2020-03-25 SDOH-CC Connectathon Participant Meeting

https://confluence.hl7.org/display/GRAV/Gravity+SDOH+FHIR+Connectathon+Participant+Meetings
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Approved by the ANSI Board of Directors (May 22, 2014)
Agenda 2020-02-28

- Gravity Project Overview
  - SDOH-CC FHIR IG
  - Review Connectathon Testing Schedule
  - One-Page “Quick Tip” Sheet
- PMEHR interactions with Screening App
- Security assumptions for Connectathon
- “Participant Option” for otherwise “Observers”
- Important Links and Information
- Next Steps Check List

Recording: https://youtu.be/r3OT5rsml7E
Agenda 2020-03-04

• Roll call – Organization Name; What actor might your organization’s system play at Connectathon?
• PMEHR interactions with Screening App
  • Review the Actors and Transactions
  • Step through a Connectathon demo example
  • Review the Use Case 1 Message examples and transactions
• Important Links and Information
Agenda 2020-03-25

• Roll call – Organization Name; What actor might your organization’s system play at Connectathon?
• PMEHR interactions with Screening App
• Important Links and Information
  • Link to recordings
  • Link for form builder
  • Link to Master List with Temporary Codes

  ▪ Review Message, Task, [x]Request
  ▪ PMEHR documenting SDOH information in a clinical care encounter
Gravity Project

- The Gravity Project creates and maintains a consensus-building community to expand interoperable social determinants of health (SDOH) data exchange by using HL7® FHIR®.
- Collaboratively develop recommendations for how best to capture information for interoperable electronic health information exchange about clinical activities related to three SDOH domains:
  - food insecurity,
  - housing instability and homelessness, and
  - transportation access.
Gravity Project Use Cases

Use Case 1: Document SDOH Data in Conjunction with the Patient Encounter

Use Case 2: Document and Track SDOH Related Interventions to Completion

Use Case 3*: Gather and Aggregate SDOH Data for Uses Beyond the Point of Care

*Out of scope for 2020 cycle
Overview of Connectathon Schedule

- 2020-05-16 Gravity SDOH FHIR Connectathon 24
- 2020-05-28 MiHIN InterOpathon 2020-09-15
- Gravity SDOH FHIR Connectathon 25 Baltimore, MD

- Assumption: Participants are committed Gravity Project community participants
- Each Connectathon Event is two-days long
- All events will be virtual—EASIER TO ATTEND
Roles for Use Case 1: Actor Capabilities

This use case is relevant to how coded SDOH data are captured in a health care system and how data are shared with other systems. SDOH data are documented either as part of screening or assessment/diagnosis activities and may be the reason for ordering care activities. Client system initiates the transaction. Server system receives and responds to the transaction. FHIR workflow support (Task Resource) and $process-message operation support is required.

Messages/Transactions:
- Initiate Screening Task
- Return Screen
- Update Screening Task
- Communication Request
- Communication Response

<table>
<thead>
<tr>
<th></th>
<th>PMEHR</th>
<th>ScrApp/PatApp</th>
<th>Clin Data R/R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Server</td>
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<tr>
<td>Server</td>
<td>Client</td>
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<td>Server</td>
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</tbody>
</table>
Roles for Use Case 1

Gravity Project Use Case 1 “Quick Tips” One-Pager

SDOH-CC Community Review CI Build V0.0.3
Roles for Use Case 1:

1. **Initiate Screening Task**
2. **Return Screen**
   - 2.1 Consent provided by patient
   - 2.2 Consent not provided by patient
3. **Update Screening Task**

Scene 1

1. **Initiate Screening Task**
2. **Return Screen**
   - 2.1 Consent provided by patient
   - 2.2 Consent not provided by patient
3. **Update Screening Task**

Scene 2: The Visit

1. Task with SDOH Questionnaire and Patient List
2. Population Questionnaire Response with consent information
3. Completed Task
4. Communication Request
   - 4.1 CDA document request
   - 4.2 FHIR composition resource request
   - 4.3 FHIR Screening questionnaire request
5. Communication with Requested Data or Document

Scene 3

3. Communication Request
   - 4.1 CDA document request
   - 4.2 FHIR composition resource request
   - 4.3 FHIR Screening questionnaire request
4. Communication Response
   - 5.1 CDA document response
   - 5.2 FHIR composition resource response
   - 5.3 FHIR Screening questionnaire response

