Digital Imaging and Communications in Medicine (DICOM)

Supplement 233

Patient Model Gender Enhancements

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Open Issues

5	Does Part 18 need to change to incorporate Sex and Gender additions? **Proposal: Do not change Part 18 requirements. The new fields are all optional. The Part 4 changes make the necessary changes to the Part 18 behavior, so Part 18 need not change.**
31	Do any sex/gender based analytic results, e.g., BSA, need revision to the related TID? **Proposal:** TID 1007 Patient Context includes patient sex DCID 7455 and DCID 7455 has been updated which seems sufficient.
41	Are the DICOM Attribute Confidentiality constraints appropriate? **Proposal**: The tables in this Supplement have not been reviewed by many people familiar with the issues surrounding sex and gender related confidentiality. They reflect the current behavior for Patient Sex (0010,0040).

46	Should the concept group CIDxxx1 Person Gender used in Gender Identity Code Sequence (0010,xxx4) be referenced as BCID or DCID? **Proposal:** Use DCID BCID permits implementations to use a different code (likely from a national coding system) in place of a code with the same meaning in the CID. DCID prohibits this. See PS3.3 Table 5.6-1. The gender codes in CIDxxx1 is a very short list intended to act as a baseline. Local jurisdictions will define local gender categories and define codes for these categories. For example, the USCDI has chosen to add two new concepts specified in ONC's USCDI v2 Applicable Vocabulary Standards for Gender Identity: Female-to-Male (FTM)/Transgender Male/Trans Man (SNOMED CT 407377005) Male-to-Female (MTF)/Transgender Female/Trans Woman (SNOMED CT 407376001) Canada and Australia have also identified additional gender identities for use in those countries. There will be legal or administrative requirements on the terminology imposed by some jurisdictions, but they will probably not contradict the CIDxxx1 list. They may prohibit other extensions. With a BCID there is no assurance that even a minimal set of codes will be internationally interoperable. Jurisdictions could choose some other coding system, i.e., not SNOMED, and require the use of that system. With a DCID most jurisdictions are likely to accept the codes selected by DICOM, HL7, and SNOMED for "Identifies as female gender" or "Identifies as male gender" as acceptable for local purposes. Some may accept "Identifies as nonbinary gender". Other local genders will be defined locally.

47	PS 3.4 definitions for behavior of C-FIND are different for Query/Retrieve (used for storage) (PS3.4 Section C), Basic Worklist Management (PS3.4 Section K), Relevant Patient Information Query (PS3.4 Section Q), Substance Administration Query P(S3.4 Section V), and Unified Procedure Step query (PS3.4 Section CC). The primary difference is that for C-FIND in Query/Retrieve, all optional keys in the Query Request are treated using rules that are similar to the Type 2 rules. In the other queries, each identified optional query attribute has a specified response behavior (Type 1, 1C, 2, or 3) that is specified as part of the Service definition. **Proposal**: This supplement does not attempt to fix this or clarify the standard in PS3.4. The tables are updated using the current specification for the service being updated. CP2426 will address this issue. It has nothing to do with sex and gender issues, and the solution needs a response from people with expertise in the DICOM query/retrieve specification and implementation. The updated tables for PS 3.4 section C will appear to be inconsistent with the other updated tables in PS 3.4 sections K, Q, V, and CC. The proposed behavior is be: • For the Section C Storage Service Query all the new attributes are made optional keys. (Is this a functional problem? Are there specific attributes that must be useable as query keys, e.g., must be required? Or can these be left optional in the standard and subject to procurement and marketing decisions.) • For the other services (Sections K, Q, V, and CC) the sequences are optional to implement and optional to return. The required attribute of each sequence is made an optional query and type 1 return. The other attributes in each sequence are made an optional query and type 2 return. The relevant sections in PS 3.4 are: C.2.2.1.3, C.4.1.1.3.2, K.2.2.1.1.2, Q.2.1.1.3.2, V.2.2.1.1.2, V.2.2.1.2, CC.2.8.1.3.2

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Closed Issues

1	Should the conformance statement describe how sex/gender attributes are managed? Yes, in terms of any applicable configuration support, but not in terms of imposing any policy choices. The existing configuration description in Part 2 is sufficient.
2	**Duplicate of 26**

3	Should we add a gender CID into TID 1007 Subject Context, Patient? It has subject sex; does it also need a subject gender? We need to fix a conflict between description and CID. The gender harmony model includes a partial list of gender identities proposed in various jurisdictions. It is unlikely that there will be a unified single list with internationally agreed definitions. It is likely that for some jurisdictions there will be recommended lists of gender identities. Note: a gender CID has been created for the Patient's Gender (0010,xxxx). The TID can reference that. The issue with many local extensions should be a note on the CID to warn implementers to expect local extensions. ***Answer: Do not add a gender to TID 1007*** Gender is not an identifier and is not clinically significant for imaging.
4	What should be done about CID 7457 Sex - Male Female or Both? **Answer: NO changes.** This is for small animals and groups of small animals where gender is not an issue. The current sex attributes are sufficient. See also comment on issue 23.
6	Are there any SOP classes that deserve creating a new SOP class where the new attributes are type 2? **Answer: NO**. The new attributes are type 3 for all existing SOP classes.
7	How should HL7 FHIR codes be handled? The proposal is 1. Use the minimum interoperable list from HL7 Implementation Guide as the basis for creating CIDs to the extent possible. 2. Where this is not possible, invent something specific for DICOM. Some of attributes, such as Patient's Gender (0010,xxxx) will have significant local extensions based on national and local policies. See also issue 30 about how to encode HL7 codes ***Answer: Write a separate CP (done)*** ***Answer: WG-06 March 2023***: Create DICOM Codes. There are problems with the HL7 Coding method, and these are well beyond the scope of the Sex and Gender supplement to resolve. For now, rather than force the HL7 coding system issues to be resolved before we resolve Sup 233, create DICOM codes. When the HL7 code CP is complete we can re-visit these codes.
8	How should the comments on sex and gender attributes relate to the existing DICOM comments? Comments on the Scheduled Procedure Step (0040,0400) is explicitly indicated as something to be displayed to the operator. Requested Procedure Comments (0040,1400) is not so indicated.

