

# The Gravity Project: Consensus-driven Standards on Social Determinants of Health

NCVHS Standards Sub-Committee

March 31, 2021



# Meet Our Speakers



Evelyn Gallego

*Gravity Project  
Program Manager*



Sarah DeSilvey

*Gravity Project  
Clinical Informatics Director*



Bob Dieterle

*Gravity Project Technical  
Director*

# Agenda

- Gravity Project Team
- Background (WHY)
- Project Scope (WHAT)
- Accomplishments & Success Factors
- How to Engage

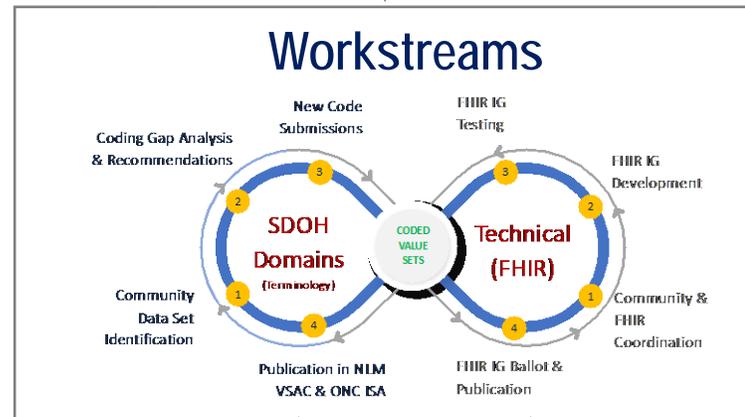
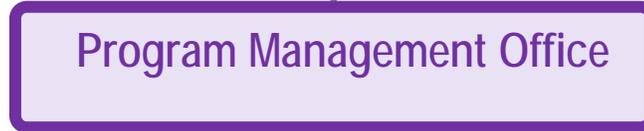
# Gravity Project Team

# Gravity Project Management Office (PMO)

- **Evelyn Gallego**, Program Manager, EMI Advisors
- **Carrie Lousberg**, Project Manager, EMI Advisors
- **Mark Savage**, SDOH Data Policy Lead, USCF/SIREN
- **Sarah DeSilvey**, Clinical Informatics Director, University of Vermont
- **Bob Dieterle**, Technical Director, EnableCare



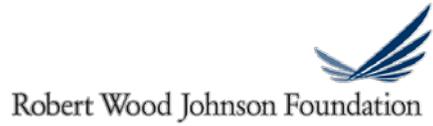
# Gravity Governance Structure (Federal Participation)



## Gravity Operational Guidelines:

<https://confluence.hl7.org/pages/viewpage.action?pageId=91996161>

# Project Founders, Grants, and In-Kind Support To-Date



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



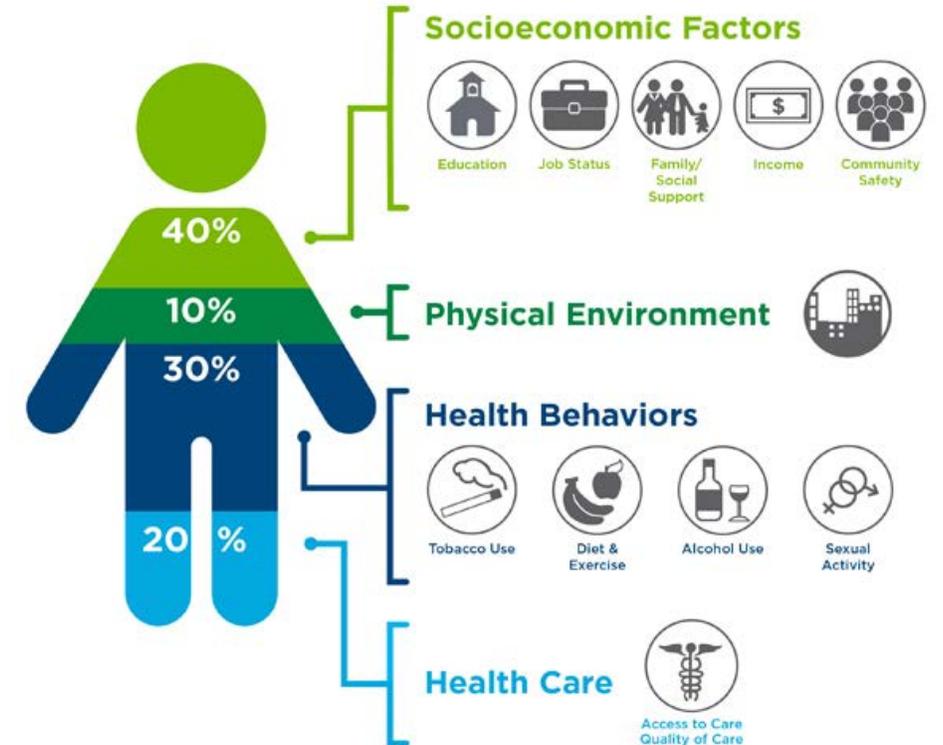
# Overview

# 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

## What Goes Into Your Health?



<https://www.bridgespan.org/insights/library/public-health/the-community-cure-for-health-care-1>  
Source: Institute for Clinical System Improvement, Going Beyond the Top 100 (October 2014)  
The Bridgespan Group

# Challenges in SDOH Data Capture and Exchange

- Consent Management
- **Standardization of SDOH Data Collection and Storage**
- Data Sharing Between Ecosystem Parties
- Access & Comfort with Digital Solutions
- Concerns about Information Collection and Sharing
- Social Care Sector Capacity and Capability
- Unnecessary Medicalization of SDOH

[https://www.nasdoh.org/wp-content/uploads/2020/08/NASDOH-Data-Interoperability\\_FINAL.pdf](https://www.nasdoh.org/wp-content/uploads/2020/08/NASDOH-Data-Interoperability_FINAL.pdf)

# Enter 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.



# 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.

The Gravity Project was initiated by the Social Interventions Research and Evaluation Network (SIREN) with funding from the Robert Wood Johnson Foundation and in partnership with EMI Advisors LLC.

