The Gravity Project

Concepts and Coding Systems
May 9, 2019
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 of the Webex Meeting window).

Please send chats to “Everyone.”

We will review and try to address all comments submitted during the call. If you are experiencing technical difficulties, please contact lynette.elliott@emiadvisors.net.
Meet the Gravity Team

Laura Gottlieb
Director
SIREN

Caroline Fichtenberg
Managing Director
SIREN

Evelyn Gallego,
Program Manager
EMI Advisors

Lynette Elliott,
Project Manager
EMI Advisors

Resham Saeed
Project Analyst
EMI Advisors

Lisa Nelson,
Value Sets Lead
MaxMD
Gravity Project Kick-Off Information

- Gravity Project kicked-off on May 2nd; meeting slides and recording available: 

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

- For all other Gravity Project information, please visit: 
  https://confluence.hl7.org/display/PC/The+Gravity+Project+Home
# Gravity Project Schedule and Activities

<table>
<thead>
<tr>
<th>Week</th>
<th>Call Date</th>
<th>Gravity WG Meeting Tasks</th>
<th>Homework due following Tuesday COB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5/2</td>
<td><strong>Project Kick-Off &amp; Overview</strong>&lt;br&gt; <em>Introduce:</em> Project Background, Scope and Approach</td>
<td>Join the Collaborative Review: Collaborative Norms Review: Project Deliverables</td>
</tr>
<tr>
<td>2</td>
<td>5/9</td>
<td><strong>Introduce:</strong> Concepts &amp; Coding Systems</td>
<td>Join the Collaborative Review: Coding Concept Educational Videos</td>
</tr>
<tr>
<td>3</td>
<td>5/16</td>
<td><strong>Introduce:</strong> Data Elements &amp; Data Element Submission Template</td>
<td>Join the Collaborative Review: Data Element Submission Template Submit: Candidate Data Elements</td>
</tr>
<tr>
<td>4</td>
<td>5/23</td>
<td><strong>Use Case Kick-Off &amp; UC Process Overview</strong>&lt;br&gt; <em>Introduce:</em> User Personas, User Stories, Assumptions, Use Case Template</td>
<td>Review: User Personas; User Stories; Assumptions</td>
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<tr>
<td>5</td>
<td>5/30</td>
<td><strong>Pre/Post Conditions, Actors &amp; Roles</strong></td>
<td>Review: Pre/Post Conditions; Actors &amp; Roles</td>
</tr>
</tbody>
</table>

*Review:* User Personas, User Stories, Assumptions
Goals for Today

- Provide background information about coding clinical data for standards based information exchange
- Offer definitions for technical terms we will use within the Gravity Project
- Explain how the Gravity Project work and deliverables will enable coded social risk information to be shared across the care planning and delivery cycle
# Agenda

<table>
<thead>
<tr>
<th>Topic</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Coding Problem (the WHY)</td>
<td>Lisa</td>
</tr>
<tr>
<td>Q&amp;A</td>
<td>All</td>
</tr>
<tr>
<td>The Coding Solution (the WHAT)</td>
<td>Lisa</td>
</tr>
<tr>
<td>Q&amp;A</td>
<td>All</td>
</tr>
<tr>
<td>Next Steps</td>
<td>Lynette</td>
</tr>
</tbody>
</table>

Please submit questions and comments using the Webex chat feature.
Recap: The Coding Problem

Zoom-In from Last Week
If it isn’t documented, it never happened.
If it isn’t documented, it never happened.
## SIREN SDH Codes Review (2018)

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>133</td>
<td>Screening question panel codes</td>
</tr>
<tr>
<td>33</td>
<td>Screening procedure codes</td>
</tr>
<tr>
<td>686</td>
<td>Assessment/Diagnosis codes</td>
</tr>
<tr>
<td>243</td>
<td>Treatment/Intervention codes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
<th>SDH Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1095</td>
<td></td>
</tr>
</tbody>
</table>

### Challenges: Missing codes

<table>
<thead>
<tr>
<th></th>
<th>Food Insecurity</th>
<th>Housing Instability</th>
<th>Transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHC</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PRAPARE</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Health Leads</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
Challenges: Overlapping codes

SNOMED

- 5549007  Living in temporary quarters
- 406132007  Living temporarily with relatives
- 365510008  Finding of temporary shelter arrangements
- 266939009  Lives in residential hostel
Codes with definitions that are not well designed

- Lack of Adequate Food and Safe Drinking Water (Z59.4)
- Extreme Poverty (Z59.5)
- Low Income (Z59.6)
- Insufficient Social Insurance and Welfare Support (Z59.7)

For more information on proposed ICD-10 codes for Social Determinants of Health, please visit: https://tincture.io/at-a-glance-new-z-codes-for-sdoh-c8b2260e0fe3
Codes that exist in silos, without connection to the broader picture
Recap: The Coding Solution

Zoom-In from Last Week
TARGET data-level interoperability by enabling electronic documentation and exchange of SDH data among all relevant users of data.
Care Planning and Delivery Cycle

Use established assessment methods to test, measure or objectively gather information.

