Consensus-driven Standards on Social Determinants of Health

Gravity Project: Proposed Use Cases for Pilot Testing
Interoperability Glide Path: Domain Data Sets & FHIR Implementation Guides

SDOH Data Sets
- Food Insecurity
- Transportation Insecurity
- Housing Instability
- Homelessness
- Inadequate Housing
- Education
- Financial Insecurity
- Material Hardship
- Intimate Partner Violence (IPV)
- Social Connectedness
- Unemployment
- Stress
- Veterans

Develop and test coded value sets for use in FHIR
Refine, test, and ballot HL7® FHIR® SDOH Clinical Care Implementation Guide

Regulators
- EHR Vendors
- Payers & Providers
- Patients
- Registries/Trials
- Public Health
- Measure Developers
- Research

http://www.hl7.org/about/fhir-accelerator/
Gravity Use Case Package

Gravity Project terminology and technical standards are defined by three overarching use cases:

1. Document SDOH Data in Conjunction with a Patient Encounter
2. Document and Track SDOH Related Interventions to Completion
3. Gather and Aggregate SDOH Data for Uses Beyond Point of Care

URL: https://confluence.hl7.org/display/GRAV/Gravity+Use+Case+Package
1. The SDOH Clinical Care IG is a framework Implementation Guide (IG) and supports multiple domains.

2. The IG supports the following clinical activities:
   - Assessments
   - Health Concerns / Problems
   - Goals
   - Interventions/ Referrals
   - Consent
   - Aggregation for exchange/reporting
   - Exchange with Patient/Client applications
   - Draft specifications for Race/Ethnicity exchange


4. STU2 Ballot closed on 1/10/22. Standard for Trial Use 2 Release is anticipated to be in October 2022.

URL: http://build.fhir.org/ig/HL7/fhir-sdoh-clinicalcare/
Gravity Three-Tiered Piloting Approach

- Defines incremental tiers for testing Gravity standards (terminology and technical)
  - Entities may participate at any Tier.

**Tier I**
- Basic, information content verification
  - Establish information infrastructure and terminology for Tiers II and III
  - Information can be exchanged by any method or not at all

**Tier II**
- Secure, Electronic Information Exchange
  - Exchange data defined in Tier I
  - Leverage established content and transport standards (C-CDA, HL7 V2, Direct Transport)

**Tier III**
- Complete Gravity SDOH Data Model and Exchange
  - Implement complete Gravity FHIR IG data model
  - Implement Gravity FHIR IG exchange standards
  - Import/export SDOH datasets via robust technologies

* Minimum requirements for Gravity Pilots

Primary focus of FHIR Pilots
Dr. Carla Sanchez sees patient Rebecca Smith and learns that she may have SDOH concerns (lost her job / financial insecurity) so asks the case manager to see and assess Ms. Smith’s situation since she may not be able to afford her medications.

The case manager interviews Ms. Smith and assess that she is at risk of not being able to afford her medications within the next 3 months and will likely be financially insecure. The social worker coordinates with a known and trusted Community–Based Organization (CBO) to request several types of services to help address priority concerns such as housing, food, medications and money (her assessment is sent with the requested services).

The social worker at the CBO, Susan Stars, further assesses Ms. Smith’s needs and matches her with CBOs that can provide needed services. The case manager contacts Susan Stars (or Susan Stars contacts the case manager) to get a status update to understand if they can provide the requested services. Regular status updates are provided by the CBO to the case manager who then provides a summary status to Dr Carla Sanchez.
Real-World Challenges With This Scenario

1. I (case manager) sent the request for services but have not gotten acknowledgement from the CBO regarding providing services to Ms. Smith or which types of services they can / can’t provide.

2. I (CBO) received the service request but need more information from the case manager to process it (their assessment and some additional patient information such as conditions, age, mental status, etc.).

3. I (Dr. Sanchez) need to know the status of addressing Ms. Smith’s inability to pay for medications, what services will be provided to assure she gets her meds?

4. I (case manager) want to know from the CBO if Ms. Smith was contacted yet for enrollment and coordination/provision of services.