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

# Public Collaboration

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

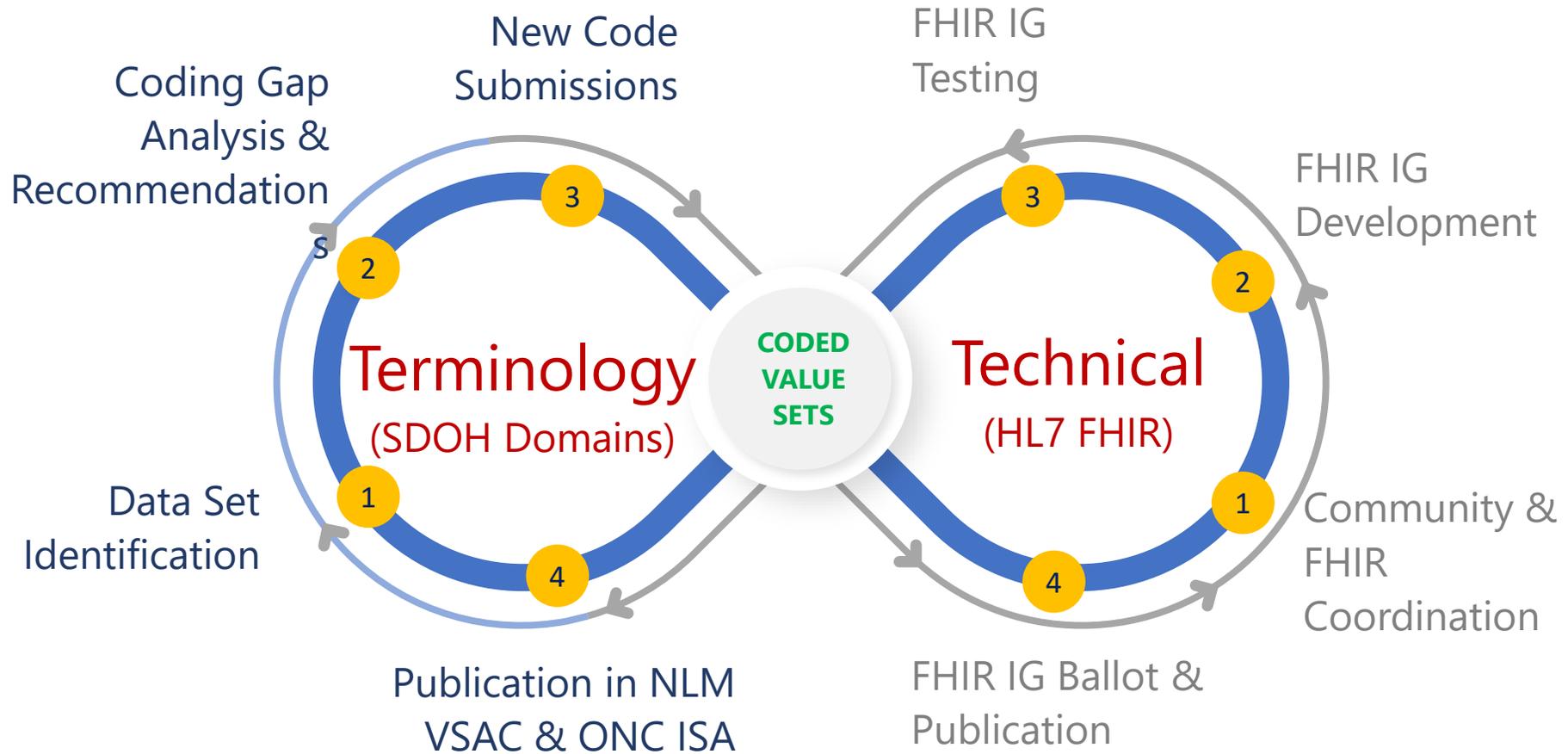
- clinical provider groups
- community-based organizations
- standards development organizations
- federal and state government
- payers
- technology vendors

*Public Calls 4-5:30 EST every other Thursday*

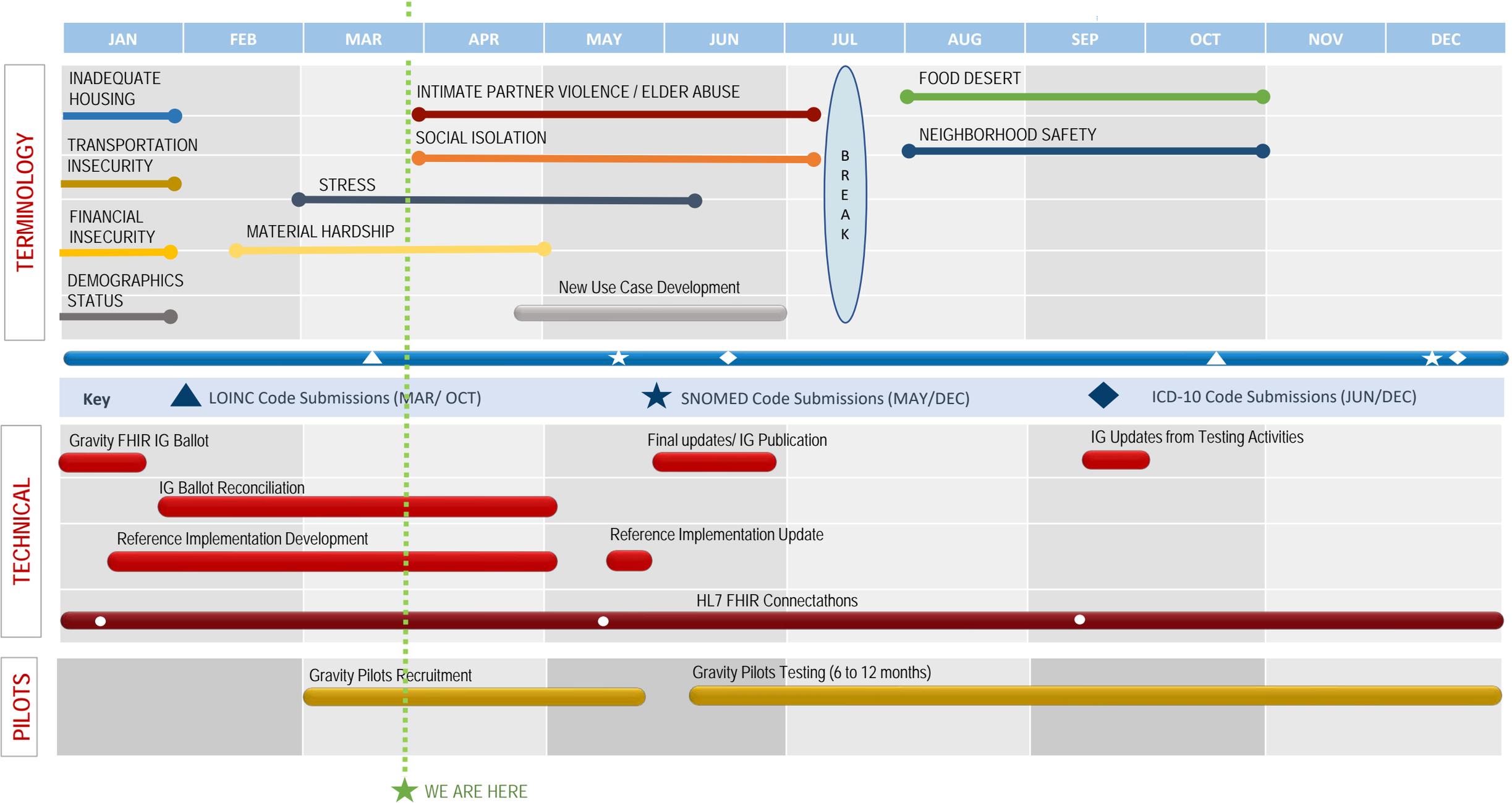
<https://confluence.hl7.org/pages/viewpage.action?pageId=46892669#JointheGravityProject-GravityProjectMembershipList>



