

Free SNOMED CT set for FHIR

Introduction

This confluence page concerns a list of valuesets that we understand to be new to the FHIR specification (ie did not already exist as older HL7 valuesets); each of these valuesets is defined in FHIR as a FHIR-internal code system. The same code symbol (e.g. 'active') may appear in more than one different such valueset/codesystem but has a clearly different meaning in each which is expressed in each value's narrative text definition. Some of these code systems include an explicitly hierarchical taxonomic arrangement of the values they contain (e.g. Condition.ClinicalStatus, where *relapsed* is a subtype of *active*)

The VA and SOLOR are interested in being able to substitute SNOMED CT coded valuesets in place of the FHIR Internal codesystems, and so required a mapping.

It is, however, not yet clear whether the main benefit of having a SNOMED code is purely technical - it reduces the number of different codesystems required to enumerate all possible resource element bindings - or whether the link to SNOMED is also required to preserve, add to or otherwise clarify the semantics of each member of the valueset.

Note: There is *another* 'free' SNOMED CT codelist also in development for the International Patient Summary Specification, which is CDA R2 and FHIR incarnations. This free set would be used globally. Its a larger and more clinically focussed set.

Child Pages

- [20190601 - Response on free set content addition by Jim Case](#)
- [FHIR SNOMED CT Free Set - Consider for inclusion / rejection \(Red mappings\)](#)
- [FHIR SNOMED CT Free Set - Proposal for Grahame Grieve \(Green mappings\)](#)
- [FHIR SNOMED CT Free Set - Questions for HL7 \(Amber mappings\)](#)

Traffic Light Notation

Good to go

Issues exists - feedback from HL7 required prior to work being done in SNOMED CT

Major differences between SNOMED CT and FHIR models

Design Choices for Valueset mapping

EITHER: Individual FHIR values are meaningless (or ambiguous) if encountered when detached from their original host resource (e.g. 'active' could be either a condition.clinicalstatus, or an allergy.clinicalstatus)

There is therefore no requirement for the SNOMED mapped code to add further semantics over and above being numerical codes for the words that are the FHIR symbols. Offering maps to e.g. members of <<106234000|General adjectival modifier| would be fine; if FHIR declares a disjoint and covering codesystem to comprise symbols {a,b,c} and these are mapped to {A,B,C} in SNOMED CT, then there is no requirement for A, B or C to exist in SNOMED as e.g. siblings of one another, or even all in the same branch of SNOMED's taxonomy, or for SNOMED to duplicate any original taxonomic arrangement of {a,b,c}. That information will remain encoded ONLY within the relevant FHIR code system as the reference. It may even be argued that it would be a mistake for SNOMED to attempt to precisely mirror the FHIR code system semantics.

OR: Individual FHIR value symbols are explicitly tied to a particular code system : although 'active' exists as a symbol in two different FHIR internal code systems, it has a different explicit narrative text meaning in both.

Therefore, the SNOMED mapping should attempt to preserve those distinctions and definitions. Most of these values therefore should NOT be mapped to any descendent of 362981000|Qualifier value| but rather to postcoordinated expressions (or new precoordinated codes) more precisely capturing the full semantics of each value's narrative text definition. For example, AllergyIntolerance.Category={food} should be mapped to 414285001|Food allergy (disorder)| and not to 255620007|Foods (substance)|; Condition.ClinicalStatus={recurrent} should be mapped to 58184002|Recurrent disease (disorder)| and not to e.g. 255227004|Recurrent (qualifier value)|

Relevant Valuesets

Required value sets that are possibly in scope:

<http://build.fhir.org/valueset-detectedissue-severity.html>

* <http://build.fhir.org/valueset-allergy-clinical-status.html>

<http://build.fhir.org/valueset-allergy-verification-status.html>

<http://build.fhir.org/valueset-allergy-intolerance-type.html>

Valueset Mappings

22 Jan 2019: DK If all we're doing is looking for a word, then rather than pulling anything together then would we not be better having HL7 create their own concept within one FHIR specific subhierarchy

DetectedIssue.Severity - 3 concepts, mapped 2 Oct 2018, DONE

Possible home in << 272141005 |Severities (qualifier value)|

Discussion 22 Jan 2019: Mapping to qualifier values means that there is little context being supplied from SNOMED CT. That context would need to be supplied through the binding before meaningful reasoning could be performed.

