2020-05-26
Gravity SDOH-CC
Connectathon

Track Lead: (Report Out and Lessons Learned)
Lisa Nelson

SDOH-CC FHIR IG
http://build.fhir.org/ig/HL7/sdoh-cc/
Imagine you are here…

but seeing other people’s screens more clearly!
Thank you!

SDOH-CC FHIR IG
Social Determinants of Health

AMA: Monique Van Berkum, Jim Shalaby, Corey Smith, Matt Menning
MaxMD: Natasha Kreisle, Cheng Liu, Matt Elrod, Yan Wang
Gravity PMO: Evelyn Gallego, Sarah DeSilvey, Linda Hyde
Track Summary

• Test implementation guidance documented in the SDOH-CC IG
  • Identify needed revisions and improvements (August 2020 Ballot)

• Discuss Information Flow Assumptions
  • Push versus Pull Transactions
  • Task-based Workflow
  • RESTful query assumptions

• Confirm Data Content Coding Assumptions
  • Confirm requirements/recommendations on coded concepts for various data elements

SDOH-CC Use Cases:
1. Document SDOH data in conjunction with the patient encounter,
2. Document and track SDOH related interventions to completion,
3. Gather and aggregate SDOH data for uses beyond the point of care (e.g. public health, population health, quality measurement, risk adjustment, quality improvement, and research.)
Participants

- > 30 Participants at some points
  [Confluence Link]
- Many first-timers, beginner-level FHIR knowledge
  - Big Capacity Building Opportunity
- Interested in comparing registration list to actual Zoom participant list
- Lots of cross-collaboration with the Care Coordination track
- 3 Testing platforms plus Direct enabled “sandbox Patients”
Notable Achievements

- First Connectathon for Gravity Project community
- Reuse of US Core, SDC, BSeR, CDex, and C-CDA- on-FHIR + new SDOH-CC defined Profiles
- 8 Patient participants were issued consumer DirectTrust addresses and completed coded SDOH screening instruments which were then shared with a simulated EHR. A referral was made for support services. A secondary system requested and received the point-of-care information (whole visit summary or just the screening data).
- 3 Organizations demonstrating implementations
- Shared coded Food Insecurity social risk data
  - Screening Instruments
  - Clinical Observations
  - Diagnoses/Conditions
  - Goals
  - Interventions (Procedures & Service Requests)
- Shared digitally signed Progress Note with corresponding FHIR Resources (best of both worlds scenario).
Use Case 1

SDOHCC Task PatientScreening
SDOHCC CommunicationRequest
SDC Questionnaire FoodInsecurity
SDOHCC List PatientScreening
SDOHCC Communication
SDC QuestionnaireResponse FoodInsecurity
SDOHCC Consent FoodInsecurity

US Core Patient
US Core Practitioner
US Core Organization
US Core PractitionerRole
US Core Location
OrganizationAffiliation

BSer Task PatientReferral

CDex CommunicationRequest
CDex Communication
SDOHCC Observation FoodInsecurity
SDOHCC Condition FoodInsecurity
SDOHCC Goal FoodInsecurity
SDOHCC Procedure FoodInsecurity
SDOHCC ServiceRequest
FoodInsecurity

CCDAF Composition
CCDAF DocumentReference

PMEHR

Clinical Data Reg/Repo

Public Health, Quality Assessor, Researcher, Care Coordinator
Use Case 1 Sequence Diagram

Scene 0

* Structured documents can be supplied as C-CDA on FHIR or C-CDA Documents.

