000100|WALK|||||||
 10000002000002000000010000000000^胸部.X線單純攝影.正面(A→P)^JJ1017<cr>

1235 IPC|A2005012000100||1.2.392.1114.2004.543233.1||CR<cr>
 ORC|CH|2005012000102||SC||2005012000100|20050120101000|112233^中田^隆
 ^^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>
 OBR||2005012000102||
 10000002000006000000010000000000^胸部.X線單純攝影.側面(L→R)^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||2005012000100|WALK|||||||
 10000002000006000000010000000000^胸部.X線單純攝影.側面(L→R)^JJ1017<cr>

1245 IPC|A2005012000100||1.2.392.1114.2004.543233.1||CR<cr>
 ORC|CH|2005012000103||SC||2005012000100|20050120101000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||
 01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>
 OBR||2005012000103||
 10000002510002000000010000000000^腹部(KUB).X線單純攝影.正面(A→P)^JJ1017
 |||112233^中田^隆^^^^^^L^^^^|||2005012000100|WALK|||||||
 10000002510002000000010000000000^腹部(KUB).X線單純攝影.正面(A→P)^JJ1017<cr>

1255 ORC|CH|2005012000104||SC||2005012000100|20050120101000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C|||
 01^内科^MML028|||||||O<cr>
 TQ1|||||200501201010||R<cr>
 OBR||2005012000104||
 10000002510006000000010000000000^腹部(KUB).X線單純攝影.側面(L→R)^JJ1017
 |||112233^中田^隆^^^^^^L^^^^|||2005012000100|WALK|||||||
 10000002510006000000010000000000^腹部(KUB).X線單純攝影.側面(L→R)^JJ1017<cr>

1260 **10.5.1.4 Response to the Conveyed Radiography Order (PACS to RIS)**

In response to the message in A.1.3, PACS_GAMMA sends message number 110002 to RIS_BETA on the 20th January, 2005.

```
MSH|^~\&||PACS_GAMMA||RIS_BETA|20050120||ORI^O24^ORI_O24|110002|P|2.5||||~ISO
IR87||ISO 2022-1994<cr>
```

1265 MSA|AA|110001 <cr>

10.5.1.5 Notification of Patient Presence (RIS to HIS)

The patient arrives at the Department of Radiology after RIS_BETA receives the message in A.1.1. RIS_BETA sends message number 120001 acknowledging the presence of the patient to HIS_ALPHA at the time of the patient encounter at the Department of Radiology, which is 10:30:45 AM in 20th of January, 2005.

1270 MSH|^~\&||RIS_BETA||HIS_ALPHA||20050120133035||OMG^O19^OMG_O19|120001|P|2.5||||
|JPN|ASCII~ISO IR87||ISO 2022-1994<cr>

1275 PID|||12345678^^^^P||
東京^太郎^^^^L^|~トウキョウ^タロウ^^^^L^P~TOKYOU^TAROU^^^^L^A||19501214|M||
^^^^105-0004^^H^^東京都港区新橋2-5-5||^PRN^PH^^^^^^^^03-3506-8010<cr>

```
PV1||O|01^^^^C|||112233^中田^隆^^^^^^L^^^^^|||01<cr>
```

```
ORC|SC|2005012000100|||P|||20050120132918|112233^中田^隆^^^^^^L^^^^^||
112233^中田^隆^^^^^^L^^^^^|01^^^^C|||01^内科^MML028|||||||O<cr>
```

```
TQ1|||||200501201010||R<cr>
```

1280 OBR||2005012000100||10000000000000000000^X線単純撮影^JJ1017|||||||112233^中田^隆
^^^^^^L^^^^^||||||||WALK<cr>

10.5.1.6 Response to Notification of Patient Presence (HIS to RIS)

In response to the message in A.1.5, HIS_ALPHA sends a message number 120002 to RIS_BETA on the 20th of January, 2005.

