**2016-07-06 - SLPG Meeting**

**Date & Time**
20:00 UTC Wednesday 6th July 2016

**Goals**
- To progress the SNOMED CT Template syntax

**GoToMeeting Details**
Click here to see GoToMeeting joining information

**Attendees**
- Chair: Linda Bird
- Project Group: Michael Lawley, Daniel Karlsson, Alejandro Lopez Osornio, Ed Cheetham, Rob Hausam, Harold Solbrig

**Agenda and Meeting Notes**

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<td>Welcome, introductions and apologies</td>
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<td>Agenda review</td>
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<td>Review agenda for today's meeting</td>
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<td>Recap of last meeting</td>
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<td>STEP 1 - Convert SNOMED CT Expression Template into FHIR Structure Definition (for use as Target of Mapping)</td>
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<td>CONDITION RESOURCE</td>
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<td>• SNOMED CT Expression Template</td>
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<td>[[[ 1..1 ] @findingWithExplicitContext ]]:</td>
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<td></td>
<td></td>
<td>#[1..2] @RGa { 246090004  Associated finding = [[[ 0..1 ] @associatedFinding ]]:</td>
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<td>#0..1 @RGb { 246112005  Severity = [[[ 0..1 ] @severity]]:</td>
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<td>363698007  Finding site = [[[ 0..1 ] @findingSite] ] });</td>
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<td>408732007  Subject relationship context = 410604004  Subject of record ;</td>
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<td>408731000  Temporal context = [[[ 1..1 ] @temporalContext ]],</td>
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<td>408729009  Finding context = [[[ 1..1 ] @findingContext ]]);</td>
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<td>• FHIR Structure Definition</td>
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<td>SCT_ConditionTemplate: SNOMEDCTExpressionTemplate</td>
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<td>findingWithExplicitContext [1]: Coding</td>
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<td>group [1..2]: RelationshipGroupElement</td>
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<td>associatedFinding [1]: Coding</td>
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<td>findingSite [0..1]: Coding</td>
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<td>subjectRelationship [1]: Coding = 410604004  Subject of record ;</td>
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<td>temporalContext [1]: Coding</td>
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<td>findingContext [1]: Coding</td>
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<td>STEP 2 - Define Mapping Rules from Source Structure (FHIR Resource) to Target Structure (SNOMED CT Expression Template)</td>
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SOURCE STRUCTURE

**Condition**: Resource

- **code** [1]: CodeableConcept (coding [1..*] - system, version, code, display, userSelected [0..1] - text [0..1])
- **category** [0..1]: CodeableConcept (values: complaint | symptom | finding | diagnosis)
- **clinicalStatus** [0..1]: code (values: active | relapse | remission | resolved)
- **verificationStatus** [1]: code (values: provisional | differential | confirmed | refuted | entered-in-error | unknown)
- **severity** [0..1]: CodeableConcept
- **bodySite** [0..1]: CodeableConcept

TARGET STRUCTURE

**SCT_ConditionTemplate**: SNOMEDCTExpressionTemplate

- **findingWithExplicitContext** [1]: CodeableConcept
  - **group** [1..2]: RelationshipGroupElement
    - **associatedFinding** [1]: CodeableConcept
    - **group** [0..1]: RelationshipGroupElement
      - **severity** [0..1]: CodeableConcept
      - **findingSite** [0..1]: CodeableConcept
    - **subjectRelationship** [1]: CodeableConcept = 410604004 |Subject of record|
  - **temporalContext** [1]: CodeableConcept
  - **findingContext** [1]: CodeableConcept

RULES

```python
rule_1: for source.code as code where verificationStatus != "entered-in-error" then {

  rule_1a: for code where code in memberOf("http://snomed.info/sct?fhir_vs=isa/404684003") make target.findingWithExplicitContext = 413350009 |Finding with explicit context|, target.group as groupA then {

    rule_1aa: for code make groupA.associatedFinding = code
    rule_1ab: for code where severity in memberOf("http://snomed.info/sct?fhir_vs=isa/272141005") OR findingSite in memberOf("http://snomed.info/sct?fhir_vs=isa/123037004") make groupA.group as groupB then {
      rule_1aba: for source.severity as sev where severity in memberOf("http://snomed.info/sct?fhir_vs=isa/272141005") make groupB.severity = sev
      rule_1abb: for source.bodySite as bs where findingSite in memberOf("http://snomed.info/sct?fhir_vs=isa/123037004") make groupB.findingSite = bs
    }
  
  rule_1ac: for code make groupA.subjectRelationship = 410604004 |Subject of record|
  rule_1ad: for code make groupA.temporalContext = 410512000 |Current or specified time|
  rule_1ae: for source.clinicalStatus as cs, source.verificationStatus as vs make groupA.findingContext as fc then {
    rule_1aea: for vs make fc.code = translate ('status-to-findingContext-map', cs, vs)
    rule_1aeb: for vs make fc.system = "http://snomed.info"
    rule_1aec: for vs make fc.display = "http://snomed.info/sct?lookupPT(coding.code, 90000000000509007)"

  }

}
```
**rule_1b:** for code where code in memberOf("http://snomed.info/sct?fhir_vs=isa/413350009") make target.findingWithExplicitContext = code then {

```java
    rule_1ba:
    }
```

### Outstanding question - Q1
**Linda Bird**

Do we need to support naming of SNOMED CT Relationship Groups within the SNOMED CT Expression Template syntax? For example:

```
[ [ .... ] ]: @RelationshipGroupName { ....... }
```

- Note: This requirement comes from the need for a stable name for each relationship group, in the FHIR Structure Definition used to represent the SNOMED Expression Template that is the target of a mapping (examples above).
- A possible alternative would be to **not** include relationship group names in the template, and instead rely on a reproducible approach to automatically generating these names (e.g. RG1, RG1.1, RG1.2, RG2, RG2.1). However, because these names are used in the mapping code, we would need to ensure that they are absolutely stable - so given this, is this approach appropriate?

### Outstanding question - Q2
**Linda Bird**

What syntax should we use to define cardinality constraints?

1. On a focus concept, an attribute or an attribute value - e.g. in the relevant slot `[[ [1..*] < 123456 @slotName ]]`
2. On a relationship group - e.g. `123456 |concept|: #[1..*] { ....... }`

- Note: The syntax must clearly indicate that the cardinality on a relationship group does **not** appear in the concrete expression that is generated when the expression template is populated. This is needed to distinguish an Expression Template (with relationship group cardinalities) from an Expression Constraint Template (for which the relationship group cardinalities **do** appear in the populated version of the template). In this example syntax, the "#" is being used to say "The following constraint needs to be removed when the template is populated."

### Outstanding question - Q3
**Linda Bird**

What is the expected behaviour when a cardinality constraint in an Expression Template is not met?

### Outstanding question - Q4
**Linda Bird**

Are there any other template requirements that we haven’t yet considered for other use cases (e.g. for concept authoring)?

### Confirm next meeting date/time
**Linda Bird**

Next meeting to be held at 20:00 UTC on Wednesday 20th July

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**Meeting Files**

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