Scene 1

Scene 2

Scene 3
Gather Patient Screening Information

Task-Based Workflow

Provider Actor

1. CREATE Task
   POST Task data

6. READ QR
   GET QR data

Patient Actor

2. READ Tasks
   GET Task data

3. READ Questionnaire
   GET Questionnaire data

4. Submit QR
   POST QR data

5. UPDATE Task
   PUT Task data

SAFHIR PHR Server Containing Q, QR, Tasks
Gather Patient Screening Information
Questionnaire Resource
Gather Patient Screening Information Questionnaire Response
Gather Patient Screening Information

Patient App

```
Screening App has permission to collect and share the SDOH Screening information gathered by this questionnaire with PMEHR Demo (the organization initiating the screening request). The information may be used for treatment, payment, and operations in support of care being delivered for this patient.
```

### Food Insecurity (Hunger Vital Sign)

<table>
<thead>
<tr>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within the past 12Mo we worried whether our food would run out before we got money to buy more</td>
<td>Sometimes true</td>
</tr>
<tr>
<td>Within the past 12Mo the food we bought just didn't last and we didn't have money to get more</td>
<td>Sometimes true</td>
</tr>
<tr>
<td>Food insecurity risk</td>
<td>At risk</td>
</tr>
</tbody>
</table>

Answered by Patient

Computed by the Form Filler (or by the Form Manager)
Gather Patient SDOH Screening Information

SDOH-CC Patient Screening

- Screening instruments that use the FHIR Questionnaire Resource and utilize standardized data elements for questions and answers
- Patient responses captured as coded data using the FHIR QuestionnaireResponse resource
- Guidance supplied in the FHIR SDC IG

Send structured questionnaires to the patient’s mobile device.
Gather Patient Screening Information

Looking at Task-based workflows.

Considering ways to optimize questionnaire rendering for the patient.
Gather Patient Screening Information

Use
Record SDOH During a Patient Encounter

Screening Information is received by the EHR and is available in the patient’s chart.

Easy viewing of Questionnaire Responses

<table>
<thead>
<tr>
<th>Screening</th>
<th>Questionnaire</th>
<th>Received Time</th>
<th>Status</th>
<th>Questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>50c6791-950d-4c26-b67c-9551d781382a</td>
<td>Within the past 12Mo we worried whether our food would run out before we got money to buy more</td>
<td>2020-05-12T02:42:25.147Z</td>
<td>completed</td>
<td></td>
</tr>
<tr>
<td>f2a0e0b-932d-4c04-882e-b8a76ddf9a96</td>
<td></td>
<td>2020-05-15T11:30:37.340Z</td>
<td>completed</td>
<td></td>
</tr>
<tr>
<td>fbca6d3-4269-6041-355a8cc9659c</td>
<td></td>
<td>2020-05-15T11:47:26.691Z</td>
<td>completed</td>
<td></td>
</tr>
<tr>
<td>f6be5d38-f337-42c4-864a-ac1d421f98a5</td>
<td></td>
<td>2020-05-15T11:52:12.001Z</td>
<td>completed</td>
<td></td>
</tr>
<tr>
<td>8d52d9c2-8e4d-4156-9c53-2f92be07557</td>
<td></td>
<td>2020-05-15T16:19:00.668Z</td>
<td>completed</td>
<td></td>
</tr>
</tbody>
</table>

WellRx Questionnaire - revised

Q: In the past 2 months, did you or others you live with eat smaller meals or skip meals because you didn’t have money for food?
A: No

Q: Are you homeless or worried that you might be in the future?
A: No

Q: Do you have trouble finding or paying for a ride (transportation)?
A: Yes
Record SDOH During a Patient Encounter

Profiles Resources for SDOH Data

Create Referral, Encounter Summary

FHIR Resources: ServiceRequest and Composition

C-CDA Document Too

FHIR Document

HL7 International

gravity project
Record SDOH During a Patient Encounter

Composition: Progress Note
Composition/e43d835f-cfb9-4f34-9db8-ee735ca612ed
Composition/e43d835f-cfb9-4f34-9db8-ee735ca612ed/$document

C-CDA: Progress Note
DocumentReference/e3696ca4-cf72-4c22-891a-350f96766eb6
View Document
Share POC Data for Secondary Uses

Communication Request

Request FHIR Resources

Request Data to be returned

FHIR Resources (SEARCHSET Bundle)

Summary

QuestionnaireResponse (4)

Bundle Type

searchset
Share POC Data for Secondary Uses

Communication Request

Request Document by Type

Request Doc to be returned

Request Data to be returned

PMEHR MaxMD Medical Care Solutions https://ehr-sandbox.directmdemail.com:844:

Doc Type 11506-3: Progress Note

Send
Share POC Data for Secondary Uses

Certificate-Based Signature

Digitally sign the document
Discovered Issues/Questions

▪ How to secure EHR support?

