Digital Imaging and Communications in Medicine (DICOM)

Supplement 233

Patient Model Gender Enhancements

Prepared by:

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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

1.4 Health Level Seven (HL7)

…

[HL7 Gender Harmony Model] The HL7 Informative Document: Gender Harmony - Modeling Sex and Gender Representation, Release 1 (http://www.hl7.org/implement/standards/product_brief.cfm?product_id=564).

[HL7v2.9.1] 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

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 Note 2 and Note 3 in Table C.7-1. Patient Module Attributes.**
Gender Identity Sequence	**(0010,0041)**	**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.7.2.2.1.5.**
>Gender Identity Code Sequence	**(0010,0044)**	**A coded gender identity.** **Only a single Item shall be included in this Sequence.** **See also Section C.7.2.2.1.4.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		**DCID 7458 "Person Gender Identity".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**

>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Gender Identity Comment	**(0010,0045)**	**Comments on this gender identity, such as the context in which it should be used.**
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**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.7.2.2.1.2.**
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**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 7459 "Category of Sex Parameters for Clinical Use".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**Further description of clinical implications and reasons for the selected code.**
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**Reference to a resource that explains or extends the Sex Parameters for Clinical Use Category Code.**
Person Names to Use Sequence	**(0010,0011)**	**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	**(0010,0012)**	**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.7.2.2.1.3.**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Name to Use Comment	**(0010,0013)**	**Further explanation of appropriate name usage.**
Third Person Pronouns Sequence	**(0010,0014)**	**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.7.2.2.1.4.**
>Pronoun Code Sequence	**(0010,0015)**	**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 7448 "Third Person Pronoun Sets".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Pronoun Comment	**(0010,0016)**	**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 Note 2 and Note 3 in Table C.7-1. Patient Module Attributes.**
Gender Identity Sequence	**(0010,0041)**	**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.7.2.2.1.5.**
>Gender Identity Code Sequence	**(0010,0044)**	**A coded gender identity.** **Only a single Item shall be included in this Sequence.** **See also Section C.7.2.2.1.4.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		**DCID 7458 "Person Gender Identity".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Gender Identity Comment	**(0010,0045)**	**Comments on this gender identity, such as the context in which it should be used.**
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**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.7.2.2.1.2.** **One or more items are permitted in this Sequence.**
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**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 7459 "Category of Sex Parameter for Clinical Use".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**Further description of clinical implications and reasons for the selected code.**
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**Reference to a resource that explains or extends the Sex Parameters for Clinical Use Category code.**
Person Names to Use Sequence	**(0010,0011)**	**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	**(0010,0012)**	**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.7.2.2.1.3.**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Name to Use Comment	**(0010,0013)**	**Further explanation of appropriate name usage.**
Third Person Pronouns Sequence	**(0010,0014)**	**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.7.2.2.1.3.**

>Pronoun Code Sequence	**(0010,0015)**	**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 7448 "Third Person Pronoun Sets".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Pronoun Comment	**(0010,0016)**	**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 Note 2 and Note 3.**
….			

Note**s**: **1.** Previously, Other Patient IDs (0010,1000) was included in this table. This Attribute has been retired. See PS3.3-2017a.

2. 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.

3. 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
…			
Gender Identity Sequence	**(0010,0041)**	**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.7.2.2.1.1.**
>Gender Identity Code Sequence	**(0010,0044)**	**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 7458 "Person Gender Identity".**

>Effective Start DateTime	**(0040,A034)**	**3**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**3**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Gender Identity Comment	**(0010,0045)**	**3**	**Comments on this gender identity, such as the context in which it should be used.**
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**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.7.2.2.1.2.**
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**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 7459 "Category of Sex Parameters for Clinical Use".**
>Effective Start DateTime	**(0040,A034)**	**3**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**3**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**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 (0010,0046) is (131232, DCM, "Specified"). May be present otherwise.**
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**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 (0010,0046) is (131232, DCM, "Specified").** **May be present otherwise.**

