Digital Imaging and Communications in Medicine (DICOM)

Supplement 233

Patient Model Gender Enhancements

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# Scope and Field

This supplement extends DICOM to add and harmonize with the HL7 Gender Harmony logical model and be consistent with the HL7 normative changes. This facilitates communication between DICOM and the various HL7 systems. This adds gender, sex, and related fields and resolves problems with the oversimplified single M/F coding. The supplement:

* Updates Patient Sex (0010,0040) description to match the HL-7 updated definition.
* Adds optional attributes to the Patient Study Module and to various C-FIND and normalized services. These optional attributes match those in the HL7 logical model.
  + These optional attributes are defined starting with the definitions from FHIR and the HL7 Implementation Guide. There are also informative references to FHIR and the Implementation Guide.
* Update codes in CID for Sex and adds CIDs for gender identity, pronouns, sex parameters for clinical use. The external codes in these CIDs are the same codes used in HL7 v2, CDA, and FHIR. New codes are defined by DICOM to avoid some issues with referencing FHIR value set values directly.

The supplement also provides examples of use of the optional attributes, and examples of some of the workflow and implementation considerations. These are accompanied by links to the related portions of HL7 v2, CDA, and FHIR published standards for examples.

The HL7 Gender Harmony Project’s logical model (https://build.fhir.org/ig/HL7/fhir-gender-harmony/branches/main/index.html) describes the information needed in an electronic record to support proper care for gender and sex diverse patients. This includes both clinical information and social information. Further explanatory information can be found in the article “*Gender harmony: improved standards to support affirmative care of gender-marginalized people through inclusive gender and sex representation*” in Journal of the American Medical Informatics Association (JAMIA) (<https://doi.org/10.1093/jamia/ocab196>).

HL7 has published and balloted an Implementation Guide that applies to HL7v2, CDA, and FHIR. Each of those standards uses different formats and encodings.

Updated Part 3 normative reference to add these to 2.4 Health Level Seven (HL7).

# 2 Normative References

## Health Level Seven (HL7)

…

[HL7 Gender Harmony Model] The HL7 Informative Document: Gender Harmony - Modeling Sex and Gender Representation, Release 1 provides additional background on sex and gender related concepts used in this table (http://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=564).

[HL7v2.9.2] HL7 Messaging Standard Version 2.9.1 (https://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=649).

[HL7 CDA R2.0 Gender Harmony IG] HL7 CDA® R2 Implementation Guide: Gender Harmony - Sex and Gender Representation, Edition 1 (see https://www.hl7.org/implement/standards/product\_brief.cfm?product\_id=633)

[HL7 FHIR 5.1] FHIR (see https://hl7.org/fhir/R5/patient.html#gender)

[HL7 Gender Harmony IG] HL7 Cross Paradigm Implementation Guide: Gender Harmony - Sex and Gender Representation, Edition 1 (see https://hl7.org/xprod/ig/uv/gender-harmony/)

# Part 3 PP

Update Part 3, Table C.2-3. Patient Demographic Module Attributes

### C.2.3 Patient Demographic Module

Table C.2-3 defines the Attributes relevant to generally describing a Patient at a specific point in time, e.g., at the time of admission.

Table C.2-3. Patient Demographic Module Attributes

|  |  |  |
| --- | --- | --- |
| Attribute Name | Tag | Attribute Description |
| Patient's Sex | (0010,0040) | Sex of the named Patient.  Enumerated Values:  **M** male  **F** female  **O** other  **See Notes 1 and 2 in Table C.7-1. Patient Module Attributes.** |
| **Gender Identity Sequence** | **(0010,xxxx)** | **An individual's personal sense of being a man, woman, boy, girl, nonbinary, or something else, ascertained by asking them what their identity is.**  **One or more Items are permitted in this Sequence.**  **See Section C.7.2.2.1.zeta.** |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **A coded gender identity.**  **Only a single Item shall be included in this Sequence.**  **See also Section C.7.2.2.1.epsilon.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | **DCID CIDxxx1 “Person Gender Identity”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Gender Identity Comment** | **(0010,xxx8)** | **Comments on this gender identity, such as the context in which it should be used.** |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **Guidance on how to apply settings or reference ranges that are derived from observable information such as an organ inventory, recent hormone lab tests, genetic testing, menstrual status, obstetric history, etc.**  **One or more items are permitted in this Sequence.**  **See Section C.7.2.2.1.gamma.** |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **The category of this Sex Parameter for Clinical Use (SPCU).**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | **DCID CIDxxx2 “Category of Sex Parameters for Clinical Use”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **Further description of clinical implications and reasons for the selected code.** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **Reference to a resource that explains or extends the Sex Parameters for Clinical Use Category Code.** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **The name(s) that should be used when addressing or referencing the person.**  **One or more items are permitted in this Sequence.** |
| **>Name to Use** | **(0010,xx12)** | **A name that should be used when addressing or referencing the person.**  **This need not be an official name nor comply with any particular name structure.**  **See Section C.7.2.2.1.delta.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Name to Use Comment** | **(0010,xx13)** | **Further explanation of appropriate name usage.** |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **Pronoun(s) specified by the patient to use when referring to the patient in speech, in clinical notes, and in written instructions to caregivers.**  **One or more items are permitted in this Sequence.**  **See Section C.7.2.2.1.epsilon** |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **A single code that specifies the set of third person pronouns to be used in reference to this patient.**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | **DCID CIDxxx4 “Third Person Pronoun Sets”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Pronoun Comment** | **(0010,xx23)** | **Further explanation of pronoun usage.** |

Update Part 3, Table C.4-13. Performed Procedure Step Relationship Module Attributes

### C.4.13 Performed Procedure Step Relationship

Table C.4-13 specifies the Attributes used to reference other SOP Classes and other Information Entities of the DICOM real-world model as defined in Section 7.3.1.6.

Table C.4-13. Performed Procedure Step Relationship Module Attributes

|  |  |  |
| --- | --- | --- |
| **Attribute Name** | **Tag** | **Attribute Description** |
| Patient's Sex | (0010,0040) | Sex of the named Patient.  Enumerated Values:  **M** male  **F** female  **O** other  **See Notes 1 and 2 in Table C.7-1. Patient Module Attributes.** |
| **Gender Identity Sequence** | **(0010,xxxx)** | **An individual's personal sense of being a man, woman, boy, girl, nonbinary, or something else, ascertained by asking them what their identity is.**  **One or more Items are permitted in this Sequence.**  **See Section C.7.2.2.1.zeta.** |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **A coded gender identity.**  **Only a single Item shall be included in this Sequence.**  **See also Section C.7.2.2.1.epsilon.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | **DCID CIDxxx1 “Person Gender Identity”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Gender Identity Comment** | **(0010,xxx8)** | **Comments on this gender identity, such as the context in which it should be used.** |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **Guidance on how to apply settings or reference ranges that are derived from observable information such as an organ inventory, recent hormone lab tests, genetic testing, menstrual status, obstetric history, etc.**  **See also Section C.7.2.2.1.gamma.**  **One or more items are permitted in this Sequence.** |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **The category of this Sex Parameter for Clinical Use (SPCU).**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | **DCID CIDxxx2 “Category of Sex Parameter for Clinical Use”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **Further description of clinical implications and reasons for the selected code.** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **Reference to a resource that explains or extends the Sex Parameters for Clinical Use Category code.** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **The name(s) that should be used when addressing or referencing the person.**  **One or more items are permitted in this Sequence.** |
| **>Name to Use** | **(0010,xx12)** | **A name that should be used when addressing or referencing the person.**  **This need not be an official name nor comply with any particular name structure.**  **See Section C.7.2.2.1.delta.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Name to Use Comment** | **(0010,xx13)** | **Further explanation of appropriate name usage.** |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **Pronoun(s) specified by the patient to use when referring to the patient in speech, in clinical notes, and in written instructions to caregivers.**  **One or more items are permitted in this Sequence.**  **See Section C.7.2.2.1.delta.** |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **A single code that specifies the set of third person pronouns to be used in reference to this patient.**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | **DCID CIDxxx4 “Third Person Pronoun Sets”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Pronoun Comment** | **(0010,xx23)** | **Further explanation of pronoun usage.** |

Update Part 3, Table C.7-1 Patient Module Attributes

### C.7.1 Common Patient IE Modules

#### C.7.1.1 Patient Module

Table C.7-1 specifies the Attributes of the Patient that describe and identify the Patient who is the subject of a Study. This Module contains Attributes of the Patient that are needed for interpretation of the Composite Instances and are common for all Studies performed on the Patient. It contains Attributes that are also included in the Patient Modules in Section C.2.

