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 the meeting.

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

AMA

AmeriHealth Caritas

UnitedHealthcare

HIGHMARK

The Office of the National Coordinator for Health Information Technology

Humana

juxly

lyft

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

Gravity Project
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
## Agenda

<table>
<thead>
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<th>Topic</th>
<th>Presenter</th>
</tr>
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<td>Announcements</td>
<td>Evelyn</td>
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<tr>
<td>Project Roadmap and Upcoming Schedule</td>
<td>Evelyn</td>
</tr>
<tr>
<td>Housing Domain Data Concepts Submission Status Update</td>
<td>Linda</td>
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<tr>
<td>Overview: Housing Concepts</td>
<td>Sarah and CHW</td>
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<tr>
<td>SDOH FHIR IG and Connectathon Updates</td>
<td>Lisa</td>
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<tr>
<td>Community Homework and Next Steps</td>
<td>Sarah</td>
</tr>
</tbody>
</table>

Please submit questions and comments using the Webex chat feature.
Gravity and COVID-19 Collaboration Site

  - No login is required to view or download the blog
  - An HL7 Confluence login is required to post on the blog
    - Instructions for requesting a login: https://jira.hl7.org/secure/CreatelIssue.jspa?pid=11200&issuetype=11300
Upcoming Connectathon (Testing) Events

- NEW! Care Coordination Track (includes Gravity Use Case) https://confluence.hl7.org/display/FHIR/2020-05+Care+Coordination+Track

- May virtual Connections
  - HL7 Connectathon 24: https://confluence.hl7.org/display/FHIR/2020-05+Connectathon+24
  - MiHIN InterOpathon: https://confluence.hl7.org/display/GRAV/2020-05-28+MiHIN+InterOpathon+Virtual
## Gravity Project Schedule and Activities (Feb to May)

<table>
<thead>
<tr>
<th>Date</th>
<th>Gravity WG Meeting Tasks</th>
<th>Homework</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/13</td>
<td><em>Review:</em> Consensus Voting and Dispositions Results&lt;br&gt;Review: Data Element Concept Submissions To-Date&lt;br&gt;Overview: Coding Work</td>
<td><em>Submit:</em> Housing Instability Data Elements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review: Coding Systems</td>
</tr>
<tr>
<td>03/19</td>
<td>Housing Instability Domain Kickoff&lt;br&gt;SDOH FHIR IG and Connectathon Updates</td>
<td><em>Submit:</em> Housing Instability Data Elements</td>
</tr>
<tr>
<td>04/02</td>
<td><em>Review:</em> Housing Instability Data Element Concepts&lt;br&gt;SDOH FHIR IG and Connectathon Updates</td>
<td><em>Submit:</em> Housing Instability Data Elements</td>
</tr>
<tr>
<td>04/16</td>
<td><em>Review:</em> Housing Instability Data Element Concepts&lt;br&gt;SDOH FHIR IG and Connectathon Updates</td>
<td><em>Submit:</em> Housing Instability Data Elements</td>
</tr>
<tr>
<td>04/30</td>
<td><em>Review:</em> Housing Instability Data Element Concepts&lt;br&gt;SDOH FHIR IG and Connectathon Updates</td>
<td>Housing Instability Data Element Submission&lt;br&gt;<em>Deadline May 1</em></td>
</tr>
<tr>
<td>05/14</td>
<td><em>Review:</em> Housing Instability Data Element Concepts&lt;br&gt;SDOH FHIR IG and Connectathon Updates</td>
<td></td>
</tr>
<tr>
<td>05/28</td>
<td><em>Review:</em> Housing Instability Data Element Concepts&lt;br&gt;Overview: End-to-End Review Process&lt;br&gt;SDOH FHIR IG and Connectathon Updates</td>
<td></td>
</tr>
</tbody>
</table>
1. Collaborative Launch
   - Project Charter, Coding Systems Education

2. Use Case Development & Functional Requirements
   - Personas, Patient Story, Use Cases (X3)

3a. Data Set Identification
   - Data Element Identification, Adjudication, and End-to-End Review

4a. Coding Recommendations
   - Coding Gap Analysis & Recommendations for Coding Systems

3b. Data Set Identification (Mar to June 20)

4b. Coding Recommendations (June to Jul 20)

3c. Data Set Identification (Aug to Oct 2020)

4c. Coding Recommendations (Nov to Dec 20)

5a. FHIR Implementation Guide Development V.1.0 (Dec 19 to Aug 20)