# Gravity Overview: Two Streams



# 2021 Gravity Roadmap



# Terminology Workstream

# Terminology Team Collaborative Structure

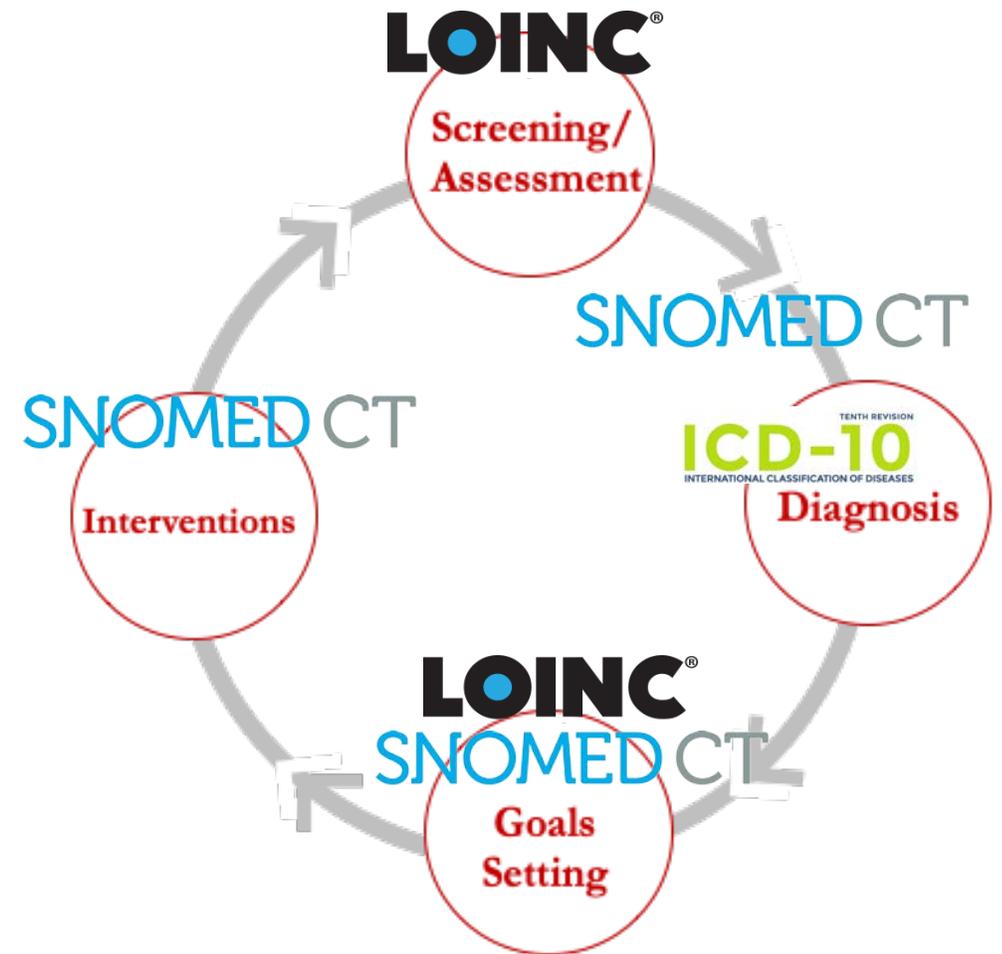
- Clinical and Process Insight
- Terminology and Taxonomy Insight
- Literature and Evidence
- Risk r/t Health Outcomes
- Practical Fit



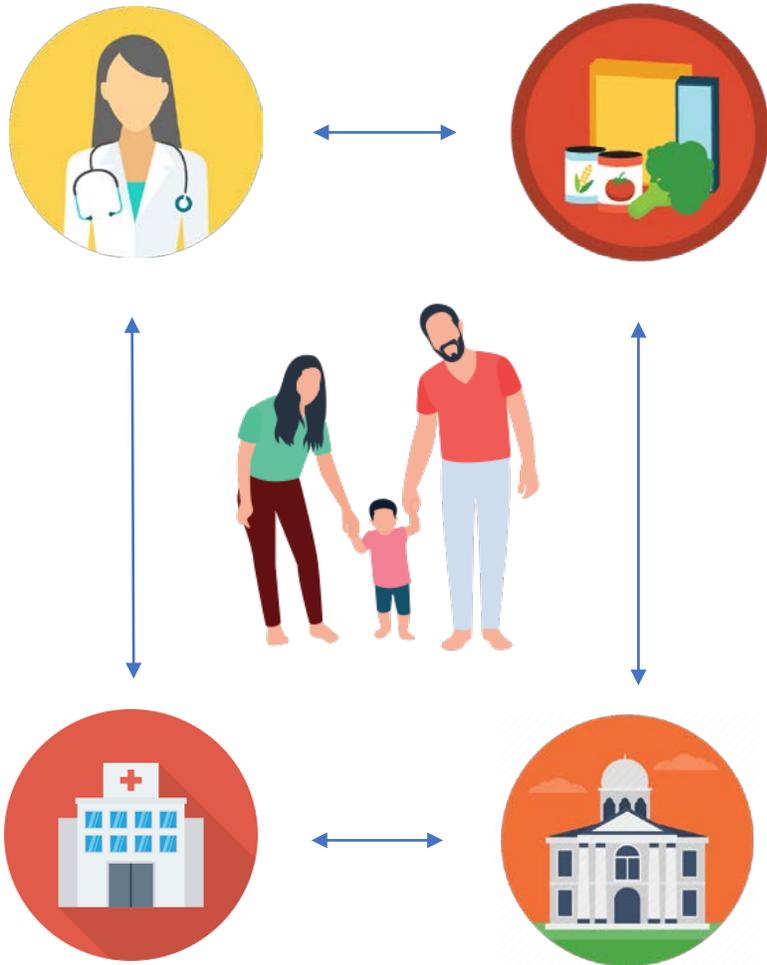
# Terminology Workstream

## Data Element and Ensuring Gap Analysis

- All data is sorted across four activities into a master set.
- For data within each domain, we ask:
  - What concepts need to be documented across the four activities?
  - What codes reflecting these concepts are currently available?
  - What codes are missing?



# Collaborative Perspectives on Data



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

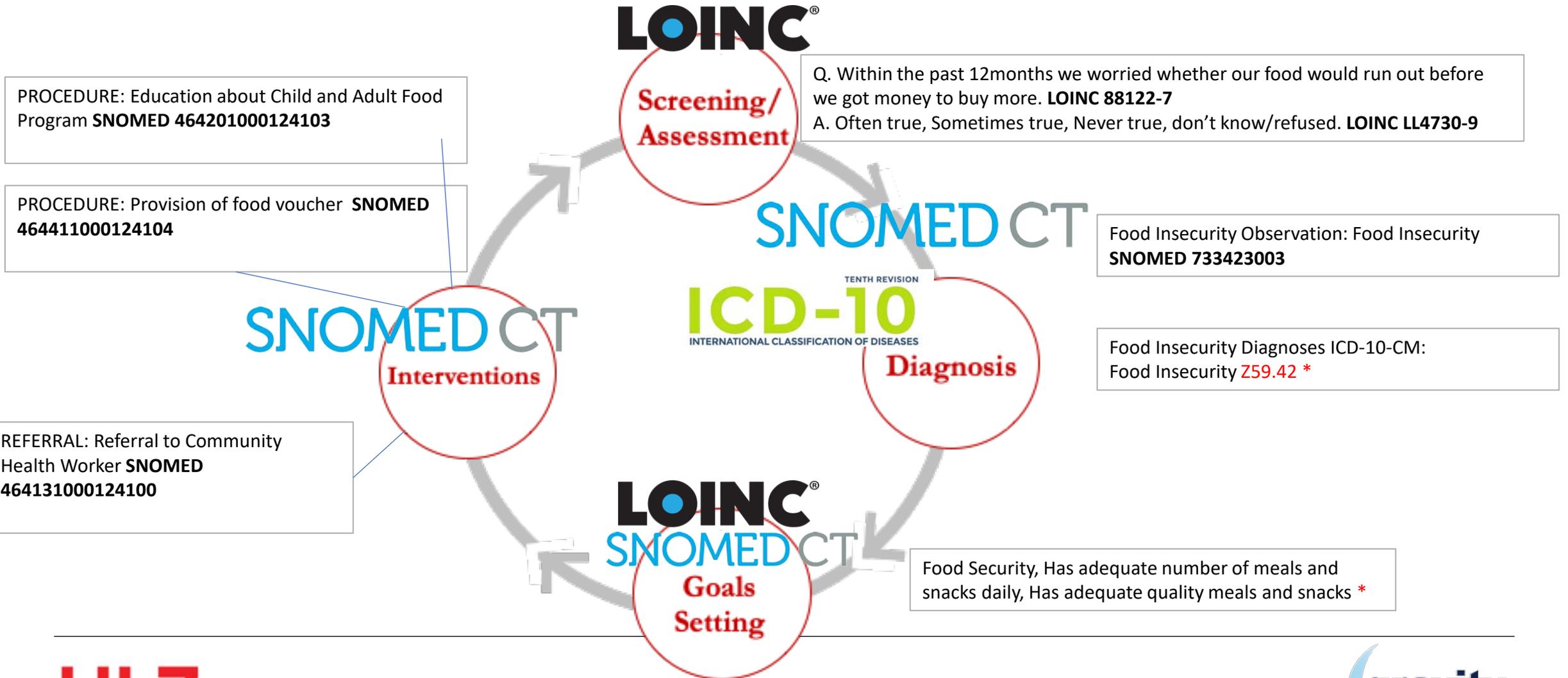
the hospital need to study the effects of provider interventions?

