Project Gemini Proposal

A WHO, CDC, HHSC, IHE, HL7 FHIR collaboration regarding computable care guidelines (CCG)
Key questions...

- What is the problem we want to address?
- How will this IHE-HL7 collaboration especially contribute to solving the key issues?
- How will the work be progressed?
- What are the hoped-for outcomes?
A key challenge is that most care guidelines, today, are “paper-based”. e.g. 180-page maternal care guideline
A glaring gap in the specs...

- Presently, care guidelines are written for humans.
- Software developers have to read, understand, and encode a care guideline’s business rules into the source code of each individual eHealth software application.
- To date, no **standard grammar** for expressing healthcare guidelines has achieved broad adoption.
“Yellow Circle”: Everything that was done

“Blue Circle”: Everything that should have been done

Overlapping “Green Zone”: What was done, and should have been done.

Errors of Omission

Errors of Commission

What is needed to fill the gap?

- We need to describe the workflow and its context.
- We need to know which data (content & code) are required to drive the workflow and its decision logic.
- We need to express the “actions” that result from decision logic (e.g. IF x > y THEN z).
What is needed to fill the gap?

- We need to describe the workflow and its context.
- We need to know which data (content & code) are required to drive the workflow and its decision logic.
- We need to express the "actions" that result from decision logic (e.g. IF x > y THEN z).
What is needed to fill the gap?

- We need to **describe the workflow** and its context.
- We need to know **which data (content & code)** are required to drive the workflow and its decision logic.
- We need to express the “**actions**” that result from decision logic (e.g. IF x > y THEN z).

**IHE Dynamic Care Planning (FHIR)**
- CarePlan, PlanDefinition, ActivityDefinition, Task

e.g. FHIR resource bundles?
- ICD-11 family?

**CDS Hooks?**

**e.g. FHIR: $apply on ActivityDefinition?**
Potential challenges...

- This is non-trivial... lots of initiatives have faltered (e.g. GEMS, Arden, BPMN, etc.)
- Clinical Decision Support != Integrated Care Path
- Data Model != Information Model
- Exciting(Developers) != Exciting(Implementers)
- Data Mining != Data Farming
To close the know-do gap, **at scale**, we need to be able to describe what **should** happen in a machine-parsable format.
Work plan

- WHO to host an engineering session in Geneva immediately after IHE European CAT
- Prototyping will inform authoring; CCG profile development underway and will be progressed at IHE meeting in Chicago at end of April
- Target ballot and publication of IHE CCG profile by September
Planned outcomes...

- WHO has planned a High Level Meeting in Geneva for mid November to announce progress on its global digital health initiatives; CCG plays heavily in WHO’s global agenda

- Target CCG testing at FHIR meetings and at North American CAT in January 2020 & European CAT April 2020

- WHO is very supportive of the “implementation science” aspects of CAT-based conformance-testing, but looking for ways to host these in LMIC settings to support national initiatives; continue to pursue a way to help them do this (e.g. IHE WHO deployment committee)