<http://build.fhir.org/valueset-allergy-intolerance-category.html>

<http://build.fhir.org/valueset-allergy-intolerance-criticality.html>

<http://build.fhir.org/valueset-reaction-event-severity.html>

* <http://build.fhir.org/valueset-adverse-event-severity.html>

<http://build.fhir.org/valueset-adverse-event-outcome.html>

* <http://build.fhir.org/valueset-condition-ver-status.html>

<http://build.fhir.org/valueset-condition-clinical.html>

Update 28 September 2018 from Grahame Grieve

Additional candidates as discussed from the patient care space:

+ <http://build.fhir.org/valueset-request-priority.html>

possible candidates out of other spaces:

genomics

<http://build.fhir.org/valueset-sequence-type.html>

<http://build.fhir.org/valueset-orientation-type.html>

<http://build.fhir.org/valueset-strand-type.html>

<http://build.fhir.org/valueset-quality-type.html>

<http://build.fhir.org/valueset-repository-type.html>

care planning

<http://build.fhir.org/valueset-action-cardinality-behavior.html>

<http://build.fhir.org/valueset-action-precheck-behavior.html>

<http://build.fhir.org/valueset-action-required-behavior.html>

<http://build.fhir.org/valueset-action-selection-behavior.html>

<http://build.fhir.org/valueset-action-grouping-behavior.html>

<http://build.fhir.org/valueset-action-relationship-type.html>

<http://build.fhir.org/valueset-action-condition-kind.html>

HL7 Value	Suggested SNOMED Term	Discussion
High	24484000 Severe (severity modifier) (qualifier value)	These values are inherited from V3. "High" does exist but in a different hierarchy - 75540009 High (qualifier value) Severe does have a synonym of "High Grade" Should we flag up this apparent inconsistency? All these values are children of 272141005 Severities (qualifier value) Conclusion: Mapping suggested here is sufficient (sufficient for what - use case required). 20 Nov
Moderate	6736007 Moderate (severity modifier) (qualifier value)	
Low	255604002 Mild (qualifier value)	DM - Could we also consider 62482003 Low (qualifier value) ?

AllergyIntolerance.ClinicalStatus - 3 values (*superficially similar to Condition.ClinicalStatus but without relapse and recurrent*)

Conclusion: 22 Jan 2019 Use << 394731006 |Problem statuses and add new concept for Resolved Problem is our preference.

HL7 Value	Suggested SNOMED Term	Discussion
Active	394774009 Active problem (qualifier value)	JR suggests new sub-hierarchy for SCT containing disease activity to align with 370996005 Patient condition resolved (finding) LB suggested use of << 394731006 Problem statuses (qualifier value) would need to add "Resolved". YG Notes that these are not in use and their use is not dictated by the MRCM. DK suggested use of << 36692007 Known (qualifier value) again "Resolved" would be required. JC suggested that we accept lack of context and allow use of << 106234000 General adjectival modifier (qualifier value) eg 55561003 Active (qualifier value)
Inactive	394775005 Inactive problem (qualifier value)	
Resolved	-- Would need to be created --	If we wanted the context supplied by << 394731006 Problem statuses (qualifier value) , then we'd need to add "Resolved problem" here. 723506003 Resolved (qualifier value) exists, but without the context of the problem statuses.