Person Names to Use Sequence	**(0010,0011)**	**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	**(0010,0012)**	**1**	**A name that should be used when addressing or referencing the person.** **See Section C.7.2.2.1.3.**
>Effective Start DateTime	**(0040,A034)**	**3**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**3**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Name to Use Comment	**(0010,0013)**	**3**	**Further explanation of appropriate name usage.**
Third Person Pronouns Sequence	**(0010,0014)**	**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.7.2.2.1.3.**
>Pronoun Code Sequence	**(0010,0015)**	**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 7448 "Third Person Pronoun Sets".**
>Effective Start DateTime	**(0040,A034)**	**3**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**3**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See C.7.2.2.1.5.**
>Pronoun Comment	**(0010,0016)**	**3**	**Further explanation of pronoun usage.**

Add sections to C.7.2.2 Patient Study Module

C.7.2.2.1 Patient Study Module Attribute Descriptions

This DICOM specification follows the logical model described in HL7 [HL7 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 [HL7v2.9.1], CDA [HL7 CDA R2.0 Gender Harmony IG], and FHIR [HL7 FHIR 5].

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.7.2.2.1.1 Gender Identity Sequence

Gender Identity Sequence (0010,0041) 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 (0010,0043). 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.7.2.2.1.2 Sex Parameters for Clinical Use Category Sequence

The Sex Parameters for Clinical Use Category Sequence (0010,0043) is used in orders, observations, and other clinical situations. The Sex Parameters for Clinical Use Category Sequence (0010,0043) 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 (0010,0043) can be used to provide information that is needed to perform a procedure properly.

C.7.2.2.1.3 Person Names to Use Sequence

The Person Names to Use Sequence (0010,0011) 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 (0010,0011) 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 (0010,0013).

Note: The Value Representation of this Name to Use (0010,0012) 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 (0010,0012) need not be an official name of any sort, nor does it need to comply with any standard naming structure.

C.7.2.2.1.4 Third Person Pronouns Sequence

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.7.2.2.1.5 Effective Start DateTime and Effective Stop DateTime

Each Sequence Item may have an Effective Start DateTime (0040,A034) and Effective Stop DateTime (0040,A035) 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 (0040,A034) is missing, then the Item content applies for all times before Effective Stop DateTime (0040,A035).
- If Effective Stop DateTime (0040,A035) is missing, then the Item content applies for all times after Effective Start DateTime (0040,A034).
- If both are missing, the Item content applies for all times past and future.

These 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 (0010,0043) Item of “Male-typical parameters” with an Effective Start DateTime (0040,A034) at birth date and an Effective Stop DateTime (0040,A035) at about the date of orchiectomy, and a second Item of “Neither male typical nor female typical parameters” with an Effective Start DateTime (0040,A034) at about the date of orchiectomy and Effective Stop DateTime (0040,A035) 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	Attribute Description
Patient's Sex	(0010,0040)	Sex of the named Patient. Enumerated Values: **M** male **F** female **O** **other** **See Note 2 and Note 3 in Table C.7-1. Patient Module Attributes.**

Gender Identity Sequence	**(0010,0041)**	**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.7.2.2.1.5.**
>Gender Identity Code Sequence	**(0010,0044)**	**A coded gender identity.** **Only a single Item shall be included in this Sequence.** **See also Section C.7.2.2.1.4.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		**DCID 7458 "Person Gender Identity".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Gender Identity Comment	**(0010,0045)**	**Comments on this gender identity, such as the context in which it should be used.**
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**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.7.2.2.1.2.**
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**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 7459 "Category of Sex Parameters for Clinical Use".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**

>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**Further description of clinical implications and reasons for the selected code.**
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**Reference to a resource that explains or extends the Sex Parameters for Clinical Use Category Code.**
Person Names to Use Sequence	**(0010,0011)**	**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	**(0010,0012)**	**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 C.7.2.2.1.3.**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**
>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable.** **See Section C.7.2.2.1.5.**
>Name to Use Comment	**(0010,0013)**	**Further explanation of appropriate name usage.**
Third Person Pronouns Sequence	**(0010,0014)**	**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.7.2.2.1.3.**
>Pronoun Code Sequence	**(0010,0015)**	**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 7448 "Third Person Pronoun Sets".**
>Effective Start DateTime	**(0040,A034)**	**The date and time at which the content of this Sequence Item begins to be applicable.** **See Section C.7.2.2.1.5.**