XML and Json samples of technical system roles and information exchanges
FHIR Workflow Execution and Request Patterns (Maturity Level 2)

- Message Bundle (Bundle.type = “message”)
  - MessageHeader
    - Task
      - [X]Request
- Use Case #1 - Gather SDOH info in clinical encounter
  - CommunicationRequest Patterns (HReX v0.1.0 FHIR IG)
    - Da Vinci HReX covers CDex and PDex.
- Use Case #2 – Track Referrals to completion
  - ServiceRequest Patterns (BSeR FHIR IG)

[http://build.fhir.org/ig/HL7/sdoh-cc/#how-to-use-this-guide](http://build.fhir.org/ig/HL7/sdoh-cc/#how-to-use-this-guide)
Use Case #1

Scene 2: The Visit
Food Insecurity Data Concepts

- **Goal Setting**: Food Security screened and intervened
- **Intervention**: Counseling about nutrition (procedure), Meals on wheels provision education (procedure), Evaluation of eligibility for home delivered
- **Screening**: Food Security screened and intervened
- **Assessment Observation**: Food Insecurity
- **Diagnosis**: Food Insecurity, Mild Food Insecurity, Moderate Food Insecurity, Severe Food Insecurity

**Question**: Within the past 12 months we worried whether our food would run out before we got money to buy more [U.S. FSS]?

**Answer**: Often true, Sometimes true, Never true, Don’t Know/Refused

**Clinical Finding**: Food Insecurity, Mild Food Insecurity, Moderate Food Insecurity, Severe Food Insecurity, Present or Absent

**Screening Interpretation**: Food Insecurity (At Risk, Not at Risk)

[https://confluence.hl7.org/display/GRAV/Food+Insecurity+Domain](https://confluence.hl7.org/display/GRAV/Food+Insecurity+Domain)
FHIR Modeling

- Care Plan
- Planned & Completed Intervention
- Requested Services
- Diagnosis
- Assessment Observation(s)
- Screening Question/Response
- Patient Centered Goal
- Goal Profile
- Condition Profile
- Observation Profile
- Service Request
- Procedure
- Resource References
- Entry point into Use Case 1
- Questionnaire Response
- Questionnaire
- Resource
- Profile
- Resource Element
- Nested Resource Element
Food Insecurity Definition (December 3, 2019)

**Working definition**
“Uncertain, limited, or unstable access to food that is: adequate in quantity and in nutritional quality; culturally acceptable; safe and acquired in socially acceptable ways”

1. **Goal. Description**
   - Food Security

2. **Goal. Target Measure**
   - Food Insecurity - effect on quality, variety, quantity

3. **Goal. Outcome Reference**
   - Compares “next” Food Insecurity Assessment Observation with “previous” Food Insecurity Assessment Observation

4. **Goal. Achievement Status**
   - Improving, Worsening, No-change, Achieved

(Gregory & Coleman-Jensen, 2017)
Use Case 1 Sequence Diagram

- **Patient App**
- **Screening App**
- **PMEHR**
- **Clinical Data R/R**

Sequence Diagram:

1. **Start Task**
   - Gather Pt consent
   - Pre-pop questionnaireResp
   - Render questionnaire w/ pre-pop info
   - Receive submitted response
   - Compute derived interpretations

2. **Post QR, cond ref (O, Pt) to EHR**
   - Update sub-Task
   - Update/Attach to Pt Chart

3. **Complete Interventions that can be performed here**
   - A. Create CarePlan Resource
   - B. Create CarePlan Document
   - C. Create Encounter Summary Document

4. **Perform Pt Encounter**
   - Update Plan
   - Initiate Referral

5. **Complete Task**

   Use Case 2
   - RESTful Query
   - RESTFUL Retrieve
   - Solicited Communication
   - Solicited Response/Unsolicited Communication

*Structured documents can be supplied as C-CDA on FHIR or C-CDA Documents.*
## Enriching the Amount and Type of Patient-Centered Information Available for Sharing Across the Healthcare Ecosystem

