Welcome

Thank you for joining the Gravity Project Workgroup meeting! Due to the large number of attendees, participants are muted upon entry. Please remain muted to avoid background noise.

This call is being recorded; recording will be available on the Gravity Confluence page following.

You are encouraged to actively participate in the discussion using the Webex chat feature (bottom right of the Webex Meeting window).

Please send chats to “Everyone.”
Gravity Project Anti-Trust Practices

- Gravity Project participants have the responsibility to comply fully with federal and state antitrust laws.

- Individuals speaking or providing written communications shall refrain from any discussion which may provide the basis for an inference that they have agreed to take any action relating to prices, services, production and allocation of markets or any other matter having a market effect.

- Participants shall not discuss their pricing or others’ pricing or any term that might affect pricing or fees, such as costs, discounts, terms of sales or profit margins.

- Adherence to these guidelines involves not only avoidance of antitrust violations, but avoidance of behavior that might be so construed.
Gravity Project Participation

- If you have not already done so, we invite you to officially join the project here: https://confluence.hl7.org/display/GRAV/Join+the+Gravity+Project

- If you want to check whether you have already signed up or if others from your organization have signed up, please review the existing membership here: https://confluence.hl7.org/pages/viewpage.action?pageId=46892669#JointheGravityProject-GravityProjectMembershipList

- For all other Gravity Project information, please visit: https://confluence.hl7.org/display/GRAV/The+Gravity+Project
Project Founders and In-Kind Support To-Date

Robert Wood Johnson Foundation

The University of Vermont

LARNER COLLEGE OF MEDICINE

Yale School of Nursing

siren

UCSF

BlueCross BlueShield Association

eat right.

Academy of Nutrition and Dietetics

AHRQ

AAFP

Arkansas

AmeriHealth Caritas

UnitedHealthcare

Highmark, Inc.

The Office of the National Coordinator for Health Information Technology

The Children's HealthWatch

Humana, Inc.

juxly

onyx

nehii

California Health Care Foundation

Health Care That Works for All Californians

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

- The Gravity Project is currently seeking additional sponsors for our 2020 operations
  - This is an opportunity to be a recognized contributor to our critical national work
- If you are interested in learning more about sponsoring opportunities, please send an email to GravityProject@emiadvisors.net or visit https://confluence.hl7.org/display/GRAV/Gravity+Project+Sponsors
ONC USCDI Submissions

- ONC announced the United States Core for Data Interoperability (USCDI) is now open for submissions through **October 9, 2020**. 

- The Gravity Project invites the Gravity Community to submit new data elements and data classes for the USCDI Draft v2 through the ONC New Data Element and Class (ONDEC) submission system here: [https://www.healthit.gov/isa/ONDEC](https://www.healthit.gov/isa/ONDEC)

- The Gravity Project team is drafting a formal letter on behalf of the Gravity Project. If you want to be added to this letter, please send your interest to: gravityproject@emiadvisors.net.
ACL Challenge Grant is Now Accepting Applications

- Registration for Phase 1 (i.e. the letter of intent) is due December 14, 2020. The challenge.gov posting will be updated with this information.
  - To learn more about the grant requirements, refer to the July 28th webinar here: https://confluence.hl7.org/pages/viewpage.action?pageId=76153059#GravityProjectEvents-PastGravityProjectEventMaterials
ONC Advancing Interoperability: Social Determinants of Health Workshop Sept. 21, 2020

- ONC is hosting a one-day virtual workshop to convene healthcare and human services providers to understand their approaches to integrating SDOH data into value-based care.


- Gravity will be presenting during at the “Real world connections and advancements with SDOH data” session from 10:40 to 11:50 am ET.

- Register for the event here: https://event.capconcorp.com/wp/the-advancement-of-sdoh-standards-convening/
## Agenda

<table>
<thead>
<tr>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Gravity Roadmap and Upcoming Domains</td>
<td>Evelyn</td>
</tr>
<tr>
<td>Project Schedule &amp; Terminology Build Approach</td>
<td>Sarah</td>
</tr>
<tr>
<td>Consensus Voting: Housing Instability and Homelessness</td>
<td>Sarah</td>
</tr>
<tr>
<td>Kick Off: Transportation</td>
<td>Sarah and SMEs</td>
</tr>
<tr>
<td>Submit: Inadequate Housing Concepts</td>
<td>Sarah</td>
</tr>
<tr>
<td>Review: Gravity Data Principles</td>
<td>Sarah</td>
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<tr>
<td>Debrief: Gravity Connectathon</td>
<td>Bob</td>
</tr>
<tr>
<td>Community Homework and Next Steps</td>
<td>Sarah</td>
</tr>
</tbody>
</table>