>Effective Stop DateTime	**(0040,A035)**	**The date and time at which the content of this Sequence Item ceases to be applicable. See Section C.7.2.2.1.5.**
>Pronoun Comment	**(0010,0016)**	**Further explanation of pronoun usage.**
Referenced Patient Photo Sequence	(0010,1100)	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	**(0010,0041)**	**O**
>Gender Identity Code Sequence	**(0010,0044)**	**O**
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"		
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Gender Identity Comment	**(0010,0045)**	**O**
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**O**
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**O**
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"		

Attribute Name	Tag	Type
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**O**
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**O**
Person Names to Use Sequence	**(0010,0011)**	**O**
>Name to Use	**(0010,0012)**	**O**
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Name to Use Comment	**(0010,0013)**	**O**
Third Person Pronouns Sequence	**(0010,0014)**	**O**
>Pronoun Code Sequence	**(0010,0015)**	**O**
>> Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"		
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Pronoun Comment	**(0010,0016)**	**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	**(0010,0041)**	**O**

Attribute Name	Tag	Type
>Gender Identity Code Sequence	**(0010,0044)**	**O**
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"		
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Gender Identity Comment	**(0010,0045)**	**O**
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**O**
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**O**
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"		
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**O**
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**O**
Person Names to Use Sequence	**(0010,0011)**	**O**
>Name to Use	**(0010,0012)**	**O**
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Name to Use Comment	**(0010,0013)**	**O**

Attribute Name	Tag	Type
Third Person Pronouns Sequence	**(0010,0014)**	**O**
>Pronoun Code Sequence	**(0010,0015)**	**O**
>> Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"		
>Effective Start DateTime	**(0040,A034)**	**O**
>Effective Stop DateTime	**(0040,A035)**	**O**
>Pronoun Comment	**(0010,0016)**	**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	**(0010,0041)**	**3/3**	**-/-**		

Sequence					
>Gender Identity Code Sequence	**(0010,0044)**	**1/1**	**-/-**		
>>Include Table F.7.2-1a. Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET					
>Effective Start DateTime	**(0040,A034)**	**3/3**	**-/-**		
>Effective Stop DateTime	**(0040,A035)**	**3/3**	**-/-**		
>Gender Identity Comment	**(0010,0045)**	**3/3**	**-/-**		
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**3/3**	**-/-**		
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**1/1**	**-/-**		
>>Include Table F.7.2-1a. Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET					
>Effective Start DateTime	**(0040,A034)**	**3/3**	**-/-**		
>Effective Stop DateTime	**(0040,A035)**	**3/3**	**-/-**		
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**2C/2C**	**-/-**		**Required if Sex Parameters for Clinical Use Category Code Sequence (0010,0046) is (131232, DCM, "Specified"). May be present otherwise.**

>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**2C/2C**	**-/-**		**Required if Sex Parameters for Clinical Use Category Code Sequence (0010,0046) is (131232, DCM, "Specified"). May be present otherwise.**
Person Names to Use Sequence	**(0010,0011)**	**3/3**	**-/-**		
>Name to Use	**(0010,0012)**	**1/1**	**-/-**		
>Effective Start DateTime	**(0040,A034)**	**3/3**	**-/-**		
>Effective Stop DateTime	**(0040,A035)**	**3/3**	**-/-**		
>Name to Use Comment	**(0010,0013)**	**3/3**	**-/-**		
Third Person Pronouns Sequence	**(0010,0014)**	**3/3**	**-/-**		
>Pronoun Code Sequence	**(0010,0015)**	**1/1**	**-/-**		
>> Include Table F.7.2-1a. Modality Performed Procedure Step Enhanced Code Value Macro with no N-SET					
>Effective Start DateTime	**(0040,A034)**	**3/3**	**-/-**		
>Effective Stop DateTime	**(0040,A035)**	**3/3**	**-/-**		
>Pronoun Comment	**(0010,0016)**	**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	**(0010,0041)**	**3/3**	
>Gender Identity Code Sequence	**(0010,0044)**	**-/1**	
>>Include Table 8-2a. "Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning"			
>Effective Start DateTime	**(0040,A034)**	**-/3**	
>Effective Stop DateTime	**(0040,A035)**	**-/3**	
>Gender Identity Comment	**(0010,0045)**	**-/3**	
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**3/3**	
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**-/1**	
>>Include Table 8-2a. "Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning"			
>Effective Start DateTime	**(0040,A034)**	**-/3**	
>Effective Stop DateTime	**(0040,A035)**	**-/3**	
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**-/3**	
>Sex Parameters for Clinical Use	**(0010,0047)**	**-/3**	