AllergyIntolerance.VerificationStatus

<< 106230009 |Qualifier for certainty of diagnosis (qualifier value)| doesn't have refuted

Better << 410514004 |Finding context value (qualifier value)|

HL7 Value	Suggested SNOMED Term	Discussion
Unconfirmed	410590009 Known possible (qualifier value)	These 3 are children of 410514004 Finding context value (qualifier value)

Confirmed	410605003 Confirmed present (qualifier value)	DM suggest -- Would need to be created –
Refuted	Move 723511001 Refuted (qualifier value) to a subtype of 410594000 Definitely NOT present (qualifier value)	<p>Also considered 2667000 Absent (qualifier value) ? Doesn't really put over that a test was done and the absence of the allergy was proven.</p> <p>"Definitely not present" doesn't capture the implied history of "we used to think this was the case". New concept required?</p> <p>Dictionary defn of refuted is "to prove wrong" so possibly history is not implied, but convention is that there was some previous possible condition. But "Not Present" is clearer - is there scope for FHIR changing the value?</p> <p>DM - could this be considered History of (contextual qualifier) (qualifier value) ?</p>
Entered in Error	723510000 Entered in error (qualifier value)	Child of 106232001 Adjectival modifier (qualifier value)

AllergyIntolerance.Type DONE

Conclusion: Mapping suggested here is sufficient. 20 Nov

HL7 Value	Suggested SNOMED Term	Discussion
Allergy	609328004 Allergic disposition (finding)	<p>Descendant of 420134006 Propensity to adverse reaction (finding) via 609433001 Hypersensitivity disposition (finding) </p> <p>Allergic reaction is covered elsewhere in FHIR.</p> <p>Consider: 781474001 Allergic disorder (disorder) ?</p>
Intolerance	782197009 Intolerance to substance (finding)	Child of 420134006 Propensity to adverse reaction (finding) and it subsumes intolerance to both foods and drugs separately.

AllergyIntolerance.Category

22 January 2019: We're going too far with 420134006 |Propensity to adverse reaction (finding)| really for a category we're just looking for a textual label

Conclusion: It would be better for HL7 to create their own concepts here. The ones we found have little value being little more than word matches.

Note this group would recommend not using this field in any event since greater specificity is possible by using Code.

HL7 Value	Suggested SNOMED Term	Discussion
food	255620007 Foods (<! 762766007 Edible substance (substance))	<p>Child of 418038007 Propensity to adverse reactions to substance (finding) </p> <p>22 Jan 2019 Less favourable: 762766007 Edible substance (substance) even less so 373783004 Dietary product (product) </p> <p>Removed 418471000 Propensity to adverse reactions to food (disorder) </p>
medication	763158003 Medicinal product (<! 373873005 Pharmaceutical / biologic product (product))	Removed 419511003 Propensity to adverse reactions to drug (disorder)

environ ment	276339004 Environment (<! 308916002 Environment or geographical location (environment / location))	<p>If this is a NEC (Not elsewhere classified) sort of value, then would we use the more general 420134006 Propensity to adverse reaction (finding) here?</p> <p>PWI: This is actually the super parent of the previous two, so logical reasoning would be problematic.</p> <p>DK: ECL Expression helpful ie parent minus already used children?</p> <p>FHIR says: "Any substances that are encountered in the environment, including any substance not already classified as food, medication, or biologic."</p> <p>Removed 420134006 Propensity to adverse reaction (finding) </p> <p>With moving to 276339004 Environment we note that the child indicate this concept was originally intended to be used for something completely different.</p>
biologic	115668003 Biological substance (substance)	<p>Asked Bruce Goldberg if he thinks additional concepts in SNOMED are warranted here. His response:</p> <p><i>A similar question arose yesterday in the allergy project group call. Toni mentioned that 762766007 Edible substance (substance) might be going away in the future and this would therefore impact the modeling of food allergy and whether it would be useful to maintain this concept. I think that the concepts of food and drug allergy are so ingrained in the minds of clinicians and patients that they remain useful not only as groupers but may be documented when a patient has had an immediate reaction within minutes of ingesting multiple foods or medications and it is not clear prior to testing which specific food or drug is the cause. Groupings pertaining to food and drug allergy are also present in the substance, product and procedure hierarchies where they are useful as organizing nodes.</i></p> <ul style="list-style-type: none"> • 387847008 Food specific immunoglobulin E (substance) • 411536006 Food specific diagnostic allergen extract (product) • 387851005 Drug specific immunoglobulin E (substance) • 388450003 Drug specific immunoglobulin E antibody measurement (procedure) • 388455008 Food specific immunoglobulin E antibody measurement (procedure) <p><i>I am less certain about the requirement for an environmental allergy grouper. Environmental allergy is somewhat vague as to what should be included under this term although it is often used interchangeably with inhalant allergy which usually refers to pollens, dust mites, mold and animal dander. Biologics could be included under drug allergy imo.</i></p>