1285 MSH|^~\&||HIS_ALPHA||RIS_BETA||20050120133103||ORG^O20^ORG_O20|120002|P|2.5||||
JPN|
ASCII~ISO IR87||ISO 2022-1994<cr>

```
MSA|AA|120001<cr>
```

10.5.2 Case: CT

10.5.2.1 Placing an Order (HIS to RIS)

HIS_ALPHA sends a message for an imaging service request with the message number 200001 to RIS_BETA on the 20th of January, 2005.

```
MSH|^~\&||HIS_ALPHA||RIS_BETA||20050120||OMG^O19^OMG_O19|200001|P|2.5||||JPN|
ASCII~ISO IR87||ISO 2022-1994<cr>
```

1295 The Patient is [Toranomonn Ichiro \(虎ノ門一郎\)](#), male, born 11th of April, 1960. The Patient ID is 22333444; The patient's address preceded by postal code is 105-004 [Shinbashi 2-2-5, Minato-ku, Tokyo-to \(東京都港区新橋 2 - 2 - 5\)](#); and the patient's home telephone number is 03-3406-8010.

1300 PID||22333444^^^P||虎ノ門^一郎^^^^L^~とらのもん^いちろう^^^^L^P||19600411|M||
 ^^^105-0004^^H^^東京都港区新橋2-5-5||^PRN^PH^^^^^^^^03-3506-8010<cr>

His attending doctor is Dr. Nakata Takashi (中田隆) of Internal Medicine and the patient is assigned a bed in Room 30 on the 3rd floor of the South Ward (南病棟).

PV1||3S^30^^^N||112233^中田^隆^^^^^^L^^^^||01<cr>

1305 The patient has an allergy including past history of mild adverse reaction to contrast medium (造影剤副作用) and moderate asthma (気管支喘息).

AL1|1|DA^薬物アレルギー^HL70127|02-01^造影剤副作用^JHSR001|M|^Mild^HL70128<cr>

AL1|2|EA^環境アレルギー^HL70127|02-02^気管支喘息^JHSR001|
 MO^Moderate^HL70128<cr>

1310 After considering the risk-benefit of the patient's allergy, Dr. Nakada places an order requesting contrast-enhanced CT of the abdomen (上腹部X線CT検査) at 9:30AM on the 20th of January, 2005. The placer order number is 2005012000300. The patient has severe hearing impairment and his blood type (血液型) is AB.

ORC|NW|2005012000300||SC||20050120093000|112233^中田^隆^^^^^^L^^^^||
 112233^中田^隆^^^^^^L^^^^||01^^^^C||01^内科^MML028|||||||<cr>

1315 TQ1||||||200501200930||R<cr>

OBR||2005012000300||6000000000000000^X線CT検査^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||WALK<cr>

ORC|PA|2005012000300||SC||20050120093000|112233^中田^隆^^^^^^L^^^^||
 112233^中田^隆^^^^^^L^^^^||01^^^^C||01^内科^MML028|||||||<cr>

1320 TQ1||||||200501200930||R<cr>

OBR||2005012000300||6000000000000000^X線CT検査^JJ1017|||||||
 112233^中田^隆^^^^^^L^^^^|||WALK<cr>

OBX|1|CWE|01-03^血液型-ABO式^JHSR001|1|AB^AB^JHSR002||||F<cr>

OBX|2|CWE|04-01^聴覚障害^JHSR001||SV^重度^JHSR002||||F<cr>

1325 ORC|CH|2005012000301||SC||2005012000300|20050120093000|
 112233^中田^隆^^^^^^L^^^^||112233^中田^隆^^^^^^L^^^^||01^^^^C||
 01^内科^MML028|||||||<cr>

TQ1||||||200501200930||R<cr>

1330 OBR||2005012000301||600010025500000000000000000000000000000000000000^上腹部X線CT検査^JJ1017
 |||||112233^中田^隆^^^^^^L^^^^|||2005012000300|WALK<cr>

Contrast medium is determined to be Iopamiron 300 61.24% 100 ml (HOT9 code: 111836001) by Dr. Nakada.