5. I (Ms. Smith) want to let the case manager and Dr. Sanchez know that I still have not gotten help to pay for my meds or provision of medications without having to pay since I can’t afford it.
HL7 FHIR SDOH Clinical Care Data Use Cases

1. Document SDOH data in conjunction with the patient encounter and define Health Concerns / Problems.

2. Patient and provider establish SDOH related goals.

3. Plan, communicate, and track related interventions to completion.

4. Measure outcomes.

5. Establish cohorts of patients with common SDOH characteristics for uses beyond the point of care (e.g., population health, quality reporting, public health, and risk adjustment/ risk stratification).

6. Manage patient consent.
Use Cases for Pilot Testing

Gravity Pilots partners will focus on a minimum of one primary use case. Interested entities must assess terminology implementation and FHIR adoption and capabilities. Then, the entities will self-select a use case depending on the identified capabilities and tier placement.

Questions? Please reach us at gravityproject@emiadvisors.net
Tier I Proposed Use Cases

Tier I Pilots engagement is focused on minimum entry level piloting at the level of terminology value sets use, the following use cases represent a balance between high business/clinical value and achievability:

1. Perform screening using standardized survey instruments leveraging Gravity terminology sets
2. Patient is assessed with social need by a practitioner/provider and intervention is documented
3. CBO provides status updates to the referring provider/practitioner regarding types of services provided and status of these services
4. CBO provides detailed services information (instructions, types of services) to patient/caregiver
5. CBO solicits feedback from patient/caregiver confirming enrollment in services and satisfaction level
6. Organization uses diagnoses to create and manage social need registries
7. Care team members document shared care plan goals
   a. Care planning and panel management activities to allow for population level use cases and employ goal terminology.
## Tier I Use Cases Objectives

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient is assessed by a practitioner/provider and referred to a CBO to deliver the service. (1, 2)</td>
<td>• Validates maturity of value sets for conditions and service requests. (used in referral)</td>
</tr>
<tr>
<td></td>
<td>• Promotes use of standardized coding for these resources in the first “leg” of the overall closed-loop referral scenario.</td>
</tr>
<tr>
<td>CBO provides status updates to the referring provider/practitioner regarding types of services provided and status of these services. (3)</td>
<td>• Validates maturity of the same value sets in being used at the two endpoints, CBO and provider, for communicating status updates.</td>
</tr>
<tr>
<td>CBO provides detailed services information (instructions, types of services) to patient/caregiver. (5)</td>
<td>• Similar to #2 but focused on validation that the same coded terms can be used in a patient friendly context.</td>
</tr>
<tr>
<td>5. CBO solicits feedback from patient/caregiver confirming enrollment in services and satisfaction level. (6)</td>
<td>• Exercises terminology and questionnaire standards for capturing patient response in a standardized and analyzable way.</td>
</tr>
</tbody>
</table>
Food Insecurity Terminology Build

**PROCEDURE:** Education about Child and Adult Food Program 464201000124103 (SNOMED CT)

**PROCEDURE:** Provision of food voucher 464411000124104 (SNOMED CT)

**PROCEDURE:** Referral to Community Health Worker 464131000124100 (SNOMED CT)

**Food Insecurity Screening/Assessment**
Q. Within the past 12 months we worried whether our food would run out before we got money to buy more. 88122-7 (LOINC)
A. Often true, Sometimes true, Never true, don't know/refused. LL4730-9 (LOINC)

**Food Insecurity Diagnoses**
- Food Insecurity 733423003 (SNOMED CT)
- Food Insecurity Z59.41 (ICD-10-CM)

**Food Insecurity Goals**
- Food Security 1078229009 (SNOMED CT)
  *Feels food intake quantity is adequate for meals*

*Proposed. Not final.*

Food Insecurity Master List available at: https://confluence.hl7.org/display/GRAV/Food+Insecurity
Tier II Proposed Use Cases

Tier II Pilots engagement is focused on exchanging the data captured using the Gravity terminology value sets **using any exchange means**:

1. Perform screening using standardized survey instruments leveraging Gravity terminology sets
2. Patient is assessed by a practitioner/provider and referred to a CBO to deliver the service
   - Implement exchange of requested services and supporting assessment data (assessment observations) using any existing supported exchange standard between the CBO and provider system
3. CBO provides status updates to the referring provider/practitioner regarding types of services provided and status of these services
   - Implement exchange of status updates using any existing supported exchange standard between the CBO and provider system using the Gravity standard terminology sets for standardized status values
4. CBO provides detailed services information (instructions, types of services) to patient/caregiver
   - Implement the ability to send the types of services using Gravity terminology sets for services/procedures that will be provided to the patient using any supported messaging technology (e.g., mobile application, text messaging, email)
5. CBO solicits feedback from patient/caregiver confirming enrollment in services and satisfaction level
   - Same as #4
## Tier II Use Cases Objectives

