Potential advancements for representing Problems and Allergies resulting from harmonization between C-CDA and IPS Templates

Implementer Leader/Topic Confirmation

1. Topic Name?
   C-CDA and IPS: similarities and differences (Problems and Allergies)

2. What problem are you trying to solve?
   Increase the awareness about the IPS within the C-CDA community.
   Facilitate the implementation of the IPS by starting from their current C-CDA experiences.
   Promote the C-CDA / IPS harmonization

3. How are you planning on leading the discussion? (What is your planned approach, what steps will you take?)
   Provide a compared overview of the C-CDA/C-CDA CCD and IPS;
   Describe how conformance rules are expressed in the IPS (Trifolia Vs Art Decor);
   Focusing on a specific topic, i.e. Problems and Allergies, describe and discuss the main similarities and differences between the two Gx;
   Present and discuss possible harmonization approaches;

Agenda

- Brief introduction to IPS
- Compared overview of the C-CDA CCD and IPS
- How conformance rules are expressed in the IPS
- Problems and Allergies
  - main similarities and differences and possible harmonization approaches
BRIEF INTRODUCTION TO IPS

International Patient Summary

- The IPS is not an European Standard
  - The European PS is called eHDSI Patient Summary

Health record extract
- Snapshot in time of a subject of care’s health information and healthcare
- Not a full EHR

International
- Global application across a region or country

Scoped
- Designed for Unscheduled (cross-border) care
  - Not for public health or baseline
  - Within or between non-scheduled or planned care cases
International Patient Summary

- It doesn’t pretend to accommodate all the situations.
- It recognises that the ideal dataset is not closed, and is likely to be extended.

Minimal
Non-exhaustive
Specialty-agnostic
Condition-independent

- Reflects the ideas of ‘summary’ and the need to be concise
- It alludes to the existence of a core set of data items that all health care professionals can use.

- It does not imply that all the items in the dataset will be used in every patient summary.
- It is a starter set of data to help inform a person’s treatment at the point of care, irrespective of the condition of the patient or of the specialist trying to manage the care.

C-CDA / IPS TEMPLATE COMPARISON OVERVIEW
Similar but not equal!

High level structure

What we are interested in!
Virtual HL7 C-CDA Implementation - a-thon 2020, October 21st

**High level structure**

- **Problem**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Allergies and Intolerances**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Problems**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Medications**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Results**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Vital Signs**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Social History**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

**Recommended Sections**

- **Procedures**

**Optional Sections**

- **Advance Directives**
- **Encounters**
- **Family History**
- **Functional Status**
- **Immunizations**
- **Medical Equipment**
- **Payers**
- **Plan of Treatment**
- **Mental Status**
- **Nutrition**

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**Collaborative CDA Template Review Process Pilot**

- **Patient Care**
  - Analyze template differences and similarities C-CDA R2.1 and IPS Problem and Allergy Concern Act and encompassed templates/value sets
  - This presentation refers to:
    - CDAR2_ID_CCDACLINNOTES_R1_DISTUG1.2016AUG
    - V02_2019JUNwith_errata
    - CDAR2_INTLPATSUMMARY_STU_R1.2018OCT1 (IHE IPS Profile – R1.1 Trial Implementation)

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**High level structure**

- **Problem**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Allergies**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Observation**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Problem Status**
  - Section entry
  - Section exit
  - Author
  - Description
  - Value

- **Severity**

- **IPS Certainty**

- **IPS Age**

- **C-CDA Prognosis**

- **Priority**

- **Preference**

- **Author**

- **Priority**

- **Preference**

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HOW TO READ CDA TEMPLATE IN ART DECOR (INCLUDING THE IPS IG)

What you are used to seeing...