Please submit questions and comments using the Webex chat feature.
SDOH Terminology Domains

**Phase 1 (2019 to 2020)**
- Food Insecurity
- Housing and Homelessness
- Inadequate Housing
- Transportation
- Financial Strain
- Demographic Data (education, employment, veteran status)

**Phase 2 (2021)**
- Social Isolation
- Stress
- Environmental Safety
- Violence
<table>
<thead>
<tr>
<th>Date</th>
<th>Gravity WG Meeting Tasks</th>
<th>Homework</th>
</tr>
</thead>
</table>
| 08/06  | **Housing Phase I Review:** End-to-End Review of Housing Instability and Homelessness Data Elements  
                      **Housing Phase II:** Inadequate Housing Data Element Concepts                          | Review and submit comments: Housing Instability and Homelessness Master List  
                      Submit: Inadequate Housing Concepts                                                    |
| 08/20  | **Housing Phase II:** Inadequate Housing Data Elements Concepts  
                      Transportation Pre-Work                                                               | Submit: Inadequate Housing Concepts  
                      Submit: Transportation Concepts                                                       |
| 09/03  | **Housing Phase I:** Housing Instability and Homelessness Consensus Voting  
                      **Housing Phase II:** Inadequate Housing Data Element Concepts  
                      Transportation Pre-Work                                                               | Submit: Housing Instability and Homelessness Consensus Votes  
                      Submit: Inadequate Housing Concepts  
                      Submit: Transportation Concepts                                                       |
| 09/17  | **Housing Phase I:** Housing Instability and Homelessness Consensus Voting  
                      **Housing Phase II:** Inadequate Housing Data Element Concepts  
                      **Transportation Kickoff**                                                           | Submit: Housing Instability and Homelessness Consensus Votes  
                      Submit: Inadequate Housing Concepts  
                      Submit: Transportation Concepts                                                       |
| 10/01  | **Housing Phase I:** Housing Instability and Homelessness Consensus Voting  
                      **Housing Phase II:** Inadequate Housing Data Element Concepts  
                      Transportation Phase I: Transportation Concepts                                      | Submit: Housing Instability and Homelessness Consensus Votes  
                      Review and submit comments: Inadequate Housing Master List  
                      Submit: Transportation Concepts                                                       |
Community Terminology Development
Questions?

You are encouraged to actively participate in the discussion using the Webex chat feature (bottom right of the Webex Meeting window).

Please send all chats to Everyone.
Consensus Voting: Housing Instability and Homelessness

Vote
Housing Instability and Homelessness
Consensus Voting

<table>
<thead>
<tr>
<th>Confluence Membership</th>
<th>Count</th>
<th>Current Voting Statistics</th>
<th>Count</th>
<th>%</th>
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<tbody>
<tr>
<td>Committed Members</td>
<td>283</td>
<td>Housing Domain Members</td>
<td>239</td>
<td></td>
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<tr>
<td>Other Members</td>
<td>590</td>
<td>Votes Needed for Consensus</td>
<td>120</td>
<td>50%</td>
</tr>
<tr>
<td>Total Members</td>
<td>873</td>
<td>Votes to Date (9/16/20)</td>
<td>28</td>
<td>23%</td>
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<tr>
<td>Date of Data Pull</td>
<td>9/16/20</td>
<td>Outstanding Votes</td>
<td>92</td>
<td>77%</td>
</tr>
</tbody>
</table>

| Vote Due Date / Status      |       |                                       | 10/3/20| Red  |

https://confluence.hl7.org/display/GRAV/Consensus+Voting
Housing Instability and Homelessness Consensus Voting

VOTING PERIOD: 9/3/2020- 10/3/2020

- All committed members vote
  - Yes: A Yes vote does not necessarily mean that the deliverable is the ideal one from the perspective of the Committed Member, but that it is better to move forward than to block the deliverable.
  - Yes with Comment: If a consensus process attracts significant comments through Yes With Comment votes, it is expected that the comments will be addressed in a future revision of the deliverable.
  - Formal Objection: This vote must include comments indicating a path to address the objection in a way that meets the known concerns of other members of the project. A Formal Objection vote without such comments will be considered an Abstain vote.
  - Abstain: A member declined to vote.

https://confluence.hl7.org/display/GRAV/Consensus+Voting
Questions?