Category Reference			
Person Names to Use Sequence	**(0010,0011)**	**3/3**	
>Name to Use	**(0010,0012)**	**-/1**	
>Effective Start DateTime	**(0040,A034)**	**-/3**	
>Effective Stop DateTime	**(0040,A035)**	**-/3**	
>Name to Use	**(0010,0012)**	**-/3**	
Third Person Pronouns Sequence	**(0010,0014)**	**3/3**	
>Pronoun Code Sequence	**(0010,0015)**	**-/1**	
>>Include Table 8-2a. "Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning"			
>Effective Start DateTime	**(0040,A034)**	**-/3**	
>Effective Stop DateTime	**(0040,A035)**	**-/3**	
>Pronoun Comment	**(0010,0016)**	**-/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	**(0010,0041)**	**O**	**3**	
>Gender Identity Code Sequence	**(0010,0044)**	**O**	**1**	
>>Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and				

Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Gender Identity Comment	**(0010,0045)**	**O**	**3**	
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**O**	**3**	
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**O**	**1**	
>>Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**O**	**3**	
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**O**	**3**	
Person Names to Use Sequence	**(0010,0011)**	**O**	**3**	
>Name to Use	**(0010,0012)**	**O**	**1**	
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Name to Use Comment	**(0010,0013)**	**O**	**3**	
Third Person Pronouns Sequence	**(0010,0014)**	**O**	**3**	

>Pronoun Code Sequence	**(0010,0015)**	**O**	**1**	
>> Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Pronoun Comment	**(0010,0016)**	**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	**(0010,0041)**	**O**	**3**	
>Gender Identity Code Sequence	**(0010,0044)**	**O**	**1**	
>>Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Gender Identity Comment	**(0010,0045)**	**O**	**3**	
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**O**	**3**	
>Sex Parameters for Clinical Use	**(0010,0046)**	**O**	**1**	

Category Code Sequence				
>>Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**O**	**3**	
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**O**	**3**	
Person Names to Use Sequence	**(0010,0011)**	**O**	**3**	
>Name to Use	**(0010,0012)**	**O**	**1**	
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Name to Use Comment	**(0010,0013)**	**O**	**3**	
Third Person Pronouns Sequence	**(0010,0014)**	**O**	**3**	
>Pronoun Code Sequence	**(0010,0015)**	**O**	**1**	
>> Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Pronoun Comment	**(0010,0016)**	**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	**(0010,0041)**	**O**	**3**	
>Gender Identity Code Sequence	**(0010,0044)**	**O**	**1**	
>>Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Gender Identity Comment	**(0010,0045)**	**O**	**3**	
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**O**	**3**	
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**O**	**1**	
>>Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**O**	**3**	
>Sex Parameters for Clinical Use	**(0010,0047)**	**O**	**3**	

Category Reference				
Person Names to Use Sequence	**(0010,0011)**	**O**	**3**	
>Name to Use	**(0010,0012)**	**O**	**1**	
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Name to Use Comment	**(0010,0013)**	**O**	**3**	
Third Person Pronouns Sequence	**(0010,0014)**	**O**	**3**	
>Pronoun Code Sequence	**(0010,0015)**	**O**	**1**	
>> Include Table 8-4a. Enhanced Coded Entry Macro with Optional Matching Key Support and Mandatory Meaning				
>Effective Start DateTime	**(0040,A034)**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**O**	**3**	
>Pronoun Comment	**(0010,0016)**	**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	**(0010,0041)**	**3/3**	**-/-**	**O**	**3/3**	**O**	**3**	
>Gender Identity Code Sequence	**(0010,0044)**	**1/1**	**-/-**	**O**	**-/1**	**O**	**1**	
>>Include CC.2.5-2a. "UPS Code Sequence Macro" DCID 7458 "Person Gender Identity"								
>Effective Start DateTime	**(0040,A034)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	
>Gender Identity Comment	**(0010,0045)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	
Sex Parameters for Clinical Use Category Sequence	**(0010,0043)**	**3/3**	**-/-**	**O**	**3/3**	**O**	**3**	
>Sex Parameters for Clinical Use Category Code Sequence	**(0010,0046)**	**1/1**	**-/-**	**O**	**-/1**	**O**	**1**	
>>Include CC.2.5-2a. "UPS Code Sequence Macro" DCID 7459 "Category of Sex Parameter for Clinical Use".								
>Effective Start DateTime	**(0040,A034)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	