Table C.7-1. Patient Module Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Tag | Type | Attribute Description |
| Patient's Sex | (0010,0040) | 2 | Sex of the named Patient.  Enumerated Values:  **M** male  **F** female  **O** other  **See Notes 1 and 2.** |
| …. |  |  |  |

**Notes: 1. The Value of Patient's Sex (0010,0040) reflects the documentation policies of the local administration for the sex attributes of the patient. It is often populated based on the PID-8 field in an HL7v2 message, and thus follow the HL7v2 rules that defer the definition to the local administration.**

**2. The DICOM Information Model (see Section 7.3.1.1) has a single Patient entity that is used for all Studies and Series for that Patient. As a result, it doesn’t support the Value of Patient’s Sex (0010,0040) being different for different Studies, Series, or Images for that Patient. This poses issues:**

* **when the patient sex changes.**
* **when patient records are transferred between different systems with different administrative rules, since the specification of the meaning of “M”, “F”, and “O” has been deferred to the local administration by HL7, and DICOM implementations have usually used the values provided in HL7 orders as the basis for Attribute values in the DICOM instances.**
* **when clinical trials need to define sex for clinical trial purposes.**
* **when different organizations that have different definitions share one image archive.**

**To better handle the above issues, there are other sex and gender related Attributes that are in the Patient Study Module (see Section C.7.2.2) for which the single Value constraint does not apply because they are permitted to be different in different studies and the definitions allow reference to terminology standards. These attributes can convey the history of patient sex and gender. Although these attributes are optional, a DICOM implementation could use them instead of Patient’s Sex (0010,0040) if this is compatible with local administration choices for other systems. Another possibility is to make the Patient’s Sex (0010,0040) empty as an indication that the attributes in the Patient Study should be used for that study.**

Update Part 3, Table C.7-4a Patient Study Module Attributes – add attributes

#### C.7.2.2 Patient Study Module

Table C.7-4a defines Attributes, which provide information about the Patient at the time the Study started.

Note**:** In the case of imaging a group of small non-human organisms simultaneously, the Attributes in this Module can only have values that apply to the entire group, otherwise they are absent (e.g., Patient's Weight (0010,1030)) or empty (e.g., Patient's Sex Neutered (0010,2203).

Table C.7-4a. Patient Study Module Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Tag | Type | Attribute Description |
| … |  |  |  |
| Patient's Size Code Sequence | (0010,1021) | 3 | Patient's size category code  One or more Items are permitted in this Sequence. |
| *>Include Table 8.8-1 “Code Sequence Macro Attributes”* | | | *BCID 7039 “Pediatric Size Category” for pediatric patients*  *BCID 7041 “Calcium Scoring Patient Size Category” for CT*  *calcium scoring* |
| **Gender Identity Sequence** | **(0010,xxxx)** | **3** | **An individual's personal sense of being a man, woman, boy, girl, nonbinary, or something else, ascertained by asking them what their identity is.**  **One or more Items are permitted in this Sequence.**  **See Section C.7.2.2.1.beta.** |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **1** | **A coded gender identity.**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | | **DCID CIDxxx1 “Person Gender Identity”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section** **C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section** **C.7.2.2.1.zeta.** |
| **>Gender Identity Comment** | **(0010,xxx8)** | **3** | **Comments on this gender identity, such as the context in which it should be used.** |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **3** | **Guidance on how to apply settings or reference ranges that are derived from observable information such as an organ inventory, recent hormone lab tests, genetic testing, menstrual status, obstetric history, etc.**  **One or more items are permitted in this Sequence.**  **See Section C.7.2.2.1.gamma.** |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **1** | **The category of this Sex Parameter for Clinical Use Category (SPCU).**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | | **DCID CIDxxx2 “Category of Sex Parameters for Clinical Use”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **2C** | **Further description of clinical implications and reasons for the Sex Parameters for Clinical Use Category code. May provide specified parameters.**  **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”). May be present otherwise.** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **2C** | **Reference to a resource that explains or extends the Sex Parameters for Clinical Use Category code. May provide specified parameters.**  **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”).**  **May be present otherwise.** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **3** | **The name(s) that should be used when addressing or referencing the person.**  **One or more items are permitted in this Sequence.** |
| **>Name to Use** | **(0010,xx12)** | **1** | **A name that should be used when addressing or referencing the person.**  **See Section C.7.2.2.1.delta.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Name to Use Comment** | **(0010,xx13)** | **3** | **Further explanation of appropriate name usage.** |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **3** | **Pronoun(s) specified by the patient to use when referring to the patient in speech, in clinical notes, and in written instructions to caregivers.**  **One or more items are permitted in this Sequence.**  **See Section C.7.2.2.1.delta.** |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **1** | **A single code that specifies the set of third person pronouns to be used in reference to this patient.**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | | **DCID CIDxxx4 “Third Person Pronoun Sets”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The date and time at which the content of this Sequence Item begins to be applicable.**  **See C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The date and time at which the content of this Sequence Item ceases to be applicable.**  **See C.7.2.2.1.zeta.** |
| **>Pronoun Comment** | **(0010,xx23)** | **3** | **Further explanation of pronoun usage.** |
| … |  |  |  |

Add sections to C.7.2.2 Patient Study Module

###### C.7.2.2.1 Sex and Gender related attributes

This DICOM specification follows the logical model described in HL7 Informative Document: Gender Harmony - Modeling Sex and Gender Representation, Release 1 [HL Gender Harmony Model]. Refer to the HL7 document for more detailed descriptions of the concepts and codes and guidance on the corresponding encodings in HL7v2 [HL7v2.9.2], CDA [HL7 CDA R2.0 Gender Harmony IG], and FHIR [HL7 FHIR 5.1].

Note: The details captured in these sequences may or may not reflect the complete corresponding content of the medical record for the patient. It is typical for the items here to be limited to information considered relevant to the performance or interpretation of this study.

###### C.7.2.2.1.beta Gender Identity Sequence (0010,xxxx)

Gender Identity Sequence (0010,xxxx) describes the identity of the patient. This is important in many social and cultural contexts. The meaning, criteria, and implications of specific gender identities is defined by the local culture and society. The terms used to capture gender identity are expected to reflect the variations found in different cultures and location, so local terminology is expected to extend this value set.

If the patient (such as a fetus, infant, or uncommunicative new patient) is unable to express a gender identity it may be missing. The Sequence may be absent in cases where the patient does not want to specify a value. Gender identity can be congruent or incongruent with one’s Sex Parameters for Clinical Use Category Sequence (0010,xxx2). Patients may identify using different terms at different times for various reasons or use multiple identities in different contexts during the same time interval.

Given that the gender identity element supports representing multiple gender identities, individuals who identify as having both Male and Female gender identities (or any other combination) at the same time in different contexts, each gender identity can be modeled with the same effective period.

###### C.7.2.2.1.gamma Sex Parameters for Clinical Use Category Sequence (0010,xxx2)

The Sex Parameters for Clinical Use Category Sequence (0010,xxx2) is used in orders, observations, and other clinical situations. The Sex Parameters for Clinical Use Category Sequence (0010,xxx2) allows specific considerations to be provided for potential automated uses and records. These may be reference ranges, procedure setup, diagnostic algorithm parameters, etc. For example, the computation of glomerular filtration rate (GFR) based on blood chemistry may use formulas that are different for “male” and “female”.

There are many other situations involving tumors, resections, congenital conditions (e.g., ovotestes), and transgender patients where Sex Parameters for Clinical Use Category Sequence (0010,xxx2) can be used to provide information that is needed to perform a procedure properly.