	Answer: No changes are proposed beyond the inclusion of the comment attributes in the Patient Study Module.
9	Should Patient Comments (0010,4000) be moved from C.7.1.1.1 Patient Module to C.7.2.2 Patient Study Module? **Answer: NO**, never move existing attributes. But new attributes can be created in other modules. These may vary from study to study because they may reflect temporary, transient, or changed characteristics of the patient. That would make it more appropriate for comments on patient sex and gender that reflect changes.
10	What new attributes should be created to capture more specific sub-sets of genotypic and phenotypic parameters? Is this captured in an updated TID 1007? Should this be part of a later CP? **Answer: No new attributes.** Proper diagnosis is much more than just adding diagnostic codes. This is not a problem for DICOM to solve. The comments and references can provide specific extra information needed by the operator and staff. If links to other medical records are appropriate, they can be included there.
11	How should the present models in open literature, implementations, etc. be reflected into DICOM Standard? Copy bibliography in from HL7? Copy or reference various background information on HL7 Gender project site? (This stuff gets re-organized occasionally because it is a working group area, not a part of the standard that is subject to change control. Can we use DOI or something like it for more permanent references? Ask HL7 project team.) Answer: **Put the HL7 bibliography into Part 17 Annex for reviewers, and then remove before letter ballot**. **Reviewers should consider the implication of this over time. This bibliography will gradually become out of date and need either regular updates or removal.**
12	Do we provide instructions on what algorithm to pick for selecting sex or gender when the other is missing? What about other sex related instructions? **Answer: NO**. It's not DICOM's responsibility or core competence.
13	***Based on HL7 Implementation Guide ballot resolutions the DICOM module will not include the Recorded Sex and Gender (RSG) attributes.*** The RSG attributes are useful for some patient related administrative activities, but not for ordering or other imaging related activities. They are useful for: 1. Patient Identity confirmation 2. Billing activities 3. Patient reconciliation 4. Legal actions If a need emerges for RSG attributes they can be added later by a CP.
16	All Supplements that are in progress need to be updated somehow. **This is not a comment issue. It's a TODO if there are any.**

14	Is this a supplement or a CP? <wg-06 question, November 2019 meeting> <revised August 2022> **Answer: Supplement 233**
18	Should we update Part 16 TID 1007, CID 7455 (which is mostly diagnostic codes and non-extensible) and/or CID 7457 (which is M, F, and extensible) ? **Answer: The SPCU codes were added to CID 7455. CID 7457 is for animals and is not modified.**
19	Include both sex and gender, in both image IODs and workflow IODs? **Answer: YES.** The Harmonized model is incorporated into the Patient Modules and any IOD that incorporates these is affected.
21	The new attributes are proposed as type 3 so that they do not trigger creation of new SOP classes. They are a better fit to type 2 if the concept "attempted but failed to get a value" needs to be encoded. Is there a way to finesse this issue? Is it a problem if that concept cannot be encoded? Should a code value for this be added to the definition? **Answer: Leave them type 3.**
22	Should PS 3.2 Conformance be changed? For example, Australia privacy regulations require a statement with justification for maintaining sex information in records. Will this be part of a conformance statement from DICOM, or put somewhere else by the vendor? Should this be covered by having a section in the DCS for other regulations that are also complied with, e.g., GDPR, DIN, and UL? Should this be part of Supplement 209? These privacy regulation responses could go in such a section. **Answer: NO, not required by DICOM (Tracking all the different laws and their changes is not practical or reasonable.)** **Will conformance describe capability? MAYBE, up to the vendor, DICOM will be silent.**
23.	Gender and other sexes for animals is not prohibited and not specifically addressed. Should this be addressed? (e.g., should freemartin be added to CID 7457?) **Answer: No.** As coded values the veterinary users can extend locally, or add coded values to SNOMED, or as DICOM codes. This is a separate issue and can be dealt with by CP if necessary.
24	How should pronoun usage be addressed in this Supplement? **Answer: Only English pronoun usage is addressed in this Supplement**. Pronoun usage issues are reasonably well understood for English, but not for other languages that use sex identifying pronouns. Some languages, e.g., Mandarin and Cantonese, do not traditionally use such pronouns, so it is a very different issue for them. Other languages have complex conjugation, declination, and other grammatical rules that apply to pronouns. This could be addressed in a separate CP when a specific language has defined appropriate rules for that language. One use case for providing pronouns is so that they can be used in patient instructions, comments, and related discussions. The acquired images and structured reports are much less likely to include pronouns, but they may need the capability.
25	What should be done about Sex at Birth? See also issue 13. **Answer: Use SPCU effective dates.** HL7 is recommending use of SPCU with an Effective

	Start DateTime (0010,xxx6) at birth, and possibly a second SPCU with a later Effective Start DateTime (0010,xxx6).
26	What VR should be used for Patient's Gender (0010,xxx1)? **Answer: The Patient's Gender Identity (0010,xxx1) is encoded as a coded value**. There is only a minimal set of coded values defined by SNOMED and HL7. There are many locally defined terms that are appropriate for gender identities. These may be official designations, local designations, or personal designations. These will be handled the same way other code system extensions are handled. The US and Canada have already defined code systems extensions for their jurisdictions.
27	Can we duplicate Patient Comments into Patient Study Module? **Answer: NO** There are other examples of the same attribute being present at the top level in multiple modules. In those cases the disambiguation of intent is either not needed or obvious. Can with do that with these comments? Can or should we do that for other attributes?
28	Are there problems with the same attribute in the Patient Module having different values in different studies? (Like Patient Weight, Patient Gender is subject to change.) This can be resolved by putting all the gender attributes in the Patient Study Module. Is that a problem? **Answer:** All the attributes that are allowed to change between studies have been put into the Patient Study Module. C-FIND implementations will need to adapt to this.
29	What should we do about Patient Sex (0010,0008)? **Answer:** HL7 is leaving it very ambiguously defined and noting that the definition is basically up to the local policy of the system creating the value. New value sets and codes with better definitions are used in the new attributes. DICOM usually takes the value from a hospital administrative system, so the same ambiguities will remain. It will often be populated by copying it from an HL7 message, making the HL7 (lack of) definition relevant.
32	Should DICOM encode reasons like "refused to answer" received from FHIR? HL7 FHIR is using the various kinds of missing and unknown as a coding for some of the sex and gender terms. Would this difference be important for an operator working from the Modality Worklist information? Would this information in the image SOP be relevant to a radiologist making a report? **Answer:** The current text proposes these attributes as Type 3, so they may be missing, and missing does not convey any meaning regarding why they are missing.
30	How will DICOM refer to codes defined in FHIR? This is a question for both WG-06 and WG-20 to decide whether this is a suitable encoding and will function appropriately. See new CP, issue 7 (closed)
33	Does the CDA template work in HL7 result in any changes that are appropriate to DICOM TIDs? **Answer: It appears that no changes will be needed. If subsequent analysis indicate that a change is needed, a separate CP will be used.**