Perform activities that provide care for current problems or prevent identified risks.

Establish goals for addressing diagnoses, concerns, or issues needing to be addressed. Identify activities to be performed to achieve the goals.

Health Status Evaluations and Outcomes

Apply clinical judgement based on gather evidence to determine concerns, diagnoses, issues to be addressed.

Completed Interventions

Goals and Planned Interventions

Evaluate

Treat

Diagnose

Plan
Cycle Serialization

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Interventions

Completed

Interventions

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Diagnose

Goals and Planned Interventions
Establish goals for addressing diagnoses, concerns, or issues needing to be addressed. Identify activities to be performed to achieve the goals.

Treat
Completed Interventions

Plan

Evaluate
A data element is a concept that has been defined specifically. When it is a coded concept, the definition uses a value set to describe the range of concepts relevant to the definition.

A value set contains a set of coded concepts that are a subset of codes from a code system.

A code system is a set of concepts that are organized in a way that encompasses essential aspects of the concepts and assigned a code to represent that meaning.
Data Element (DE) Definition: Information that describes a piece or unit of data. The DE Definition is not the data, it is data about the data (metadata).

Encounter type – a codeable concept
Code Systems for representing discrete data shared across the care planning and delivery cycle
Steward - Regenstrief Institute
Update Frequency – June and December
Steward - SNOMED
International, US version
managed through the
National Library of Medicine (NLM)
Update Frequency – March and September
Steward – United States version- National Center for Vital Statistics (NCVS)
Update Frequency - Annual October 1st
Steward – CMS
Update Frequency – Annual
January 1st, updates Quarterly

LOINC®
Logical Observation Identifiers and Codes

HCPCS
Healthcare Common Procedure System

CPT
Current Procedural Terminology

SNOMED CT
Standard Nomenclature of Medicine, Clinical Terms

Steward – American Medical Association
Update Frequency - Annual effective
January 1st

ICD-10-CM
International Classification of Diseases, Clinical Modification, Version 10
Code Systems for representing discrete data shared across the care planning and delivery cycle

https://confluence.hl7.org/display/PC/Educational+and+Instructional+Materials

Interoperability Standards Advisory

https://www.healthit.gov/isa/
Questions?

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

Please send all chats to Everyone.
How Data Elements Facilitate Information Exchange

1. Data elements get defined in a code system used by interoperability standards
2. Value sets needed to represent the data element are published in an open accessible way
3. Data elements are used in specifications that inform how systems exchange information
4. Discretely coded information begins to flow between systems to facilitate care delivery and planning
Step 1: Data elements get defined in a code system used by interoperability standards

63504-5 What is the highest grade or level of school you have completed or the highest degree you have received [NHANES]

NAME
- Fully-Specified Name: What is the highest grade or level of school you have completed or the highest degree you have received
- Long Common Name: Current educational attainment

BASIC ATTRIBUTES
- Class/Type: PHENX/Clinical
- First Released in Version: 2.36
- Last Updated in Version: 2.65
- Status: Active
  Change Reason: Updated the PhenX ID from "PhenX." to "PX" in Survey Question Source field to align with the variable identifier used in the PhenX Toolkit.

NORMATIVE ANSWER LIST (LL1069-5)
Source: Consensus measures for Phenotypes and Exposures

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<th>Code</th>
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<td>1</td>
<td>Never attended/kindergarten only</td>
<td>0</td>
<td>LA15606-9</td>
</tr>
<tr>
<td>2</td>
<td>1st grade</td>
<td>1</td>
<td>LA15607-7</td>
</tr>
<tr>
<td>3</td>
<td>2nd grade</td>
<td>2</td>
<td>LA15608-5</td>
</tr>
<tr>
<td>4</td>
<td>3rd grade</td>
<td>3</td>
<td>LA15609-3</td>
</tr>
<tr>
<td>5</td>
<td>4th grade</td>
<td>4</td>
<td>LA15610-1</td>
</tr>
<tr>
<td>6</td>
<td>5th grade</td>
<td>5</td>
<td>LA15611-9</td>
</tr>
<tr>
<td>7</td>
<td>6th grade</td>
<td>6</td>
<td>LA15612-7</td>
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<tr>
<td>8</td>
<td>7th grade</td>
<td>7</td>
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<tr>
<td>9</td>
<td>8th grade</td>
<td>8</td>
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<tr>
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<td>9th grade</td>
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<td>LA15615-0</td>
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<tr>
<td>11</td>
<td>10th grade</td>
<td>10</td>
<td>LA15616-8</td>
</tr>
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</table>

