Welcome and Apologies

JCA welcomed the participants to the inaugural meeting of the SNOMED CT Editorial Advisory Group. There would only be one single session and there was a long agenda, he said. There was a round of introductions.

Conflicts of Interest

GRE said he was an IHTSDO contractor.

Review the Terms of Reference

JCA noted the purpose of the group: “...provide IHTSDO with advice and guidance on issues related to editorial policy.” He went through more details of the ToR and noted that it could be amended and was open to comment.

Pre-coordination of Laterality

JCA talked through his slide deck. First slide, “History of laterality”:

- Documented as “Temporarily not allowed” since 2011
- Existing pre-condition artifact: art223747
- “Concepts with pre-coordinated laterality may be regarded as excessive pre-coordination. With rare exceptions, it should be possible to make the recording of laterality part of the electronic health record, with record architecture elements to record, store, transmit, receive and analyze.
- “Post-coordination is further supported with the Revision of the anatomy hierarchy, which as developed (draft) refset indicating those anatomical codes for which lateralization is sensible. This makes pre-coordination even less necessary in the findings/disorders and procedures.”

Slide on “Laterality challenges”:

- Many existing EHR systems do not have the ability to store laterality as a model element.
• Many large EHR systems do not have the capability of managing post-coordinated expressions.
• The proposed refset of anatomical structures that can be lateralized is not readily available.
• There is a substantial amount of lateralized content existing in SNOMED CT, users see precedence for adding it.
• A large number of “bilateral” content requests have been received that cannot be adequately modeled.

On the third bullet point above, Yongsheng Gao said it was part of the anatomy redesign project; IHTSDO was working with the University of Washington on the laterality refset. GRE said the refset could be in the January 2016 release, but if so, then they needed to decide that in the next day or two in order to get the metadata into the release.

Slide on “Laterality discussion”:

• Should the restriction on the addition of lateralized content to the International release be reconsidered?
• If so, which option to add laterality-based content should be adopted?
• Options – Abstracted from art 6188 – Bilateral clinical findings and disorder concepts
  - Option 1 – Nested role groups
  - Option 2 – Pre-coordinate laterality with anatomic structure
  - Option 3 – Use additional finding site with ‘left /right side of body’

KCA said he thought they should relax the restriction on content, but there would be some costs. He proposed that the AG state that it did not believe it was good practice and that it work on developing a refset or a module as a way for pre-coordinated laterality content to fit outside of what the AG would recommend as best practice. People with a system that has post-coordination would not have to import all of that and deal with it.

JCA said a topic raised in a session earlier in the day had focused on modularization of SNOMED, to take content that is relevant to some domains but not to impose it. So KCA’s proposal could be looked at in that light.

GRE said Option 1 is not feasible for the next couple of years or so. Option 2 is extreme and controversial but would resolve some of the issues. Option 3 is not elegant because it would flatten the nesting in some ways, although it would preserve the logical inferences. He wondered whether Option 2 had been tested. He said there could be a risk of having lateralized structures with no children or no subtypes. He said he liked Option 3, but there would need to be testing.

JCA asked if all the Advisors agreed that the AG would recommend to relax the restriction on laterality? They all agreed.

Decision 1 The AG members recommended that the restrictions on laterality be relaxed.

JCA asked if the AG members felt that it should be a universal relaxation, meaning IHTSDO would put into the Content Roadmap the identification of all concepts that have lateralizable clinical findings and then go in an add left and right for everything in advance, or should the content be added upon request?

Linda Parisien noted that Canada had many lateralized concepts for diagnostic imaging, bilateral as well, so lateralization is not only relevant to clinical findings but to procedures as well. JCA agreed that anything that has lateralized anatomy associated with it would be affected by.

Doris (?) said that she had a curated list that she could give to JCA that would help to determine easily whether something is bilateral. JCA suggested she forward it to YSG.

KCA made a motion for the AG to recommend that, regardless of the laterality model, IHTSDO not go ahead and proactively pre-coordinate every laterality and instead wait until a request or an identification a
priority. BGO seconded the motion. JCA called a vote. There were no objections or abstentions.

**Decision 2** The AG members advised that IHTSDO should add lateralized concepts as needed and not proactively pre-coordinate every laterality.

JCA said they still need to decide on which option. Option 1 involved nesting. Option 2 was what was currently in use when creating lateralized structures. JCA said RF2 could not, at that time, support Option 1, and it would involve a substantial change to the infrastructure. It would probably be a decade or more before IHTSDO could implement it.