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?***

# Food Insecurity Terminology Build



# Where to find Published Gravity Data Sets?

The screenshot displays the 'Terminology Workstream Dashboard' with the following components:

- Navigation Menu (Left):**
  - Gravity Project
  - Pages
  - Blog
  - SPACE SHORTCUTS
    - HL7 Documentation & Help
  - PAGE TREE
    - Terminology Workstream Dashboard
      - Coding Submissions
      - Financial Strain
      - Food Insecurity
      - Housing Instability and Homelessness
      - Inadequate Housing
      - Terminology Overview
      - Transportation
      - Demographics Domain
      - Stress
    - Technical Workstream Dashboard
    - Gravity Project Meetings
    - Gravity Project Events
    - Consensus Process
    - The Gravity Project Materials
      - Gravity Data Principles
    - Gravity Project Communications
    - Gravity Project Media and Public
    - Gravity Project Executive Committee
    - Gravity Project Strategic Advisory
    - Gravity Project Technical Advisory
    - Gravity Project Sponsors
    - Gravity Project USCDI Submission
    - Gravity SDOH COVID-19 Response
    - Why the Name Gravity
    - FAQ
    - Join the Gravity Project
    - ICD-10 Coding Submissions
    - CMS RFI - Accelerating Adoption

- Dashboard Header:**
- Dashboard / The Gravity Project
- Terminology Workstream Dashboard
- Created by Carrie Lousberg, last modified on Mar 08, 2021
- Overview and Information:**
- Terminology Overview
- Education Materials
- Coding Submissions
- Data Element Submission
- Community Meeting
- Domains:**
- FOOD INSECURITY
- HOUSING INSTABILITY
- HOMELESSNESS
- INADEQUATE HOUSING
- TRANSPORTATION INSECURITY
- FINANCIAL INSECURITY
- MATERIAL HARDSHIP
- UNEMPLOYMENT
- EDUCATION
- VETERANS
- STRESS
- SOCIAL ISOLATION (Coming Soon!)
- NEIGHBORHOOD SAFETY (Coming Soon!)
- INTERPERSONAL VIOLENCE (IPV) (Coming Soon!)

# ICD-10 CM Submission & March 10<sup>th</sup> 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 Problems related to housing and economic circumstances  
Excludes2: problems related to upbringing (Z62.-)

New subcategory	Z59.0 Homelessness
New code	Z59.00 Homelessness unspecified
New code	Z59.01 Sheltered homelessness
Add	Doubled up
Add	Living in a shelter such as: motel, temporary or transitional living situation, scattered site housing
New code	Z59.02 Unsheltered homelessness
Add	Residing in place not meant for human habitation such as: cars, parks, sidewalk, abandoned buildings
Add	Residing on the street
Revise	Z59.4 Lack of adequate food and safe drinking water
Delete	<del>Inadequate drinking water supply</del>
	Excludes1: effects of hunger (T73.0)
	inappropriate diet or eating habits (Z72.4)
	malnutrition (E40-E46)
New code	Z59.41 Lack of adequate food
Add	Inadequate food
Add	Lack of food
New code	Z59.42 Food insecurity
	Z59.8 Other problems related to housing and economic circumstances
	Foreclosure on loan
	Isolated dwelling
	Problems with creditors
New sub subcategory	Z59.81 Housing instability, housed
Add	Past due on rent or mortgage
Add	Unwanted multiple moves in the last 12 months
New code	Z59.811 Housing instability, housed, with risk of homelessness
Add	Imminent risk of homelessness
New code	Z59.812 Housing instability, housed, homelessness in past 12 months

