Why Social Determinants of Health (SDOH) are Important

There is growing consensus that SDOH information improves whole person care and lowers cost. Unmet social needs negatively impact health outcomes.

- **Food insecurity** correlates to higher levels of diabetes, hypertension, and heart failure.
- **Housing instability** factors into lower treatment adherence.
- **Transportation barriers** result in missed appointments, delayed care, and lower medication compliance.

[Image of infographic showing social determinants of health]

Project Scope

In May 2019, the Gravity Project was launched as a multi-stakeholder public collaborative with the goal to develop, test, and validate standardized SDOH data for use in patient care, care coordination between health and human services sectors, population health management, public health, value-based payment, and clinical research.

**Gravity Project Scope:** Develop data and exchange standards to represent patient level SDOH data documented across four clinical activities: screening, assessment/diagnosis, goal setting, and treatment/interventions.

https://confluence.hl7.org/display/GRAV/The+Gravity+Project
HL7® FHIR® Accelerator Program

- Designed to assist implementers across the health care spectrum in the creation of FHIR Implementation Guides or other informative documents
- Gravity Project became an official Accelerator in August 2019:

http://www.hl7.org/documentcenter/public_temp_3840821C-1C23-BA17-0C64E3ACBE05D630/pressreleases/HL7_PRESS_20190820.pdf
Public Collaboration

Gravity has convened over 1,800+ participants from across the health and human services ecosystem:

- clinical provider groups
- community-based organizations
- standards development organizations
- federal and state government
- payers
- technology vendors

Terminology Public Calls 4-5:30 pm EST every other Thursday

Technical (FHIR IG) Calls 3-4 pm EST every Wednesday
https://confluence.hl7.org/display/GRAV/FHIR+IG+Work+Group+Meetings
Project Founders, Grants, and In-Kind Support To-Date

https://confluence.hl7.org/display/GRAV/Gravity+Project+Sponsors
Gravity PMO Team

• **Evelyn Gallego**, Program Manager, EMI Advisors
• **Carrie Lousberg**, Project Manager, EMI Advisors
• **Mark Savage**, SDOH Policy Lead, USCF/SIREN
• **Sarah DeSilvey**, Clinical Informatics Director, University of Vermont
• **Bob Dieterle**, Technical Director, EnableCare
Gravity Overview: Two Streams

Terminology (SDOH Domains)
- Coding Gap Analysis & Recommendation
- Data Set Identification
- Publication in NLM
- New Code Submissions
- CODED VALUE SETS

Technical (HL7 FHIR)
- FHIR IG Ballot & Publication
- FHIR IG Development
- Community & FHIR Coordination
- FHIR IG Testing
- 1 2 3 4
Terminology Workstream
The Gravity Project...

**Goal**- Develop consensus-driven data standards to support use and exchange of social determinants of health (SDOH) data within the health care sectors and between the health care sector and other sectors.
Terminology Team Collaborative Structure

- Clinical and Process Insight
- Terminology and Taxonomy Insight
- Literature and Evidence
- Risk r/t Health Outcomes
- Practical Fit
## Terminology Stream

<table>
<thead>
<tr>
<th>Domain</th>
<th>Terminology Identification</th>
<th>Code Submission</th>
<th>Value Set Publication</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Plan</td>
<td>Gather</td>
<td>Review</td>
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<td>⬜️</td>
<td>⬜️</td>
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<tr>
<td>Housing Instability/ Homelessness</td>
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<td>⬜️</td>
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<tr>
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<tr>
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</table>
Where to find Published Gravity Data Sets?

https://confluence.hl7.org/display/GRAV/Terminology+Workstream+Dashboard
ICD-10 CM Submission & March 10th Presentation

ICD-10 Coordination and Maintenance Committee Meeting

Diagnosis Agenda

Zoom Webinar and Dial-In Information

- This meeting will be conducted via Zoom Webinar. The URL to join the Zoom Webinar, the password, and the call-in numbers are the same for both days of the meeting.
- Day 1: March 9, 2021. The meeting will begin promptly at 9:00 AM ET and will end at 5:00 PM ET. Lunch will be held from 12:30 PM to 1:30 PM.
- Day 2: March 10, 2021. The meeting will begin promptly at 9:00 AM ET and will end at 5:00 PM ET. Lunch will be held from 12:30 PM to 1:15 PM.