5b. FHIR IG Ballot Reconciliation & Publication

SDOH Domain Projects
   - a) Food Insecurity
   - b) Housing Instability
   - c) Transportation Access

FHIR IG Development & Testing

HL7 Connectathon Testing (Feb 20)
HL7 Connectathon Testing (May 20)
HL7 Connectathon Testing (Sept 20)

Public Collaborative Kick-Off 02MAY2019
Housing Domain Data Concepts Submission Status Update
Data Element Submissions Summary

Total Submissions Received = 10

<table>
<thead>
<tr>
<th>Screening Tool/ Questions</th>
<th>Diagnosis</th>
<th>Goal</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Tools / 33 Questions</td>
<td>9</td>
<td>6</td>
<td>41</td>
</tr>
</tbody>
</table>

Submissions Reviewed = 9

<table>
<thead>
<tr>
<th>Disposition</th>
<th>Disposition</th>
<th>Disposition</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duplicates –2 Tools/4 Questions</td>
<td>Duplicates – 1</td>
<td>Duplicate – 0</td>
<td>Duplicates – 0 Synonymous – 0</td>
</tr>
<tr>
<td>Do Not Add – 4 Tools/152 Questions</td>
<td>Do Not Add – 4</td>
<td>Do Not Add – 0</td>
<td>Do Not Add – 5</td>
</tr>
<tr>
<td>Park – 8 Tools/43 Questions</td>
<td>Park – 2</td>
<td>Park – 0</td>
<td>Park – 5</td>
</tr>
<tr>
<td>Hold – 2 Tools/3 Questions</td>
<td>Hold – 0</td>
<td>Hold – 3</td>
<td>Hold – 4</td>
</tr>
</tbody>
</table>

Total Submissions Returned* = 3

* Adjudication completed and file returned to submitter with dispositions
## Adjudication Dispositions

<table>
<thead>
<tr>
<th>Adjudication Status</th>
<th>Definition</th>
<th>Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duplicate Data Element</td>
<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>
</tr>
<tr>
<td>Add Data Element</td>
<td>In scope, fit for purpose, not too 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>
</tr>
</tbody>
</table>
Data Element Submitters

Allscripts / All possible

Washington Association for Community Health
Community Health Centers • Advancing Quality Care for All

NIH National Institute of Nursing Research

School of Medicine
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

AHIMA

HL7 International

NCDHHS

Kansas City

Washington State Health Care Authority
Data Submission Framework

Phase 1: Housing Instability and Homelessness

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

- Phase 2: Inadequate Housing
How to Review Housing Instability Adjudicated Data Submissions (Master List)

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

- The Housing Master List with adjudicated data elements will be published on Confluence page following each community meeting
How to Submit Housing Data Concepts

- Go to the Data Element Submission Confluence page and follow instructions
  - [https://confluence.hl7.org/display/GRAV/Data+Element+Submission](https://confluence.hl7.org/display/GRAV/Data+Element+Submission)
  - You can submit via spreadsheet or web tool

- Submissions are due by Friday, May 1
Overview: Housing Concepts
Food Insecurity – Definitions

• **Food Insecurity** - 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.

• **Food Security** - Certain and stable access to food that is: adequate in quantity and in nutritional quality; culturally acceptable; safe and acquired in socially acceptable ways.
Food Insecurity – A Spectrum

- **Mild Food Insecurity** – the stage in the food insecurity spectrum best characterized by uncertainty and worry about adequate food resources and effects on cultural acceptability.
- **Moderate Food Insecurity** – the stage in the food insecurity spectrum best characterized by effects on food quality and variety and safety.
- **Severe Food Insecurity** – the stage in the food insecurity spectrum best characterized by effects on food quantity.

![Food Insecurity Spectrum Diagram](image)
Food Insecurity and Housing Insecurity

Food Insecurity:
- Certainty
- Cultural Acceptability
- Stability
- Quality
- Quantity

Housing Insecurity:
- Affordability
- Stability
- Quality/Safety
- Quantity
- Housing Instability
- Inadequate Housing
- Homelessness

Coates, J., Build it back better: Deconstructing food security for improved measurement and action. Global Food Security (2013), http://dx.doi.org/10.1016/j.gfs.2013.05.002

Housing Insecurity – Definition (Cox et al, 2017)

“Limited or uncertain access to stable, safe, adequate, and affordable housing and neighborhoods; or the inability to acquire stable, safe, adequate, and affordable housing and neighborhoods in socially acceptable ways.”