###### C.7.2.2.1.delta Person Names to Use Sequence (0010,xxx3)

The Person Names to Use Sequence (0010,xxx3) enables names that are chosen by the patient to be used by care providers in patient-centered healthcare conversations. This information is usually provided by the patient and may be different from their legal name. Some cultures have very long names and expect those to be used only for mandatory legal situations. Also, rules and processes for legal name changes vary. There is often a mismatch that can be prolonged in difficult situations, and Person Names to Use Sequence (0010,xxx3) may be an expedient solution for the care environment.

If different names are to be used in different contexts, that can be explained in the Name to Use Comment (0010,xx13).

Note: The Value Representation of this Name to Use (0010,xx12) is a long text string (LT) rather than a person name (PN) to avoid any constraints on the structure of the name. The Name to Use (0010,xx12) need not be an official name of any sort, nor does it need to comply with any standard naming structure.

###### C.7.2.2.1.epsilon Third Person Pronouns Sequence (0010,xx21)

Personal pronouns are words used instead of a noun or a noun phrase used to refer to people. Understanding which pronoun(s) to use when referring to someone is important for providing gender affirming healthcare. Avoiding incorrect pronoun use and patient misgendering is crucial in transgender and gender-diverse care. It is important to reliably exchange personal pronouns that the individual has specifically reported they want to use. Local policy will determine how pronouns are chosen for infants and other similar situations. Policy and local customs will determine what to use when this Attribute is not present, or when multiple sets are present.

Different pronouns may be used in one care setting than another care setting. The pronouns used in the work environment may be different than those in the care setting.

###### C.7.2.2.1.zeta Effective Start DateTime (0010,xxx6) and Effective Stop DateTime (0010,xxx7)

Each Sequence Item may have an Effective Start DateTime (0010,xxx6) and Effective Stop DateTime (0010,xxx7) specifying the time interval during which the content of the Item applies. These attributes are optional. They are included when they are expected to be relevant.

* If Effective Start DateTime (0010,xxx6) is missing, then the Item content applies for all times before Effective Stop DateTime (0010,xxx7).
* If Effective Stop DateTime (0010,xxx7) is missing, then the Item content applies for all times after Effective Start DateTime (0010,xxx6).
* If both are missing, the Item content applies for all times past and future.

The start/stop datetime attributes can be particularly useful when there are multiple items in the Sequence. For example, a male at birth has a subsequent orchiectomy for testicular cancer. This could be represented as an Sex Parameters for Clinical Use Category Sequence (0010,xxx2) Item of “Male-typical parameters” with an Effective Start DateTime (0010,xxx6) at birth date and an Effective Stop DateTime (0010,xxx7) at about the date of orchiectomy, and a second Item of “Neither male typical nor female typical parameters” with an Effective Start DateTime (0010,xxx6) at about the date of orchiectomy and Effective Stop DateTime (0010,xxx7) is missing.

Update Part 3, Table C.30.4-1. Unified Procedure Step Relationship Module Attributes

### C.30.4 Unified Procedure Step Relationship Module

Table C.30.4-1 specifies the Attributes that describe the relationship of a Unified Procedure Step (UPS).

Table C.30.4-1. Unified Procedure Step Relationship Module Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Tag | Type | Attribute Description |
| Patient's Sex | (0010,0040) | 2 | Sex of the named Patient.  Enumerated Values:  **M** male  **F** female  **O other**  **See Notes 1 and 2 in Table C.7-1. Patient Module Attributes.** |
| **Gender Identity Sequence** | **(0010,xxxx)** | **3** | **An individual's personal sense of being a man, woman, boy, girl, nonbinary, or something else, ascertained by asking them what their identity is.**  **One or more items are permitted in this Sequence.**  **See Section C.7.2.2.1.zeta.** |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **1** | **A coded gender identity.**  **See Section C.7.2.2.1.epsilon.**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | | **DCID CIDxxx1 “Person Gender Identity”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Gender Identity Comment** | **(0010,xxx8)** | **3** | **Comments on this gender identity, such as the context in which it should be used.** |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **3** | **Guidance on how to apply settings or reference ranges that are derived from observable information such as an organ inventory, recent hormone lab tests, genetic testing, menstrual status, obstetric history, etc.**  **See Section C.7.2.2.1.gamma.**  **One or more items are permitted in this Sequence.** |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **1** | **The category of this Sex Parameter for Clinical Use Category (SPCU).**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | | **DCID CIDxxx2 “Category of Sex Parameters for Clinical Use”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **2C** | **Further description of clinical implications and reasons for the Sex Parameters for Clinical Use Category code. May provide specified parameters.**  **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”). May be present otherwise.** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **2C** | **Reference to a resource that explains or extends the Sex Parameters for Clinical Use Category code. May provide specified parameters.**  **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”). May be present otherwise.** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **3** | **The name(s) that should be used when addressing or referencing the person.**  **One or more items are permitted in this Sequence.** |
| **>Name to Use** | **(0010,xx12)** | **1** | **A name that should be used when addressing or referencing the person.**  **See C.7.2.2.1.delta.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Name to Use Comment** | **(0010,xx13)** | **3** | **Further explanation of appropriate name usage.** |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **3** | **Pronoun(s) specified by the patient to use when referring to the patient in speech, in clinical notes, and in written instructions to caregivers.**  **One or more items are permitted in this Sequence.**  **See Section C.7.2.2.1.delta.** |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **1** | **A single code that specifies the set of third person pronouns to be used in reference to this patient.**  **Only a single Item shall be included in this Sequence.** |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | | **DCID CIDxxx4 “Third Person Pronoun Sets”.** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3** | **The time at which the content of this Sequence Item begins to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3** | **The time at which the content of this Sequence Item ceases to be applicable.**  **See Section C.7.2.2.1.zeta.** |
| **>Pronoun Comment** | **(0010,xx23)** | **3** | **Further explanation of pronoun usage.** |
| Referenced Patient Photo Sequence | (0010,1100) | 3 | A photo to confirm the identity of a patient.  Only a single Item is permitted in this Sequence.  See C.2.2.1.1. |
| … |  |  |  |

# Part 4

Modify Table C.6-2 as shown.

Table C.6-2. Study Level Keys for the Patient Root Query/Retrieve Information Model

| Attribute Name | Tag | Type | |
| --- | --- | --- | --- |
| … |  |  | |
| Study Update DateTime | (0008,041F) | O | |
| **Gender Identity Sequence** | **(0010,xxxx)** | | **O** |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | | **O** |
| **>>Include Table C.6-2a “Enhanced Code Value Keys Macro with Optional Keys”** | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | | **O** |
| **>Gender Identity Comment** | **(0010,xxx8)** | | **O** |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | | **O** |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | | **O** |
| ***>>Include Table C.6-2a “Enhanced Code Value Keys Macro with Optional Keys”*** | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | | **O** |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | | **O** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | | **O** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | | **O** |
| **>Name to Use** | **(0010,xx12)** | | **O** |
| **>Effective Start DateTime** | **(0010,xxx6)** | | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | | **O** |
| **>Name to Use Comment** | **(0010,xx13)** | | **O** |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | | **O** |
| **>Pronoun Code Sequence** | **(0010,xx22)** | | **O** |
| ***>>* *Include Table C.6-2a “Enhanced Code Value Keys Macro with Optional Keys”*** | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | | **O** |
| **>Pronoun Comment** | **(0010,xx23)** | | **O** |

Update Part 4, Table C.6-5

### C.6.2 Study Root SOP Class Group

Table C.6-5. Study Level Keys for the Study Root Query/Retrieve Information Model

| Attribute Name | Tag | Type |
| --- | --- | --- |
| … |  |  |
| Patient's Sex | (0010,0040) | O |
| **Gender Identity Sequence** | **(0010,xxxx)** | **O** |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **O** |
| ***>>Include Table C.6-2a “Enhanced Code Value Keys Macro with Optional Keys”*** | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** |
| **>Gender Identity Comment** | **(0010,xxx8)** | **O** |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **O** |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **O** |
| ***>>Include Table C.6-2a “Enhanced Code Value Keys Macro with Optional Keys”*** | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **O** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **O** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **O** |
| **>Name to Use** | **(0010,xx12)** | **O** |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** |
| **>Name to Use Comment** | **(0010,xx13)** | **O** |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **O** |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **O** |
| ***>>*** ***Include Table C.6-2a “Enhanced Code Value Keys Macro with Optional Keys”*** | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** |
| **>Pronoun Comment** | **(0010,xx23)** | **O** |
| Other Patient IDs Sequence | (0010,1002) | O |
| … |  |  |