https://r.details.loinc.org/AnswerList/LL1069-5.html
Step 2: Value sets needed to represent the data element are published in an open accessible way.

https://vsac.nlm.nih.gov/valueset/1.3.6.1.4.1.12009.10.1.237/definition
Step 3: Data elements are used in specifications that inform how systems exchange information.

<table>
<thead>
<tr>
<th>XPath</th>
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<th>Verb</th>
<th>Data Type</th>
<th>CONF#</th>
<th>Value</th>
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<tr>
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<td></td>
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<td>1198-8549</td>
<td>urn:oid:2.16.840.1.113883.5.1 001 [HL7ActMood] = EVN</td>
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<td>1198-8558</td>
<td>urn:oid:2.16.840.1.113883.3.8 8.12.80.60 (Social History Type)</td>
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<td>urn:oid:2.16.840.1.113883.5.1 4 [HL7ActStatus] = completed</td>
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<tr>
<td>effectiveTime</td>
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<td>author</td>
<td>0..*</td>
<td>SHOULD</td>
<td></td>
<td>1198-31869</td>
<td>Author Participation [identifier: urn:oid:2.16.840.1.113883.10.20.22.4.119]</td>
</tr>
</tbody>
</table>

A C-CDA Template

Step 3: Data elements are used in specifications that inform how systems exchange information.

A FHIR Resource/Profile

http://hl7.org/FHIR/observation.html
Step 4: Discretely coded information begins to flow between systems to facilitate care delivery and planning.

<entry typeCode="DRIV">
  <observation classCode="OBS" moodCode="EVN">
    <!-- ** Representation of Level of Education ** -->
    <!-- ** Uses Social History Observation -->
    <templateId root="2.16.840.1.113883.10.20.22.4.38" extension="2015-08-01"/>
    <templateId root="2.16.840.1.113883.10.20.22.4.78"/>
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    <code code="63504-5" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
      displayName="Current educational attainment"/>
    <statusCode code="completed"/>
    <!-- The effectiveTime reflects when this observation was observed to be true. -->
    <effectiveTime value="20120910"/>
    <!-- The value represents the patient's level of education attainment at this time. -->
    <value xsi:type="CD" code="8517006"
      displayName="Master's degree (e.g., MA, MS, MEng, MEd, MSW, MBA)"
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Gravity Project Roadmap (Phase 1)

Task 1: Collaborative Launch
- Project Charter Introduction and Coding Concept Orientation

Task 2: Use Case Development & Functional Requirements
- Use Case Development & Consensus (HL7 Cross-Paradigm Storyboard)

Task 3: Data Set Identification By Domain
- Food Insecurity Data Set Identification
- Housing Instability & Quality Data Set Identification
- Transportation Access Data Set Identification

Task 4: Coding Recommendations
- Terminology & Code Harmonization Report Development

Task 5: HL7 FHIR Integration
- HL7 FHIR SDH Implementation Guide Development

Kick-Off May 2, 2019
Questions?

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Please send all chats to Everyone.
Next Steps

- Join the Gravity Project either as a Committed Member or Other Interested Party
  [https://confluence.hl7.org/display/PC/Join+the+Gravity+Project](https://confluence.hl7.org/display/PC/Join+the+Gravity+Project)

- Review Coding System overview recordings
  [https://confluence.hl7.org/display/PC/Educational+and+Instructional+Materials](https://confluence.hl7.org/display/PC/Educational+and+Instructional+Materials)

- Continue to review and comment on existing project deliverables
  - Project Charter
  - Glossary
  - Related Initiatives

- General comments can be submitted directly on the Confluence page comment form

- Extensive comments or related initiative submissions can be emailed to gravityproject@emiadvisors.net
  [https://confluence.hl7.org/display/PC/The+Gravity+Project+Home](https://confluence.hl7.org/display/PC/The+Gravity+Project+Home)
Thank you for participating in this national consensus-building process.

Additional questions? Contact: gravityproject@emiadvisors.net