ICD-10 Coordination and Maintenance Committee Meeting
March 9-10, 2021

Z59.00 Homelessness

New code: Z59.00 Homelessness unspecified

Add: Double up

Add: Living in a shelter such as: motel, temporary or transitional living situation, scattered site housing

Z59.01 Sheltered homelessness

Add: Residing in a place not meant for human habitation such as: car, park, sidewalk, abandoned buildings

Z59.02 Unsheltered homelessness

Revise: Z59.4 Lack of adequate food and safe drinking water

Define: Inadequate drinking water supply

Excludes: Effects of hunger (T73.0)

Inappropriate diet or eating habits (T73.4)

Malnutrition (T84.0-84.4)

Z59.41 Lack of adequate food

Add: Inadequate food

Add: Lack of food

Z59.42 Food insecurity

Z59.8 Other problems related to housing and economic circumstances

Excludes: Problems with creditors

New subcategory: Z59.81 Housing instability, houseless

Add: Homeless for six months

Add: Unemployed for more than six months

New code: Z59.811 Housing instability, houseless with risk of homelessness

Add: Homeless for one month

Add: Homeless for less than one month

Z59.812 Housing instability, houseless, homelessness in past 12 months

2021 Gravity Roadmap

<table>
<thead>
<tr>
<th>JAN</th>
<th>FEB</th>
<th>MAR</th>
<th>APR</th>
<th>MAY</th>
<th>JUN</th>
<th>JUL</th>
<th>AUG</th>
<th>SEP</th>
<th>OCT</th>
<th>NOV</th>
<th>DEC</th>
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<tr>
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<td>TRANSPORTATION INSECURITY</td>
<td>FINANCIAL INSECURITY</td>
<td>DEMOGRAPHICS STATUS</td>
<td>INTIMATE PARTNER VIOLENCE / ELDER ABUSE</td>
<td>SOCIAL ISOLATION</td>
<td>STRESS</td>
<td>MATERIAL HARDSHIP</td>
<td>New Use Case Development</td>
<td>FOOD DESERT</td>
<td>NEIGHBORHOOD SAFETY</td>
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Key

- ▲ LOINC Code Submissions (MAR/OCT)
- ★ SNOMED Code Submissions (MAY/DEC)
- ▼ ICD-10 Code Submissions (JUN/DEC)

**TECHNICAL**

- Gravity FHIR IG Ballot
- IG Ballot Reconciliation
- Reference Implementation Development
- Reference Implementation Update
- HL7 FHIR Connectathons

**PILOTS**

- Gravity Pilots Recruitment
- Gravity Pilots Testing (6 to 12 months)

- WE ARE HERE
Accelerating Adoption Using Nationally Recognized Standards

Consensus Approved SDOH Data Elements

Coded SDOH Data Elements

Image Source: HL7 Da Vinci Project Community Roundtable Nov. 18, 2020
Technical Workstream
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
   • Referrals
   • Consent
   • Aggregation for exchange/reporting

3. Completed January 2021 ballot as a Standard for Trial Use Level 1 (STU1)

Gravity FHIR SDOH Clinical Care IG Scope

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 management, quality reporting, and risk adjustment/risk stratification).
6. Manage patient consent

http://build.fhir.org/ig/HL7/fhir-sdoh-clinicalcare/
Enabling Survey Instruments

Survey

LOINC Panel (Survey Instruments)
- Include Health Concern Algorithm
  - Establish complete survey as LOINC Components with LOINC Answer Lists
  - Add calculation logic for Questionnaire