AllergyIntolerance.Criticality 2 concepts, mapped 18 Oct 2018

Discussion 5 Feb 2019: Happy with the words here, but SNOMED is not providing any context. The context from FHIR is "How serious is the reaction, rather than how likely is the reaction". Possible values in << 272141005 |Severities (qualifier value)|

HL7 Value	Suggested SNOMED Term	Discussion
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low Display Term "Low risk"	62482003 Low (qualifier value) or 723505004 Low risk (qualifier value)	<p>But very questionable whether (a) passing either of this pair 'adjectival modifier' codes is any more useful than passing the words 'low' and 'high';</p> <p>and (b) the wisdom and clinical safety of passing a coded clinical statement stating 'high risk' that does not also explicitly include 'of what?'.</p> <p>Would it be better/safer to pass as new clinical finding codes along the lines of 'high risk of adverse reaction' ?</p> <p>Actually, the exact meaning of the original valueset is in fact not to grade the likelihood of an adverse event but rather of whether, should an adverse event occur, it is likely to be clinically significant one. A high probability of only trivial reactions would be graded 'low risk'. So passing only 'low risk' may be especially clinically rather ambiguous.</p> <p>YG: If the qualifier values are used in a concept model rule, we need to be careful.</p> <p>JC: All qualifier values need to be interpreted in the context provided by the information model OR the context provided by the concept model.</p> <p>JR: Could potentially add concepts to SNOMED here.</p>
high Display Term "High risk"	75540009 High (qualifier value) or 723509005 High risk (qualifier value)	<p>"Assessed to the life threatening".</p> <p>Note that a wider range of values are available as children of 272141005 Severities (qualifier value) . In this case, going from SNOMED to FHIR would require a mapping from 7 categories down to 2.</p>
unable-to-assess		<p>162650008 Patient not examined (situation) </p> <p>1631000175102 Patient not asked (contextual qualifier) (qualifier value) ?</p> <p>"Not a V3 null flavor"</p>

AdverseEvent.Severity - 3 concepts, mapped 2 Oct 2018

AllergyIntolerance.Reaction.Severity - 3 concepts, mapped 2 Oct 2018

HL7 Value	Suggested SNOMED Term	Discussion
Severe	24484000 Severe (severity modifier) (qualifier value)	5 Feb 2019: Good word match but again a lack of context from the SNOMED side. Context would be taken from the position in the record ie the field itself gives the context.
Moderate	6736007 Moderate (severity modifier) (qualifier value)	
Mild	255604002 Mild (qualifier value)	

AdverseEvent.Outcome

JR 5 Feb 2019 - Could ECE group help out here to suggest how status of patient can be best described? Note that relapse is not covered here. Note the potential for overlap with ConditionClinicalStatusCodes - would it not be better to seek a generic solution across both?

25 June Always have the option to add whatever is required to << 106234000 |General adjectival modifier (qualifier value)| if we accept that there will be no implied context.

✓ [Peter G. Williams](#) to write to [Bruce Goldberg](#) for advice here.

HL7 Value	Suggested SNOMED Term	Discussion
resolved	413322009 Problem resolved (finding)	
recovering	Not Found	DM 385633008 Improving (qualifier value) ?
ongoing	Not Found	303350001 Ongoing episode (qualifier value) exists, but to be consistent with semantic category of maps proposed for other valueset members, need a finding.
resolvedWithSequelae	Not Found	413322009 Problem resolved (finding) is only part of the way there. Also 370996005 Patient condition resolved (finding) DM 65320000 Residual (qualifier value) added to sequela?
fatal	419099009 Dead (finding) (preferred due to also being a finding ie describes the current state of the patient)	399166001 Fatal (qualifier value) is a severity.. 419620001 Death (event)
unknown	Not Found	261665006 Unknown (qualifier value) - has some context as is a child of 410514004 Finding context value (qualifier value)