>Sex Parameters for Clinical Use Category Comment	**(0010,0042)**	**2C/2C**	**-/-**	**O**	**-/2C**	**O**	**3**	**Required if Sex Parameters for Clinical Use Category Code Sequence (0010,0046) is (131232, DCM, "Specified"). May be present otherwise.**
>Sex Parameters for Clinical Use Category Reference	**(0010,0047)**	**2C/2C**	**-/-**	**O**	**-/2C**	**O**	**3**	**Required if Sex Parameters for Clinical Use Category Code Sequence (0010,0046) is (131232, DCM, "Specified"). May be present otherwise.**
Person Names to Use Sequence	**(0010,0011)**	**3/3**	**-/-**	**O**	**3/3**	**O**	**3**	
>Name to Use	**(0010,0012)**	**1/1**	**-/-**	**O**	**-/1**	**O**	**1**	
>Effective Start DateTime	**(0040,A034)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	
>Effective Stop DateTime	**(0040,A035)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	
>Name to Use Comment	**(0010,0013)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	
Third Person Pronouns Sequence	**(0010,0014)**	**3/3**	**-/-**	**O**	**3/3**	**O**	**3**	
>Pronoun Code Sequence	**(0010,0015)**	**1/1**	**-/-**	**O**	**-/1**	**O**	**1**	
>>Include CC.2.5-2a. "UPS Code Sequence Macro" DCID 7448 "Third Person Pronoun Sets"								
>Effective Start	**(0040,A034)**	**3/3**	**-/-**	**O**	**-/3**	**O**	**3**	

DateTime								
>Effective Stop DateTime	(0040,A035)	3/3	-/-	O	-/3	O	3	
>Pronoun Comment	(0010,0016)	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
(0010,0041)	Gender Identity Sequence	GenderIdentitySequence	SQ	1
(0010,0042)	Sex Parameters for Clinical Use Category Comment	SexParametersForClinicalUseCategoryComment	UT	1
(0010,0043)	Sex Parameters for Clinical Use Category Sequence	SexParametersForClinicalUseCategorySequence	SQ	1
(0010,0011)	Person Names to Use Sequence	PersonNamesToUseSequence	SQ	1
(0010,0044)	Gender Identity Code Sequence	GenderIdentityCodeSequence	SQ	1
(0040,A034)	Effective Start DateTime	EffectiveStartDateTime	DT	1

(0040,A035)	Effective Stop DateTime	EffectiveStopDateTime	DT	1
(0010,0045)	Gender Identity Comment	GenderIdentityComment	UT	1
(0010,0046)	Sex Parameters for Clinical Use Category Code Sequence	SexParametersForClinicalUseCategoryCodeSequence	SQ	1
(0010,0047)	Sex Parameters for Clinical Use Category Reference	SexParametersForClinicalUseCategoryReference	UR	1-n
(0010,0012)	Name to Use	NameToUse	LT	1
(0010,0013)	Name to Use Comment	NameToUseComment	UT	1
(0010,0014)	Third Person Pronouns Sequence	ThirdPersonPronounsSequence	SQ	1
(0010,0015)	Pronoun Code Sequence	PronounCodeSequence	SQ	1
(0010,0016)	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
…			
1.2.840.10008.6.1.1529	7458	Person Gender Identity	
1.2.840.10008.6.1.1530	7459	Category of Sex Parameters for Clinical Use	

Context Group UID	Context Group Identifier	Context Group Name	Comment
1.2.840.10008.6.1.1531	7448	Third Person Pronoun Set	
…			

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

Part 15

E.1 APPLICATION LEVEL CONFIDENTIALITY PROFILES

…

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

Attribute Name	Tag	Retd. (from PS 3.6)	In Std. Comp. IOD (from PS3.3)	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, 0041)**	**N**	**Y**	**X**										
Gender Identity Code Sequence	**(0010, 0044)**	**N**	**Y**	**X**										
Sex Parameters for Clinical Use Category Sequence	**(0010, 0043)**	**N**	**Y**	**X**					**K**					