..what IPS (and other) uses...
How to read ART-DECOR Definitions


Relationship between Conformance verbs and Cardinality/Conformance properties

<table>
<thead>
<tr>
<th>Conformance Verb</th>
<th>Cardinality</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>1..1</td>
<td>Element SHALL be present with a proper value</td>
</tr>
<tr>
<td>F</td>
<td>1..1</td>
<td>Element SHALL be present with a fixed value</td>
</tr>
<tr>
<td>O</td>
<td>0..1</td>
<td>Element MAY be present (is truly optional)</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td>Element is conditional and may depend on the co-occurrence of other elements or properties of the instance or situations. The conditional conformance criteria are mentioned in a corresponding table.</td>
</tr>
<tr>
<td>NP</td>
<td>0..0</td>
<td>Element SHALL NOT be present</td>
</tr>
</tbody>
</table>

- RL: Required/Preferred
- CRE: Coded with unspecified codes for interoperability purposes but are not required to be drawn from the specified value set
- Expr: Examples are not required or even encouraged to draw from the specified value set

Enumeration values for the format of templates

<table>
<thead>
<tr>
<th>Code</th>
<th>Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>required (or CNE*)</td>
<td>Required/CRE</td>
<td>Coded with exceptions, the element SHALL be from the specified value set if any of the codes within the set can apply to the concept being communicated. If the values do not exist within the concept, other codes (e.g., data type allowing, text) may be included instead.</td>
</tr>
<tr>
<td>extensible (or CWE*)</td>
<td>Extensible/CRE</td>
<td>Coded with exceptions, the element SHALL be from the specified value set if any of the codes within the set can apply to the concept being communicated. If the values do not exist within the concept, other codes (e.g., data type allowing, text) may be included instead.</td>
</tr>
<tr>
<td>preferred</td>
<td>Preferred</td>
<td>Instances are encouraged to draw from the specified value set for interoperability purposes but are not required to do so if the concept is not covered.</td>
</tr>
<tr>
<td>example</td>
<td>Example</td>
<td>Instances are not required or even encouraged to draw from the specified value set. The value set may provide examples of the types of concepts intended to be enclosed.</td>
</tr>
</tbody>
</table>
Let’s start with the Problem Concern Act…

https://art-decor.org/art-decor/templates--shl7it--?section=templates&id=2.16.840.1.113883.3.1937.99.61.30.10.55

Problem Concern Act

- "statusCode of the Problem Concern Act is the definitive indication of the status of the concern"
  - IPS allows for "active|completed"
  - C-CDA "active|suspended|aborted|completed"
Problem Concern Act

- statusCode of the Problem Concern Act is the definitive indication of the status of the concern
- IPS allows for "active|completed"
- C-CDA "active|suspended|aborted|completed"
- Less constrained => extensible / Minimal value set for the IPS VS or required C-CDA Value Set

Some EU examples

1 Act : 1 Observation

Some EU examples

1 Act : 1 Observation

Some EU examples

1 Act : 1 Observation
Let's start with the Problem Observation...

https://art-decor.org/art-decor/templates-shl7it/?section=templates&id=2.16.840.1.113883.3.1937.99.61.30.10.53
 Problem Observation

<table>
<thead>
<tr>
<th>C-CDA</th>
<th>IPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• (SHOULD) Not only for ‘Problems’</td>
<td>• (SHOULD) (extendible in the FHIR IG)</td>
</tr>
</tbody>
</table>

If used, LOINC translation

Problem Observation

<table>
<thead>
<tr>
<th>C-CDA</th>
<th>IPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• (SHOULD) ValueSet Problem</td>
<td>• (SHOULD) ValueSet CORE Problem List Disorders</td>
</tr>
</tbody>
</table>

A negation of "true" coupled with an observation/value/code of SNOMED code 64572001 "Disease (disorder)" indicates that the patient has no known conditions.

The coded form shall be used also to indicate known absent conditions or the non-availability of information about them.

Problem Observation

• Negation of a specific problem
  - Not explicitly described in this version of the IPS
  - Very recent request (last week) to consider also this situation (e.g. for Rare Diseases)
  - Not practical to have explicit codes for negating each possible condition. Considering leveraging the verification status (to use the "Refuted").
### Problem Status Observation

<table>
<thead>
<tr>
<th>Code</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-DA</td>
<td>IPS</td>
</tr>
<tr>
<td>(SHALL)</td>
<td>(SHALL)</td>
</tr>
<tr>
<td>73425007</td>
<td>active</td>
</tr>
<tr>
<td>413322009</td>
<td>inactive</td>
</tr>
<tr>
<td>55561003</td>
<td>active recurrence</td>
</tr>
<tr>
<td>55561003</td>
<td>relapse</td>
</tr>
</tbody>
</table>

**Value**

10/20/20

https://confluence.hl7.org/display/FHIR/Free+SNOMED+CT+set+for+FHIR

### QUESTIONS?

**Thanks**