34	Technologist may be in a position to observe a discrepancy between the current medical record and "observed" information. Where and how is this communicated to other actors? Where and how is reconciliation performed? Considerations include: - Authoritative sources of observations - Official systems of record - See also IHE (Integrating the Healthcare Enterprise) Scheduled Workflow 34.4.2.2 Use Case #2: Patient Update in which upstream systems (ADT / RIS) perform a patient update or merge. **Answer**: This is outside the scope of DICOM. It belongs to IHE or some other organization.
35	What imaging activities are affected by a discrepant observation, and how should those be handled prior to reconciliation (e.g. protocol selection, post processing, report content)? **Answer:** No longer relevant with balloted HL7 implementation guide.
36	In the cross-community scenario: 1. How to manage the case if one jurisdiction does not recognize the sex/gender attributes of another? 2. What impact will the patient name change have on the Master Patient Index weighting of search results? 3. Is this likely to require a manual merge of records? (see IHE ITI-30) **Answer**: This is outside the scope of DICOM. It belongs to IHE or some other organization.
37	A mix of upgraded and non-upgraded systems may result in a scenario in which one system, does not recognize sex attributes of the other. Priors are likely generated by non-upgraded systems. Search reliability may be negatively impacted when there is discrepant information (patient situation change, attributes within records have changed). How is this handled? Is there a need for DICOM changes to address this issue? **Answer**: The new attributes are Type 3, and the Type 3 rules are sufficient cover this.
38	How does the workflow change in an encounter-based activity? Consider direct in-person clinical care vs tele health? Does this result in changes to DICOM or the DICOM-HL7 mappings? **Answer:** This is not affected by Sex and Gender model, and thus need not be answered.
39	How to deal with the non-communicative patient? Does this affect DICOM? (This could introduce the HL7 notion of null flavors.) **Answer:** The new attributes are all Type 3, and the existing Type 3 rules apply.

40	Some machine-based algorithms are tuned based on patient age and sex at birth for the application of established reference values. How should sex at birth be handled? **Answer**: The HL7 recommendation for sex at birth is to employ valid period of SPCU, and that is the proposal for DICOM. (Note: this is for situations where sex at birth is clinically relevant. It is not for administrative uses.)
42	Should "name to use" be PN or LT VR? A patient may want to be referred to as "Anton Corbijn". DICOM PN does not specify which elements or subsets should be used for the name to use. Anton Corbijn's full name has the first name "Anton Johannes Gerrit" and the family name "Corbijn van Willenswaard". The desired name "Anton Corbijn" is not conveyed by the PN datatype. It is a subset of the first name plus a subset of the family name. In HL7 v2.8 the extended XPN had a 15th element "Called by" added as a text string element to convey this kind of name. FHIR uses a structure that is similar to XPN, so that both the text string form and the individual name components can be conveyed. HL7 v2.7 and earlier do not have the text string element. See HL7 v2.9 section 2A.3.90.15 Called By (ST) for more details. **Answer**: LT is chosen because PN does not specify which elements should be included, nor does it specify the order, and HL7v2 and FHIR have both chosen to use a text string.
43	In this HL7 Implementation Guide Use Case, a single ADT message is created to communicate the patient name change. Is the order of the repeating elements in PID-5 significant? Should there be one ADT message or two (i.e. one message to communicate the new name, a second message to flag the old name as "NOUSE")? **Answer:** This issue is related to the DICOM example in the HL7 Implementation Guide, and does not affect the DICOM standard or this supplement.
44	To what degree should the DICOM Patient Study support all the attributes and elements of the logical model? I.e., multiple historical values with dates for the various concepts. **Answer:** The RSG attribute is not proposed. The other attributes are included in the Patient Study Module and all of their elements and sub-attributes defined. All are optional.
45	Should we require an SPCU code (0010,xxx9) be present? Should this be optional in the sequence item? **Answer:** The proposed structure deals with the issue of unknown SPCU (and all the related null flavors) by 1. Defining only codes for known describable SPCUs, and 2. Requiring a comment or URI reference for patients with no SPCU code. (Comment and URI references are also permitted when an SPCU code is present.)
48	Does Sex Parameters for Clinical Use need to be added to templates that include Patient Sex? **Answer:** Only TID 1007 Subject Context, Patient is updated in this supplement. **Alternative 1:** Patient Sex in TID 1007 uses DCID 7455. DCID 7455 has been extended to include the additional codes for Sex Parameters for Clinical Use. Does this support for a single parameter eliminate the need to extend TID 1007 to support multiple parameters? (SPCU can be multi-valued, while Patient Sex in TID 1007 is single valued.) For example, TID 10033 Radiation Dose Estimate Methodology incorporates EV (128437, DCM, "Model Patient Sex"). Does this make the addition of Sex Parameters for Clinical Use

	unnecessary in that template?
49	Should we allow N-SET for the new attributes? **Answer: no** As with all other patient details these are managed upstream from the modality. The modality does not have standard defined mechanisms to update them.

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 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://confluence.hl7.org/download/attachments/91996069/HL7_GENDER_R1_I1_2021JAN.pdf) 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.

- HL7v2 adds segments, clarifies some existing elements like PID-8, and refers to the Implementation Guide in normative sections (see https://www.hl7.org/implement/standards/product_brief.cfm?product_id=516).
- CDA adds attributes, elements, and templates, clarifies some existing attributes, and refers to the Implementation Guide in normative sections (see https://www.hl7.org/implement/standards/product_brief.cfm?product_id=633).

- FHIR adds attributes, elements, codes, and extensions, clarifies some existing attributes, and refers to the Implementation Guide in normative sections (see https://hl7.org/xprod/ig/uv/gender-harmony/informative1/).

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
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.**
>Gender Code Sequence	**(0010,xxx4)**	**A coded gender identity.** **See also 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**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**
>Gender Comment	**(0010,xxx8)**	**Comments on this gender identity, such as the context in which it should be used.**

Sex Parameters for Clinical Use 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.**
>SPCU Code Sequence	**(0010,xxx9)**	**A coded SPCU.** **Only a single item shall be included in this Sequence.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		**DCID CIDxxx2 Sex Parameters for Clinical Use**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**
>SPCU Comment	**(0010,xxx1)**	**Further description of clinical implications and reasons for the selected code.**
>SPCU Reference	**(0010,xx10)**	**Reference to a resource that explains or extends the SPCU 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.**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**
>Name to Use Comment	**(0010,xx13)**	**Further explanation of appropriate name usage**
Third person pronoun 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.**

>Pronoun Code sequence	**(0010,xx22)**	**A pronoun set.** **Only a single item shall be included in this Sequence.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		**DCID CIDxxx4 Third Person Pronouns.**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**
>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
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.**
>Gender Code Sequence	**(0010,xxx4)**	**A coded gender identity.** **See also 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**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**