…

Update Part 4, Table F.7.2-1

### F.7.2 Operations

…

##### F.7.2.1.1 Modality Performed Procedure Step Subset Specification

Table F.7.2-1. Modality Performed Procedure Step SOP Class N-CREATE, N-SET and Final State Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Tag** | **Req. Type N-Create (SCU/SCP)** | **Req. Type N-SET (SCU/SCP)** | **Requirement Type Final State (see Note 1)** | **Remark/ MatchingType** |
| … |  |  |  |  |  |
| Patient’s Sex | (0010,0040) | 2/2 | Not Allowed |  |  |
| **Gender Identity Sequence** | **(0010,xxxx)** | **3/3** | **-/-** |  |  |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **1/1** | **-/-** |  |  |
| ***>>Include Table F.7.2-1a. Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET*** | | | | |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** |  |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** |  |  |
| **>Gender Identity Comment** | **(0010,xxx8)** | **3/3** | **-/-** |  |  |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **3/3** | **-/-** |  |  |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **1/1** | **-/-** |  |  |
| ***>>Include Table F.7.2-1a. Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET*** | | | | |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** |  |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** |  |  |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **2C/2C** | **-/-** |  | **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”). May be present otherwise.** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **2C/2C** | **-/-** |  | **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”). May be present otherwise.** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **3/3** | **-/-** |  |  |
| **>Name to Use** | **(0010,xx12)** | **1/1** | **-/-** |  |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** |  |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** |  |  |
| **>Name to Use Comment** | **(0010,xx13)** | **3/3** | **-/-** |  |  |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **3/3** | **-/-** |  |  |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **1/1** | **-/-** |  |  |
| ***>>*** ***Include Table F.7.2-1a. Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET*** | | | | |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** |  |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** |  |  |
| **>Pronoun Comment** | **(0010,xx23)** | **3/3** | **-/-** |  |  |

Update Part 4, Table F.8.2-1 Modality Performed Procedure Step Retrieve SOP Class N-GET Attributes

### F.8.2 Operations

Table F.8.2-1. Modality Performed Procedure Step Retrieve SOP Class N-GET Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| **Attribute Name** | **Tag** | **Req. Type (SCU/SCP)** |  |
| … |  |  |  |
| Patient’s Sex | (0010,0040) | 3/2 |  |
| **Gender Identity Sequence** | **(0010,xxxx)** | **3/3** |  |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **-/1** |  |
| ***>>Include Table 8-2a. “Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning”*** | | |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **-/3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **-/3** |  |
| **>Gender Identity Comment** | **(0010,xxx8)** | **-/3** |  |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **3/3** |  |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **-/1** |  |
| ***>>Include Table 8-2a. “Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning”*** | | |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **-/3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **-/3** |  |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **-/3** |  |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **-/3** |  |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **3/3** |  |
| **>Name to Use** | **(0010,xx12)** | **-/1** |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **-/3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **-/3** |  |
| **>Name to Use** | **(0010,xx12)** | **-/3** |  |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **3/3** |  |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **-/1** |  |
| ***>>Include Table 8.8-1 “Code Sequence Macro Attributes”*** | | |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **-/3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **-/3** |  |
| **>Pronoun Comment** | **(0010,xx23)** | **-/3** |  |

Update Part 4, Table K.6-1. Attributes for the Modality Worklist Information Model

### K.6.1 Modality Worklist SOP Class

Table K.6-1. Attributes for the Modality Worklist Information Model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description / Module** | **Tag** | **Matching Key Type** | **Return Key Type** | **Remark/Matching Type** |
| … |  |  |  |  |
| Patient’s Sex | (0010,0040) | O | 2 |  |
| **Gender Identity Sequence** | **(0010,xxxx)** | **O** | **3** |  |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **O** | **1** |  |
| ***>>Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Gender Identity Comment** | **(0010,xxx8)** | **O** | **3** |  |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **O** | **1** |  |
| ***>>Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **O** | **3** |  |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **O** | **3** |  |
| **>Name to Use** | **(0010,xx12)** | **O** | **1** |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Name to Use Comment** | **(0010,xx13)** | **O** | **3** |  |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **O** | **3** |  |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **O** | **1** |  |
| ***>>* *Include Table*** ***8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Pronoun Comment** | **(0010,xx23)** | **O** | **3** |  |
| **…** |  |  |  |  |

Update Part 4, Table Q.4-1. Attributes for the Relevant Patient Information Model

### Q.4.3 Relevant Patient Information Model SOP Classes

…

Table Q.4-1. Attributes for the Relevant Patient Information Model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description / Module** | **Tag** | **Matching Key Type** | **Return Key Type** | **Remark/Matching Type** |
| … |  |  |  |  |
| Patient’s Sex | (0010,0040) | - | 2 |  |
| **Gender Identity Sequence** | **(0010,xxxx)** | **O** | **3** |  |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **O** | **1** |  |
| ***>>Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Gender Identity Comment** | **(0010,xxx8)** | **O** | **3** |  |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **O** | **1** |  |
| ***>>Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **O** | **3** |  |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **O** | **3** |  |
| **>Name to Use** | **(0010,xx12)** | **O** | **1** |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Name to Use Comment** | **(0010,xx13)** | **O** | **3** |  |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **O** | **3** |  |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **O** | **1** |  |
| ***>>*** ***Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Pronoun Comment** | **(0010,xx23)** | **O** | **3** |  |
| … |  |  |  |  |

Update Part 4, Table V.6-2. Attributes for the Substance Approval Query Information Model

### V.6.2 Substance Approval Query SOP Class

…

Table V.6-2. Attributes for the Substance Approval Query Information Model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Description / Module** | **Tag** | **Matching Key Type** | **Return Key Type** | **Remark/Matching Type** |
| Patient’s Sex | (0010,0040) | - | 2 |  |
| **Gender Identity Sequence** | **(0010,xxxx)** | **O** | **3** |  |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **O** | **1** |  |
| ***>>Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Gender Identity Comment** | **(0010,xxx8)** | **O** | **3** |  |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **O** | **1** |  |
| ***>>Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **O** | **3** |  |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **O** | **3** |  |
| **>Name to Use** | **(0010,xx12)** | **O** | **1** |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Name to Use Comment** | **(0010,xx13)** | **O** | **3** |  |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **O** | **3** |  |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **O** | **1** |  |
| ***>>*** ***Include Table 8-2a. Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning*** | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **O** | **3** |  |
| **>Pronoun Comment** | **(0010,xx23)** | **O** | **3** |  |
| … |  |  |  |  |

