SNOMED CT canonical CodeSystem resource

The FHIR specification has an incomplete canonical CodeSystem resource at http://build.fhir.org/codesystem-snomedct.html(or the earlier / published version: https://www.hl7.org/fhir/codesystem-snomedct.html)

This is something SNOMED International should really take ownership of, complete it, host it and keep it up to date...but obviously this group can help with all of that (except the hosting!).

I've included a table below which indicates the elements and their values in the current resource. The other thing to consider is the HTML rendering and what it should say, the current one you can see at https://www.hl7.org/fhir/codesystem-snomedct.html is in the current resource as generated text from the resource.

Ideally this should be hosted at http://snomed.info/sct and behave as a proper FHIR endpoint (e.g. respond appropriately to JSON and XML accept headers).

Please comment on the appropriateness of the current values and suggested changes.

Element	Value	Discussion
id	snomedct	Specified by individual server, so we could leave blank here.
url	http://snomed.info/sct	We'd expect this to redirect to the most recent international release.
version		This probably should be a specific URI to the particular edition/version but not defined in the Canonical form. Suggest we mandate this field if this document is specifying a template. RH had concerns about this since concepts couldn't then be referred between different versions. Note that the context here is an instance of a Code System resource from at Term Server perspective, not individual concepts as used a medical record where the SCTID plus description provides meaning.
identifier	**system**: urn:ietf:rfc:3986 **value**: urn:oid:2.16.840.1.113883.6.96	This is the SNOMED OID used in other specifications eg CDA.
name	SNOMED CT	While this is the canonical value, each server would specify the particular edition they're making available.
title	SNOMED CT (all versions)	Not required?
status	active	
experimental	false	
publisher	IHTSDO	Change to SNOMED International
contact	**telecom**: **system**: url; **value**: http://ihtsdo.org	Changes to snomed.org
description	SNOMED CT is the most comprehensive and precise clinical health terminology product in the world, owned and distributed around the world by The International Health Terminology Standards Development Organisation (IHTSDO).	☑ Peter G. Williams check current text
copyright	© 2002-2018 International Health Terminology Standards Development Organisation (IHTSDO). All rights reserved. SNOMED CT®, was originally created by The College of American Pathologists. "SNOMED" and "SNOMED CT" are registered trademarks of the IHTSDO http://www.ihtsdo.org/snomed-ct/get-snomed-ct	☑ Peter G. Williams check current text. Next release will take year up to 2019. That URL is now https://www.snomed.org/snomed-ct/get-snomed
caseSensitive	false	Definition of element here is "If code comparison is case sensitive" which because SCTIDs are numeric, it's not.
hierarchyMeaning	is-a	Suggest improving the documentation for this element, is somewhat ambiguous. "Properties of parent apply to child" is certainly true.
compositional	true	"True If code system defines a post-composition grammar."
versionNeeded	false	"This flag is used to signify that the code system has not (or does not) maintain the definitions, and a version must be specified when referencing this code system."
content	not-present	We're not expecting to include all of SNOMED-CT in this resource.

<table>
<tr>
<td>filter</td>
<td>
<table>
<tr><th>code</th><th>description</th><th>operator</th><th>value</th></tr>
<tr><td>concept</td><td>Filter that includes concepts based on their logical definition. e.g. [concept] [is-a] [x] - include all concepts with an is-a relationship to concept x, or [concept] [in] [x]- include all concepts in the reference set identified by concept x</td><td>is-a

in</td><td>A SNOMED CT code</td></tr>
<tr><td>expression</td><td>The result of the filter is the result of executing the given SNOMED CT Expression Constraint</td><td>=</td><td>A SNOMED CT ECL expression (see ecl)</td></tr>
<tr><td>expressions</td><td>Whether post-coordinated expressions are included in the value set</td><td>=</td><td>true or false</td></tr>
</table>
</td>
<td>RH notes that the distinction between plural and not is subtle in text and substantial in effect.

Could use "constraint" for the first instance. However, is likely already in use. ML confirms and in fact this field was previously called "constraint".

"PostCoordination" a suggested alternative for 2nd which is the more problematic of the two.

ML: Is "expressions" more relevant to an expansion profile? PW: Changing "are" to "should be" would make intention clearer.