1335 NOTE: The ordering doctor may determine details of the imaging study, particularly in a healthcare facility where radiologists are unavailable.

```
OBX|1|ZRD|DE-02^薬品^JHSR006||111836001^イオパミロン30061. 24%100mL
^HOT9^1^HON&本&MR9P|||||O<cr>
```

10.5.3 Case: Ultrasonography

10.5.3.1 Placing an Order (HIS to RIS)

1340 HIS_ALPHA sends a message for an imaging service request with the message number 3000001, to RIS_BETA at 12:50:25 on the first of August, 2005.

```
MSH|^~\&|HIS_ALPHA||RIS_BETA||20100801125025||OMG^O19^OMG_O19|300001|P|2.5|||
|JPN|ASII~ISO IR87||ISO 2022-1994<cr>
```

1345 The Patient is [Tokushima Naomi](#) (徳島尚美), female, born 11th of September, 1982. The Patient ID is 3330000333; the patient's address, preceded by postal code, is 105-0004 [Shinbashi 2-2-5, Minato-ku, Tokyo-to](#) (東京都港区新橋 2 - 5 - 5); and the patient's home telephone number is 03-3506-8010.

```
PID|||3330000333^^^^P||徳島^尚美L^I~トクシマ^ナオミ^^^^L^P||9820911|F|||
^^^^105-0004^^H^^東京都港区新橋2-5-5||^PRN^HP^^^03-3506-8010<cr>
```

1350 The patient visits an out-patient clinic of [Obstetrics](#) (産科) and is seen by Dr. [Noriko Akita](#) (秋田典子).

```
PV1||O||||5559999555^秋田^典子^^^^^^L^^^^^|||24<cr>
```

1355 Dr. Akita orders an obstetric ultrasonography of the fetus at 11:25 on the 1st of August, 2010. The Placer order number is 201081100300. The Patient [blood type](#) (血液型) is B, [body height](#) (身長) of 158 cm, and [body weight](#) (体重) is 65 kg.

```
ORC|NW|20100800100300|||SC|||20100801112555|5559999555^秋田^典子^^^^^^L^^^^^||
5559999555^秋田^典子^^^^^^L^^^^^||24^^^^^C|||24^産科^MML028|||||||O<cr>
```

```
TQ1|||||201008011125||R<cr>
```

1360 OBR||2010080100300||99A0000000000000^経皮的超音波検査^JJ1017|||||||
5559999555^秋田^典子^^^^^^L^^^^^|||||||WALK<cr>

```
ORC|PA|2010080100300|||SC|||20100801112555|5559999555^秋田^典子^^^^^^L^^^^^||
5559999555^秋田^典子^^^^^^L^^^^^||24^^^^^C|||24^産科^MML028|||||||O<cr>
```

```
TQ1|||||201008011125||R<cr>
```

1365 OBR||2010080100300||99A0000000000000^経皮的超音波検査^JJ1017|||||||
5559999555^秋田^典子^^^^^^L^^^^^|||||||WALK<cr>

```
OBX|1|CWE|01-03^血液型-ABO 式^JHSR001|1|B^B^JHSR002|||||F<cr>
```

```
OBX|2|NM|01-01^身長^JHSR001||158|cm|||||F<cr>
```

```
OBX|3|NM|01-02^体重^JHSR001||65|kg|||||F<cr>
```

1370 ORC|CH|2010080100301|||SC|||2010080100300|20100801112555|
5559999555^秋田^典子^^^^^^L^^^^^||5559999555^秋田^典子^^^^^^L^^^^^|24^^^^C|||
24^産科^MML028|||||||O<cr>
TQ1|||||201008011125||R<cr>
OBR||2010080100301||
1375 99A00005550000000000000000000000000^胎児.超音波検査^JJ1017|||||||
5559999555^秋田^典子^^^^^^L^^^^^|||||||2010080100300|WALK<cr>

10.5.4 Case: Nuclear Medicine

10.5.4.1 Placing an Order (HIS to RIS)

HIS_ALPHA sends a message requesting a nuclear medicine study with the message number 4000001 to RIS_BETA at 10:20:15 AM on the 18th of January, 2005.

1380 MSH|^~&|HIS_ALPHA|RIS_BETA||20050118102015||OMG^O19^OMG_O19|400001|P|2.5|||
|JPN|ASCII~ISO IR87||ISO 2022-1994<cr>

The Patient is [Nasuno Hajime \(那須野一\)](#), male, born 10th of August, 1970. The Patient ID is 98765432; the patient's address, preceded by postal code, is 105-0004 [Shinbashi 2-2-5, Minato-ku, Tokyo-to \(東京都港区新橋 2 - 2 - 5\)](#); and the home telephone number is 03-3506-8010.