▪ Roadmap for “push transactions” not clear
  • Push for referral events vs Polling for referrals

▪ Dependency and interdependency on low maturity
  Resources and WIP IGs increases project risks

▪ SDOH-CC documented “temporary codes” strategy
  may prove helpful for organizations using local codes
  for screening information
Next Steps

- Additional exploration of requirements for supporting information and feedback data for referrals to community-based organizations for social care services
- More exploration of the use of the CarePlan Resource
- Review of CDS Hooks mechanisms that support writing information to EHR systems
- Clarification on the role of a “Content IG” which does not prescribe information exchange mechanisms, but focuses on “Content Profiles”
A large, technical collaboration event transformed into a virtual experience.

An emerging FHIR IG that is helping to raise the bar on what it means to produce a high-quality FHIR IG.

Community collaboration on discrete data coding AHEAD of specification development.

Capacity Building for a new audience

FHIR
FHIR IG
SDOH-CC FHIR IG

Resources
Profiles
RESTful Interactions
Messages
Lessons Learned

- Information exchange workflows between data sharing partners needs to be reexamined to determine what implementers are open to supporting
  - Support for messaging is not on implementer’s roadmap, at this time. The FHIR RESTful paradigm is the only current option for early explorers.
  - Initial implementers envision having a Patient App query to see if there is a new screening task to be performed.
    - Each task covers only one patient and one screening instrument
  - Early implementers did not include patient consent in the workflow. If consent is going to be included, more focus will be needed on this topic to agree what impact consent may have on information sharing authorization

- EHR engagement needs to be a priority
  - Information flow guidance needs to take planned EHR adoption of FHIR into consideration
  - EHRs need to be engaged and involved in IG development

- Greater focus needed on how to reference resources when posting or receiving into another system.
  - Implementer needs to use the fulluri for referenced resources within transactions or searchset bundles to support interoperability

- Dependence on other low maturity IGs impacts implementer readiness for testing and documented guidance
  - Changes to CDex will effect information exchange mechanisms to be used to share and exchange SDOH information collected as “clinical data” in the clinical care setting

- Need more clarity on the requirements to use US Core Profiles
  - Do profiles on resources profiled in US Core need to assert further constraints the associated US Core profile rather than being a constraint on the base resource?
  - When a resource references a resource that is profiles in US Core, when should the resource be referenced and when should the US Core resource be referenced?
Recommendations to inform the development and piloting of the AHRQ/NIDDK eCare Plan app and associated FHIR IG.

- Recognize the relationship between “encounter resources” and resources referenced by a CarePlan resource.

- Agree on expectations for how data will be updated over time
  - Clarify when a specific resource is updated (same id with new version) versus when a resource is added and a prior resource is replaced (made inactive) versus when additional resources are added without impact on prior resources

- Clarify expectations for how a CarePlan will be updated when new or additional information is supplied, included how omitted information will be treated.
  - A very explicit set of examples needs to be considered which are systematically created to demonstrate all possible combinations of new and existing information

- Confirm expected data exchange mechanisms before establishing the pilot
  - What are the expectations about systems pushing or pulling information
Questions?

Evelyn Gallego
evelyn.gallego@emiadvisors.net
Twitter: @egallego
Linkedin: linkedin.com/in/egallego

Lisa Nelson
lnelson@max.md
Twitter: @PHRLisa
Linkedin: linkedin.com/in/lisa-nelson-987b577