Sex Parameters for Clinical Use Category Code Sequence	(0010, 0046)	N	Y	X					K					
Sex Parameters for Clinical Use Category Reference	(0010, 0047)	N	Y	X					K					
Person Names to Use Sequence	(0010, 0011)	N	Y	X										
Third Person Pronouns Sequence	(0010, 0014)	N	Y	X										
Pronoun Code Sequence	(0010, 0015)	N	Y	X										
Effective Start DateTime	(0040, A034)	N	Y	X						K	C			
Effective Stop DateTime	(0040, A035)	N	Y	X						K	C			
Sex Parameters for Clinical Use Category Comment	(0010, 0042)	N	Y	X					C			C		
Gender Identity Comment	(0010, 0045)	N	Y	X								C		
Name to Use	(0010, 0012)	N	Y	X										
Pronoun Comment	(0010, 0016)	N	Y	X								C		
Name to Use	(0010,	N	Y	X										

Comment	**0013)**													

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 (131233, DCM,**	**1-n**	**U**		**Defaults to value**

				“Subject Sex Parameters for Clinical Use”)				**equivalent to Value of Sex Parameters for Clinical Use Category Sequence (0010,0043) of the Patient Study Module.** **DCID 7459. “Category of Sex Parameters for Clinical Use"**
5b			**TEXT**	**EV (131234, DCM, “Subject Sex Parameters for Clinical Use Category Comment”)**	**1**	**U**		
5c			**TEXT**	**EV (131235, 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~~ 20250406
UID: 1.2.840.10008.6.1.519

Table CID 7455. Sex

Remove Patient Sex equivalence column, and add 7459 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 7459 "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

7458 Person Gender Identity

Resources: **HTML | FHIR JSON | FHIR XML | IHE SVS XML**
Keyword:
FHIR Keyword:
Type: **Extensible**
Version: **20250406**
UID: **1.2.840.10008.6.1.1529**

Table CID 7458. Person Gender Identity

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

7459 Category of Sex Parameters for Clinical Use

Resources: **HTML | FHIR JSON | FHIR XML | IHE SVS XML**
Keyword:
FHIR Keyword:
Type: **Extensible**
Version: **20250406**
UID: **1.2.840.10008.6.1.1530**

Table CID 7459. Category of Sex Parameters for Clinical Use

Coding Scheme Designator	Code Value	Code Meaning
DCM	131230	Female-typical
DCM	131231	Male-typical
DCM	131232	Specified

7448 Third Person Pronoun Set

Resources: **HTML | FHIR JSON | FHIR XML | IHE SVS XML**
Keyword:
FHIR Keyword:
Type: **Extensible**
Version: **20250406**
UID: **1.2.840.10008.6.1.1531**

Table CID 7448. Third Person Pronoun Set

Coding Scheme Designator	Code Value	Code Meaning	SNOMED-RT ID	UMLS Concept ID
LN	LA29518-0	he/him/his/his/himself		C4740695
LN	LA29519-8	she/her/her/hers/herself		C4740696
LN	LA29520-6	they/them/their/theirs/themselves		C4740697

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
…			
131230	Female-typical	Available data indicates that diagnostics, analytics, and treatments should consider best practices associated with female reference populations. This concept and definition taken from https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html	
131231	Male-typical	Available data indicates that diagnostics, analytics, and treatments should consider best practices associated with male reference populations. This concept and definition taken from https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html	
131232	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 concept and definition taken from https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html	
131233	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	

131234	**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	
131235	**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	
…			

Add annex with use case and examples to Part 17

Part 17

Annex FFFFF Sex and Gender Examples (Informative)

FFFFF.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 FFFFF.1-1. These are:

- The Gender Identity Sequence (0010,0041), 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 (0010,0043), 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 (0010,0046) of "Male-typical" and the Sex Parameters for Clinical Use Comment (0010,0042) "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 (0010,0011) 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 (0010,0014) 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.