Update Table CC.2.5-3. UPS SOP Class N-CREATE/N-SET/N-GET/C-FIND Attributes

### CC.2.5 Create a Unified Procedure Step (N-CREATE)

…

Table CC.2.5-3. UPS SOP Class N-CREATE/N-SET/N-GET/C-FIND Attributes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Tag** | **Req. Type N-CREATE (SCU/SCP)** | **Req. Type N-SET (SCU/SCP)** | **Final State** | **Req. Type N-GET (SCU/SCP)** | **Match Key Type** | **Return Key Type** | **Remark/Matching Type** |
| … |  |  |  |  |  |  |  |  |
| Patient’s Sex | (0010,0040) | 2/2 | Not Allowed | O | 3/2 | R | 2 |  |
| **Gender Identity Sequence** | **(0010,xxxx)** | **3/3** | **-/-** | **O** | **3/3** | **O** | **3** |  |
| **>Gender Identity Code Sequence** | **(0010,xxx4)** | **1/1** | **-/-** | **O** | **-/1** | **O** | **1** |  |
| ***>>Include CC.2.5-2a. “UPS Code Sequence Macro”*** | | | | | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Gender Identity Comment** | **(0010,xxx8)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **3/3** | **-/-** | **O** | **3/3** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **1/1** | **-/-** | **O** | **-/1** | **O** | **1** |  |
| ***>>Include CC.2.5-2a. “UPS Code Sequence Macro”*** | | | | | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **2C/2C** | **-/-** | **O** | **-/2C** | **O** | **3** | **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”). May be present otherwise.** |
| **>Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **2C/2C** | **-/-** | **O** | **-/2C** | **O** | **3** | **Required if Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) is (Sup233-03, DCM, “Specified”). May be present otherwise.** |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **3/3** | **-/-** | **O** | **3/3** | **O** | **3** |  |
| **>Name to Use** | **(0010,xx12)** | **1/1** | **-/-** | **O** | **-/1** | **O** | **1** |  |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Name to Use Comment** | **(0010,xx13)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **3/3** | **-/-** | **O** | **3/3** | **O** | **3** |  |
| **>Pronoun Code Sequence** | **(0010,xx22)** | **1/1** | **-/-** | **O** | **-/1** | **O** | **1** |  |
| ***>>Include CC.2.5-2a. “UPS Code Sequence Macro”*** | | | | | | | | |
| **>Effective Start DateTime** | **(0010,xxx6)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Effective Stop DateTime** | **(0010,xxx7)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |
| **>Pronoun Comment** | **(0010,xx23)** | **3/3** | **-/-** | **O** | **-/3** | **O** | **3** |  |

# Part 6

Update Part 6, Table 6-1. Registry of DICOM Data Elements

Table 6-1. Registry of DICOM Data Elements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tag | Name | Keyword | VR | VM |
| **(0010,xxxx)** | **Gender Identity Sequence** | **GenderIdentitySequence** | **SQ** | **1** |
| **(0010,xxx1)** | **Sex Parameters for Clinical Use Category Comment** | **SexParametersforClinicalUseCategoryComment** | **UT** | **1** |
| **(0010,xxx2)** | **Sex Parameters for Clinical Use Category Sequence** | **SexParametersForClinicalUseCategorySequence** | **SQ** | **1** |
| **(0010,xxx3)** | **Person Names to Use Sequence** | **PersonNamesToUseSequence** | **SQ** | **1** |
| **(0010,xxx4)** | **Gender Identity Code Sequence** | **GenderIdentityCodeSequence** | **SQ** | **1** |
| **(0010,xxx6)** | **Effective Start DateTime** | **EffectiveStartDateTime** | **DT** | **1** |
| **(0010,xxx7)** | **Effective Stop DateTime** | **EffectiveStopDateTime** | **DT** | **1** |
| **(0010,xxx8)** | **Gender Identity Comment** | **GenderIdentityComment** | **UT** | **1** |
| **(0010,xxx9)** | **Sex Parameters for Clinical Use Category Code Sequence** | **SexParametersforClinicalUseCategoryCodeSequence** | **SQ** | **1** |
| **(0010,xx10)** | **Sex Parameters for Clinical Use Category Reference** | **SexParametersforClinicalUseCategoryReference** | **UR** | **1..n** |
| **(0010,xx12)** | **Name to Use** | **NameToUse** | **LT** | **1** |
| **(0010,xx13)** | **Name to Use Comment** | **NameToUseComment** | **UT** | **1** |
| **(0010,xx21)** | **Third Person Pronouns Sequence** | **ThirdPersonPronounsSequence** | **SQ** | **1** |
| **(0010,xx22)** | **Pronoun Code Sequence** | **PronounCodeSequence** | **SQ** | **1** |
| **(0010,xx23)** | **Pronoun Comment** | **PronounComment** | **UT** | **1** |

Add CIDs to Table A-3

**Table A-3. Context Group UID Values**

| **Context Group UID** | **Context Group Identifier** | **Context Group Name** | **Comment** |
| --- | --- | --- | --- |
| … |  |  |  |
| **newUID1** | **CIDxxx1** | **Person Gender Identity** |  |
| **newUID2** | **CIDxxx2** | **Category of Sex Parameters for Clinical Use** |  |
| **newUID3** | **CIDxxx4** | **Third Person Pronoun Sets** |  |
| … |  |  |  |

Update Part 15 Table E.1-1. Application Level Confidentiality Profile Attributes

# Part 15

## E.1 APPLICATION LEVEL CONFIDENTIALITY PROFILES

…

These action codes are applicable to both Sequence and non-Sequence Attributes; in the case of Sequences, the action is applicable to the Sequence and all of its contents. Cleaning a Sequence ("C" action) entails changing values of Attributes within that Sequence when the meaning of the Sequence within the context of its use in the IOD is specified, or recursively applying the Profile rules to each Dataset in each Item of the Sequence otherwise. Keeping a Sequence ("K" action) requires recursively applying the Profile rules to each Dataset in each Item of the Sequence (for example, in order to remap any UIDs contained within that Sequence).

…

Table E.1-1. Application Level Confidentiality Profile Attributes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Attribute Name | Tag | Retd. (from [PS3.6](http://dicom.nema.org/medical/dicom/current/output/chtml/part06/PS3.6.html)) | In Std. Comp. IOD (from [PS3.3](http://dicom.nema.org/medical/dicom/current/output/chtml/part03/PS3.3.html)) | Basic Prof. | Rtn. Safe Priv. Opt. | Rtn. UIDs Opt. | Rtn. Dev. Id. Opt. | Rtn. Inst. Id. Opt | Rtn. Pat. Chars. Opt. | Rtn. Long. Full Dates Opt. | Rtn. Long. Modif. Dates Opt. | Clean Desc. Opt. | Clean Struct. Cont. Opt. | Clean Graph. Opt. |
| Patient’s Sex | (0010,0040) | N | Y | Z |  |  |  |  | K |  |  |  |  |  |
| Person Name | (0040,A123) | N | Y | D |  |  |  |  |  |  |  |  |  |  |
| … |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Gender Identity Sequence** | **(0010,xxxx)** | **N** | **Y** | **X** |  |  |  |  |  |  |  |  |  |  |
| **Gender Identity Code Sequence** | **(0010,xxx4)** | **N** | **Y** | **X** |  |  |  |  |  |  |  |  |  |  |
| **Sex Parameters for Clinical Use Category Sequence** | **(0010,xxx2)** | **N** | **Y** | **X** |  |  |  |  | **K** |  |  |  |  |  |
| **Sex Parameters for Clinical Use Category Code Sequence** | **(0010,xxx9)** | **N** | **Y** | **X** |  |  |  |  | **K** |  |  |  |  |  |
| **Sex Parameters for Clinical Use Category Reference** | **(0010,xx10)** | **N** | **Y** | **X** |  |  |  |  | **K** |  |  |  |  |  |
| **Person Names to Use Sequence** | **(0010,xxx3)** | **N** | **Y** | **X** |  |  |  |  |  |  |  |  |  |  |
| **Third Person Pronouns Sequence** | **(0010,xx21)** | **N** | **Y** | **X** |  |  |  |  |  |  |  |  |  |  |
| **Pronoun Code Sequence** | **(0010,xx22)** | **N** | **Y** | **X** |  |  |  |  |  |  |  |  |  |  |
| **Effective Start DateTime** | **(0010,xxx6)** | **N** | **Y** | **X** |  |  |  |  |  | **K** | **C** |  |  |  |
| **Effective Stop DateTime** | **(0010,xxx7)** | **N** | **Y** | **X** |  |  |  |  |  | **K** | **C** |  |  |  |
| **Sex Parameters for Clinical Use Category Comment** | **(0010,xxx1)** | **N** | **Y** | **X** |  |  |  |  | **C** |  |  | **C** |  |  |
| **Gender Identity Comment** | **(0010,xxx8)** | **N** | **Y** | **X** |  |  |  |  |  |  |  | **C** |  |  |
| **Name to Use** | **(0010,xx12)** | **N** | **Y** | **X** |  |  |  |  |  |  |  |  |  |  |
| **Pronoun Comment** | **(0010,xx23)** | **N** | **Y** | **X** |  |  |  |  |  |  |  | **C** |  |  |
| **Name to Use Comment** | **(0010,xx13)** | **N** | **Y** | **X** |  |  |  |  |  |  |  |  |  |  |

# Part 16

Add Gender to TID 1007

### TID 1007 Subject Context, Patient

Identifies (and optionally describes) a patient who is the subject.