You are encouraged to actively participate in the discussion using the Webex chat feature (bottom right of the Webex Meeting window).

Please send all chats to Everyone.
Transportation Kick-Off
Perspectives on Data - Brainstorming

What kinds of data does the provider need to care for their patients?

the hospital need to study the effects of provider interventions?

the community-based org need to address the need of their clients?

the state need to plan for population health needs?

And what are the principles we need to consider to keep patients at the center?
Transportation Insecurity Kickoff

- Please begin to submit transportation concepts so we can start with a robust set!
  - [https://confluence.hl7.org/display/GRAV/Transportation+Domain](https://confluence.hl7.org/display/GRAV/Transportation+Domain)
Questions?

You are encouraged to actively participate in the discussion using the Webex chat feature (bottom right of the Webex Meeting window).

Please send all chats to Everyone.
Identify: Inadequate Housing
## Inadequate Housing Data Element Submissions Summary

### Total Submissions Received = 4

<table>
<thead>
<tr>
<th>Screening Tool/ Questions</th>
<th>Diagnosis</th>
<th>Goal</th>
<th>Intervention</th>
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</thead>
<tbody>
<tr>
<td>14 Tools / 48 Questions</td>
<td>13</td>
<td>4</td>
<td>36</td>
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</table>

### Submissions Reviewed = 4

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<th>Disposition</th>
<th>Disposition</th>
<th>Disposition</th>
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</thead>
<tbody>
<tr>
<td>Duplicates – 1 Tool/1 Question</td>
<td>Duplicates –</td>
<td>Duplicate – 0</td>
<td>Duplicates – 2 Synonymous –</td>
</tr>
<tr>
<td>Park – 5 Tools/35 Questions</td>
<td>Park –</td>
<td>Park – 1</td>
<td>Park – 1</td>
</tr>
<tr>
<td>Hold –</td>
<td>Hold – 2</td>
<td>Hold</td>
<td>Hold – 1</td>
</tr>
</tbody>
</table>

### Total Submissions Returned* =

* Adjudication completed and file returned to submitter with dispositions
Data Submission Framework

• Screening tools
• Assessments/Diagnoses
• Goals of care
• Interventions
  ▪ Program Names and Definitions
  ▪ Provider/Practitioner Roles (e.g. community health navigator)
  ▪ Applicable Intervention Activities/Services
Inadequate Housing: Screening Tools

- American Housing Survey- HUD
- Nurruzzaman/AHC
- Medicare THA
- Upstream Risks Tool
Inadequate Housing Diagnoses

Substandard housing
Housing does not meet jurisdiction habitability standards
(Z59.1 Inadequate housing)
- Substandard housing due to pests
- Substandard housing due to mold
- Substandard housing due to lead
- Substandard housing due to temperature control
- Substandard housing due to inability to store or prepare food
- Substandard housing due to lack of smoke detectors
- Substandard housing due to lack of potable water
- Substandard housing due to overcrowding
- ....
Inadequate Housing: Goals

- Housing Security
- Access Housing Resources
- Functional Housing
Inadequate Housing: Interventions

- Programs, Practitioners, Professions, Activities
  - Education about home safety
  - Referral for home assessment
  - Referral for home repairs
  - Provision of housing repair voucher
  - Counseling for inadequate housing care plan barriers
  - Counseling for barriers to achieving adequate housing
  - Counseling for readiness to implement inadequate housing care plan
  - Counseling for readiness to achieve adequate housing goals
Questions?

You are encouraged to actively participate in the discussion using the Webex chat feature (bottom right of the Webex Meeting window).

Please send all chats to Everyone.
Review: Gravity Data Principles
Gravity Data Principles

- Over the course of the past two months the Gravity Technical Advisory Committee has been working on a guiding set of principles for our collective work
- “The Principles of Data Exchange for Equitable Health and Social Care”
- We now bring them to our collective for review
  - This can be found on the confluence here: [https://confluence.hl7.org/display/GRAV/Gravity+Data+Principles](https://confluence.hl7.org/display/GRAV/Gravity+Data+Principles)
- Akin to our terminology development end to end process, prior to our next call, please send any comments to gravityproject@emiadvisors.net
Review: Gravity Data Principles

1. Improving personal health outcomes
2. Improving population health equity
3. Ensuring personal control
4. Designing appropriate solutions
5. Ensuring accountability
6. Preventing, reducing, and remediating harm

https://confluence.hl7.org/display/GRAV/Gravity+Data+Principles
Debrief: Gravity Connectathon
FHIR SDOH-ClinicalCare IG Scope