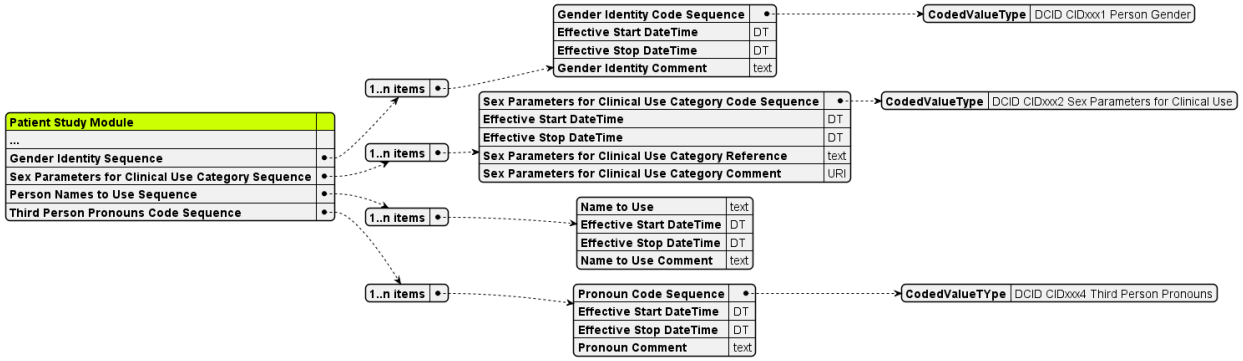

Figure FFFFF.1-1 Sex and Gender Attributes added to Patient Study Module

Note: “CodedValueType” indicates a code Sequence as defined in PS3.3 Section 8.8, with the code chosen from the context group specified.

FFFFF.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 (0010,0041)
- Sex Parameters for Clinical Use Category Sequence (0010,0043)
- Person Names to Use Sequence (0010,0011)
- Third Person Pronouns Sequence (0010,0014)

As Study level Attributes, the Values of these 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.

FFFFF.3 Patient Reconciliation

The Gender Identity Sequence (0010,0041) and Person Names to Use Sequence (0010,0011) 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.

FFFFF.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 (0010,0043).

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 (0010,0043). An acquisition process or analysis that was performed using a different Sex Parameters for Clinical Use (0010,0043) 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.

FFFFF.5 Example of HL7/DICOM Interactions

FFFFF.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.

FFFFF.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 FFFFF.4-1.

Table FFFFF.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	(0010,0041)	SQ	
n/a		*Begin item*			
GSP-5	SOGI Concept Value Gender Identity	>Gender Identity Code Sequence	(0010,0044)	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	(0008,0104)	LO	Identifies as male gender

		Meaning			
n/a		*End item*			
GSP-6	Validity Period	>Effective Start DateTime	(0040,A034)	DT	20220715010000
n/a		*End item*			
GSC	Sex Parameter for Clinical Use Segment	Sex Parameters for Clinical Use Category Sequence	(0010,0043)	SQ	
n/a		*Begin item*			
GSC-4	Sex Parameter for Clinical Use	>Sex Parameters for Clinical Use Category Code Sequence	(0010,0046)	SQ	
n/a		*Begin item*			
GSC-4-1	n/a	>>Code Value	(0008,0100)	SH	131231 (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	(0010,0042)	LT	Due to hormonal treatment, use Male-typical Creatinine reference ranges
GSC-5-1	Validity Period	>Effective Start DateTime	(0040,A034)	DT	20220715090000
n/a		*End item*			
GSC-4	Sex Parameter for Clinical Use	>Sex Parameters for Clinical Use Category Code Sequence	(0010,0046)	SQ	
n/a		*Begin item*			
GSC-4-1	n/a	>>Code Value	(0008,0100)	SH	131230
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	(0010,0042)	LT	Sex at Birth

		Clinical Use Category Comment			
GSC-5-1	Validity Period	>Effective Start DateTime	(0040,A034)	DT	197803280000
GSC-5-2	Validity Period	>Effective Stop DateTime	(0040,A035)	DT	20220715090000
n/a		*End item*			

FFFFF.6 Examples of Person Names to Use Sequence

The Person Names to Use Sequence (0010,0011) 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 (0010,0011) 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 (0010,0011) for him will contain "Anton Corbijn".

The Person Name to Use Sequence (0010,0011) 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 (0010,0012) for encodings 1 and 2 would contain:

Anton Corbijn

The Person Name to Use Sequence (0010,0011) cannot be determined from encodings 3, 4, and 5. It could be provided based on other information, or could be absent.