>Gender Comment	**(0010,xxx8)**	**Comments on this gender identity, such as the context in which it should be used.**
Sex Parameters for Clinical Use 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.**
>SPCU Code Sequence	**(0010,xxx9)**	**A coded SPCU.** **Only a single item shall be included in this Sequence.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		**DCID CIDxxx2 Sex Parameter for Clinical Use**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**
>SPCU Comment	**(0010,xxx1)**	**Further description of clinical implications and reasons for the selected code.**
>SPCU Reference	**(0010,xx10)**	**Reference to a resource that explains or extends the SPCU 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.**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**
>Name to Use Comment	**(0010,xx13)**	**Further explanation of appropriate name usage**
Third person pronoun 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.**

>Pronoun Code sequence	**(0010,xx22)**	**A pronoun set.** **Only a single item shall be included in this Sequence.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		**DCID CIDxxx4 Third Person Pronouns.**
>Effective Start DateTime	**(0010,xxx6)**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**The time at which the content of this sequence item ceases to be applicable.**
>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 DICOM Information Model section 7.3.1.1 requires the value of Patient's Sex (0010,0040) to be the same for all studies performed on the patient. If a patient sex change occurs, then the Patient's Sex (0010,0040) attribute may be updated in all SOP instances in all studies to reflect that change. The policies and mechanisms for such updates are outside the scope of DICOM. There are other sex and gender related attributes that are in the Patient Study Module (see C.7.2.2) for which this constraint does not apply because they are permitted to be different in different studies.

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 related to the Sex Parameters for Clinical

Use Sequence (0010,xxx2) and will often be used when the Sex Parameters for Clinical Use Sequence (0010,xxx2) is not present. It is often populated based on the PID-8 field in an HL7v2 message, and thus may follow the HL7v2 rules that defer the definition to the local administration.

Add to Normative References Section 2.4 Health Level Seven (HL7)

[HL 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 (see HL7 Ballot versions).

[HL7 CDA R?] 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/xprod/ig/uv/gender-harmony/informative1/).

[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/informative1/)

For reviewers:

The HL7 Informative Document: Gender Harmony - Modeling Sex and Gender Representation, Release 1 provides additional background on sex and gender related concepts used.

HL7v2 adds segments, clarifies some existing elements like PID-8, and refers to the Implementation Guide in normative sections.

HL7 CDA adds attributes, elements, and templates, clarifies some existing attributes, and refers to the Implementation Guide in normative sections.

HL7 FHIR adds attributes, elements, codes, and extensions, clarifies some existing attributes, and refers to the Implementation Guide in normative sections.

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 that provide information about the Patient at the time the Study started.

Note: In the case of imaging a group of small animals simultaneously, the Attributes in this Module can only have values that apply to the entire group.

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

Attribute Name	Tag	Type	Attribute Description
…			
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.**
>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 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 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.**
>SPCU Category Code Sequence	**(0010,xxx9)**	**1**	**A coded SPCU.** **Only a single item shall be included in this Sequence.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"			**DCID CIDxxx2 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.**
>Effective Stop DateTime	**(0010,xxx7)**	**3**	**The time at which the content of this sequence item ceases to be applicable.**
>SPCU Comment	**(0010,xxx1)**	**3**	**Further description of clinical implications and reasons for the SPCU Category code.**

>SPCU Reference	**(0010,xx10)**	**3**	**Reference to a resource that explains or extends the SPCU Category code.**
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.**
>Effective Stop DateTime	**(0010,xxx7)**	**3**	**The time at which the content of this sequence item ceases to be applicable.**
>Name to Use Comment	**(0010,xx13)**	**3**	**Further explanation of appropriate name usage**
Third Person Pronoun 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.**
>Pronoun Code Sequence	**(0010,xx22)**	**1**	**A pronoun set.** **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 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 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

115 **C.7.2.2.1.alpha Sex and Gender related attributes**

116 The HL7 Informative Document: Gender Harmony - Modeling Sex and Gender Representation, Release 1
117 provides the fuller definition of the concepts encoded in these Attributes.

118 Note: 1. HL7v2 adds segments, clarifies some existing elements like PID-8, and refers to the Implementation
119 Guide in normative sections (see HL7 ballot version).

120 2. CDA adds attributes, elements, and templates, clarifies some existing attributes, and refers to the
121 Implementation Guide in normative sections (see
122 https://www.hl7.org/implement/standards/product_brief.cfm?product_id=633).

123 FHIR adds attributes, elements, codes, and extensions, clarifies some existing attributes, and refers to
124 the Implementation Guide in normative sections (see https://hl7.org/xprod/ig/uv/gender-
125 harmony/informative1/).

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

129

130 **C.7.2.2.1.beta Gender Identity Sequence**

131 Gender Identity describes the identity of the person. This is important in many social and cultural
132 contexts. It might be missing, as for an infant, or multi-valued in some cultures and specific situations. The
133 meaning, criteria, and implications of specific gender identities is defined by the local culture and society.
134 The terms used to capture gender identity are expected to reflect the variations found in different cultures
135 and locations, so only a minimum value set is defined in the logical model. Local terminology is expected
136 to extend this value set.

137 If the Person (such as a fetus, infant, or uncommunicative new patient) is unable to express a personal
138 sense of being a man, woman, boy, girl or any point on the gender spectrum, gender identity may be
139 missing. The sequence may be absent in cases where parents do not want to specify a value. Gender
140 identity can be congruent or incongruent with one's Sex Parameters for Clinical Use (SPCU). Persons
141 may identify using different terms at different times for various reasons, or use multiple identities
142 simultaneously, depending on culture.

143 Given that the gender identity element supports representing multiple gender identities, individuals who
144 identify as having both Male and Female gender identities (or any other combination) at the same time,
145 each gender identity can be modeled with the same effective period. Alternatively, if implementers and/or
146 systems prefer to use a single code, the gender identity value set is expected to be used as a minimum
147 value set that can be extended to meet jurisdictional requirements.

148 **C.7.2.2.1.gamma Sex Parameters for Clinical Use Sequence**

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

154 There are many other situations involving tumors, resections, congenital conditions (i.e., ovotestes), and
155 transgender patients where SPCU can be used to provide information that is needed to perform a
156 procedure properly.

157

158 **C.7.2.2.1.delta Person Names to Use Sequence**

159 The Name to Use Sequence (0010,xxx3) enables the name that is chosen by the person to be used by
160 care providers in person-centered healthcare conversations. This name is distinct from a person's legal
161 name. Some cultures have very long names, and expect that for all but mandatory legal situations, the

person will use a shorter more manageable name. Also, rules and processes for legal name changes vary, there is often a mismatch that can be prolonged in difficult situations, and Name to Use may be an expedient solution for the care environment.

This information is usually provided by the patient.

Note: The Value Representation of this attribute 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 Pronoun 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 affirming health care. 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 used. Local policy will determine how pronouns are chosen for infants and other similar situations. Policy and local custom 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 and Effective Stop DateTime

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.

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 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,xxx7) at about the date of orchiectomy and Effective Stop DateTime (0010,xxx7) is absent.