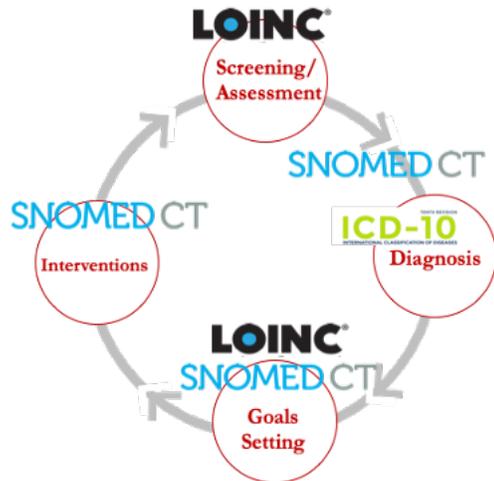
# Technical Workstream

# Accelerating Adoption Using Nationally Recognized Standards

Consensus Approved SDOH Data Elements

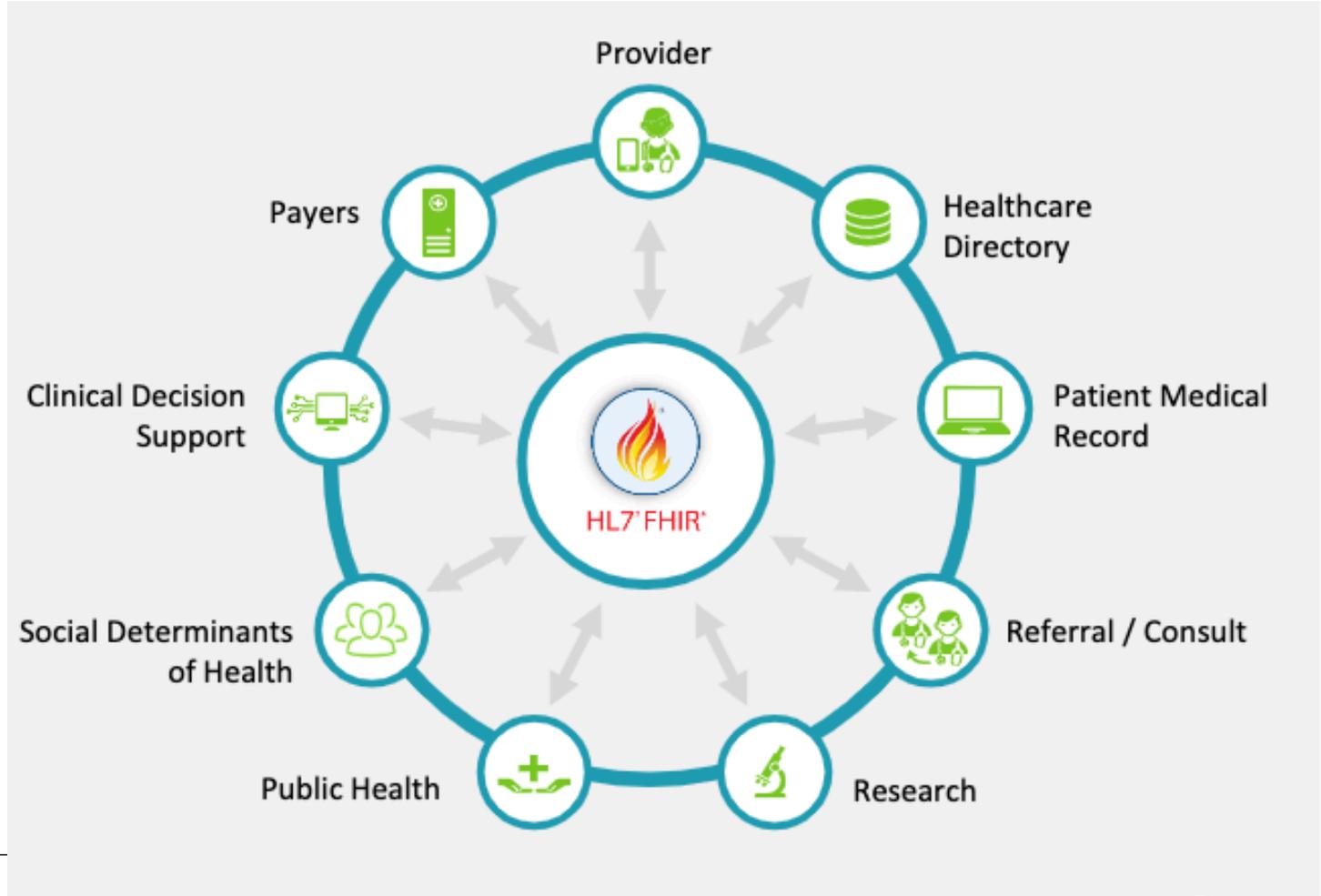


Coded SDOH Data Elements



## FHIR

Fast Healthcare Interoperability Resources



# Technical Stream – SDOH Clinical Care FHIR Implementation Guide

1. This is a framework Implementation Guide (IG) and supports multiple domains
2. IG support 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)

<http://hl7.org/fhir/us/sdoh-clinicalcare/2021Jan/>

**HL7 International** SDOH Clinical Care 0.1.0 - STU 1 HL7 FHIR

IG Home | Table of Contents | Background | Context | Specifications | Downloads | Artifact Index

Table of Contents > Home Page

This page is part of the SDOH Clinical Care for Multiple Domains (v0.1.0: STU 1 Ballot 1) based on FHIR R4. For a full list of available versions, see the Directory of published versions.

### 1 Home Page

#### 1.1 Overview

Social Determinants of Health (SDOH) are increasingly being recognized as essential factors that influence healthcare outcomes. This HL7 Implementation Guide (IG) defines how to exchange SDOH content defined by the Gravity Project using the Fast Healthcare Interoperability Resources (FHIR) standard. It defines how to represent coded content used to support the following care activities: screening, clinical assessment/diagnosis, goal setting, and the planning and performing of interventions. This IG addresses the need to gather SDOH information in the context of clinical encounters and describes how to share SDOH information and other relevant information with outside organizations for the purpose of coordinating services and support to address SDOH related needs. In addition, the IG demonstrates how to share clinical data to support secondary purposes such as population health, quality, and research. The guide supports the following use cases:

- Document SDOH data in conjunction with the patient encounters
- Document and track SDOH related interventions to completion
- Gather and aggregate SDOH data for uses beyond the point of care (e.g. public health, population health, quality measurement, risk adjustment, quality improvement, and research)

This implementation guide was developed under the auspices of the Gravity FHIR accelerator project, which specifically focuses on using HL7 FHIR to define standards for the exchange of SDOH-related information. Both the project and this implementation guide are focused on the U.S. environment. This implementation guide leverages content from the US Core implementation guide and binds to US-specific terminology. However, the basic constructs and interaction patterns may well be applicable outside the U.S.

#### 1.2 Content and organization

The implementation guide is organized into the following sections:

- Background: Includes Gravity Background, SDOH Clinical Care Scope, Persons and Patient Stories that describe the SDOH environment surrounding the intended use of this implementation guide
- Context: Describes the Survey Instrument Support, QuestionnaireResponse Mapping Instructions, Support for Multiple Domains, and Exchange Workflow diagram that describes a high-level overview of expected process flow
- Specifications: Provides a Technical Background, overview of the FHIR Artifacts defined and used in this IG, description of Privacy and Security issues, and explains MustSupport and Missing Data concepts
- Downloads: Provides for the download of various IG related artifacts
- Credits: Identifies the individuals and organizations involved in developing this implementation guide
- Artifacts Index: Introduces and provides links to the FHIR R4 profiles, examples and other FHIR artifacts used in this implementation guide

#### 1.3 Authors

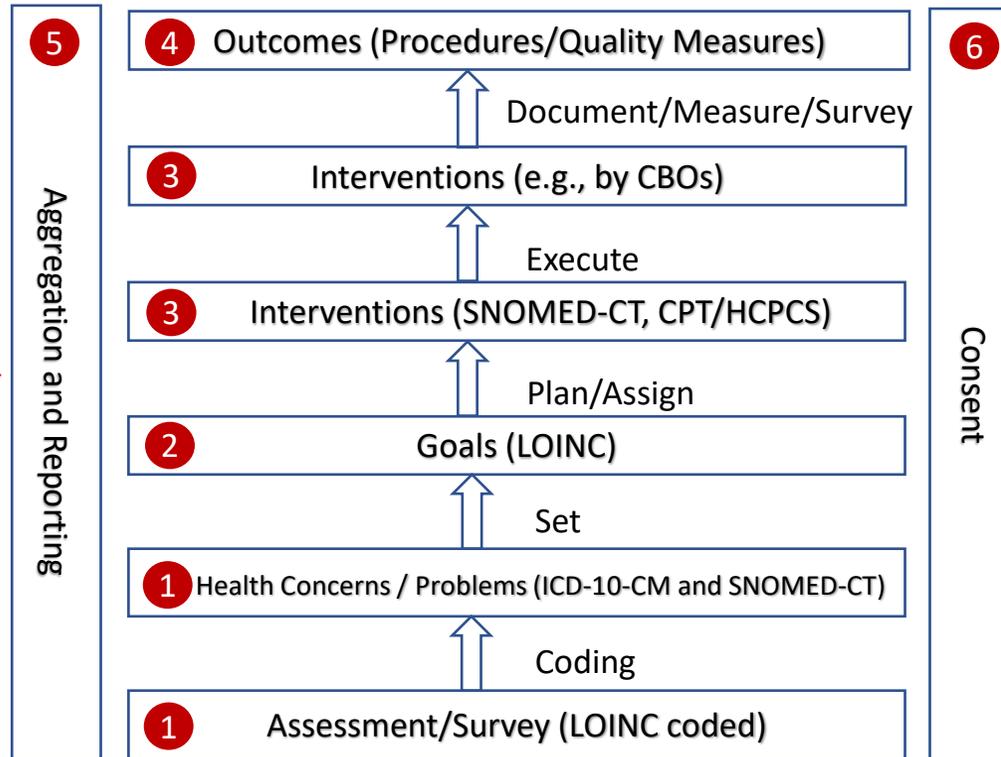
Name	Email/URL
HL7 International - Patient Care	<a href="http://www.hl7.org/Special/committees/patientcare">http://www.hl7.org/Special/committees/patientcare</a>