1385 PID||98765432^^^P||那須野^一^^^^L^~なすの^はじめ^^^^L^P||19700810|M||
^^^105-0004^^H^^東京都港区新橋2-2-5||^PRN^PH^^^^^^^^03-3506-8010<cr>

The patient is seen by Dr. [Sasaki Jirou \(佐々木治朗\)](#) of the Internal Medicine department and is assigned a bed in room 35 on the third floor of the [south ward \(南病棟\)](#).

PV1|||3S^35^^^N|||112255^佐々木^治朗^^^^^^L^^^^^|||01<cr>

1390 Dr. Sasaki places an order for a brain perfusion SPECT with 99mTc at 10:20:00 on the 18th of January, 2005. The order is scheduled at 15:30 on the 20th of January, 2005 with the placer order number of 20050120004. The Patient blood type is O.

ORC|NW|2005011800400|||SC|||20050118102000|112255^佐々木^治朗^^^^^^L^^^^^||
112255^佐々木^治朗^^^^^^L^^^^^|01^^^^C|||01^内科^MML028|||||||I<cr>

1395 TQ1|||||200501201530||R<cr>

OBR||2005011800400||84J0000000000000000^シンチグラム^JJ1017|||||||
112255^佐々木^治朗^^^^^^L^^^^^|||||||WALK<cr>

ORC|PA|2005011800400|||SC|||20050118102000|112255^佐々木^治朗^^^^^^L^^^^^||
112255^佐々木^治朗^^^^^^L^^^^^|01^^^^C|||01^内科^MML028|||||||I<cr>

1400 TQ1|||||200501201530||R<cr>

OBR||2005011800400||84J0000000000000000^シンチグラム^JJ1017|||||||
112255^佐々木^治朗^^^^^^L^^^^^|||||||WALK<cr>

OBX|1|CWE|01-03^血液型-ABO 式^JHSR001||O^O^JHSR002|||||F<cr>

1405 ORC|CH|2005011800401||SC|||2005011800400|20050118102000|
 112255^佐々木^治朗^^^^^^L^^^^^||112255^佐々木^治朗^^^^^^L^^^^^|01^^^^^C|||
 01^内科^MML028|||||||||I<cr>
 TQ1|||||200501201530||R<cr>
 OBR||2005011800401||
 84J44006010000000000410000000000^シンチグラム.血流.脳.99mTc^JJ1017|||||||||
 1410 112255^佐々木^治朗^^^^^^L^^^^^||||||||||2005011800400|WALK<cr>

10.5.5 Case: Angiography

10.5.5.1 Placing an Order (HIS to RIS)

HIS_ALPHA sends a message requesting coronary angiography with the message number 500001 to RIS_BETA at 10:11 on the 20th of January, 2005.

1415 MSH|^~\&|HIS_ALPHA||RIS_BETA||20050120101100||OMG^O19^OMG_O19|500001|P|2.5|||
 |JPN|ASCII~ISO IR87||ISO2022-1994<cr>

The Patient is [Hukuoka Chihiro](#) (福岡千尋), female, born 21st of October, 1980. The Patient ID is 97531111; the patient's address, preceded by postal code, is 105-0004 [Shinbashi 2-2-5, Minato-ku, Tokyo-to](#) (東京都港区新橋2 - 5 - 5); and the patient's home telephone number is 03-3506-8010.

1420 PID||97531111^^^^P||フクオカ^チヒロ^^^^L^P~福岡^千尋^^^^L^||19801021|F||
 ^^^105-0004^^H^^東京都港区新橋2 - 5 - 5||^PRN^PH^^^^^^^^03-3506-8010<cr>

The patient is seen by Dr. [Tanaka Ichiro](#) (田中一郎) of [Cardiology](#) (循環器科) and is assigned a bed in room 21 of the E02 ward.

1425 PV1|||E02^21^^^^N|||112235^田中^一郎^^^^^^L^^^^^|||08<cr>

Dr. [Takahashi Kazushi](#) (高橋和志) orders a coronary angiography and embolization (for coronary arterio-venous fistula) at 10:10 on the 20th of January, 2005. The order is scheduled at 16:50 on the 20th of January, 2005 with the placer order number of 2005012000300. The Patient blood type is O. The patient has severe impairment in vision.