Type: Extensible

Order: Significant

Root: No

Table TID 1007. Subject Context, Patient

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | NL | Rel with Parent | VT | Concept Name | VM | Req Type | Condition | Value Set Constraint |
| … |  |  |  |  |  |  |  |  |
| 2 |  |  | PNAME | EV (121029, DCM,  "Subject Name") | 1 | MC | Required if not inherited | Defaults to Value of Patient's Name (0010,0010) of the Patient Module |
| 3 |  |  | CODE | EV (121030, DCM,  "Subject ID") | 1 | MC | Required if not inherited | Defaults to Value of Patient ID (0010,0020) of the Patient Module |
| 4 |  |  | DATE | EV (121031, DCM,  "Subject Birth Date") | 1 | U |  | Defaults to Value of Patient's Birth Date  (0010,0030) of the Patient Module |
| 5 |  |  | CODE | EV (121032, DCM,  "Subject Sex") | 1 | U |  | Defaults to value equivalent to Value of Patient's Sex (0010,0040) of the Patient Module  DCID 7455 “Sex” |
| **5a** |  |  | **CODE** | **EV (Sup233-04, DCM, “Subject Sex Parameters for Clinical Use”)** | **1-n** | **U** |  | **Defaults to value equivalent to Value of Sex Parameters for Clinical Use Category Sequence (0010,xxx2) of the Patient Module.**  **DCID CIDxxx2. “Category of Sex Parameters for Clinical Use"** |
| **5b** |  |  | **TEXT** | **EV (Sup233-05, DCM, “Subject Sex Parameters for Clinical Use Category Comment”)** | **1** | **U** |  |  |
| **5c** |  |  | **TEXT** | **EV (Sup233-04, DCM, “Subject Sex Parameters for Clinical Use Category Reference”)** | **1-n** | **U** |  |  |
| 6 |  |  | NUM | EV (121033, DCM,  "Subject Age") | 1 | U |  | Defaults to value equivalent to Value of Patient's Age (0010,1010) of the Patient Study Module  UNITS = DCID 7456 “Age Unit |
| … |  |  |  |  |  |  |  |  |

Update CID 7455 Sex, remove Patient Sex Equivalent Column

### CID 7455 Sex

This Context Group includes terms for the finding of sex of a subject for clinical purposes, such as selection of sex-based growth metrics.

**Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML**

**Keyword:**

**FHIR Keyword:**

**Type: Non-Extensible**

**Version: ~~20040112~~ 20xxxxxx**

**UID: 1.2.840.10008.6.1.519**

Table CID 7455. Sex

Remove Patient Sex equivalence column, and add CIDxxx2 inclusion

|  |  |  |  |
| --- | --- | --- | --- |
| Coding Scheme Designator | Code Value | Code Meaning | ~~Patient Sex (0010,0040) Equivalent~~ |
| DCM | M | Male | **~~M~~** |
| DCM | F | Female | **~~F~~** |
| DCM | U | Unknown Sex |  |
| DCM | MP | Male Pseudohermaphrodite |  |
| DCM | FP | Female Pseudohermaphrodite |  |
| DCM | H | Hermaphrodite |  |
| DCM | MC | Male changed to Female |  |
| DCM | FC | Female changed to Male |  |
| DCM | 121104 | Ambiguous Sex |  |
| DCM | 121102 | Other Sex |  |
| DCM | 121103 | Undetermined Sex | **~~O~~** |
| **Include CIDxxx2 “Category of Sex Parameters for Clinical Use”** | | | |

Note

1. These terms are distinct from the gender of a subject for administrative purposes, although the default value for clinical sex is often based on the administrative gender (e.g., see TID 1007 “Subject Context, Patient”). **~~The administrative value "O" from Patient's Sex (0010,0040) maps by default to "undetermined" for clinical purposes.~~**

2. This Context Group in a prior edition of the Standard included codes improperly attributed to ISO 5218.

3. These terms are derived from the terminology and codes for sex in ASTM E1633-02a "Standard Specification for Coded Values Used in the Electronic Health Record."

Add CID’s to PS 3.16

### CIDxxx1 Person Gender Identity

**Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML**

**Keyword:**

**FHIR Keyword:**

**Type: Extensible**

**Version: 202xmmdd**

**UID: 1.2.840.TBD1**

Table CID CIDxxx1. Person Gender Identity

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Coding Scheme Designator | Code Value | Code Meaning |  | UMLS Concept ID |
| SCT | 446141000124107 | Identifies as female gender |  | C3887375 |
| SCT | 446151000124109 | Identifies as male gender |  | C3887374 |
| SCT | 33791000087105 | Identifies as nonbinary gender |  | C3887376 |
|  |  |  |  |  |

### CIDxxx2 Category of Sex Parameters for Clinical Use

**Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML**

**Keyword:**

**FHIR Keyword:**

**Type: Extensible**

**Version: 202xmmdd**

**UID: 1.2.840.TBD2**

Table CID CIDxxx2. Category of Sex Parameters for Clinical Use

| Coding Scheme Designator | Code Value | Code Meaning |
| --- | --- | --- |
| DCM | Sup233-01 | Female-typical |
| DCM | Sup233-02 | Male-typical |
| DCM | Sup233-03 | Specified |

### CIDxxx4 Third Person Pronoun Sets

**Resources: HTML | FHIR JSON | FHIR XML | IHE SVS XML**

**Keyword:**

**FHIR Keyword:**

**Type: Extensible**

**Version: 202xmmdd**

**UID: 1.2.840.TBD4**

Table CID CIDxxx4. Third Person Pronoun Sets

|  |  |  |
| --- | --- | --- |
| Coding Scheme Designator | Code Value | Code Meaning |
| LN | LA29518-0 | He/him/his/his/himself |
| LN | LA29519-8 | She/her/her/hers/herself |
| LN | LA29520-6 | They/them/their/theirs/themselves |

Note: These LOINC codes specifically reflect English pronouns and their usage. There are no translated code meanings for these codes.

Add Sex Parameters for Clinical Use Category Codes to DICOM terminology

## D DICOM Controlled Terminology Definitions (Normative)

Table D-1. DICOM Controlled Terminology Definitions (Coding Scheme Designator "DCM" Coding

Scheme Version "01")

|  |  |  |  |
| --- | --- | --- | --- |
| Code Value | Code Meaning | Definition | Notes |
| … |  |  |  |
| **Sup233-01** | **Female-typical** | **Available data indicates that diagnostics, analytics, and treatments should consider best practices associated with female reference populations.** | **This code and definition taken from** [**https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html**](https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html) |
| **Sup233-02** | **Male-typical** | **Available data indicates that diagnostics, analytics, and treatments should consider best practices associated with male reference populations.** | **This code and definition taken from**  [**https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html**](https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html) |
| **Sup233-03** | **Specified** | **Available data indicates that diagnostics, analytics, and treatment best practices may be undefined or not aligned with sex-derived reference populations. Additional information may be available in the form of comments and/or observations.** | **This code and definition taken from**  [**https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html**](https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html) |
| **Sup233-04** | **Subject Sex Parameters for Clinical Use Category** | **Sex Parameters for Clinical Use category of patient who is the subject of these observations.** | **See**  [**https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html**](https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html) |
| **Sup233-05** | **Sex Parameters for Clinical Use Category Comment** | **Further explanation about the choice, intention, or context of use for the sex parameter for clinical use** | **See** [**http://hl7.org/fhir/extensions/StructureDefinition-patient-sexParameterForClinicalUse.html**](http://hl7.org/fhir/extensions/StructureDefinition-patient-sexParameterForClinicalUse.html) |
| **Sup233-06** | **Sex Parameters for Clinical Use Category Reference** | **Other clinical evidence or documentation that was used to determine the sex parameter for clinical use** | **See** [**http://hl7.org/fhir/extensions/StructureDefinition-patient-sexParameterForClinicalUse.html**](http://hl7.org/fhir/extensions/StructureDefinition-patient-sexParameterForClinicalUse.html) |
| … |  |  |  |