<table>
<thead>
<tr>
<th><strong>Patient Summary</strong>*</th>
<th><strong>Encounter Summary</strong>**</th>
<th><strong>Referral Note</strong>***</th>
<th><strong>SDOH Data Elements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Header</strong></td>
<td><strong>Header</strong></td>
<td><strong>Header</strong></td>
<td><strong>Risks &amp; Health Concerns</strong></td>
</tr>
<tr>
<td><strong>Health Concerns</strong></td>
<td><strong>Health Concerns</strong></td>
<td><strong>Health Concerns</strong></td>
<td><strong>Screenings and Interpretation Observations</strong></td>
</tr>
<tr>
<td><strong>Problem Section</strong></td>
<td><strong>Problem Section</strong></td>
<td><strong>Problem Section</strong></td>
<td><strong>Assessment Observations</strong>++</td>
</tr>
<tr>
<td><strong>Nutrition</strong></td>
<td><strong>Nutrition</strong></td>
<td><strong>Nutrition</strong></td>
<td><strong>Patient Centered Goals</strong></td>
</tr>
<tr>
<td><strong>Social History</strong></td>
<td><strong>Social History</strong></td>
<td><strong>Social History</strong></td>
<td><strong>Interventions (completed)</strong></td>
</tr>
<tr>
<td><strong>General Status</strong></td>
<td><strong>General Status</strong></td>
<td><strong>General Status</strong></td>
<td><strong>Interventions (planned)</strong></td>
</tr>
<tr>
<td><strong>Goals</strong></td>
<td><strong>Goals</strong></td>
<td><strong>Goals</strong></td>
<td><strong>Service Requests (requested, completed)</strong></td>
</tr>
<tr>
<td><strong>Procedures</strong></td>
<td><strong>Procedures</strong></td>
<td><strong>Procedures</strong></td>
<td><strong>Encounter Diagnoses for this encounter</strong></td>
</tr>
<tr>
<td><strong>Plan of Treatment</strong></td>
<td><strong>Plan of Treatment</strong></td>
<td><strong>Plan of Treatment</strong></td>
<td>++ Do we need an Assessment Section?</td>
</tr>
<tr>
<td><strong>Encounters Section</strong></td>
<td><strong>Encounters Section</strong></td>
<td><strong>Encounters Section</strong></td>
<td>Do we need Health Insurance Section?</td>
</tr>
</tbody>
</table>

* Continuity of Care Document

** Progress Note, H&P Document, Consultation Note, Discharge Summary

***Referral Note
Enriching the Amount and Type of Patient-Centered Information Available for Sharing Across the Healthcare Ecosystem

Patient Summary*

- Header
- Health Concerns
- Problem Section
- Nutrition
- Social History
- General Status
- Goals
- Procedures
- Plan of Treatment

Encounters Section

SDOH Data Elements

- Risks & Health Concerns
  - Conditions of focus the specified range of time
- Screenings and Interpretation Observations
- Assessment Observations++
- Patient Centered Goals
- Interventions (completed)
- Interventions (planned)
- Service Requests (requested, completed)
- Encounter Diagnoses for Encounters that occurred during the specified range of time ++

++ Do we need Health Insurance Section?

* Continuity of Care Document
Incremental Approach to FHIR IG Development

Care Plan

- Header
- Health Concerns
- Goals
- Interventions
- Health Status Evaluations & Outcomes

SDOH Data Elements

- Risks & Health Concerns
  - Conditions
- Patient Centered Goals
- Interventions (completed)
- Interventions (planned)
- Service Requests (requested, completed)
- Screenings
- Assessment Observations
**Practice Management/EHR (PMEHR) - gathers and shares SDOH information in a clinical care setting.**

<table>
<thead>
<tr>
<th>Capability</th>
<th>FHIR API resources and operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiate a screening task for a list of patients and a specific screening tool to be used [1]. Receive individual patient consent and screening information as it becomes available [2]. Associate received information with the patient’s chart. Receive a confirmation when a screening task has been completed [3].</td>
<td>[base]/$process-message Bundle MessageHeader, Task List, US Core Patient SDC Questionnaire SDC QuestionnaireResponse, Observation</td>
</tr>
<tr>
<td>Enable review of received screening information associated with a patient’s medical record. Enable the clinician to document an SDOH clinical finding. Permit clinicians to document an SDOH issue as a health concern or condition to be tracked on the patient’s problem list. Include a structured SDOH goal in the patient’s documentation to facilitate outcome tracking. Document planned or completed activities to address SDOH needs using structured data.</td>
<td>SDOHCC_Observation_FoodInsecurity_1 SDOHCC.Condition_FoodInsecurity_1 SDOHCC.Goal_FoodInsecurity_1 SDOHCC.Procedure_FoodInsecurity_1</td>
</tr>
<tr>
<td>Receive a communication requesting SDOH information gathered during a patient encounter [4]. Share requested SDOH information as structured data or using a standard visit summary [5].</td>
<td>CDex CommunicationRequest CDex Communication C-CDA on FHIR Composition [base]/Composition/[id]/$document Or C-CDA document</td>
</tr>
</tbody>
</table>
**Screening App Actor** - receives and executes the screening task by interacting with the patient and the PMEHR.