1430 ORC|NW|2005012000300||SC|||20050120101000|112234^高橋^和志^^^^^^L^^^^^||
 112234^高橋^和志^^^^^^L^^^^^|08^^^^^C|||08^循環器科^MML028|||||||||I<cr>

TQ1|||||200501201650||R<cr>

OBR||2005012000300||30000000000000000000^X線血管撮影^JJ1017|||||||||
 112234^高橋^和志^^^^^^L^^^^^||||||||||WALK<cr>

1435 ORC|PA|2005012000300||SC|||20050120101000|112234^高橋^和志^^^^^^L^^^^^||
 112234^高橋^和志^^^^^^L^^^^^|08^^^^^C|||08^循環器科^MML028|||||||||I<cr>

TQ1|||||200501201650||R<cr>

OBR|1|2005012000300||30000000000000000000^X線血管撮影^JJ1017|||||||||
 112234^高橋^和志^^^^^^L^^^^^||||||||||WALK<cr>

1440 OBX|1|CWE|01-03^血液型-ABO式^JHSR001|1|A^A^JHSR002|||||F<cr>
 OBX|2|CWE|04-05^意識障害^JHSR001||SV^重度^JHSR002|||||F<cr>
 ORC|CH|2005012000301||SC||2005012000300|20050120101000|
 112234^高橋^和志^^^^^^L^^^^||112234^高橋^和志^^^^^^L^^^^||08^^^^C|||
 08^循環器科^MML028|||||||<cr>

1445 TQ1|||||200501201650||R<cr>
 OBR||2005012000301||
 300310047402000000001000000000^X線血管撮影.血管塞栓術冠動脈仰臥位^JJ1017
 |||||112234^高橋^和^^^^^^L^^^^|||2005012000300|WALK<cr>

10.5.6 Case: Patient Information

1450 10.5.6.1 Patient Update (HIS to RIS)

HIS_ALPHA sends message number 720001 to RIS_BETA acknowledging the change in the patient demographics at 10:30:20 on the 25th of October.

```
MSH|^~\&|HIS_ALPHA||RIS_BETA||20081025103020||ADT^A08^ADT_A01|820001|P|2.5||||J
PN|ASCII~ISO IR87||ISO 2022-1994<cr>
```

1455 The Patient is [Kagoshima Taro \(鹿児島太郎\)](#), male, born 14th of February, 1959. The Patient ID is not changed and is 4012345678. The patient's address, preceded by postal code, is 105-0004 Shinbashi 2-2-5, Minato-ku, Tokyo-to; and the patient's phone number is 03-3506-8010.

```
EVN||20081025103020<cr>
```

1460 PID||4012345678^^^^P||鹿児島^太郎^^^^L^|^~カゴシマ^タロウ^^^^L^P||19590214|M||
 ^^^105-0004^^H^^東京都港区新橋2-5-5||^PRN^PH^^^^^^^03-3506-8010<cr>

The patient is seen by Dr. Shibuya Takashi (渋谷隆) at the outpatient clinic of [Internal Medicine \(内科\)](#).

```
PV1||O||||11225533^渋谷^隆^^^^^^L^^^^|||01<cr>
```

1465 The [blood type \(血液型\)](#) of the patient is A. The patient's [body height \(身長\)](#) and [weight \(体重\)](#) are 168 cm and 55 kg. The patient has severe ([重度](#)) impairment in vision ([視覚障害](#)).

```
OBX|1|CWE|01-03^血液型-ABO 式^JHSR001|1|A^A^JHSR002|||||F<cr>
```

```
OBX|2|NM|01-01^身長^JHSR001||168|cm|||||F<cr>
```

```
OBX|3|NM|01-02^体重^JHSR001||55|kg|||||F<cr>
```

```
OBX|4|CWE|04-03^視覚障害^JHSR001||SV^重度^JHSR002|||||F<cr>
```

1470 The patient has a severe [adverse reaction to contrast media \(造影剤副作用\)](#) and has moderate [asthma \(気管支喘息\)](#).

```
AL1|1|DA^薬物アレルギー^HL70127|02-01^造影剤副作用^JHSR001|SV^Severe^HL70128
```

```
AL1|2|EA^環境アレルギー^HL70127|02-02^気管支喘息^JHSR001|MO^Moderate^HL70128
```