Condition.VerificationStatus

See <http://build.fhir.org/valueset-condition-ver-status.html>

Values taken from << 36692007 |Known (qualifier value)|

HL7 Value	Suggested SNOMED Term	Discussion
Unconfirmed	410590009 Known possible (qualifier value)	415684004 Suspected (qualifier value)
Provisional	410592001 Probably present (qualifier value)	
Differential	410590009 Known possible (qualifier value) OR 415684004 Suspected (qualifier value)	'known possible' is not <i>quite</i> the same as differential... HL7: "One of a set of potential and usually mutually exclusive diagnoses" DM - in clinical coding terms possible v's probable rule (UK) = Possible is suspected and probable is highly likely (treat as condition exists for example)
Confirmed	410605003 Confirmed present (qualifier value)	
Refuted	410594000 Definitely NOT present (qualifier value)	
Entered In Error	723510000 Entered in error (qualifier value)	

Condition.ClinicalStatus

Discussion 13 Nov 18- consider enhancing << 394731006 |Problem statuses (qualifier value) | currently containing active & inactive. This valueset does seem like its use would go beyond just that of FHIR and may have broader usage.

Condition.ClinicalStatus relates to the SNOMED CT Clinical findings model in a non-trivial way, hence the red color coding. E.g. parts of the value set is related to the clinical course SNOMED CT relationship type.

5 Feb 2019 - Agreement to raise with Jim for possible inclusion in SNOMED CT to discuss perhaps with Clinical Groups (eg Nursing).

HL7 Value	Suggested SNOMED Term	Discussion
Active	Not Found	<p>55561003 Active (qualifier value) would be undesirable to use. Its just a code for the word as an adjective : having a SNOMED code would add zero value over the original string, and only marginally more than the more obviously ludicrous but entirely possible SNOMED CT encoding as the expression:</p> <p>422097006 Upper case Roman letter A (qualifier value) + 257984003 Lower case Roman letter c (qualifier value) + 257998006 Lower case Roman letter t (qualifier value) + 257989008 Lower case Roman letter i (qualifier value) + 258000009 Lower case Roman letter v (qualifier value) + 257985002 Lower case Roman letter e (qualifier value) </p> <p>PW1 6 Nov: I think it's worth doing two things routinely here, firstly including what the parent is (in this case 106234000 General adjectival modifier (qualifier value)) and secondly seeing where that concept is already used in SNOMED. In this case, no International concept uses this qualifier value.</p>
.. Recurrence	Not Found	<p>263853000 Recurrent episode (qualifier value) is in right neck of woods, as a member of SNOMED's Episodicities valueset, but other members of the HL7 valueset cross over into other aspects of disease phase rather than episodicity, so if a guiding map design principle were to be that all members of the valueset should at least be from the same SCT semantic category, then we'd need Findings for all of the values.</p> <p>Also 255227004 Recurrent (qualifier value) as a member of SNOMED's Courses valueset.</p>
.. Relapse	Not Found	<p>303359000 Relapse episode (qualifier value) or 263855007 Relapse phase (qualifier value) or 255318003 Relapsing course (qualifier value) as a member of SNOMED's Courses valueset</p>
Inactive	Not Found	<p>73425007 Inactive (qualifier value) would be undesirable to use as its just a code for the word and so having a SNOMED code adds zero value over the original string.</p> <p>Parent here is, again, 106234000 General adjectival modifier (qualifier value) </p>
.. Remission	Not Found	<p>277022003 Remission phase (qualifier value) </p> <p>18 Dec Discussion that the "remission" aspect has often been represented in SNOMED through hierarchical association to 765205004 Disorder in remission (disorder) rather than modeling using a qualifier value. Perhaps we should note this sort of thing as moving towards an attribute modeled approach would allow for reasoning against information model combined values at some point in the future.</p>
.. Resolved	Not Found	<p>723506003 Resolved (qualifier value) would be undesirable to use as its just a code for the word : having a SNOMED code adds zero value over the original string</p>

Request.priority

2019-04-16: Found matching concepts in this subhierarchy: <<272125009|Priorities|

The specimen collection priority value set is partly overlapping <http://build.fhir.org/valueset-specimen-collection-priority.html>

Other priority value sets are: <http://build.fhir.org/valueset-flag-priority.html> <http://build.fhir.org/valueset-goal-priority.html> <http://build.fhir.org/valueset-process-priority.html>

HL7 Value	Suggested SNOMED Term	Discussion
routine	50811001 Routine	
urgent	103391001 Urgent	
asap	709122007 As soon as possible	
stat	49499008 Stat	

Care planning

2019-04-16: The value sets listed under Care planning all seem to be out of scope of SNOMED CT.