Next Page - Gravity Background

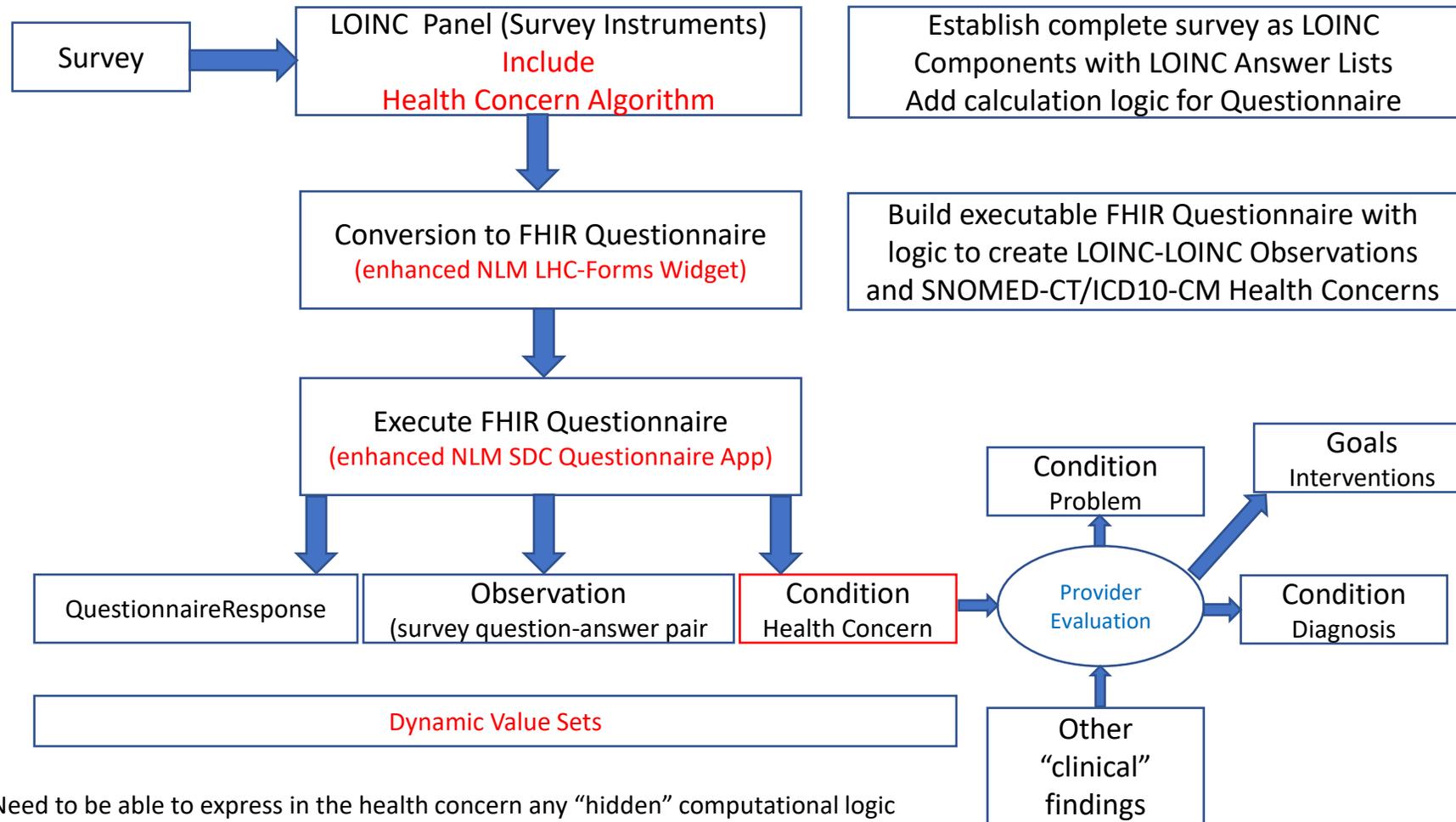
IG © 2020+ HL7 International - Patient Care WG. Package hl7.fhir.us.sdoh-clinicalcare#0.1.0 based on FHIR 4.0.1. Generated 2020-12-16  
Links: Table of Contents | QA Report | Version History | Search | Feedback | Propose a change

# Gravity FHIR SDOH Clinical Care IG Scope

- 1 Document SDOH data in conjunction with the patient encounter
- 2 Set SDOH related goals.
- 3 Establish and related interventions to completion.
- 4 Document and measure outcomes.
- 5 Gather and aggregate SDOH data or uses beyond the point of care (e.g. population health management, quality reporting, and risk adjustment/ risk stratification).
- 6 Manage patient consent