The effective times of Sex Parameters for Clinical Use Sequence (0010,xxx2) and Gender Identity Sequence (0010xxxx) items can be different.

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).

199 **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**
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.**
>Gender 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**
>Effective Start DateTime	**(0010,xxx6)**	**3**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**3**	**The time at which the content of this sequence item ceases to be applicable.**
>Gender Comment	**(0010,xxx8)**	**3**	**Comments on this gender identity, such as the context in which it should be used.**
Sex Parameters for Clinical Use 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.**
>SPCU Code Sequence	**(0010,xxx9)**	**1**	**A coded SPCU.** **Only a single item shall be included in this Sequence.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"			**DCID CIDxxx2 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.**

>Effective Stop DateTime	**(0010,xxx7)**	**3**	**The time at which the content of this sequence item ceases to be applicable.**
>SPCU Comment	**(0010,xxx1)**	**3**	**Further description of clinical implications and reasons for the selected code.**
>SPCU Reference	**(0010,xx10)**	**3**	**Reference to a resource that explains or extends the SPCU Category code.**
Person Names to Use Sequence	**(0010,xxx3)**	**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.**
>Name to use	**(0010,xx12)**	**1**	**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.**
>Effective Start DateTime	**(0010,xxx6)**	**3**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**3**	**The time at which the content of this sequence item ceases to be applicable.**
>Name to Use Comment	**(0010,xx13)**	**3**	**Further explanation of appropriate name usage**
Third person pronoun Sequence	**(0010,xx21)**	**3**	**Pronoun(s) to be used for this person** **One or more items are permitted in this sequence.**
>Pronoun Code sequence	**(0010,xx22)**	**1**	**A pronoun set.** **Only a single item shall be included in this Sequence.**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"			**DCID CIDxxx4 Third Person Pronouns.**
>Effective Start DateTime	**(0010,xxx6)**	**3**	**The time at which the content of this sequence item begins to be applicable.**
>Effective Stop DateTime	**(0010,xxx7)**	**3**	**The time at which the content of this sequence item ceases to be applicable.**
>Pronoun Comment	**(0010,xx23)**	**3**	**Further explanation of pronoun usage**
…			

200

201 **Part 4**

202

C.6.1 Patient Root SOP Class Group

…

Note: Require/Optional on matching keys is whether the SCP is required to support or not. It's not about contents, presence, etc. The SCU is not required to send a required key for matching, and the objects are not required to contain the attribute to match. This is covered elsewhere in Part 4.

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

Attribute Name	Tag	Type
Study Date	(0008,0020)	R
Study Time	(0008,0030)	R
Accession Number	(0008,0050)	R
Study ID	(0020,0010)	R
Study Instance UID	(0020,000D)	U
Modalities in Study	(0008,0061)	O
SOP Classes in Study	(0008,0062)	O
Anatomic Regions in Study Code Sequence	(0008,0063)	O
Referring Physician's Name	(0008,0090)	O
Study Description	(0008,1030)	O
Procedure Code Sequence	(0008,1032)	O
Name of Physician(s) Reading Study	(0008,1060)	O
Admitting Diagnoses Description	(0008,1080)	O
Referenced Study Sequence	(0008,1110)	O
>Referenced SOP Class UID	(0008,1150)	O
>Referenced SOP	(0008,1155)	O

Attribute Name	Tag	Type
Instance UID		
Patient's Age	(0010,1010)	O
Patient's Size	(0010,1020)	O
Patient's Weight	(0010,1030)	O
Occupation	(0010,2180)	O
Additional Patient History	(0010,21B0)	O
Other Study Numbers	(0020,1070)	O
Study Update DateTime	(0008,041F)	O
Gender Identity Sequence	**(0010,xxxx)**	**O**
>Gender Code Sequence	**(0010,xxx4)**	**O**
>Effective Start DateTime	**(0010,xxx6)**	**O**
>Effective Stop DateTime	**(0010,xxx7)**	**O**
>Gender Comment	**(0010,xxx8)**	**O**
Sex Parameters for Clinical Use Sequence	**(0010,xxx2)**	**O**
>SPCU 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**
>SPCU Comment	**(0010,xxx1)**	**O**
>SPCU 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	**(0010,xx21)**	**O**

Attribute Name	Tag	Type
Pronouns Sequence		
>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
Study Date	(0008,0020)	R
Study Time	(0008,0030)	R
Accession Number	(0008,0050)	R
Patient's Name	(0010,0010)	R
Patient ID	(0010,0020)	R
Study ID	(0020,0010)	R
Study Instance UID	(0020,000D)	U
Modalities in Study	(0008,0061)	O
SOP Classes in Study	(0008,0062)	O
Anatomic Regions in Study Code Sequence	(0008,0063)	O
Referring Physician's Name	(0008,0090)	O
Study Description	(0008,1030)	O
Procedure Code Sequence	(0008,1032)	O
Name of Physician(s) Reading Study	(0008,1060)	O
Admitting Diagnoses	(0008,1080)	O

Attribute Name	Tag	Type
Description		
Referenced Study Sequence	(0008,1110)	O
>Referenced SOP Class UID	(0008,1150)	O
>Referenced SOP Instance UID	(0008,1155)	O
Referenced Patient Sequence	(0008,1120)	O
>Referenced SOP Class UID	(0008,1150)	O
>Referenced SOP Instance UID	(0008,1155)	O
Issuer of Patient ID	(0010,0021)	O
Patient's Birth Date	(0010,0030)	O
Patient's Birth Time	(0010,0032)	O
Patient's Sex	(0010,0040)	O
Gender Identity Sequence	**(0010,xxxx)**	**O**
>Gender 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 Comment	**(0010,xxx8)**	**O**
Sex Parameters for Clinical Use Sequence	**(0010,xxx2)**	**O**
>SPCU Code Sequence	**(0010,xxx9)**	**O**
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"		
>Effective Start	**(0010,xxx6)**	**O**

Attribute Name	Tag	Type
DateTime		
>Effective Stop DateTime	**(0010,xxx7)**	**O**
>SPCU Comment	**(0010,xxx1)**	**O**
>SPCU 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
Other Patient Names	(0010,1001)	O
Patient's Age	(0010,1010)	O
Patient's Size	(0010,1020)	O
Patient's Weight	(0010,1030)	O
Ethnic Group	(0010,2160)	O
Occupation	(0010,2180)	O

Attribute Name	Tag	Type
Additional Patient History	(0010,21B0)	O
Patient Comments	(0010,4000)	O
All other Attributes at Study Level	Tag	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)
…				
Patient's Sex	(0010,0040)	2/2	Not Allowed	
Gender Identity Sequence	**(0010,xxxx)**	**3/3**	**Not Allowed**	
>Gender Code Sequence	**(0010,xxx4)**	**1/1**	**Not Allowed**	
>>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**	**Not Allowed**	
>Effective Stop DateTime	**(0010,xxx7)**	**3/3**	**Not Allowed**	
>Gender Comment	**(0010,xxx8)**	**3/3**	**Not Allowed**	