☑ Dion McMurtrie contact GG to track down where "expressions" came from and confirm the use case is? Has been there for some time. Posted on chat.fhir.org at https://chat.fhir.org/#narrow/stream/89-snomed/topic/SNOMED.20CT.20filters</td>
</tr>
<tr>
<td>property</td>
<td>
<table>
<tr><th>code</th><th>uri</th><th>description</th><th>type</th></tr>
<tr><td>inactive</td><td>http://snomed.info/field/Concept.active</td><td>Whether the code is active or not (defaults to false). Not the same as deprecated</td><td>boolean</td></tr>
<tr><td>definitionStatusId</td><td>http://snomed.info/field/Concept.definitionStatusId</td><td>Either of the codes that are descendants of 900000000000444006</td><td>code</td></tr>
<tr><td>parent</td><td>http://hl7.org/fhir/concept-properties#parent</td><td>A SNOMED CT concept id that has the target of a direct is-a relationship from the concept</td><td>code</td></tr>
<tr><td>child</td><td>http://hl7.org/fhir/concept-properties#child</td><td>A SNOMED CT concept id that has a direct is-a relationship to the concept</td><td>code</td></tr>
<tr><td>moduleId</td><td>http://snomed.info/field/Concept.moduleId</td><td>The SNOMED CT concept id of the module that the concept belongs to.</td><td>code</td></tr>
<tr><td>normalForm</td><td>http://snomed.org/longnormalform</td><td>Generated Normal form expression for the provided code or expression, with terms</td><td>string</td></tr>
<tr><td>normalFormTerse</td><td>http://snomed.org/canonicalnormalform</td><td>Generated Normal form expression for the provided code or expression, conceptIds only</td><td>string</td></tr>
</table>
</td>
<td>We need URI values for parent / child and Normal Form here.

If / when the URI standard is extended to include ECL then parent / child would arrive that.

ML: parent and child are general properties that are not SNOMED specific, these are FHIR specified properties. Have inserted FHIR URIs here.

Suggestion that normalFormTerse is changed to Canonical Normal Form, and normalForm changed to Necessary Long Normal Form (and use these terms in the description column also, with sufficient text to explain the difference between the two).

URI is, also, optional.

Noted the impact on implementers in changes here, so name changes noted above will not be recommended at this time.

☑ Michael Lawley to take up the URIs for Normal Forms with the SNOMED Languages Group.

However in any event, the description should be updated here.

☐ Dion McMurtrie to update description text.</td>
</tr>
<tr>
<td>property (cont)</td>
<td>There is also listed the attributes used in SNOMED CT, a couple of examples to express the pattern are
<table>
<tr><th>code</th><th>uri</th><th>type</th></tr>
<tr><td>Due to</td><td>http://snomed.info/id/42752001</td><td>code</td></tr>
<tr><td>Associated with</td><td>http://snomed.info/id/47429007</td><td>code</td></tr>
</table>
</td>
<td>Code should be the SCTID rather than term.

☐ Rob Hausam How is this list defined? Descendants of "Attribute" ?

Perhaps more relevant to use attributes currently in use in the International Edition.

FSN should be populated in the description column.</td>
</tr>
<tr>
<td><additional></td>
<td>Additional elements worth considering populating are

• date - date of last change to the resource
• purpose - why is this code system defined
• valueSet - Canonical URL for the value set with the entire code system</td>
<td>DM suggested date was worth populating to show when the resource last changed.

Boiler plate text for purpose?

"SNOMED CT (Systematized Nomenclature of Medicine -- Clinical Terms) is a standardized, multilingual vocabulary of clinical terminology that is used by physicians and other health care providers for the electronic exchange of clinical health information."

https://searchhealthit.techtarget.com/definition/SNOMED-CT

The URL for the entire code system is a notional valueset that contains all versions of all editions. It would not change from instance to instance and is immutable.</td>
</tr>
<tr>
<td><additional></td>
<td>Another thing to consider is whether the valueSet, if it can exist, if theoretically expanded would return all of SNOMED CT International Edition or the SNOMED CT "Universal" Edition - i.e. which does this CodeSystem resource represent?</td>
<td>To be defined for the individual code systems. Could state the implicit value set endpoint for the server.</td>
</tr>
</table>