Add annex with use case and examples to Part 17

# Part 17

# Annex XX Sex and Gender Examples

## XX.1 Sex and Gender Attributes in the Patient Study Module

A patient’s sex and gender characteristics may change during the patient’s lifespan. This is reflected in four optional attributes that are in the Patient Study Module, shown in Figure XX.1-1. These are:

* The Gender Identity Sequence (0010,xxxx), which contains the patient’s chosen gender identity. This Sequence may record multiple identities. This may capture a history of past identities, or it may reflect social choices. During transition a patient might choose to publicly use one identity but privately use another.
* The Sex Parameters for Clinical Use Category Sequence (0010,xxx2), which contains codes to describe sex-related parameter choices. Most often patients will have the “Female-typical” or “Male-typical” characteristic. This means that the typical normal reference ranges, alert limits, drug and hormone reactions, body fat characteristics, lean body mass algorithms, etc. apply. But there may be comments or references to indicate that specific typical parameters should not be used. For example, a cardiology exam might be ordered with a Sex Parameters for Clinical Use Category Code Sequence (0010,xxx9) of “Male-typical” and the Sex Parameters for Clinical Use Comment (0010,xxx1) “Hormonal treatment, use gender identity Creatinine reference ranges”. This could also reflect tumors affecting hormone levels that will change appropriate normal ranges or algorithm selection.
* The Person Names to Use Sequence (0010,xxx3) holds the names that the patient wants to use during conversation or in instructions. These names may reflect social status, rank, name changes, formal vs informal names, personal identity, etc. It is present so that staff can begin a conversation without unnecessarily disturbing the patient. “Herr Doktor Professor Schmidt” may be very sensitive about getting the full list of titles right, or “Captain Smith” may become angry if addressed as “Joan”. Recent name changes might not yet be legally complete, but using the old name can cause serious distress.
* The Third Person Pronouns Code Sequence (0010,xx21) lists the pronouns wanted to be used in instructions given in writing or to care givers. In direct conversation the third person is rarely used.

All of these attributes are optional, all are multivalued, and all may be extended with local codes and guidance. The DICOM standard only specifies the baseline value sets for Gender, Sex Parameters for Clinical Use Category (SPCU), and Third Person Pronouns. Local extensions for local usage should be expected.

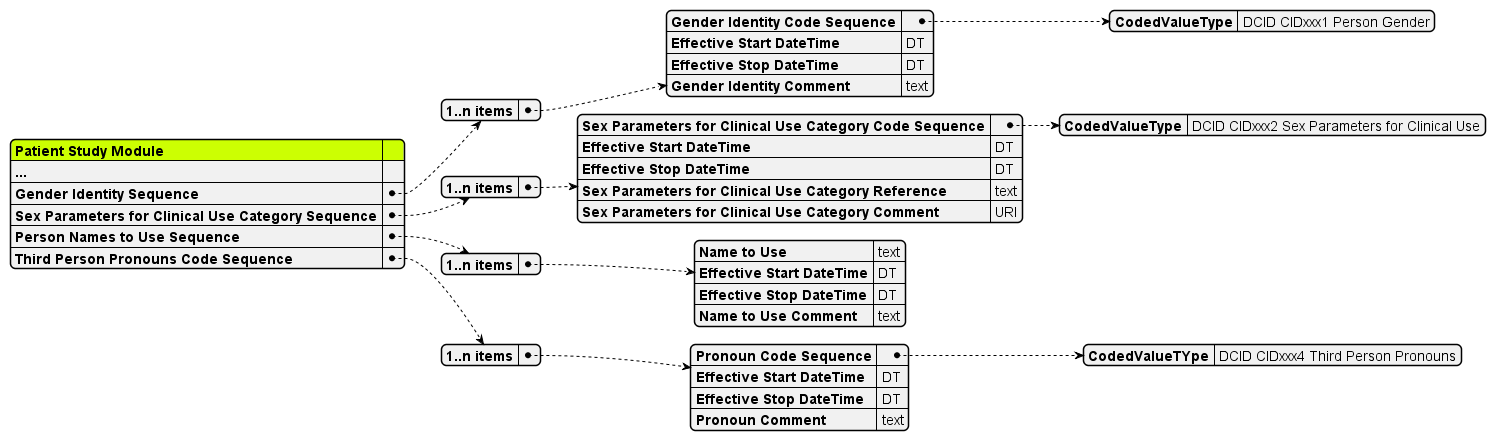


Figure XX.1-1 Sex and Gender Attributes added to Patient Study Module

Note: “CodedValueType” indicates a code Sequence as defined in Table C.6-2a, with the code chosen from the context group specified.

## XX.2 Patient Level attributes that change over time

In the DICOM Information Model, attributes in the Patient Module and the Clinical Trial Subject Module, exist at the Patient Level. These are not supposed to be different at patient level for all the studies for the patient. This has implications when:

* One of these attributes changes in the real world, e.g., a patient’s name changes.
* SOP Instances are imported from a different environment.
* Hospitals merge and consolidate their archives.

Most organizations will have policies regarding what should be done when one of these changes takes place. DICOM does not specify or recommend such policies but rather supports the usage of local policies.

The Original Attributes Sequence (0400,0561) and Instance Coercion DateTime (0008,0015) can be used to record prior values when changes are made to any attributes.

There are also attributes at the Study Level that might differ between studies when Patient Root queries are performed. These include:

* Gender Identity Sequence (0010,xxxx)
* Sex Parameters for Clinical Use Category Sequence (0010,xxx2)
* Person Names to Use Sequence (0010,xxx3)
* Third Person Pronouns Sequence (0010,xx21)

As study level attributes, the values of these attributes are required by DICOM to be the same for all the SOP Instances in a single study. They are allowed to be different in different studies for the same patient.

## XX.3 Patient reconciliation

The Gender Identity Sequence (0010,xxxx) and Person Names to Use Sequence (0010,xxx3) are potentially useful for patient reconciliation activities to find all the patient records. When patient names change or might be recorded differently at different times and locations, patient reconciliation can be difficult. These sequences may provide a history of prior names and genders for use by reconciliation algorithms.

These sequences might also be deliberately truncated or restricted for patient privacy reasons.

DICOM does not specify or make recommendations for how the local policies, procedures, and reconciliation algorithms should be designed.

## XX.4 SR documents

In an SR Instance the default subject context information is provided by the attributes in the Common Patient IE Modules. This may include the Sex Parameters for Clinical Use Category Sequence (0010,xxx2).

Individual observations, analyses, etc. may have a different subject context. The default information can be overridden by information that is provided within the specific template. This is particularly relevant to the Sex Parameters for Clinical Use Category Sequence (0010,xxx2). An acquisition process or analysis that was performed using a different Sex Parameters for Clinical Use (0010,xxx2) can be indicated within the template.

It is possible that a specific analysis might be performed using both “Male-typical” and “Female-typical” analysis methods. The Subject Context for each individual report TID can indicate which method was used for that analysis. The physician might review and consider both analysis results when deciding how to treat this patient.

## XX.5 Example of HL7/DICOM interactions

### XX.5.1 Mappings between HL7 and DICOM

The HL7 Implementation Guides have imaging order examples of FHIR, V2, and CDA documents with their gender model encodings. These can be found at

<https://hl7.org/xprod/ig/uv/gender-harmony/informative1/v2dicom_use_case.html>

These might be mapped onto the DICOM Patient and Patient Study Module attributes as shown below. These mappings are just illustrative.

#### XX.5.1.1 Example 01: Imaging Order

The following HL7 v2.9.1 message is an order for a “PET Myocardial Perfusion, Rest and Stress” imaging procedure.

The administrative sex is female based on prior admissions. The patient was given a gender of female at birth in 1978. At admission on July 15, 2022, the patient informed the admitting staff that they now identify as male and are taking hormonal treatment.

The PET imaging procedure uses creatinine reference ranges to determine details of the procedure. Creatinine reference ranges are sex related. Hormonal treatment for gender changes also affects creatinine reference ranges. At this hospital the medical protocol for patients taking hormonal treatment is to use affirmed gender creatinine reference ranges.