Sex Parameters for Clinical Use Sequence	**(0010,xxx2)**	**3/3**	**Not Allowed**	
>SPCU Code Sequence	**(0010,xxx9)**	**3/3**	**Not Allowed**	
>>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**	**Not Allowed**	
>Effective Stop DateTime	**(0010,xxx7)**	**3/3**	**Not Allowed**	
>SPCU Comment	**(0010,xxx1)**	**3/3**	**Not Allowed**	
>SPCU Reference	**(0010,xx10)**	**3/3**	**Not Allowed**	
Person Names to Use Sequence	**(0010,xxx3)**	**3/3**	**Not Allowed**	
>Name to use	**(0010,xx12)**	**1/1**	**Not Allowed**	
>Effective Start DateTime	**(0010,xxx6)**	**3/3**	**Not Allowed**	
>Effective Stop DateTime	**(0010,xxx7)**	**3/3**	**Not Allowed**	
>Name to Use Comment	**(0010,xx13)**	**3/3**	**Not Allowed**	
Third Person Pronouns Sequence	**(0010,xx21)**	**3/3**	**Not Allowed**	
>Pronoun Code sequence	**(0010,xx22)**	**1/1**	**Not Allowed**	
>> 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**	**Not Allowed**	
>Effective Stop DateTime	**(0010,xxx7)**	**3/3**	**Not Allowed**	
>Pronoun Comment	**(0010,xx23)**	**3/3**	**Not Allowed**	

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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 Code Sequence	**(0010,xxx4)**	**1/1**
>>Include Table 8-2a. "Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning"		
>Effective Start DateTime	**(0010,xxx6)**	**3/3**
>Effective Stop DateTime	**(0010,xxx7)**	**3/3**
>Gender Comment	**(0010,xxx8)**	**3/3**
Sex Parameters for Clinical Use Sequence	**(0010,xxx2)**	**3/3**
>SPCU Code Sequence	**(0010,xxx9)**	**1/1**
>>Include Table 8-2a. "Enhanced Coded Entry Macro with Optional Matching Key Support and Optional Meaning"		
>Effective Start DateTime	**(0010,xxx6)**	**3/3**
>Effective Stop DateTime	**(0010,xxx7)**	**3/3**
>SPCU Comment	**(0010,xxx1)**	**3/3**
>SPCU Reference	**(0010,xx10)**	**3/3**
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	**(0010,xx12)**	**3/3**
Third Person Pronouns Sequence	**(0010,xx21)**	**3/3**
>Pronoun Code Sequence	**(0010,xx22)**	**1/1**
>>Include Table 8.8-1 "Code Sequence Macro Attributes"		
>Effective Start DateTime	**(0010,xxx6)**	**3/3**
>Effective Stop DateTime	**(0010,xxx7)**	**3/3**
>Pronoun Comment	**(0010,xx23)**	**3/3**

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 Code Sequence	**(0010,xxx4)**	**O**	**1**	
>>Include Table C.8-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	

>Gender Comment	**(0010,xxx8)**	**O**	**2**	
SPCU	**(0010,xxx9)**	**O**	**3**	
>SPCU Code Sequence	**(0010,xxx9)**	**O**	**1**	
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>SPCU Comment	**(0010,xxx1)**	**O**	**2**	
>SPCU Reference	**(0010,xx10)**	**O**	**2**	
Person Names to Use Sequence	**(0010,xxx3)**	**O**	**3**	
>Name to use	**(0010,xx12)**	**O**	**1**	
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>Name to Use Comment	**(0010,xx13)**	**O**	**2**	
Third Person Pronouns Sequence	**(0010,xx21)**	**O**	**3**	
>Pronoun Code sequence	**(0010,xx22)**	**O**	**1**	
>> Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>Pronoun Comment	**(0010,xx23)**	**O**	**2**	
…				

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

245 **Q.4.3 Relevant Patient Information Model SOP Classes**

246 …

247 **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 Code Sequence	**(0010,xxx4)**	**O**	**1**	
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>Gender Comment	**(0010,xxx8)**	**O**	**2**	
Sex Parameters for Clinical Use Sequence	**(0010,xxx2)**	**O**	**3**	
>SPCU Code Sequence	**(0010,xxx9)**	**O**	**1**	
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>SPCU Comment	**(0010,xxx1)**	**O**	**2**	
>SPCU Reference	**(0010,xx10)**	**O**	**2**	
Person Names to Use Sequence	**(0010,xxx3)**	**O**	**3**	
>Name to use	**(0010,xx12)**	**O**	**1**	
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop	**(0010,xxx7)**	**O**	**2**	

DateTime				
>Name to Use Comment	**(0010,xx13)**	**O**	**2**	
Third Person Pronouns Sequence	**(0010,xx21)**	**O**	**3**	
>Pronoun Code Sequence	**(0010,xx22)**	**O**	**1**	
>> Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>Pronoun Comment	**(0010,xx23)**	**O**	**2**	
…				

248

249

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

251 **V.6.2 Substance Approval Query SOP Class**

252 …

253 **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 Code Sequence	**(0010,xxx4)**	**O**	**1**	
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>Gender Comment	**(0010,xxx8)**	**O**	**2**	

Sex Parameters for Clinical Use Sequence	**(0010,xxx2)**	**O**	**3**	
>SPCU Code Sequence	**(0010,xxx9)**	**O**	**1**	
>>Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>SPCU Comment	**(0010,xxx1)**	**O**	**2**	
>SPCU Reference	**(0010,xx10)**	**O**	**2**	
Person Names to Use Sequence	**(0010,xxx3)**	**O**	**3**	
>Name to use	**(0010,xx12)**	**O**	**1**	
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>Name to Use Comment	**(0010,xx13)**	**O**	**2**	
Third Person Pronouns Sequence	**(0010,xx21)**	**O**	**3**	
>Pronoun Code Sequence	**(0010,xx22)**	**O**	**1**	
>> Include Table C.6-2a "Enhanced Code Value Keys Macro with Optional Keys"				
>Effective Start DateTime	**(0010,xxx6)**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**O**	**2**	
>Pronoun Comment	**(0010,xx23)**	**O**	**2**	
…				

