ONC Social Determinants of Health (SDOH) Information Exchange Learning Forum

Technical Infrastructure and Interoperability

1:00 – 2:30 pm EST Tuesday, June 14th, 2022







Agenda

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- Welcome
- SDOH Information Exchange Background
- Overview of SDOH Information Exchange Foundational Elements
- Presenters:
 - Missouri Aging Services Data Collaborative
 - United Way for Southeastern Michigan
 - Gravity Project
- Questions & Discussion
- Learning Forum Series and Small Group Opportunities
- Closing

Welcome

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Please chat-in your name, role and organization.



Greg Bloom EMI Advisors



Kristina Celentano **EMI Advisors**



Karis Grounds **211 San Diego**



Brenda Kiritkumar **EMI Advisors**



Samantha Meklir **ONC**



Sheetal Shah EMI Advisors



Whitney Weber **ONC**



Evelyn Gallego EMI Advisors







SDOH Information Exchange Background

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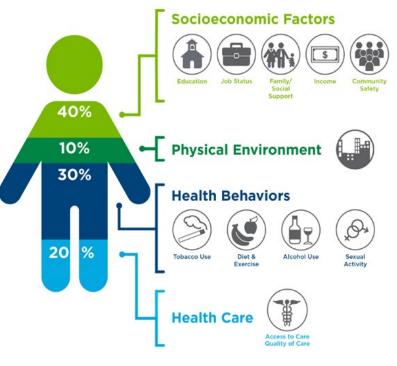
Why Are Social Needs Important?

There is growing awareness 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.

Addressing SDOH is a primary approach to achieve health equity.

What Goes Into Your Health?



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





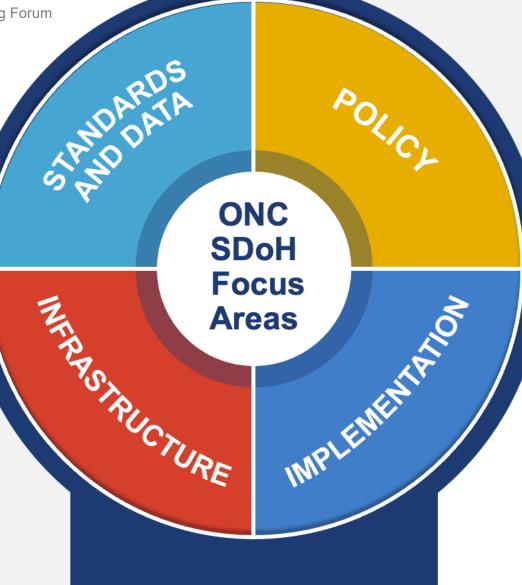
STANDARDS AND DATA

6

(Advance Standards Development Adoption)

INFRASTRUCTURE

(SDOH Information Exchange/ Interoperable Referrals, HIE, State, & Local)



POLICY

(Emerging Policy Challenges & Opportunities)

IMPLEMENTATION

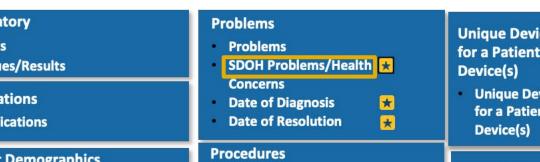
(Integration, Innovation, and Health IT Tools)

Collect, Access, Exchange, Use



USCDI Version 2





Procedures

Provenance

Author Time Stamp

SDOH Interventions

*

Author Organization

Smoking Status

Smoking Status

Unique Device Identifier(s) for a Patient's Implantable

Unique Device Identifier(s) for a Patient's Implantable

Vital Signs

- **Diastolic Blood** Pressure
- Systolic Blood Pressure
- **Body Height**
- **Body Weight**
- **Heart Rate**
- **Respiratory Rate**
- **Body Temperature**
- **Pulse Oximetry**
- **Inhaled Oxygen Concentration**
- **BMI Percentile (2-20 Years)**
- Weight-for-length Percentile (Birth-36 Months)
- **Occipital-frontal Head Circumference Percentile (Birth-**36 Months)

Allergies and Intolerances

- Substance (Medication)
- Substance (Drug Class)
- Reaction

Assessment and **Plan of Treatment**

Assessment and **Plan of Treatment SDOH Assessment**

Care Team Member(s)

- Care Team Member Name
- Care Team Members Identifier 🚼

×

×

*

- **Care Team Members Role**
- Care Team Members Location ×
- Care Team Members Telecom

Clinical Notes

- **Consultation Note**
- **Discharge Summary Note**
- **History & Physical**
- **Procedure Note**
- **Progress Note**

Diagnostic Imaging * **Diagnostic Imaging Test** * Diagnostic Imaging Report 🚼 Encounter Information 🗙 Encounter Type * Encounter Diagnosis * **Encounter Time** × **Encounter Location** * Encounter Disposition 😽 Goals **Patient Goals SDOH Goals** \star

Clinical Test Result/Report 😽

Health Concerns

Clinical Tests

Clinical Test

Health Concerns

Immunizations

Immunizations

Laboratory

Tests

*

*

Values/Results

Medications

Medications

Patient Demographics

- First Name
- Last Name
- Previous Name
- Middle Name (Incl. Middle Initial)

*

- Suffix
- Sex (Assigned at Birth)
- Sexual Orientation
- **Gender Identity**
- Date of Birth
- Race
- Ethnicity
- **Preferred Language**
- Current Address
- **Previous Address**
- Phone Number
- Phone Number Type