The Sex Parameters for Clinical Use category (SPCU) for the current procedure is set as Male-typical, with the comment that due to hormonal treatment Male-typical creatinine reference ranges should be used. The SPCU at birth is also provided in the order for use by equipment that might find that useful. (The SPCU at birth is not needed by the PET/CT system but might be needed by subsequent analysis systems.)

Note that the HL7 model does not specify how the effective start and stop datetimes are chosen. That is left to the local policies and procedures. DICOM systems will usually obtain these from the HL7 messages and are unlikely to modify them.

The HL7 OMI message is:

MSH|^~\&|||||20220715142240||OMI^O23|WSA5mY0UBuCGrytRTAFR8UWJ|P|2.9.1

PID|||patientID^^^^MR||Smith^Janet^^^^^B~Smith^John^^^^^N||19780328000000|F

GSP|1|S||76691-5^Gender identity^LN|446151000124109^Identifies as male gender^SCT|20220715010000

GSC|1|S||Male-typical^Male typical parameters^SexParameterForClinicalUse||OBR^4|20220715090000|Due to hormonal treatment, use Male-typical Creatinine reference ranges

GSC|2|S||Female-typical^Female typical parameters^SexParameterForClinicalUse|197803280000^20220715090000|OBR^4||Sex at Birth

ORC|NW

OBR||||241439007^PET heart study^SCT|||||||||||||||||||||||||||||||||||||||||82800-4^PET+CT Heart W contrast IV^LN

IPC|accessionNum|procedureID|studyInstanceUID|schProcedureStepId|PT^Positron emission tomography^DCM|122793^PET Myocardial Perfusion, Rest and Stress^DCM

This message maps to DICOM Modality Worklist content as shown in Table XX.4-1.

Table XX.4-1 Mapping HL7 v2.9.1 OMI to DICOM Modality Worklist

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| HL7 V2.9.1 OMI field | HL7 Element name | DICOM MWL Attribute Name | Tag | VR | DICOM Value |
| PID-5 | Patient Name | Patient’s Name | (0010,0010) | PN | Smith^Janet^^^ |
| PID-7 | Date/Time of Birth | Patient's Birth Date | (0010,0030) | DA | 19780328 |
| PID-8 | Sex | Patient’s Sex | (0010,0040) | CS | F |
| GSP-4 | Gender Identity | Gender Identity Sequence | (0010,xxxx) | SQ |  |
| n/a |  | *Begin item* |  |  |  |
| GSP-5 | SOGI Concept Value  Gender Identity | >Gender Identity Code Sequence | (0010,xxx4) | SQ |  |
| n/a |  | *Begin item* |  |  |  |
| GSP-5-1 | n/a | >>Code Value | (0008,0100) | SH | 446151000124109 |
| GSP-5-3 | n/a | >>Coding Scheme Designator | (0008,0100) | SH | SCT |
| GSP-5-2 | n/a | >>Code Meaning | (0008,0104) | LO | Identifies as male gender |
| n/a |  | *End item* |  |  |  |
| GSP-6 | Validity Period | >Effective Start DateTime | (0010,xxx6) | DT | 20220715010000 |
| n/a |  | *End item* |  |  |  |
| GSC | Sex Parameter for Clinical Use Segment | Sex Parameters for Clinical Use Category Sequence | (0010,xxx2) | SQ |  |
| n/a |  | *Begin item* |  |  |  |
| GSC-4 | Sex Parameter for Clinical Use | >Sex Parameters for Clinical Use Category Code Sequence | (0010,xxx9) | SQ |  |
| n/a |  | *Begin item* |  |  |  |
| GSC-4-1 | n/a | >>Code Value | (0008,0100) | SH | Sup233-02 (HL7 “Male-typical”) |
| GSC-4-3 | n/a | >>Coding Scheme Designator | (0008,0102) | SH | DCM |
| GSC-4-2 | n/a | >>Code Meaning | (0008,0104) | LO | Male-typical |
| n/a |  | *End item* |  |  |  |
| GSC-8 | Comment | >Sex Parameters for Clinical Use Comment | (0010,xxx1) | LT | Due to hormonal treatment, use Male-typical Creatinine reference ranges |
| GSC-5-1 | Validity Period | >Effective Start DateTime | (0010,xxx6) | DT | 20220715090000 |
| n/a |  | *End item* |  |  |  |
| GSC-4 | Sex Parameter for Clinical Use | >Sex Parameters for Clinical Use Category Code Sequence | (0010,xxx9) | SQ |  |
| n/a |  | *Begin item* |  |  |  |
| GSC-4-1 | n/a | >>Code Value | (0008,0100) | SH | Sup233-01 |
| GSC-4-3 | n/a | >>Coding Scheme Designator | (0008,0102) | SH | DCM |
| GSC-4-2 | n/a | >>Code Meaning | (0008,0104) | LO | Female-typical |
| n/a |  | *End item* |  |  |  |
| GSC-8 | Comment | >Sex Parameters for Clinical Use Category Comment | (0010,xxx1) | LT | Sex at Birth |
| GSC-5-1 | Validity Period | >Effective Start DateTime | (0010,xxx6) | DT | 197803280000 |
| GSC-5-2 | Validity Period | >Effective Stop DateTime | (0010,xxx7) | DT | 20220715090000 |
| n/a |  | *End item* |  |  |  |

## XX.6 Examples of Person Names to Use Sequence (0010,xxx3)

The Person Names to Use Sequence (0010,xxx3) enables care providers to use the name that is chosen by the person. These names may differ from a person’s legal name. They are the appropriate names to be used in person-centered healthcare conversations. The name to be used in conversation might not be the same as the Patient’s Name (0010,0010) used in the SOP Instances.

Different cultures and social structures can result in a wide variety of kinds of names and name usage. Person Names to Use Sequence (0010,xxx3) allows support of this variety.

For example, the Swiss have identified seven (7) kinds of names that they officially recognize. See <http://fhir.ch/ig/ch-core/ValueSet-ech-11-namedatatype.html>. In addition, there are unofficial informal name uses that can be critically important in social interactions with patients.

For example, there is the use of a “customary” name in cultures where the registered name is inconvenient and used only in special legal circumstances. There is a Dutch photographer, cinematographer, and director whose official registered name is “Anton Johannes Gerrit Corbijn van Willenswaard" and he uses "Anton Corbijn" for almost all purposes. There will be a local policy for which of his names is used as Patient’s Name (0010,0010), and this may be different from place to place. The Person Name to Use Sequence (0010,xxx3) for him will contain “Anton Corbijn”.

The Person Name to Use Sequence (0010,xxx3) can also reflect name changes that are in process, and name uses that are informal personal preferences.

The Person Name to Use Sequence includes optional applicability dates and comments. These can be used to capture information about change history, which can be important when understanding the patient record for a patient that has a long history and whose name has changed during that history.

For example, the HL7 v2.9 encoding of Anton Corbijn’s name might be any of the following five encodings:

1. PID|||patientID^^^^MR||Corbijn van Willenswaard^Anton Johannes Gerrit^^^^^L~^^^^^^N^^^^^^^^^^Anton Corbijn||19550522000000|M|

2. PID|||patientID^^^^MR||Corbijn van Willenswaard^Anton Johannes Gerrit^^^^^L^^^^^^^^^^Anton Corbijn||19550522000000|M|

3. PID|||patientID^^^^MR||Corbijn van Willenswaard^Anton Johannes Gerrit^^^^^L~Corbijn^Anton^^^^^N||19550522000000|M|

4. PID|||patientID^^^^MR||Corbijn^Anton^^^^^N||19550522000000|M|

5. PID|||patientID^^^^MR||Corbijn^Anton^^^^^L||19550522000000|M|   
*(this is incorrect, because it has marked his name to use as his legal name)*

The corresponding Name to Use (0010,xx12) for encodings 1 and 2 would contain:

“Anton Corbijn”

The Person Name to Use Sequence (0010,xxx3) cannot be determined from encodings 3, 4, and 5. It could be provided based on other information or could be missing.