2019-04-30: Further discussion including with [Jim Case](#) Confirmed that don't see the value of adding these into SNOMED, notwithstanding implementor desire for a one-stop dictionary.

		http://build.fhir.org/valueset-action-cardinality-behavior.html
		Defines behavior for an action or a group for how many times that item may be repeated
single		The action may only be selected one time.
multiple		The action may be selected multiple times.
		http://build.fhir.org/valueset-action-precheck-behavior.html
		Defines selection frequency behavior for an action or group.
yes	373066001 Yes (qualifier value)	An action with this behavior is one of the most frequent action that is, or should be, included by an end user, for the particular context in which the action occurs. The system displaying the action to the end user should consider "pre-checking" such an action as a convenience for the user.

no	373067005 No (qualifier value)	An action with this behavior is one of the less frequent actions included by the end user, for the particular context in which the action occurs. The system displaying the actions to the end user would typically not "pre-check" such an action.
		http://build.fhir.org/valueset-action-required-behavior.html
		Defines expectations around whether an action or action group is required.
must		An action with this behavior must be included in the actions processed by the end user; the end user SHALL NOT choose not to include this action.
could		An action with this behavior may be included in the set of actions processed by the end user.
must-unless-documented		An action with this behavior must be included in the set of actions processed by the end user, unless the end user provides documentation as to why the action was not included.
		http://build.fhir.org/valueset-action-selection-behavior.html
		Defines selection behavior of a group.
any		Any number of the actions in the group may be chosen, from zero to all.
all		All the actions in the group must be selected as a single unit.
all-or-none		All the actions in the group are meant to be chosen as a single unit: either all must be selected by the end user, or none may be selected.

e x a c t l y - o n e	The end user must choose one and only one of the selectable actions in the group. The user SHALL NOT choose none of the actions in the group.
a t- m o s t - o n e	The end user may choose zero or at most one of the actions in the group.
o n e - o r- m o r e	The end user must choose a minimum of one, and as many additional as desired.
	http://build.fhir.org/valueset-action-grouping-behavior.html
	Defines organization behavior of a group.
vi s u al - g r o u p	Any group marked with this behavior should be displayed as a visual group to the end user.
lo gi c al - g r o u p	A group with this behavior logically groups its sub-elements, and may be shown as a visual group to the end user, but it is not required to do so.
s e n t e n c e - g r o u p	A group of related alternative actions is a sentence group if the target referenced by the action is the same in all the actions and each action simply constitutes a different variation on how to specify the details for the target. For example, two actions that could be in a SentenceGroup are "aspirin, 500 mg, 2 times per day" and "aspirin, 300 mg, 3 times per day". In both cases, aspirin is the target referenced by the action, and the two actions represent different options for how aspirin might be ordered for the patient. Note that a SentenceGroup would almost always have an associated selection behavior of "AtMostOne", unless it's a required action, in which case, it would be "ExactlyOne".
	http://build.fhir.org/valueset-action-relationship-type.html
	Defines the types of relationships between actions.

b e f o r e - s t a r t	The action must be performed before the start of the related action.
b e f o r e	The action must be performed before the related action.
b e f o r e - e n d	The action must be performed before the end of the related action.
c o n c u r r e n t - w i t h - s t a r t	The action must be performed concurrent with the start of the related action.
c o n c u r r e n t	The action must be performed concurrent with the related action.
c o n c u r r e n t - w i t h - e n d	The action must be performed concurrent with the end of the related action.
a f t e r - s t a r t	The action must be performed after the start of the related action.

a ft er	The action must be performed after the related action.
a ft e r- e nd	The action must be performed after the end of the related action.
	http://build.fhir.org/valueset-action-condition-kind.html
	Defines the kinds of conditions that can appear on actions.
a p p l i c a b i l i t y	The condition describes whether or not a given action is applicable.
st a rt	The condition is a starting condition for the action.
st op	The condition is a stop, or exit condition for the action.