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

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

257 …

258 **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**	**Not Allowed**	**O**	**3/3**	**O**	**3**	
>Gender Code Sequence	**(0010,xxx4)**	**1/1**	**Not Allowed**	**O**	**1/1**	**O**	**1**	
>>Include CC.2.5-2a. "UPS Code Sequence Macro"								
>Effective Start DateTime	**(0010,xxx6)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
>Gender Comment	**(0010,xxx8)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
Sex Parameters for Clinical Use Sequence	**(0010,xxx2)**	**3/3**	**Not Allowed**	**O**	**3/3**	**O**	**3**	
>SPCU Code Sequence	**(0010,xxx9)**	**1/1**	**Not Allowed**	**O**	**3/3**	**O**	**1**	
>>Include CC.2.5-2a. "UPS Code Sequence Macro"								
>Effective Start DateTime	**(0010,xxx6)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	

>Effective Stop DateTime	**(0010,xxx7)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
>SPCU Comment	**(0010,xxx1)**	**3/3**	**Not Allowed**	**O**	**3/3**	**O**	**2**	
>SPCU Reference	**(0010,xx10)**	**3/3**	**Not Allowed**	**O**	**3/3**	**O**	**2**	
Person Names to Use Sequence	**(0010,xxx3)**	**3/3**	**Not Allowed**	**O**	**3/3**	**O**	**3**	
>Name to use	**(0010,xx12)**	**1/1**	**Not Allowed**	**O**	**1/1**	**O**	**1**	
>Effective Start DateTime	**(0010,xxx6)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
>Name to Use Comment	**(0010,xx13)**	**3/3**	**Not Allowed**	**O**	**3/3**	**O**	**2**	
Third Person Pronouns Sequence	**(0010,xx21)**	**3/3**	**Not Allowed**	**O**	**3/3**	**O**	**3**	
>Pronoun Code sequence	**(0010,xx22)**	**1/1**	**Not Allowed**	**O**	**1/1**	**O**	**1**	
>>Include CC.2.5-2a. "UPS Code Sequence Macro"								
>Effective Start DateTime	**(0010,xxx6)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
>Effective Stop DateTime	**(0010,xxx7)**	**1C/1C**	**Not Allowed**	**O**	**1C/1C**	**O**	**2**	
>Pronoun Comment	**(0010,xx23)**	**3/3**	**Not Allowed**	**O**	**3/3**	**O**	**2**	

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		SQ	1
(0010,xxx1)	SPCU Comment		UT	1
(0010,xxx2)	Sex Parameters for Clinical Use Sequence		SQ	1
(0010,xxx3)	Patient Name to Use Sequence		SQ	1
(0010,xxx4)	Gender Code Sequence		SQ	1
(0010,xxx6)	Effective Start DateTime		DT	1
(0010,xxx7)	Effective Stop DateTime		DT	1
(0010,xxx8)	Gender Comment		UT	1
(0010,xxx9)	SPCU Code Sequence		SQ	1
(0010,xx10)	SPCU Reference		URI	1..n
(0010,xx11)	Patient Name to Use		LT	1
(0010,xx13)	Name to Use Comment		UT	1
(0010,xx21)	Third Person Pronouns Sequence		SQ	1
(0010,xx22)	Pronoun Code Sequence		SQ	1
(0010,xx23)	Pronoun Comment		UT	1
(0010,xxx3)	Person Names to Use Sequence			

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 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, xxxx)**	**N**	**Y**	**X**										
Sex Parameters for Clinical Use Sequence	**(0010, xxx2)**	**N**	**Y**	**X**					**K**					
Person Names to Use Sequence	**(0010, xx12)**	**N**	**Y**	**X**										
Third	**(0010,**	**N**	**Y**	**X**										

Person Pronoun Sequence	**xx21)**													
Effective Start DateTime	**(0010, xxx6)**	**N**	**Y**	**X**						**K**	**C**			
Effective Stop DateTime	**(0010, xxx7)**	**N**	**Y**	**X**						**K**	**C**			
SPCU 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**		

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

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	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 Sequence (0010,xxx2) of the Patient Module.** **DCID CIDxxx2. Sex Parameters for Clinical Use**
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
…								

295

296

297 ***Update CID 7455 Sex***

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

Type: Non-Extensible

Version: 20040112

UID: 1.2.840.10008.6.1.519

Table CID 7455. Sex

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 ~~**Pseudohermaphtodite**~~ **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
DCM	**Sup233-01**	**Female-typical**	**F**
DCM	**Sup233-02**	**Male-typical**	**M**
DCM	**Sup233-03**	**Specified**	

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**

Type: **Extensible**

Version: **202xmmdd**

UID: **1.2.840.TBD**

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 Sex Parameters for Clinical Use

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

Type: **Non-Extensible**

Version: **202xmmdd**

UID: **1.2.840.TBD**

Table CID CIDxxx2. 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**

Type: **Extensible**

Version: **202xmmdd**

UID: **1.2.840.TBD**

Table CID CIDxxx4. Third Person Pronoun Sets

Coding Scheme Designator	Code Value	Code Meaning
LOINC	LA29518-0	He/him/his/his/himself

LOINC	LA29519-8	She/her/her/hers/herself
LOINC	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 SPCU 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
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
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. The terms "Other" or "Complex" may be considered synonyms of "Specified".	This code and definition taken from https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html
Sup233-04	Subject Sex Parameters for Clinical Use	Sex Parameters for Clinical Use of patient who is the subject of these observations.	See https://terminology.hl7.org/ValueSet-sex-parameter-for-clinical-use.html

354

355 ***Add annex with use case and examples to Part 17***

356

357 # Part 17

358 # Annex XX Sex and Gender Examples

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

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

362 • The Gender Identity Sequence (0010,xxxx), which contains the patient's chosen gender
363 identity. This sequence may record multiple identities. This may capture a history of past
364 identities, or it may reflect social choices. During transition a patient might choose to publicly
365 use one identity but privately use another.
366 • The Sex Parameters for Clinical Use Sequence (0010,xxx2), which contains codes to
367 describe sex-related parameter choices. Most often patients will have the "female-typical" or
368 "male-typical" characteristic. This means that the typical normal reference ranges, alert
369 limits, drug and hormone reactions, body fat characteristics, lean body mass algorithms, etc.
370 apply. But there may be comments or references to indicate that specific typical parameters
371 should not be used. For example, a cardiology exam might be ordered with an SPCU code
372 of "male-typical" and the SPCU comment "Hormonal treatment, use gender identity
373 Creatinine reference ranges". This could also reflect tumors affecting hormone levels that will
374 change appropriate normal ranges or algorithm selection.
375 • The Person Names to Use Sequence (0010,xxx3) holds the names that the patient wants
376 used during conversation or in instructions. These names may reflect social status, rank,
377 name changes, formal vs informal names, personal identity, etc. It is present so that staff can
378 begin a conversation without unnecessarily disturbing the patient. "Herr Doktor Professor
379 Schmidt" may be very sensitive about getting the full list of titles right, or "Captain Smith" may
380 become angry if addressed as "Joan". Recent name changes might not yet be legally
381 complete, but using the old name can cause serious distress.
382 • The Third Person Pronoun Code Sequence (0010,xx21) lists the pronouns wants used in
383 instructions given in writing or to care givers. In direct conversation the third person is rarely
384 used.