- Survey (representing surveys as FHIR Questionnaire and QuestionnaireResponse)
- Creating Health Concerns (see USCDI) with appropriate ICD-10 and SNOMED-CT coding
- Representing SDOH goals as part of an SDOH care plan
- Representing SDOH interventions as requests for services from CBOs (where appropriate)
- Managing the request process (e.g. tracking interventions)
- Measuring outcomes
- Reporting individual and aggregated data as appropriate
- Managing consent to share SDOH data

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

Survey

LOINC Panel (Survey Instruments)
- Include Health Concern Algorithm

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

Establish complete survey as LOINC Components with LOINC Answer Lists
- Add calculation logic for Questionnaire

Execute FHIR Questionnaire
(enhanced NLM SDC Questionnaire App)

Provider Evaluation
- Condition
- Problem
- Diagnosis
- Other “clinical” findings

Condition Health Concern

Observation
(survey question-answer pair)

QuestionnaireResponse

Dynamic Value Sets – based on LOINC Panel Definitions

Note: all Survey instruments SHALL produce Health Concerns with Gravity defined value sets

Need to be able to express in the health concern any “hidden” computational logic
Reference Implementation

- Using the SDOH Framework IG
- Create a “reference implementation” that demonstrates all of the concepts in the IG
  - Survey based on FHIR Questionnaire including creation of a QuestionnaireResponse, Observations, and Conditions (Health Concerns)
  - Ability to create Condition resources as part of the survey process with appropriate SNOMED and ICD coding based on Gravity terminology effort
  - Ability to aggregate Questionnaire, QuestionnaireResponse, Observations, Conditions, Consent and exchange them with responsible organizations
  - Ability to create and exchange Goal, CarePlan, Procedure, ServiceRequest, and Consent
### Technical Workstream Timeline

<table>
<thead>
<tr>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUG</td>
<td>SEP</td>
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<tr>
<td></td>
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<tr>
<td>Gravity FHIR IG Development</td>
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<tr>
<td>IG Ballot</td>
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<td>IG Ballot Reconciliation</td>
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<tr>
<td>Reference Implementation Development</td>
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<tr>
<td>Reference Implementation Update</td>
<td></td>
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<tr>
<td>HL7 FHIR Connectathons</td>
<td></td>
</tr>
<tr>
<td>IG Publication</td>
<td></td>
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</tbody>
</table>

- **Gravity FHIR IG Development**
- **IG Ballot**
- **IG Ballot Reconciliation**
- **Reference Implementation Development**
- **Reference Implementation Update**
- **HL7 FHIR Connectathons**
- **IG Publication**
HL7® FHIR Virtual Connectathon 25

- The **HL7® FHIR Virtual Connectathon** occurred from September 9\(^{th}\) to 11\(^{th}\)
- The Gravity team lead the Gravity Project SDOH-CC Connectathon Track (tested Gravity Use Case 1 and Use Case 3)
  - View the connectathon track recordings and presentations:
    [https://confluence.hl7.org/display/FHIR/2020-09+Gravity+SDOH-CC+Track](https://confluence.hl7.org/display/FHIR/2020-09+Gravity+SDOH-CC+Track)
Connectathon 25 Gravity Track

• Objectives
  • Provide an overview of Gravity Project, use cases, and "multi-domain" approach to SDOH
  • Demonstrate use of LOINC panels and NLM's LHC tools to auto-generate, SDC Questionnaire and QuestionnaireResponses
  • Demonstrate use of FHIR Mapping Language, StructureMap, and FHIR validator to auto-generate a bundle containing screening response observations as well as calculated health concerns (conditions)

• Track Leads
  • Bob Dieterle (Tech Lead) rdieterle@enablecare.us
  • Corey Smith corey.smith@ama-assn.org
  • Monique Van Berkum Monique.VanBerkum@ama-assn.org
Gravity Connectathon Summary

- **Participants** – 24 individuals from 18 organizations

- **Notable Achievements**
  
  • Introduced the approach of a limited set of "multi-domain" SDOH profiles supported by externally maintained, dynamic value sets.
  
  • Received initial positive feedback on FHIR Mapping/StructureMap approach to auto-generating screening response observations as well as calculated health concerns (conditions).
  
  • NLM LHC and LOINC representatives participated and were in discussions about potential enhancements to LHC form tooling to better support SDOH-CC IG multi-domain approach.
  