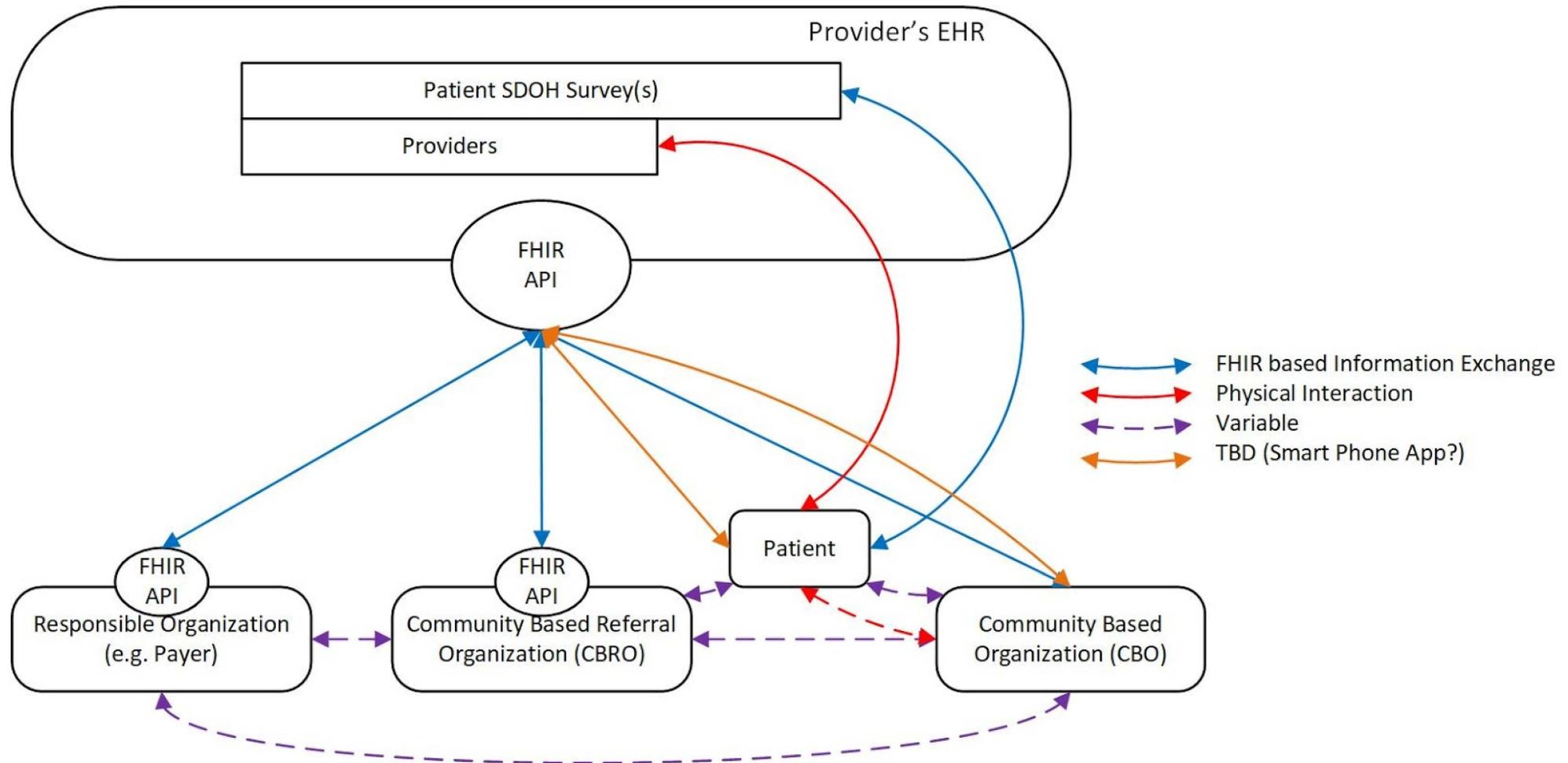
# Enabling Survey Instruments



Need to be able to express in the health concern any "hidden" computational logic

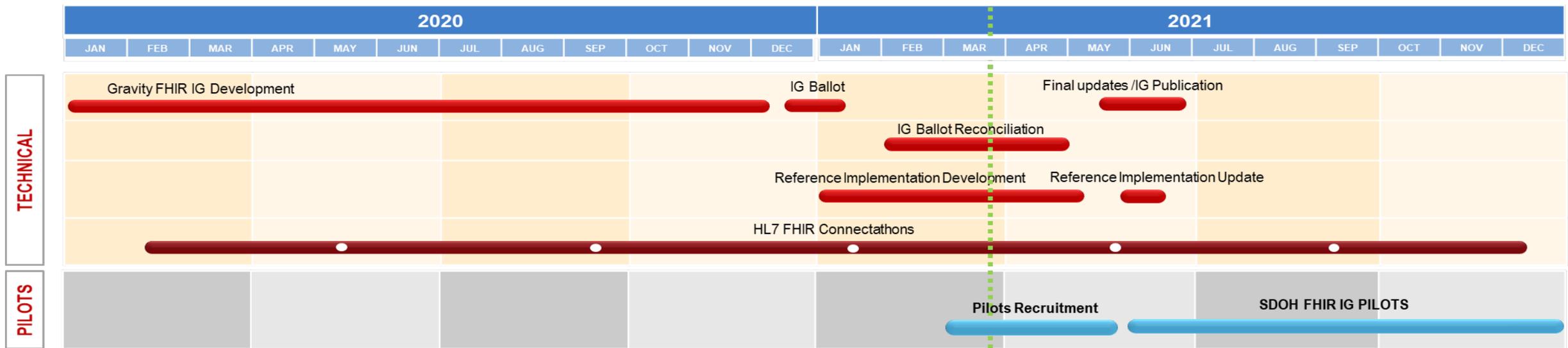
Note: all Survey instruments SHALL produce Health Concerns with Gravity defined value sets

# Enabling SDOH Interactions/ Workflow



# Results from the January SDOH Clinical Care IG Ballot

<p>Results of ballot voting</p> <ul style="list-style-type: none"> <li>Affirmative 63</li> <li>Negative 30</li> <li>Abstain 56</li> <li>No Vote 43</li> <li>Total 192</li> </ul> <p>The ballot met the <b>60%</b> threshold required to publish as an STU</p>	<p>Ballot comments submitted</p> <ul style="list-style-type: none"> <li>Total ballot comments 227</li> <li>Total negative comments 72</li> <li>Total affirmative comments 155</li> </ul> <p>Note: Affirmative comments include typos, questions, suggestions, comments</p>	<p>Ballot Reconciliation Status</p> <ul style="list-style-type: none"> <li>The ballot reconciliation process started on 2/7/2021 and is expected to continue until the end of April.</li> <li>As of 3/30/2021 147 of the 227 ballot comments have dispositions - 80 to go</li> </ul>
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# 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: See Gravity Track information <https://confluence.hl7.org/display/FHIR/2021-05+Gravity+SDOH+Exchange>
- 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>

# Accomplishments & Success Factors

# Success Factors—Integration of Data Standards Into...

## **INNOVATION:**

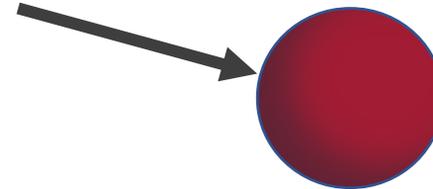
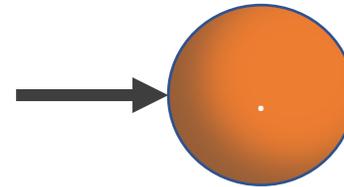
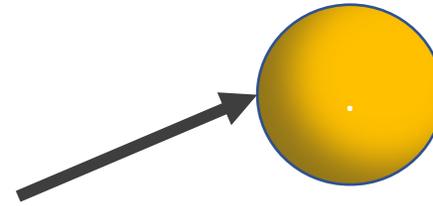
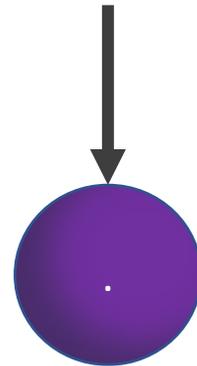
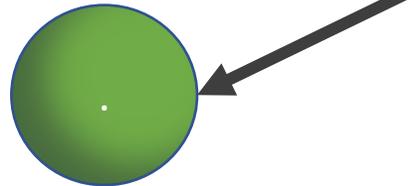
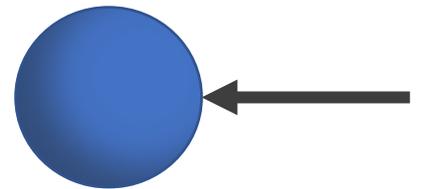
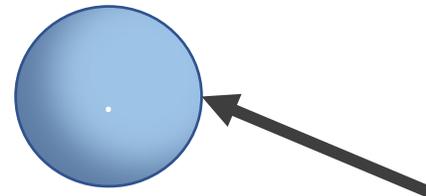
New tools for capture, aggregation, analytics, and use.