Slide on “Pros and cons: Option 1”

- **Pros**
  - Eliminates the need for explosion of lateralized anatomic structures
  - Introduction of nesting addresses many other modeling issues
- **Cons**
  - Requires nesting – not currently supported by tooling or release file structure
  - Requires changes to MRCM to restrict anatomy to only those structures that are actually “lateralizable”

KCA recommended that IHTSDO adopt the Option 1 model in the future, when it is able to support nesting, and until that time, it would choose a pragmatic secondary solution in order to support implementers. He said it would be putting the AG members on record as thinking that nesting is necessary, but it would not commit IHTSDO to do anything until it is ready.

GRE that he thought they could all agree that in the future, when SNOMED could support nesting, it would be more elegant and a better solution because there were many more use cases that required nesting. This particular use case, he said, could potentially be solved by options 2 or 3. He said he did not think an explicit statement about nesting in the future was necessary, but if KCA wanted to turn it into a motion, he was happy to second it.

KCA said so moved: for the record, the SNOMED CT Editorial AG members believe that SNOMED would need nesting in order to properly model content, potentially including laterality, but until such a time as the IHTSDO is ready, the AG members would recommend seeking alternative models.

JCA clarified that Option 1 would off the table for this discussion. KCA confirmed: for this discussion. It would not be off the table permanently, but they would be putting in a place holder rather than continuing to kick the can down the road.

GRE seconded the motion.

There were no objections or abstentions.

JCA says “we are on record” that we will seek to support nesting at some point in the future when IHTSDO is ready.

**Decision 3** The AG members agreed that SNOMED would need nesting in the future in order to properly model content, potentially including laterality, but until such a time as the IHTSDO is ready, the AG members recommended seeking alternative models.
JCA moved on to Option 2 of lateralized anatomic structure. This option would involve the creation of lateralized body structures for everything that could be lateralized. Slide:

Option 2: Lateralized anatomic structure

Slide showing Pros and cons: Option 2:

- **Pros**
  - Simplifies modeling to a single un-nested role group
  - Ensures that ONLY “lateralizable” anatomic structures are available for use
  - Allows for retirement of multiple abstract anatomical concepts related to “bi-laterality”

- **Cons**
  - Requires creation of a large number of lateralized anatomic structures.

JCA said it would require 20 to 25 thousand concepts to be created. He then presented Option 3

Third option: Additional finding site, another unnested role group that

Slide showing Pros and cons of Option 3 (Use additional finding site with “left/right side of body”):

- **Pros**
  - Flattens the laterality model (no nesting needed)
  - Close to “user-form”
  - Does not require any changes to the concept model
  - Does not require the creation of new anatomic structure concepts
  - Is “consistent” with the post-coordination expression syntax
  - Has precedence in current content (i.e. refinement of finding site on fully defined concepts)

- **Cons**
  - Can only be used when all associated role groups are related to the same side of the body (99.99%?)

GRE raised the idea of there being an Option 4. He said it was essentially the same idea as Option 3 but it would be implemented with a new attribute like “has laterality” that users could add to the same role group instead of having it outside the same role group. This solution could also be used in procedures, specimens and many other places other than structures. By adding a new attribute like “has laterality” (or maybe a better name) to the same role group, then you could avoid the cons, be more consistent, and offer a solution that is more intuitive to users.

JCA said he liked that idea and it had some advantages, including there already being an unapproved attribute in the hierarchy that could just be made active. There would not be a huge impact.

Responding to a question from Michael Osborne, JCA explained that current editorial policy did not allow two attributes to be in the same role group. That was why the name would have to be changed, but, he conjectured, if “has laterality” could be used, there would probably not need be a need to use the finding sites; instead they could use qualifier values to express the laterality. He then indicated it was a
complex issue that would need some discussion. Currently, JCA continued, SNOMED authors were using finding sites to refer specifically to a structure on the right half of the body. But if “Has laterality” could be used in the role group, then authors would not necessarily need to specify that it is a finding site.

GRE said they would use the same qualifiers already used for side.

JCA agreed, just using a different attribute.

GRE said yes, and they would not be using the structure of right half of the body because that solution presented problems. Instead of referencing the body structure they would use a qualifier.

JCA said he had been using Option 3 in the U.S. extension for about a year and had not run into a single classification problem with it. However, he said, Option 4 seems to solve one of the problems raised by the bilateral discussion group, which involved using multiple role groups, one of which may be lateralized or not lateralized at all. By putting it in the role group with the new attribute, he said, it provided much more clarity than having that additional finding site.