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<tbody>
<tr>
<td>Upon receiving request [1], initiate the requested screening task for the list of patients, using the supplied questionnaire. Interface with the user to gather the needed data sharing consent and collect the screening responses and compute the screening interpretation.</td>
<td>Task, List, US Core Patient, SDC Questionnaire</td>
</tr>
<tr>
<td>Return the consent and screening information to the screening task initiator [2]. If the patient does not consent to share screening information, return SDOH screening indicating patient preference not to participate [2.1].</td>
<td>Consent, SDC QuestionnaireResponse, Observation</td>
</tr>
<tr>
<td>Update the task initiator when the task is completed [3].</td>
<td>Task</td>
</tr>
</tbody>
</table>
Use Case 1: Connectathon Track

• Three “scenes”:
  • Scene 1: PMEHR, Screening App Interaction
  • Scene 2: PMEHR documenting SDOH info during an encounter
  • Scene 3: Clin Data R/R, PMEHR Interaction

• [Connecathon 24 Track Page](#)
Security Assumptions & Connectathon Testing

- Open connections are utilized for initial Connectathon testing.

- Optionally, System-level OAuth 2.0 authentication (grant_type: client_credentials) is tested for production use.

- Connectathon Testing and Testing Scripts available from Aegis
Gaging Interest for “Observer” Participants

• Are there parties who want to participate as observers?
  • What does it mean to be a Connectathon Observer?

• Would there be interest in a fourth “patient participant” role?
  • Options to participate by playing the role of the Patient in Scene 1
  • Options to participate by playing the role of the Patient in Scene 3

Patients’ Right to Access Their Own Data

PMEHR

Patient App
Important Links and Planning Information

• Main Gravity Confluence Space
• Gravity FHIR IG Development
• Sign up for Connectation Participation
• Community Review SDOH-CC CI Build V0.0.3
  • V0.0.4 TBD April 20, 2020
• Gravity Project Use Case 1 “Quick Tips” One-Pager
• Use Case 1 “Track” Plan
Gravity SDOH FHIR Connectathon Participant Meetings Schedule

Wednesdays at 3:00pm ET

https://global.gotomeeting.com/join/454082317

United States (Toll Free): 1 877 309 2073
- One-touch: tel:+18773092073,,454082317#tel:+18773092073,,454082317

Access Code: 454-082-317

- Feb 26 – Connectathon participation overview
- March 4 – PMEHR interactions with Screening App
- March 25 – PMEHR documenting SDOH information in a clinical care encounter
- April 1 – Clinical Data R/R interactions with PMEHR, Aegis Touch Stone demo and CDex Test Script use
- April 15 – Review of OAuth 2.0 implementation considerations; Options for the “patient participant” role; April 29 – Participation Logistics-what to expect, Final Questions

All sessions are recorded.
Next Steps Checklist 2020-02-28

• Determine the right participants from your organization, and what system role your technology will play
• **Sign-up to record your interest in participating in Connectathon** (and the right participants and system roles)
  • Sign-up to be a “patient participant” if not bringing a system
  • Confirm each participant is a **Gravity committed member**
• **Register for HL7 Work Group Meeting- Sat/Sun Connectathon**
• Mark you calendar to attend the **Connectathon Planning Sessions** (or allocate time to review recordings)
• Review the information on **Gravity Confluence Space**
• Send Questions to GravityProject@EMIAdvisors.com
Next Steps Checklist 2020-03-04

• Determine the actor role(s) your system will play.
• Begin reviewing the needed messages/transactions that your actor needs to initial or respond to.
• Begin to understand the FHIR Resources needed to support the application interfaces and specified payloads.

• Check out the LHC Form Builder: https://lhcfoms.nlm.nih.gov/

• Review the Gravity MasterList with Placeholder codes to use for creating other types of Food Insecurity Questionnaires included in the Gravity Project https://confluence.hl7.org/display/GRAV/Gravity+FHIR+IG
Next Steps Checklist 2020-03-25

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- Reach out for a jumpstart.
Next Steps Checklist 2020-03-25

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LNelson@Max.md