Outstanding questions

Which descriptions will the free set include - None, FSN, PT (in what languages?)

What if SNOMED Concepts split into more expressive versions ie HL7 code would then map to multiple SNOMED CT codes.

GENOMICS

Sequence type

<http://build.fhir.org/valueset-sequence-type.html>

2019-04-30 Agreement that SCT should have procedures like 'DNA Sequencing', but where component being measured would be the substances but the Property would be their sequence.

But in that model, would not need the standalone notion of a 'DNA sequence'. You would have a procedure:property=sequence (property), component=nucleotide.

And we'd never issue individual SNOMED codes for each and every possible DNA sequence variant. So don't need the grouper.

Conclusion: RED - no semantic advantage in adding to SNOMED

Code	Display	Definition
aa	AA Sequence	Amino acid sequence.
dna	DNA Sequence	DNA Sequence.
rna	RNA Sequence	RNA Sequence.

Sequence Orientation

<http://build.fhir.org/valueset-orientation-type.html>

2019-04-30 Would not be happy to have an observable of 'Sense of sequence' which would inherently have a 'sequence sense (property)', because don't have use case, and it violates the LOINC agreement.

No point having the sense|antisense values as Qualifiers on their own unless can also have the 'sense of sequence' observable, which the LOINC agreement precludes.

Also, if we *did* put in a sibling pair sense|nonsense, there is nothing that prevents the use of those adjectives in contexts entirely outside the context of genomics.

So to accurately replicate the more specifically limited semantics of sense|antisense in the specific context of use of FHIR, we would have to name them something like Molecular Sequence references sequence orientation sense|Molecular Sequence references sequence orientation antisense. Which would mean mirroring the entirety of the FHIR model into SNOMED, and so adding nothing.

Conclusion: RED - no semantic advantage in adding to SNOMED

Code	Display	Definition
sense	Sense orientation of referenceSeq	Sense orientation of reference sequence.
antisense	Antisense orientation of referenceSeq	Antisense orientation of reference sequence.

Strand Type

<http://build.fhir.org/valueset-strand-type.html>

2019-04-30 Same argument as above applies, for sense/antisense

Conclusion: RED - no semantic advantage in adding to SNOMED

Code	Display	Definition
watson	Watson strand of referenceSeq	Watson strand of reference sequence.
crick	Crick strand of referenceSeq	Crick strand of reference sequence.

Quality

<http://build.fhir.org/valueset-quality-type.html>

Code	Display	Definition
indel	INDEL Comparison	INDEL Comparison.
snp	SNP Comparison	SNP Comparison.
unknown	UNKNOWN Comparison	UNKNOWN Comparison.

Repository type

<http://build.fhir.org/valueset-repository-type.html>

C o d e	Display	Definition
direct link	Click and see	When URL is clicked, the resource can be seen directly (by webpage or by download link format).
open api	The URL is the RESTful or other kind of API that can access to the result.	When the API method (e.g. [base_url]/[parameter]) related with the URL of the website is executed, the resource can be seen directly (usually in JSON or XML format).
login	Result cannot be access unless an account is logged in	When logged into the website, the resource can be seen.

o a u th	Result need to be fetched with API and need LOGIN(or cookies are required when visiting the link of resource)	When logged in and follow the API in the website related with URL, the resource can be seen.
o t h er	Some other complicated or particular way to get resource from URL.	Some other complicated or particular way to get resource from URL.

Discussed Potential Additional ValueSets

<https://www.hl7.org/fhir/observation-definitions.html#Observation.interpretation> (39 Values) Possible home to be found in << 260245000 |Findings values (qualifier value)|

RH Suggested that this value set has already been harmonised between existing standards and that SNOMED CT was not used in general.

HL7 Value	Suggested SNOMED Term	Discussion