The Gravity Project: Birds of a Feather

September 17, 2019
Evelyn Gallego, MBA, MPH, CPHIMS
Lisa Nelson, MBA
Agenda

- Gravity Team Intro
- Project Background (the WHY)
- Project Scope (the WHAT)
- Project Approach (the HOW)
- Project Deliverables to-date
Gravity Project Team

- Laura Gottlieb, Director, SIREN
- Caroline Fichtenberg, Managing Director, SIREN
- Evelyn Gallego, Program Manager, EMI Advisors
- Lynette Elliott, Project Manager, EMI Advisors
- Lisa Nelson, Value Sets Lead, MaxMD
- Linda Hyde, Coding Systems Expert, EMI Advisors
- Sarah DeSilvey, Food Insecurity Co-Lead, University of Vermont/ Yale School of Nursing
- Donna G. Pertel, Food Insecurity Co-Lead, Academy of Nutrition and Dietetics
Background (WHY)
Growing interest in addressing SDoH in clinical settings

Insurance Companies and Healthcare Providers Are Investing Millions in Social Determinants of Health Programs
Jul 24, 2019 | Laboratory Management and Operations, Laboratory News, Laboratory Operations, Laboratory Pathology
PHYSICIAN HEALTH

When patients’ social needs are met, doctors feel less burnout

CVS-Aetna is partnering with a New York-based social care platform to bring social services to high-risk members
Zachary Hendrickson  Jul 25, 2019, 10:42 AM

Medicaid Beneficiaries Do Much Better When Plans Address Their Social Determinants of Health

Health plans voice support for bill to address SDOH efforts

Solera Health, Blue Cross Blue Shield Institute team up on social determinants of health initiative
The two companies will work together to tailor a platform that will connect patients to community-based providers and other resources.

AMA, UnitedHealthcare Develop ICD-10 Codes to Support Social Determinants of Health

Best Practices to Develop a Social Determinants of Health Strategy
A discussion with members of Humana’s Bold Goal team identified best practices for building a successful social determinants of health strategy.
What Goes Into Your Health?

Socioeconomic Factors
- Education
- Job Status
- Family/Social Support
- Income
- Community Safety

Physical Environment

Health Behaviors
- Tobacco Use
- Diet & Exercise
- Alcohol Use
- Sexual Activity

Health Care
- Access to Care
- Quality of Care

Source: Institute for Clinical Systems Improvement, Going Beyond Clinical Walls: Solving Complex Problems (October 2014)

Adapted from The Bridgespan Group
Uses for social risk data in clinical settings

- Medical Care
- Social Risk Interventions
- Population Health Management
- Risk Adjustment
- Community Health Improvement
- Research
If it isn’t documented, it never happened.
If it isn’t documented, it never happened.
Why capture social risk data in a standardized and structured way?

1. To promote collection and use of the data
2. To facilitate sharing of the data across organizations
3. To facilitate payment for social risk data collection and intervention activities
What codes exist to capture social risk data?
SIREN Social Risk Codes Review

SIREN Social Risk Codes Review

- IOM
- AHC
- PRAPARE
- Health Leads
- SEEK
- WE CARE

20 social risk domains

SIREN Social Risk Codes Review

133  Screening question panel codes
33   Screening procedure codes
686  Assessment/Diagnosis codes
243  Treatment/Intervention codes
1095 SDH Codes

Gravity Project Goals

- What concepts need to be documented?
- What codes reflecting these concepts are currently available?
- What codes are missing?
Project Scope (WHAT)
TARGET data-level interoperability by enabling electronic documentation and exchange of SDoH data among all relevant users of data.
Gravity Project Deliverables (Phase 1)

- Use Cases
- Common data elements and associated value sets
- Coded data element capture and grouping recommendations

- Food Insecurity
- Housing Instability & Quality
- Transportation Access
Interoperability Glide Path: Beyond Phase 1

Accelerate standards development and uptake

SDoH Data Sets
- Food Insecurity
- Housing Instability & Quality
- Transportation Access

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

Phase 1 (2019)

Phase 2 (2020 +)

Regulators
USCDI (draft)
The Office of the National Coordinator for
Health Information Technology

EHR Vendors
Argonaut Project

Payers
DA VINCI

Patients
CARIN

Clinicians
HSPC

Registries/Researchers
HIT

Clinical Interoperability Council

Regulators

EHR Vendors

Payers

Patients

Clinicians

Registries/Researchers

siren UCSF

Robert Wood Johnson Foundation

EMI Advisors
Project Approach (HOW)
Public Collaborative Process

Dashboard

The Gravity Project
Created by Laura Heermann-Langford, last modified by Joshua Precious yesterday at 9:51 AM

Announcements

Become a Gravity Project Sponsor
SIREN and EMI Advisors are currently seeking additional Gravity Project sponsors. This is an opportunity to be recognized as contributing to this project, which is gaining considerable attention. If your organization is interested in becoming a sponsor, please click on the button below to submit your contact information.