385

386 All of these attributes are optional, all are multivalued, and all may be extended with local codes and
387 guidance. The DICOM standard only specifies the baseline value sets for Gender, SPCU, and Third
388 Person Pronouns. Local extensions for local usage should be expected.

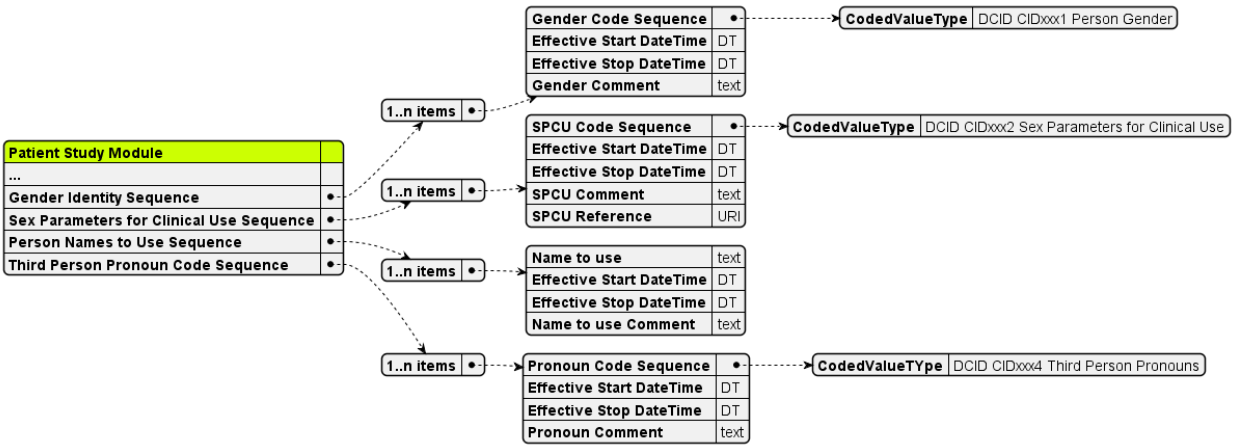

Figure XX.1-1 Sex and Gender Attributes added to Patient Study Module

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 VNAs.

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 Sequence (0010,xxx2)
- Person Names to Use Sequence (0010,xxx3)
- Third Person Pronoun Sequence (0010,xx22)

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 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 (0001,xxx2).

Individual observations, analyses, etc. may have a different subject context information. 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 (0001,xxx2). An acquisition process or analysis that was performed using a different Sex Parameters for Clinical Use can be indicated within the template. For example, 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.

XX.4 Example of HL7/DICOM interactions

XX.4.1 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.

The HL7 Use Cases (link TBD) are similar, but differ in detail from this use case. This reflects the difference in workflow focus.

XX.4.1.1 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 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.)

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
```

462

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

464 **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 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 Sequence	(0010,xxx2)	SQ	
n/a		*Begin item*			
GSC-4	Sex Parameter for Clinical Use	>SPCU 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	>SPCU 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	>SPCU 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	>SPCU 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.5 Examples of Name to Use

Person names are culturally and administratively complex. DICOM often uses names to identify the subject of a SOP Instance, and DICOM often uses names as part of queries to find SOP Instances. DICOM does make some assumptions about likely aspects of naming, but expects that external policies and procedures are used to determine the proper name to use for a patient. The name to be used in conversation might not be the same as the Patient's Name (0010,0010) used in the SOP Instances.

DICOM applications expect to be provided the name or names to be used as part of a modality worklist, report, or other SOP instance. There may be several kinds of names.

The DICOM name attributes related to a patient are:

Patient's Name (0010,0010) – a single name at patient level that is required to be supported in many C-FIND services. This is usually coordinated with the other hospital systems to be a primary name for finding records for the patient. This name must be the same for all SOP Instances for that patient when in a Patient Root query model. When using a Study Root query model these are allowed to change from study to study, but they must be the same for all instances in a single study.

A Patient's Name (0010,0010) may change, but this must be done systematically and consistently to preserve the Patient Root and Study Root query requirements.

Other Patient Names (0010,1001) – optional other names at patient level for the patient. These names must be the same for all SOP Instances for that patient when in a Patient Root query model. When using a Study Root query model these are allowed to change from study to study, but they must be the same for all SOP Instances in a single study.

Other Patient Names (0010,1001) may change, but this must be done systematically and consistently to preserve the Patient Root and Study Root query requirements.

Person Names to Use Sequence (0010,xxx3) – optional other names at study level for the patient. These names are allowed to change from study to study in both Patient Root and Study Root query models, but they must be the same for all SOP Instances in a single study.

A history of past names may be held in this attribute by making use of the applicability dates. When the patient may be known by multiple names, that information can be held in this attribute.

A patient's name might change for a variety of reasons:

1. The patient's name was not known prior to performing the study, so a temporary pseudonym is assigned. Later, when the patient is identified, the pseudonym is replaced by the patient's correct name.
2. The patient gets married, divorced, adopted, or some other social event takes place that results in a name change.
    - This might result in a change to their official registered name, or
    - This might not change their official registered name.
3. The patient has had gender reassignment and associated name change.

In some unusual circumstances there are differences between official registered names in different jurisdictions for the same person at the same time.

When using a Patient Root model for storage and query of SOP Instances, there will need to be a local policy for how to handle changes to the Patient's Name (0010,0010) or Other Patient Names (0010,1001). This may require modification of many SOP Instances to preserve the restriction that these have the same value for all SOP Instances for that patient, as well as maintaining consistency with Modified Attributes Sequence (0400,0550).

There are also a wide variety of kinds of names. 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. For example, 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.

The mapping between DICOM and other communications protocols is not specified by DICOM. 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||19780328000000|M|`
2. `PID|||patientID^^^^MR||Corbijn van Willenswaard^Anton Johannes Gerrit^^^^^L^^^^^^^^^^Anton Corbijn||19780328000000|M|`
3. `PID|||patientID^^^^MR||Corbijn van Willenswaard^Anton Johannes Gerrit^^^^^L~Corbijn^Anton^^^^^N||19780328000000|M|`
4. `PID|||patientID^^^^MR||Corbijn^Anton^^^^^N||19780328000000|M|`
5. `PID|||patientID^^^^MR||Corbijn^Anton^^^^^L||19780328000000|M|` (this is incorrect, but it is a common mistake)

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

"Anton Corbijn"

The Name to Use (0010,xx12) cannot be determined from encodings 3, 4, and 5. It could be provided based on other information or could be missing.