(Cox et al 2017)
However, both the concept and its attributes, and the absence of a standard measure makes the housing severity strata difficult.

So we are left with a domain and sub-domains
Housing Insecurity – Domain and Sub-Domains

Housing Insecurity

Homelessness – History of Homelessness – Overcrowding – Doubling Up – Housing Instability – Multiple Moves – At Risk of Eviction – Behind on Rent – Inadequate Housing

Now, can we screen for these?
And how to organize them?
Mapping Screeners to Sub-Domains

• American Housing Survey 2019 Housing Insecurity Supplement (All)
• Children’s HealthWatch Survey
• PRAPARE
• AHC/Naruzzaman et al.
• VA HOMELESS
• WellRx
• WeCare
• Health Leads

Homelessness
History of Homelessness
Overcrowding
Doubling Up
Multiple Moves
At Risk for Eviction
Behind on Rent
Inadequate Housing
Housing Insecurity- Domain and Sub-domains

- Housing Insecurity
  - Housing Instability
    - Behind on Rent
    - Multiple Moves
    - At Risk for Eviction
    - (Doubled Up?)
    - (Overcrowding?)
    - (History of Homelessness?)
  - Homelessness
    - (Current/Literal) Homelessness
    - (Overcrowding)
  - Inadequate Housing
    - (Overcrowding)
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.
Overview: Housing Goals
Housing Goals

- Housing Security
- Converse of each subdomain?
- Access Housing Program Resources
- Prevalence?
- Screen and Intervene?
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.
SDOH FHIR IG and Connectathon Updates
2020 Connectathons

- San Antonio, TX HL7 Connectathon - May 13-15
  - Virtual Event
- Detroit MiHIN Interopathon – May 28-29
  - Virtual Event
- Baltimore, MD HL7 Connectathon – Sept 19-20
  - Stay tuned
- [https://confluence.hl7.org/display/GRAV/Gravity+SDOH+FHIR+Connectathons](https://confluence.hl7.org/display/GRAV/Gravity+SDOH+FHIR+Connectathons)
May HL7 FHIR Connectathon

https://confluence.hl7.org/display/FHIR/2020-05+Connectathon+24

🔗 HL7 FHIR CONNECTATHON 24
WILL BE VIRTUAL!

Wednesday May 13, Thursday May 14, and Friday May 15

Gravity Project SDOH-CC Connectathon Track

Gravity Project SDOH-CC Connectathon Prep Session – April 29th

3 System Actors: PMEHR, Screening App/Patient App, Clinical Data R/R
2 Human Actors: Patient, Documentarian

NEW! Care Coordination Connectathon Track
Demonstrate data interoperability across multiple care coordination activities: SDOH Screening, Functional Assessment Status, Discharge Planning, Transitions of Care, and Care Planning
Gravity 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., population health management, quality reporting, and risk adjustment/risk stratification).

https://confluence.hl7.org/display/GRAV/Gravity+Use+Case+Package
FHIR IG Updates

- **V0.0.3 is now available – Quick Links Access**
  - [http://build.fhir.org/ig/HL7/sdoh-cc/](http://build.fhir.org/ig/HL7/sdoh-cc/)

- **V0.0.4 – end of April (end of day 5/1)**
  - Most likely will not have Use Case 2 materials included
  - Use Case 2 guidance is being developed in a separate artifact that will be merged into version V0.0.5
Use Case 2 - Review of Content Requirements Work

2. Document and track SDOH related interventions to completion.

- Consent Information
- Patient Information
- Referral Information
  - Who is making the Referral
  - Who is receiving the Referral
  - What type of services are requested
- Supporting Information
  - Other Information that may inform the Referral Process
  - Screening Information, Clinical Assessment, other care planning information
- Feedback Information
  - Enrollment Information and Enrollment Status
  - Other care planning information
  - Services provided

Spreadsheet for review/comment, introduced at the April 30th meeting
Next Steps for FHIR IG Development & Testing

- Connectathon Planning
  - System Participants
  - Human Participants

Express Interest:
https://confluence.hl7.org/display/GRAV/Connectathon+Participation+Sign-Up

Register for Entrance to the Event:
https://www.hl7.org/events/fhir/connectathon/2020/05/

Review Recorded Prep Session:
https://confluence.hl7.org/display/GRAV/Gravity+SDOH+FHIR+Connectathon+Participant+Meetings
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
Submit Housing Instability Data Element Concepts