Express Interest in Sponsoring Gravity

Use Case Consensus Voting

- Thank you to everyone who voted! Consensus Voting is now CLOSED.
- We are in the process of consolidating votes and reconciling comments.

UPDATED workgroup meeting schedule

- We have moved to bi-weekly project workgroup meetings. The next meeting will be held on August 1, 2019 at the regular time. Information will remain unchanged. Click here for upcoming meeting information. For the full meeting schedule, click here.
- We are currently working in the Food Security domain. Click here for food-related terminology, definitions/descriptions, used to guide scope and community discussions around food data elements.
- Click here to access Gravity Project materials.

Join the Gravity Project

The success of the Gravity Project depends on the contribution of volunteers who are eager to make rapid progress on the standard data. We need experts to contribute to and validate definitions for SDH related data elements and value sets.

Participants are asked to join the project at any time either as a Committed Member or Other Interested Party as part of the HL7 project, sign up here.

- To check your project membership status, click here. If you wish to change your membership from Other Interested Party to Committed Member, email request to GravityProject@emisadvisors.net.
- NOTE: Both member types can submit comments on project documentation. However, only Committed Members may vote. If you choose to have voting rights, please change your membership status or join the project as a Committed Member.

Overview

The Social Interventions Research and Evaluation Network (SIREN), with funding from the Robert Wood Johnson Foundation and in partnership with EMI Advisors, among other organizations, is pursuing an initiative that brings industry leaders together to identify and harmonize social risk and protective factor data for interoperable electronic health information system (EHS) applications. The SIREN project provides an opportunity to demonstrate the value of social determinants of health data and to enable health information technology (HIT) institutions and organizations to leverage these data for improved care, quality and safety. The Gravity Project seeks to not only identify and harmonize these data elements, but also to demonstrate their utility when integrated into EHS applications. For more information, visit: https://www.siren.org/
Gravity Participation To-Date: 714 Participants!

- Not Registered, 238, 33%
- Committed Member, 183, 26%
- Other Interested Party, 293, 41%
Governance Structure: Advisory Steering Committee

https://confluence.hl7.org/pages/viewpage.action?pageId=46891907#TheGravityProject-GravityProjectSteeringCommittee
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
Project Deliverables To-Date
Gravity Use Cases: Incremental Build

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
Use Case Elements

• **Actors and Roles.** Actors may be a person, entity, or system. An Actor describes the role within a specific transaction in a series of steps in a use case. Roles indicate the relationship between the sender and receiver of the data exchange through a specific transaction.

• **Assumptions.** Items expected to be true or to be in place such as a policy, process, or procedure for the execution of a specific transaction.

• **Pre-conditions.** Refer to the initial state of the system before an action or transaction occurs. These describe what must be in place from a systems perspective to support interoperable data sharing for a specific transaction.

• **Post-conditions.** Describe the state of the system that will result after the execution of the transaction.

• **Transactions.** The data exchange between two systems.

• **Message Content or Payload.** The content or substance of what is exchanged within a specific transaction.

https://confluence.hl7.org/display/GRAV/Gravity+Use+Case+Package
Use Case 1 Actor-Transaction Diagram

https://confluence.hl7.org/display/GRAV/Gravity+Use+Case+Package
Use Case 2 Actor-Transaction Diagram

https://confluence.hl7.org/display/GRAV/Gravity+Use+Case+Package
Use Case 3 Actor-Transaction Diagram