  • Successful demonstration of re-use of SDC IG for SDOH screening.
Gravity Connectathon Lessons

• To promote widespread adoption and use, the SDOH-CC IG must align, to a significant degree, with existing implementer capabilities.

• A reference implementation will be important to further test the SDOH-CC IG.

• For every Questionnaire there needs to be a StructureMap to capture the logic to convert QuestionnaireResponses to bundles of Observations and Conditions. Likely need a repository. How do we scale this?

• FHIR tools, skilled resources, and FHIR are still maturing and work is needed to make the multi-domain approach vision a reality.

• We cannot get rid of complexity; we can only move it around.
What’s Next?

• Engage with NLM, Regenstrief and other stakeholders to advance tooling to better support multi-domain/dynamic value set approach
• Continue to engage the community to establish the clinical content required for multiple SDOH domains
• Start reference implementation development
• Working toward submission for ballot
• Please join us - https://www.hl7.org/gravity/
Questions?

You are encouraged to actively participate in the discussion using the Webex chat feature (bottom right of the Webex Meeting window).

Please send all chats to Everyone.
Community Homework and Next Steps
Homework

- **General**
  - Catch up as needed on materials and recordings on Gravity Project Materials Confluence page
    
    https://confluence.hl7.org/display/GRAV/The+Gravity+Project+Materials

- **Housing Instability and Homelessness**
  - Vote (committed members only)
    
    https://confluence.hl7.org/display/GRAV/Consensus+Process
  - **Inadequate Housing**
  - Submit new concepts: via excel and email
    
    https://confluence.hl7.org/display/GRAV/Inadequate+Housing+Domain

- **Transportation**
  - Submit new concepts: via excel and email
    
    https://confluence.hl7.org/display/GRAV/Transportation+Domain
Next Steps

- Join the Gravity Project as a Committed Member or Other Interested Party
  - [https://confluence.hl7.org/display/GRAV/Join+the+Gravity+Project](https://confluence.hl7.org/display/GRAV/Join+the+Gravity+Project)
Thank you for participating in this national consensus-building process.

Additional questions? Contact: gravityproject@emiadvisors.net

: Gravity Project
: @thegavityproj
Back-Up
Overview: Gravity Terminology
Development Process
Gravity Terminology Development Process

1. Data Set Identification
2. Coding Gap Analysis & Recommendations
3. New Code Submissions (LOINC, SNOMED, ICD-10-CM)
4. Development of Coded Value Sets
5. Value Set Publication
Community Terminology Development

A. Community Terminology Development

1. The anchor of every domain is the SIREN compendium of existing SDOH terminology – a study of what exists

2. Domain relevant terms are gleaned from the compendium and adjudicated against the literature

3. A collective brainstorming enriches the Master List
   1. Always published on Confluence

4. Concepts are added, refined, and defined, until we’ve a representative set aligned with literature and practice

5. Consensus Review and Voting
Gravity Overview: Two Streams

SDOH Domains
(Terminology)

1. Data Set Identification
2. Coding Gap Analysis & Recommendations
3. New Code Submissions

Technical (FHIR)

1. Community & FHIR Coordination
2. FHIR IG Development
3. FHIR IG Testing
4. FHIR IG Ballot & Publication

CODING VALUE SETS

Publication in NLM
VSAC & ONC ISA
# Adjudication Dispositions - Review

<table>
<thead>
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<th>Adjudication Status</th>
<th>Definition</th>
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<tr>
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<td>Conceptually similar, same code(s), same answers for questions</td>
<td>Submitter will be added as contributor for the data element in the Master file</td>
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<tr>
<td>Add Data Element</td>
<td>In scope, fit for purpose, not to broad and not too narrow</td>
<td>Data element will be added to the Master file</td>
</tr>
<tr>
<td>Do Not Add - Park</td>
<td>Not in scope for this domain but may be useful for another Gravity Domain (housing insecurity, transportation)</td>
<td>Will be added to a Parking File for future review</td>
</tr>
<tr>
<td>Do Not Add</td>
<td>Not in scope for this domain or another Gravity domain, not well formed, not fit for purpose</td>
<td>Will be noted on adjudication file with reason</td>
</tr>
<tr>
<td>On-Hold (Info Needed)</td>
<td>Need additional clarification from submitter</td>
<td>Will be noted on adjudication file with additional information needed</td>
</tr>
<tr>
<td>Withdrawn</td>
<td>After discussion between submitter and SMEs, concept was withdrawn by submitter</td>
<td>Will be noted on adjudication file with reason</td>
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