## **PRACTICE:**

(e.g., repeatable process for adoption, implementation, and use of SDOH data at practice level.

## **GRANTS:**

(e.g., ACL Challenge Grant, ONC Health IT LEAP)



**POLICY:** (e.g., ONC USCDI, CMS Promoting Interoperability, State Medicaid Director Letters)

**PAYMENT MODELS:** (e.g., CMMI SDOH Model)

**PROGRAMS:** (e.g., Medicare Advantage, Medicaid Managed Care, Hospital QRRP, MIPS).

**OTHER STANDARDS:** HL7 FHIR Accelerators (DaVinci, Argonaut, CARIN)

# Policy Integration: Gravity USCDI Submission

- The Gravity Project formally made a submission to the ONC U.S. Core Data for Interoperability (USCDI) version 2 in October 2020.
- Submission available here: <https://confluence.hl7.org/display/GRAV/Gravity+Project+USCDI+Submission>



In addition to “Comment” and “Level 1” criteria, Level 2 data elements demonstrate extensive existing use in systems and exchange between systems, and use cases that show significant value to current and potential users. These data elements would clearly improve nationwide interoperability. Any burdens or challenges would be reasonable to overcome relative to the overall impact of the data elements.

A grid of seven data element cards. Each card has an icon, a title, a description, and a list of data elements. 1. 'Allergies and Intolerances' (potted plant icon): Represents harmful or undesirable physiological response... Substance (Food), Substance (Non-Medication). 2. 'Laboratory' (test tube icon): Laboratory Result Status, Laboratory Result Value, Laboratory results: date and timestamps, Laboratory Test Performed Date, Laboratory Test/Panel Code. 3. 'Provenance' (globe icon): The metadata, or extra information about data... Author. 4. 'Care Team Member(s)' (person icon): The specific person(s) who participate... Provider DEA Number, Provider Identifier, Provider Location. 5. 'Medical Device or Equipment' (star icon): Devices used (applied). 6. 'Medications' (pill bottle icon): [Title partially obscured]. 7. 'Social Determinants of Health' (star icon): Assessment, Goals, Interventions, Outcomes, Problems/Health Concerns. A red arrow points from the bottom right towards the 'Social Determinants of Health' card.

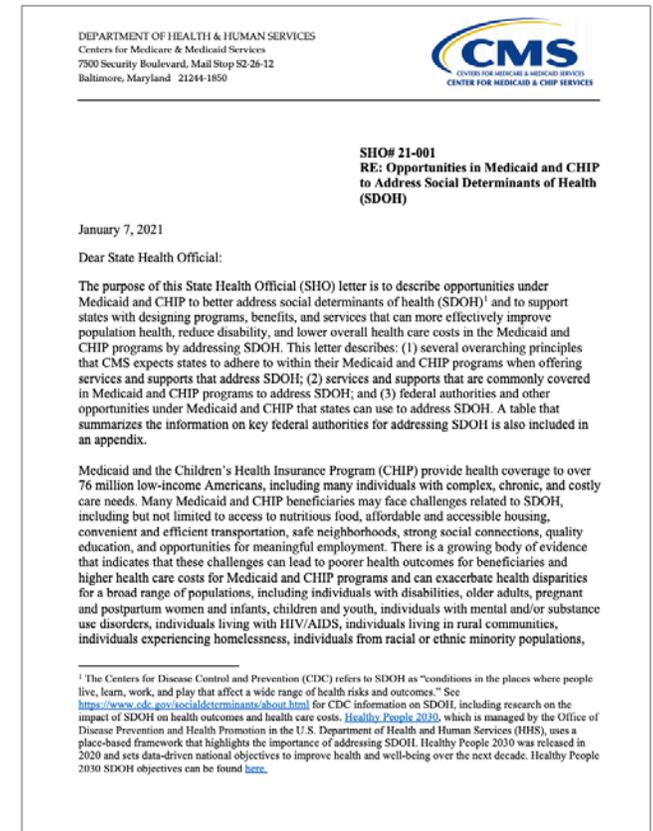
<https://www.healthit.gov/isa/united-states-core-data-interoperability-uscdi>

# Policy Integration: CMS NPRM Request for Information on Social Risk Data Standards

- On December 18, CMS published a notice of proposed rulemaking (NPRM) on prior authorization and patients' electronic access to health information. The NPRM included a **“Request for Information: Accelerating the Adoption of Standards Related to Social Risk Data.”**
  - The request asked four questions about current mechanisms, challenges, barriers, and strategies for standardizing and exchanging social risk data.
  - The request is very relevant to the Gravity Project's work.
- The Gravity Project's PMO quickly prepared answers over the holiday and submitted a response to CMS on January 4, 2021.
  - Read the letter here: <https://confluence.hl7.org/display/GRAV/CMS+RFI+-+Accelerating+Adoption+of+Standards+Related+to+Social+Risk+Data>

# Policy Integration: CMS State Health Official Letter

- On January 7<sup>th</sup>, CMS released guidance for states on opportunities under Medicaid and CHIP to address SDOH.
- The guidance acknowledges that states can leverage Medicaid resources to support data integration and data sharing to assist state health systems to identify individuals with SDOH needs and link them to appropriate medical and social supports.
- States are required to design technical infrastructure for Mechanized Claims Processing, Information Retrieval Systems, and care coordination hubs that are **interoperable** with human services programs, HIEs, and public health agencies, as applicable.
- States must ensure alignment of the claims processing and IRS systems with CEHRT.
- **States are encouraged to review ISA SDOH standards and review and participate in the Gravity Project.**



# Grants Integration: ACL Challenge Grant & ONC LEAP Grant

- Administration of Community Living (ACL) Social Care Challenge Grant:  
<https://www.challenge.gov/challenge/innovative-technology-solutions-for-social-care-referrals/>
- ONC Leading Edge Acceleration Projects (LEAP) in Health IT Notice of Funding Opportunity: Referral Management to Address Social Determinants of Health Aligned with Clinical Care  
<https://www.healthit.gov/topic/onc-funding-opportunities/leading-edge-acceleration-projects-leap-health-information>

# How to Engage!

# Join our Project!

- 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
- Give us feedback on the Data Principles:  
<https://confluence.hl7.org/display/GRAV/Gravity+Data+Principles>
- Submit SDOH domain data elements (especially for Interventions):  
<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>
  - Partner with us on development of blogs, manuscripts, dissemination materials

# Questions?

## **Evelyn Gallego**

[evelyn.gallego@emiadvisors.net](mailto:evelyn.gallego@emiadvisors.net)

Twitter: @egallego

LinkedIn: [linkedin.com/in/egallego/](https://www.linkedin.com/in/egallego/)

## **Sarah DeSilvey**

[sarah.desilvey@med.uvm.edu](mailto:sarah.desilvey@med.uvm.edu)

Twitter: @sarcandes

LinkedIn: [linkedin.com/in/sarah-desilvey-fnp/](https://www.linkedin.com/in/sarah-desilvey-fnp/)

## **Bob Dieterle**

[rdieterle@enablecare.us](mailto:rdieterle@enablecare.us)

LinkedIn: <https://www.linkedin.com/in/bob-dieterle>

Additional questions? Contact:

[gravityproject@emiadvisors.net](mailto:gravityproject@emiadvisors.net)

 @thegravityproj

 <https://www.linkedin.com/company/gravity-project>

<https://thegravityproject.net/>