# 2016-06-22 - SLPG Meeting

## Date & Time
Wednesday 22nd June 2016, 20:00 UTC

## Goals
- To progress the SNOMED CT Template Syntax

## GoToMeeting Details
- Click here to see GoToMeeting joining information
- Click here to see GoToMeeting recordings

## Attendees
- **Chair:** Linda Bird
- **Project Group:** Daniel Karlsson, Alejandro Lopez Osornio, Ed Cheetham, Brian Carlsen, Rob Hausam

## Apologies
- Harold Solbrig, Michael Lawley

## Observers

## Agenda and Meeting Notes

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<td>1</td>
<td>Welcome, introductions and apologies</td>
<td>Linda Bird</td>
<td>SLPG meetings will be recorded and recordings will be accessible to SLPG members.</td>
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| 2 | Agenda review | Linda Bird | Review agenda for today's meeting  
- Template Syntax - HL7 FHIR Examples  
- SNOMED CT Expression Templates and corresponding FHIR Structured Definitions  
- FHIR Mapping Example  
- Template Syntax - Details  
- Optionality (slots and relationship groups)  
- Naming (slots and relationship groups)  
- References | |
| 3 | Template Syntax - FHIR Example Templates | Linda Bird | **STEP 1** - Convert SNOMED CT Expression Template into FHIR Structure Definition (for use as Target of Mapping)  
- SNOMED CT Expression Template  
  ```json  
  [[[1..1]@findingWithExplicitContext]]  
  ```  
  | 408729009 | Finding context: = [[[1..1]@findingContext]] |
| | | | **CONDITION RESOURCE**  
- SCT_ConditionTemplate: SNOMEDCTExpressionTemplate  
  ```json  
  findingWithExplicitContext: [1].CodeableConcept  
  RGa[1..2].RelationshipGroupElement  
  associatedFinding[1].CodeableConcept  
  RGb[0..1].RelationshipGroupElement  
  severity[0..1].CodeableConcept  
  findingSite[0..1].CodeableConcept  
  subjectRelationship[1].CodeableConcept = 410604004 | Subject of record: |
| | | | | | | | 406731000 | Temporal context: = [[[1..1]@temporalContext]] |
| | | | | | | | 406729009 | Finding context: = [[[1..1]@findingContext]] |
| | | | **ALLERGYINTOLERANCE RESOURCE**  
- SNOMED CT Expression Template  
  ```json  
  [[[1..1]@findingWithExplicitContext]]  
  ```  
  | 370135005 | Pathological process = [[[0..1]@pathologicalProcess]] |
| | | | | | | | 370135005 | Pathological process = [[[0..1]@pathologicalProcess]] |
| | | | | | | | 370135005 | Pathological process = [[[0..1]@pathologicalProcess]] |
| | | | | | | | 370135005 | Pathological process = [[[0..1]@pathologicalProcess]] |
PROCEDURE RESOURCE

• SNOMED CT Expression Template

129125009: Procedure with explicit context

#(1..2)@RGa { 363589002: Associated procedure = [[(1..-1)@associatedProcedure]] : #(0..-1)@RGb { 363794007: Procedure site = [[(0..-1)@procedureSite]] ,

363699004: Direct device = ||(0..1)@directDevice || ,

424361007: Using substance = ||(0..1)@usingSubstance || ,

424226004: Using device = ||(0..1)@usingDevice || ,

246075003: Causative agent = [[(1..1)@causativeAgent]] ]

408732007: Subject relationship context = 410604004: Subject of record ,

408731000: Temporal context = [[(1..1)@temporalContext]],

406729009: Finding context = [[(1..1)@findingContext]]

• FHIR Structure Definition

SCT_AllergyIntoleranceTemplate: SNOMEDCTExpressionTemplate

findingWithExplicitContext [1]: CodeableConcept

RGa [1..2]: RelationshipGroupElement

associatedFinding [1]: CodeableConcept

pathologicalProcess [0..1]: CodeableConcept

RGb [0..1]: RelationshipGroupElement

after [0..1]: CodeableConcept

causativeAgent [1]: CodeableConcept

subjectRelationship [1]: CodeableConcept = 410604004: Subject of record

temporalContext [1]: CodeableConcept

findingContext [1]: CodeableConcept

PROCEDURE RESOURCE

• SNOMED CT Expression Template

129125009: Procedure with explicit context

#(1..2)@RGa { 363589002: Associated procedure = [[(1..1)@associatedProcedure]] : #(0..-1)@RGb { 363794007: Procedure site = [[(0..-1)@procedureSite]] ,

363699004: Direct device = ||(0..1)@directDevice || ,

424361007: Using substance = ||(0..1)@usingSubstance || ,

424226004: Using device = ||(0..1)@usingDevice || ,

246075003: Causative agent = [[(1..1)@causativeAgent]] ]

408732007: Subject relationship context = 410604004: Subject of record ,

408731000: Temporal context = 410512000: Current or specified time ,

406730004: Procedure context = [[(0..1)@procedureContext]]

• FHIR Structure Definition

SCT_ProcedureTemplate: SNOMEDCTExpressionTemplate

findingWithExplicitContext [1]: CodeableConcept

RGa [1..2]: RelationshipGroupElement

associatedFinding [1]: CodeableConcept

RGb [0..1]: RelationshipGroupElement

severity [0..1]: CodeableConcept

findingSite [0..1]: CodeableConcept

subjectRelationship [1]: CodeableConcept = 410604004: Subject of record

temporalContext [1]: CodeableConcept

findingContext [1]: CodeableConcept
**Step 2 - Define Mapping Rules from Source Structure (FHIR Resource) to Target Structure (SNOMED CT Expression Template)**

**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..*]: CodeableConcept

**Target Structure**

- **SCT_ConditionTemplate**: SNOMEDCTExpressionTemplate
  - findingWithExplicitContext [1]: CodeableConcept
  - RGa [1..2]: RelationshipGroupElement
    - associatedFinding [1]: CodeableConcept
  - RGaa [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**