PCP Practice

Initiator

Information Source

EHR

Quality Manager

SDH data gathered at encounter in standard format

Clearing House / HISP/CIE

Information Recipient / Data Aggregator

Middleware

Clearing House Specialist

Payer Organization

Aggregate Information Recipient

Payer Data Warehouse, Registry/Research System

Quality Specialist/ Health Plan Care Manager

(6) Send SDH Data

Direction of Data Flow

(5) Send Aggregate SDH Data

Direction of Data Flow

SDH data gathered at encounter in standard format

https://confluence.hl7.org/display/GRAV/Gravity+Use+Case+Package
Common definition “An economic and social condition of limited or uncertain access to adequate food for an active, healthy life” (United States Department of Agriculture, 2017)

High food security  Marginal food security  Low food security  Very low food security

Food Security  Food Insecurity-
effect on quality, variety, quantity

(Gregory & Coleman-Jensen, 2017)

https://confluence.hl7.org/display/GRAV/Food+Insecurity+Domain
## Food Insecurity Data Element Submissions Snapshot

<table>
<thead>
<tr>
<th>Submitter</th>
<th>Screening Tool/Questions</th>
<th>Diagnosis / Needs</th>
<th>Goals</th>
<th>Interventions</th>
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<tr>
<td>Sarah/ Donna</td>
<td>9 Tools/ 34 Questions</td>
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<td>4</td>
<td>28</td>
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<td>4</td>
<td>13</td>
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<tr>
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**TOTAL** 71 38 9 87
Intervention Concepts

- Meals on wheels provision assessment (procedure)
- Arrange meals on wheels (regime/therapy)
- Evaluated for meals on wheels
- Educated about WIC
- Provided emergency food assistance
- Counseling about nutrition using motivational interviewing strategy (procedure)
- Nutritionist education, guidance, and counseling (procedure)
How to Review Food Insecurity Adjudicated Data Submissions (Master List)

https://confluence.hl7.org/display/GRAV/Food+Insecurity+Domain

Master List with adjudicated data elements will be published on Confluence page bi-weekly (by Friday COB following a bi-weekly public call)
How Gravity Leverages Existing HL7 Standards
Gravity Use Case 1

- Uses existing Encounter Summaries, Patient Summaries, and Care Plan Documents defined to exchange information gathered during clinical care

- C-CDA Patient Summary (CCD) and Encounter Summary documents (H&P, Progress Note, Consultation Note, Discharge Summary)
  - Established Structured Sections and Re-usable Entry Templates for Discrete Data
  - Assessment Scale Observation, Health Concern, Problem Concern, Problem Observation, Goal Observation, Procedure Activity, Planned Intervention/Intervention Act, Outcome Observation

- FHIR C-CDA on FHIR
  - All the same documents/sections
  - US Core for many of the same entry templates: Questionnaire/Questionnaire Response, Observation, Condition, Goal, CarePlan
Gravity Use Case 2

- Will be executed using “close loop referral” techniques based on standards like IHE 360X to track and manage SDoH-related referrals to completion

- Re-use standards work developed for patient-centered care planning to express and exchange patient goals, preferences and priorities for care
Reusable Data Structures, New Value Sets
### Enriching the Amount and Type of Patient-Centered Information Available for Sharing Across the Health Care Ecosystem

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<th>Patient Summary*</th>
<th>Encounter Summary**</th>
<th>Care Plan</th>
<th>Referral Note</th>
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<td>Evaluations &amp; Outcomes</td>
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<tr>
<td>Encounters Section</td>
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<td>Evaluations &amp; Outcomes</td>
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</table>

### SDoH
- **Screening Information**
- **Concerns**
- **Diagnoses**
- **Patient Centered Goals**
- **Assessment Observations**
- **Interventions, Care Planning Information**
- **Evaluations, Outcomes**

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* Continuity of Care Document  
** Progress Note, H&P Document, Referral Summary, Consultation Note, Discharge Summary  
* Progress Note, H&P Document, Referral Summary, Consultation Note, Discharge Summary
Accelerate HL7 IG Development

- Community collaboration
- Contribute non-technical IG content: Value Proposition, Use Cases, Patient Stories, Personas
- Reuse available standards/data structures
- Develop new vocabulary requirements & artifacts
- Encourage consensus building
- Support Connectathon experimentation and learning
- Formalize Implementer Guidance (ballot)
- Publish Implementer Guidance (open sharing)
- Evolve and improve incrementally (HL7 processes)
Questions?

Evelyn Gallego: evelyn.gallego@emiadvisors.net
Lisa Nelson: lnelson@max.md

Contact: gravityproject@emiadvisors.net

Join the Gravity Project:
https://confluence.hl7.org/display/PC/Join+the+Gravity+Project