Conversion to FHIR Questionnaire
- (enhanced NLM LHC-Forms Widget)
  - Build executable FHIR Questionnaire with logic to create LOINC-LOINC Observations and SNOMED-CT/ICD10-CM Health Concerns

Execute FHIR Questionnaire
- (enhanced NLM SDC Questionnaire App)

QuestionnaireResponse

Observation
- (survey question-answer pair)

Condition
- Health Concern
  - Condition Problem/ Diagnosis
  - Provider Evaluation
  - Goals Interventions
  - Other “clinical” findings

Value Sets – based on SDOH Domain Definitions

Note: Survey instruments typically generate Health Concerns with Gravity defined value sets
Enabling SDOH Interactions/Workflow (Initial exchanges)
Consent exchange for SDOH Clinical Care IG

Provider’s EHR

Providers

Consent

FHIR API

Exchange based on Consent

Community Based Organization (CBO)

Exchange based on Consent

Community Based Referral Organization (CBRO) BAA

Community Based Referral Organization (CBRO)

Patient

FHIR based Information Exchange

Physical Interaction

Variable
Expanded workflow guidance for other actors

Note: Where two FHIR APIs are shown, it is for drawing simplicity and not a technical requirement.
Simplified interaction picture
Results from the January SDOH Clinical Care IG Ballot

Results of ballot voting
- Affirmative 63
- Negative 30
- Abstain 56
- No Vote 43
- Total 192

The ballot met the 60% threshold required to publish as an STU

Ballot comments submitted
- Total ballot comments 227
- Total negative comments 72
- Total affirmative comments 155

Note: Affirmative comments include typos, questions, suggestions, comments

Ballot Reconciliation Status
- The ballot reconciliation process started on 2/7/2021 and is expected to continue until the end of April.
- As of 4/7/2021 161 of the 227 ballot comments have dispositions - 66 to go
What's Next?

• Work with NLM, Regenstrief and other stakeholders to advance tooling that supports the multi-domain Gravity IG, externally maintained value sets, and questionnaires

• Work with the community to establish the clinical content required for multiple SDOH domains

• Advance development of the reference implementation

• Incorporate dispositions from January 2021 ballot comments

• Preparation for the May HL7 Connectathon

• Please join us every **Wednesday from 3 to 4 pm ET.** Meeting details and agendas available here: [https://confluence.hl7.org/display/GRAV/FHIR+IG+Work+Group+Meetings](https://confluence.hl7.org/display/GRAV/FHIR+IG+Work+Group+Meetings)
How to Engage

- Join the Gravity Project: [https://confluence.hl7.org/display/GRAV/Join+the+Gravity+Project](https://confluence.hl7.org/display/GRAV/Join+the+Gravity+Project)
  - Public Collaborative Workgroup meets bi-weekly on **Thursdays’ 4:00 to 5:30 pm ET**
  - SDOH FHIR IG Workgroup meets weekly on **Weds. 3:00 to 4:00 pm ET**
- Help us find new sponsors and partners
- Join us at the HL7 May Connectathon Gravity SDOH Track (watch the Gravity Project Confluence site for signup instructions)
- Submit SDOH domain data elements (especially for Interventions): [https://confluence.hl7.org/display/GRAV/Data+Element+Submission](https://confluence.hl7.org/display/GRAV/Data+Element+Submission)
- Help us with Gravity Education & Outreach
  - Use Social Media handles to share or tag us to relevant information
    - @the gravityproj
    - [https://www.linkedin.com/company/gravity-project](https://www.linkedin.com/company/gravity-project)
  - Partner with us on development of blogs, manuscripts, dissemination materials
Questions?

Robert Dieterle
Technical Director, Gravity Project
CEO EnableCare LLC
rdieterle@enablecare.us

Additional questions? Contact: gravityproject@emiadvisors.net
@thegravityproj
https://www.linkedin.com/company/gravity-project