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| Patient is assessed by a practitioner/provider and referred to a CBO to deliver the service. (1, 2) | • Validates maturity of value sets for conditions and service requests. (used in referral)  
• Promotes use of standardized coding for these resources in the first “leg” of the overall closed-loop referral scenario.  
• Validates the ability to message by currently supported means the request for services.                                                                                                                                                                                                                     |
| CBO provides status updates to the referring provider/practitioner regarding types of services provided and status of these services. (3) | • Validates maturity of the same value sets in being used at the two endpoints, CBO and provider, for communicating status updates.  
• Validates the CBO’s ability to message by currently supported means status updates to the requested services.                                                                                                                                                                                                                   |
| CBO provides detailed services information (instructions, types of services) to patient/caregiver. (5) | • Similar to #2 but focused on validation that the same coded terms can be used in a patient friendly context.  
• Validates the CBO’s ability to message by currently supported means the types of services that the patient will be enrolled in and related instructions on how to enroll and access these services.                                                                                   |
| CBO solicits feedback from patient/caregiver confirming enrollment in services and satisfaction level. (6) | • Exercises terminology and questionnaire standards for capturing patient response in a standardized and analyzable way.  
• Validates the CBO’s ability to message the patient to confirm that (a) he/she are receiving services and (b) survey results regarding patient/caregiver’s satisfaction level.  
• Can be done using document reference to survey/questionnaire attachments.                                                                                                                                                                                                                                           |
Tier III Proposed Use Cases

Tier III Pilots engagement is focused on exchanging the data captured using the Gravity terminology value sets using the Gravity IG:

1. Perform screening using standardized survey instruments leveraging Gravity terminology sets
2. Patient is assessed by a practitioner/provider and referred to a CBO to deliver the service.
   • Implement exchange of requested services and supporting assessment data (assessment observations) the Gravity IG specifications between the CBO and provider system.
3. CBO provides status updates to the referring provider/practitioner regarding types of services provided and status of these services.
   • Implement exchange of status updates using the Gravity IG specifications between the CBO and provider system using the Gravity standard terminology sets for standardized status values.
4. CBO provides detailed services information (instructions, types of services) to patient/caregiver.
   • Implement the ability to send the types of services using Gravity terminology sets for services/procedures that will be provided to the patient using any supported messaging technology (e.g., mobile application, text messaging, email).
5. CBO solicits feedback from patient/caregiver confirming enrollment in services and satisfaction level.
   • Same as #4 using the Gravity IG specifications.
## Tier III Use Cases Objectives

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</tr>
</thead>
</table>
| Patient is assessed by a practitioner/provider and referred to a CBO to deliver the service. (1, 2) | • Validates maturity of value sets for conditions and service requests. (used in referral)  
• Promotes use of standardized coding for these resources in the first “leg” of the overall closed-loop referral scenario.  
• Validates the ability to message the request for services conforming fully with the Gravity SDOH IG. |
| CBO provides status updates to the referring provider/practitioner regarding types of services provided and status of these services. (3) | • Validates maturity of the same value sets in being used at the two endpoints, CBO and provider, for communicating status updates.  
• Validates the CBO’s ability to message ns status updates to the requested services conforming fully with the Gravity SDOH IG. |
| CBO provides detailed services information (instructions, types of services) to patient/caregiver. (5) | • Similar to #2 but focused on validation that the same coded terms can be used in a patient friendly context.  
• Validates the CBO’s ability to message the types of services that the patient will be enrolled in and related instructions on how to enroll and access these services conforming fully with the Gravity SDOH IG. |
| CBO solicits feedback from patient/caregiver confirming enrollment in services and satisfaction level. (6) | • Exercises terminology and questionnaire standards for capturing patient response in a standardized and analyzable way.  
• Validates the CBO’s ability to message the patient to confirm that (a) he/she are receiving services and (b) survey results regarding patient/caregiver’s satisfaction level.  
• Can be done using document reference to survey/questionnaire attachments. |