# Sept 2022 WGM - Learning Health Systems Agenda

## Attendance

2022 Sept WGM Learning Health Systems Attendance - LHS

## Quarter - Time Zones Conversions

<table>
<thead>
<tr>
<th>Quarter</th>
<th>USA (Eastern)</th>
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<tr>
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## HL7 Antitrust Policy

Professional Associations, such as HL7, which bring together competing entities are subject to strict scrutiny under applicable antitrust laws. HL7 recognizes that the antitrust laws were enacted to promote fairness in competition and, as such, supports laws against monopoly and restraints of trade and their enforcement. Each individual participating in HL7 meetings and conferences, regardless of venue, is responsible for knowing the contents of and adhering to the HL7 Antitrust Policy as stated in §05.01 of the Governance and Operations Manual (GOM).

## Agenda

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<th>Day</th>
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Wednesday Q1 - BPM+Health

Overview of "What is BPM+ Health"

Discussion

How does BPM+ Health fit into the CQL IG work done by HL7?

LHS Overview -

- What is best practice? Lots of practice guidelines published by authoritative positions
- LHS CareTeam DAM - concept of a careTeam as everybody that touches an individual patient.
  - pre-conceived idea of facility "work team"
  - FHIR 80/20 rule
  - Project proposal of the virtual cycles (LHS Q3 Thurs)
- CareTeam - Care coordination (LHS Q4 Thurs)
- Ken Rubin - Consistent care across the VA
  - BPM care processes
  - OB care had narrative pathways that conflicted
- How do we take these processes and marry it along the way?
- Russ - ways BPM+ can assist
  - enumerating the care team roles - current value sets limited to specialty designation
  - Data access - way to automate a process to access the data
  - Coverage for careteam roles - including handoffs
  - Take into consideration patient preference.

Thursday Q3 -

BPM+Health

Learning Health Systems

Sepsis use case

DoD use case

- Data turns to information
- uses FHIR, CDS Hooks
- BPM+ shines with integration of workflow

Population health risk surveillance

- Data flow - uses variety of data input
  - Fitbit
  - questionnaires
  - Devices
  - Application
- EMR
- EHR
  - DaasS - does a level of assessment and write the data to the SMILE FHIR DB. Can have CDS in parallel’s
  - Has a machine learning model - can be used for any disease state
  - Created a risk assessment FHIR object
  - Missing from the AI is a way to define the AI output

Demo provided - the software runs the model.

How is data reconciliation - BPM+ is validating the data which drives the decision. Looking for characteristics associated with sepsis

How can workflow modeling go wrong and how to debug it?

- Consistency and coherency
- Test states - automate
- use modes - silent mode, monitor mode, etc
- Keep monitoring

AI drift means the data has change enough that the AI need to be re-trained

**LHS Virtuous Cycle Project**

Overview of the project and stage of the process

Overview of the Foundational/Data modes

- Knowledge to Action
  - Action to Data - Part 1 and Part 2
- Data to Evidence
- Evidence to Knowledge

What type of product should LHS WG produce?

- options include: FHIR IG; implementation focus
- Potential Use cases
  - Feedback looks around LHS
  - Collaborative use cases
  - eCare plan developed for patient with MCC, then QM/DEQM

Discoveries along the way:

- Duplication of content

Suggestions

- Architectural vision
- Transitions
- How can the decision models be used to close the loop

Question: How are areas of needs selected?

- As organizations get on the journey - would some sort of objective such as score cards that can be used.
- There's additional loops that need to be explored. How to go from knowledge to applying it? What additional knowledge can be explored.
- Catalogue provided is collapsed. If there is a specific topic exploring it will reveal information.
- Suggestion that the healthcare system is a system of system and each loop is a system of its own.
- Whatever is built need to acknowledge that a Learning Health Systems is a visionary thing - ideal is to get the right people together. Connecting the standards and technology is a piece in the bigger scope of things. By identifying the steps, organizations can build the ability to implement the various implementation guides.
- Another active project on LHS WG is the careTeam DAM - looking at the patient's care environment as one of the systems in the system of system. Care team defined by the patient is not recognized in the EHR technology today.
- Treatment monitoring as a feedback to the learning system.
- Need to be proactive rather than reactive
- Learning from changes in care processes
- Suggest having a capability model that maps to the four stages