GRE spoke about some of the modeling problems with Option 2. JCA agreed that there were huge mine fields when trying to model concepts in that way because they are all primitive.

GRE said he would only consider option 2 if there were extensive modeling and proof of concept, which would be very costly. Option 4 is more economical.

KCA said he wanted to second option 4. It solved the con, and, he said, if Option 4 were selected and if using the Workbench, then he could help IHTSDO fix the 600 or so concepts using batch editing.

JCA said that since the AG had decided that it was in the best interest of users to relax the restriction on laterality, and having discussed 4 options on mechanisms to do that, had the AG had enough discussion to recommend an option?

BGO moved for option 4, GRE seconded. There was no opposition and no abstentions. Approved.

**Decision 4** The AG unanimously recommended laterality Option 4, which is essentially the same idea as option 3 but implemented with a new attribute like “has laterality” that users add to the same role group instead of having it outside the same role group.

JCA said “we voted for something I hadn’t even considered but it is simple elegant solution that solves a major requirement for our users.”

PAM asked to revisit a previous resolution (see decision 2: The AG members advised that IHTSDO should add lateralized concepts as needed and not proactively pre-coordinate every laterality). He said that if the authors only create the concepts as specific requests arise, it would irritate the community of users, clog up SIRS, and potentially increase costs because the work could not be done in a batch. He recommended an “in-between approach” of asking the community of users to help build a priority list.

JCA said there were already about 7000 lateral requests in SIRS plus bilateral requests. JCA suggested a “friendly amendment”: if a lateralized request is submitted, the authors would automatically add both. Only adding one is the literal meaning of what we just voted on, he said.

PAM asked what a request would mean. In thinking about physiotherapy, would he have to ask for every single concept or could he just ask that all muscles, bones and joints be added?
KCA said the motion did not have to be rescinded because it just said that the authors would not try to exhaustively do it for everything. So then there was the question of what would be pragmatic? He suggested that it was not the responsibility of the Editorial AG to determine what the pragmatic would be.

JCA agreed. That would be a content development issue. The Editorial AG would bring its recommendation that the work not be done proactively and leave it to the content group to determine how it could be done effectively. KCA agreed.

BGO said that many of the requests came from ICD-10, so having a list of what was lateralized in ICD-10 could help prioritization.

Yonsheeng Gao raised the issue that he had mentioned towards the beginning of the discussion, about the Anatomy Redesign Project separating laterality out into a separate refset or lateralized extension (so an auxiliary part of the International Release that people could use if they wanted). JCA said that it would probably have to be referred to the modeling group to determine the best way to proceed. GRE said it would be part of a much larger discussion.

JCA asked what should be done with the lateralized anatomy content that was already in the Release? Was it part of the proposal, he asked, that for this modeling all the currently lateralized modeled content be removed and content that uses the body structure be replaced with this model?

GRE said there would need to be consistency, and those decisions would have to be made by the content team, but the editorial guidance would be clear.

JCA said he was trying to increase consistency and reduce confusion from having multiple ways to do the same thing.

BGO asked about there being a need for lateralized structures, separate from disorders and procedures, etc. JCA agreed that there was a need for that, adding that an analysis would have to be done. If those lateralized structures already existed, should they be allowed to be used as values for attributes in modeling concepts?

GRE recommended that the Editorial advisors engage in testing and research. He then volunteered to work with Yongsheng Gao to help determine the size of that, to come back with actual data to determine the impact. JCA agreed.

**Action 1** Guillermo Reynoso to work with Yongsheng Gao on testing/research to determine the impact of use of existing lateralized structures in modeling.

Linda Parisien asked for a timeline. JCA said it would have to go to the Modeling AG first to determine the impact. The MT was trying to speed up some of the changes of this nature. GRE said the key would be to get actual examples. JCA said he already had several hundred using Option 3, so it would be useful if KCA could help with batch changes.

GRE said he was a member of the Modeling AG and could liaise with that group.

**Action 2** Guillermo Reynoso to liaise with Modeling AG to get Option 4 discussed for the concept model change.
Action 3 Keith Campbell to help Jim Case with batch changes from U.S. Extension Option 3 to Option 4.

GRE referred back to Linda Parisien’s question on timing, nothing that giving predictability (timeline) would be important.

Action 4 Jim Case and team to give stakeholders as much information as possible about timelines on implementation of Option 4.