- Please submit concepts via downloadable spreadsheet template or web tool
- For instructions, links and downloads go to Confluence: https://confluence.hl7.org/display/GRAV/Data+Element+Submission
- For questions, please send an email to GravityProject@emiadvisors.net
Review Introductory Materials

• Introduction to Concepts and Coding Systems
  ▪ Download materials or watch recording

• Introduction to Data Elements
  ▪ Download materials or watch recording

• Coding System Overview Videos
  https://confluence.hl7.org/display/GRAV/Educational+and+Instructional+Materials
HMIS and Data Principles

- **HMIS**
  - Please email [Sarah.DeSilvey@med.uvm.edu](mailto:Sarah.DeSilvey@med.uvm.edu) if you are interested in participating

- **Data Justice/Data Principles**
  - Please review example principles on Confluence
  - Write Mark and Sarah with thoughts
    - Mark Savage, SDOH Data Policy Lead
      - [Mark.Savage@ucsf.edu](mailto:Mark.Savage@ucsf.edu)
    - Sarah DeSilvey, SDOH Clinical Informatics Lead
      - [Sarah.DeSilvey@med.uvm.edu](mailto:Sarah.DeSilvey@med.uvm.edu)
Next Steps

- **Sign up to join our 2020 Connectathon Events:**
  [https://confluence.hl7.org/display/GRAV/Connectathon+Testing](https://confluence.hl7.org/display/GRAV/Connectathon+Testing)
  - Looking for implementers across the health ecosystem—EHRs, HIEs, PHRs, digital health platforms, community-based services and referral platforms, system integrators
  - **Ideal to have both clinical and non-clinical participants**

- **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@emiacadvisors.net
Background Slides
Housing Domain Approach and Concepts
Housing Domain Context

- There is no agreed upon singular definition of circumstances that define housing instability/insecurity, homelessness, and other housing-related social risks.
- There is no gold standard housing stability measure against which housing instability screening tools (e.g., the Housing Stability Vital Sign) can be compared.
- Investments in future research to create robust standard testing of a diagnostic tool, is warranted.
Housing Domain Context, cont’d...

Stability: The Housing Iceberg

HOMELESS

HOUSING INSTABILITY
• behind on rent
• multiple moves

INEQUITABLE POLICIES
Homelessness Defined

- **U.S. Department of Housing and Urban Development**
  
  - Individual or family who lacks a fixed, regular, and adequate nighttime residence, including:
    - Living in a public or private place not meant for human habitation
    - Living in a shelter (including congregate shelter, transitional housing, hotel and motels)
    - Exiting an institution where they lived for 90 days or less and who resided in one of the aforementioned settings prior to entering that institution.

- **U.S. Department of Education (McKinney-Vento Act)**
  
  - Applies to homeless children and youth
  - Includes settings above AND applies to children and youths sharing housing of other persons due to loss of housing, economic hardship, or similar reasons.
Homelessness and Health

- Robust research across the life course linking homelessness and health including increased risk of:
  - adverse physical and mental health outcomes for children and adults
  - health care utilization and costs
  - infectious disease transmission
Among 22,234 families with children < 4yrs in 5 urban safety net hospitals, 34% had at least one adverse housing circumstance:

- 27% behind on rent
- 8% multiple moves
- 12% history of homelessness
- Each circumstance individually associated with adverse health and material hardship compared to stable housing
Number of adverse housing conditions

Behind on rent
4,848

Multiple moves
528

Homeless in child's lifetime
1,153

Little overlap among three adverse housing conditions

N=7,614
Outcomes of Unstable Housing with Health and Material Hardship Outcomes

Adjusted Odds Ratios

- Child fair/poor health
- Maternal fair/poor health
- Maternal depression
- Food insecurity
- Energy insecurity
- Health care trade-offs

Stable Housing
Behind on Rent
Multiple Moves
Homelessness
Limitations

- This research was conducted among low-income families with young children in five US cities – needs to be replicated among additional populations and/or the general population.

- No gold standard is problematic.

- While we examined the relationship between these circumstances and health/hardship outcomes, more work can/should be done.
Other Housing Domains

- Unsafe or substandard housing
- Housing conditions including the presence of mold, lead, and pests are known health hazards.
- Neighborhood-level housing indicators
- Emerging research on concentrations of poverty, air quality, and other neighborhood-level factors on health points to the need to understand neighborhood indicators
- While these are important indicators, they are currently out of scope for this project. Future work may seek to address these domains.