```plaintext
rule_1: for source.code as code where verificationStatus != "entered-in-error" then {
    rule_1a: for code where code in descendantsOf (404684003 (Clinical finding)) make target.
    findingWithExplicitContext = 413350009 (Finding with explicit context), target.RGa as rga then {
        rule_1aa: make rga.associatedFinding = code
        rule_1ab: for severity in descendantsOf (272141005 (Severities)) OR findingSite in descendantsOf (123037004 (Body structure)) make rgb.findingSite = bs
        rule_1aca: make rga.subjectRelationship = 410604004 (Subject of record)
        rule_1adc: for source.clinicalStatus as cs, source.verificationStatus as vs 
            make rga.temporalContext = 410512000 (Current or specified time)
        rule_1ae: for source.verificationStatus as vs make rga.findingContext = vs
            then {
                rule_1aea: for vs make rga.coding as coding then {
                    rule_1aeaa: for vs make coding as code = translate (clinicalStatus,verificationStatus, status-to-findingContext-map, code)
                }
            }
    }
    rule_1ba: for code where code in descendantsOf (413350009 (Finding with explicit context)) make target.
    findingWithExplicitContext = code then {
        rule_1baa: for vs make code.display = preferredTerm (en-us, coding.code) }
}
```
### Condition

```
{{1..1}@findingWithExplicitContext ::
  #(1..2) @ROs [ 246090004: Associated finding = @1..1@associatedFinding ]
  #(0..1) @ROs [ 246112005: Severity = @0..1@severity, 363698007: Finding site = @0..1@findingSite ]
)
```

```
406732007: Subject relationship context = 410604004: Subject of record,
407631000: Temporal context = @1..1@temporalContext, 0
406729009: Finding context = @1..1@findingContext
```

### AllergyIntolerance

```
{{1..1}@findingWithExplicitContext ::
  #(0..2) @ROs [ 246090004: Associated finding = @1..1@associatedFinding ]
    370135005: Pathological process = @0..1@pathologicalProcess,
    #(0..1) @ROs [ 255234002: After = @0..1@after ],
    246075003: Causative agent = @1..1@causativeAgent
)
```

```
406732007: Subject relationship context = 410604004: Subject of record,
407631000: Temporal context = @1..1@temporalContext, 0
406729009: Finding context = @1..1@findingContext
```

### Procedure

```
129125009: Procedure with explicit context ::
  #(1..1) @ROs [ 363589002: Associated procedure = @1..1@associatedProcedure ]
    #(0..1) @ROs [ 363704007: Procedure site = @0..1@procedureSite ],
    363699004: Direct device = @0..1@directDevice,
    424361007: Using substance = @0..1@usingSubstance ]
```

```
406732007: Subject relationship context = 410604004: Subject of record,
407631000: Temporal context = 410512000: Current or specified time,
406729004: Procedure context = @0..1@procedureContext
```

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### Meeting Files

**File**

**Modified**

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No files shared here yet.