**Thurs Q4 CareTeam DAM**

**Definitional Vs Actual Care Team**

Definitional CareTeam for a cohort

- Cohort team - preformed team e.g. Cardiac Arrest team that is predefined by the organization. The team is not for an individual patient
- Individuals Careteam - assumed the team is implied for the patient’s CarePlan. When we talk about the definition, its referring to the roles on the team - not qualifications, for family members or caregiver - member providing personal care, person responsible for financials for the patient.
- Question: Which FHIR Resource is used for the “definitional CareTeam”?
  - In the process of defining what is needed for a definitional CareTeam

  **JIRA 25267** -
• CareTeam.role - backbone element – 0..* (renamed from CareTeam.participant) - need a new name for "role" – similar to episode, but don't want to overload EpisodeOfCare that is more condition-based.
  • CareTeam.role.code (CodeableConcept) - renamed from "CareTeam.participant.role"
  • CareTeam.role.period Period | Timing (planned - when is Rehab needed?) - TBD rename period if choice of data types – clarify in comments CareTeam does NOT describe when it actually happened (Encounterparticipant) or specific planned instances of CarePlan activities (e.g. Appointment) – this is more about the association/relationships
  • Status (or is this redundant with RolePeriod?)
  • CareTeam.role.member - backbone element – 0..*
    • CareTeam.role.member.actor (who; participant) - Reference(Practitioner | PractitionerRole | RelatedPerson | Patient | Organization | CareTeam)
    • CareTeam.role.member.coverage[x] Period | Timing (works Mon/Wed/Fri) – When the member is generally available within this care team - no change
    • CareTeam.role.member.onBehalfOf (still needed?)
  • Suggest adding reasonCode for the reason for the careTeam Role
  • onBehalfOf element - should be expanded to be any participant onBehalfOf another participant.

Claude - Review of the use case - https://confluence.hl7.org/x/lQNTCd

• careTeam can be a composition of multiple careTeams and being able to keep track of them.
• Can this be done today with FHIR?
  • The subject element is 0..1 - does FHIR have enough specificity to define this?
  • CareTeam centered about stroke patients - subject of the careTeam need to be bound to patients with these characteristics. Need to define a population of patients with these characteristics. Noted Group has characteristics - will be a list of people with the characteristics.
  • Are there certain aspects of the careteam where definitions are added to support ability to run certain conditions.
  • Can't do the modelling until we have the needed use cases to define this.
  • Need overall expressions on the careTeam and overall expression on each role in the careTeam
  • TO DO - Add JIRA to include Subject as a search parameter
  • AI used at the POC to anticipate and predict environmental cleanliness - this is shifting the terrain saving time and money
  • DAM - have considered those types of services - e.g. Meals on Wheels
  • Missouri Leap Grant - eLTSS project - community members included as well as the services people need.
  • Currently its generalized as "relatedPerson" roles.
  • Behavioral health support persons need to be part of the careTeam.
  • Need to include these terminologies for these relationships.

• Ballot planned for Jan 2023
  • Another attribute for CareTeam roles is whether they are "planners" or do they perform activities in the CareTeam. They could be both - the person who pulls the team together.
  • One member of the team can have two different roles
  • a role can have no participant - have identify the role but have not participant
  • Patients can indicate who their careteam members are.
  • CareTeam can be a member of another CareTeam - question is will there be a system where the patient can consult to see who are all the members of their careTeam across systems. This will be needed.
  • Provenance can point to a Resource - can it point to parts of a resource? There is an extension for this.
  • Pharmacy has an element "event history" that references provenance. This is not a circular reference because the resource points to an older version of provenance
  • TO DO - add CareTeam to the ContextOfUse for the eventHistory extension - ContextOfUse for the extension tells you the resources that can use the extension