Email Address

New USCDI v2 Data Elements and Classes

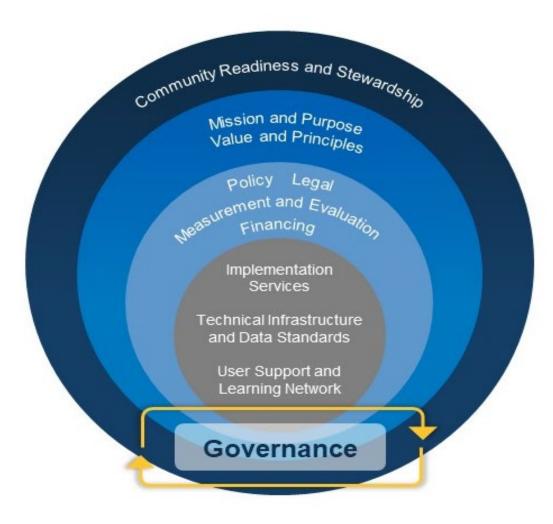




Overview of SDOH Information Exchange Foundational Elements



Social Determinants of Health Information Exchange Foundational Elements









Technical Infrastructure & Data Standards

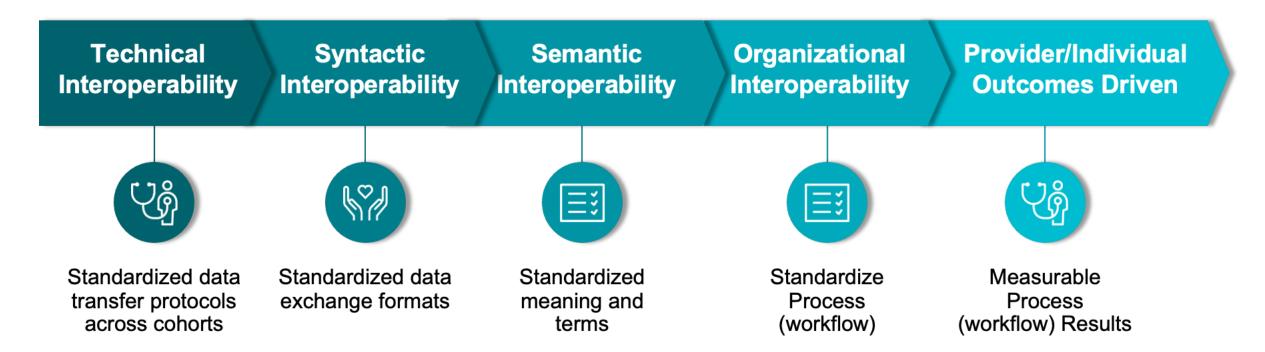


Technical Infrastructure & Data Standards

In this context, <u>technical infrastructure and data standards</u> focuses on IT systems and includes the alignment of hardware, software, data, processes, and standards to enable scalable and interoperable data and IT systems for SDOH information exchange.

Advanced Interoperability Continuum





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Questions to Consider

- What technical assessments have been done to understand the landscape of existing technology tools and data fields, and what lessons have been learned?
- What are the hardware and software needs to support priority services and use cases for the community? How will these investments be sustained and scaled?
- What are the applicable health IT standards (i.e., vocabulary/terminology, content/structure, services/exchange, administrative) to support community needs and use cases?
- Are IT solutions and services being designed for data and system interoperability? What are the relevant health IT standards that should be used?
- What technical infrastructure and data standards and capacity building is needed to support community-based organizations to meet technical requirements?
- How are you taking security and privacy considerations into account in your design and technical infrastructure?





Missouri Aging Services Data Collaborative

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Missouri Aging Services Data Collaborative

Models + Case Study for Connecting Health and Social Care

Paul Sorenson Director, St. Louis Regional Data Alliance at UMSL sorensonp@umsl.edu



Our Mission: We build shared data infrastructure and support strong data actors that use quality data to improve people's lives.

Over 380 members across the St. Louis Region. 2022 Focus on Interoperability, Governance, and Community Engagement

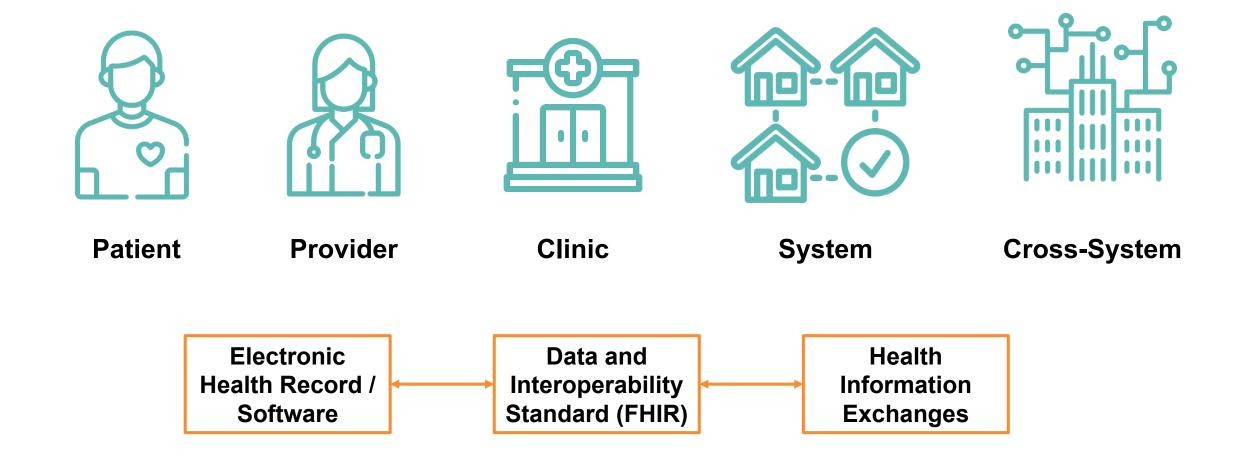


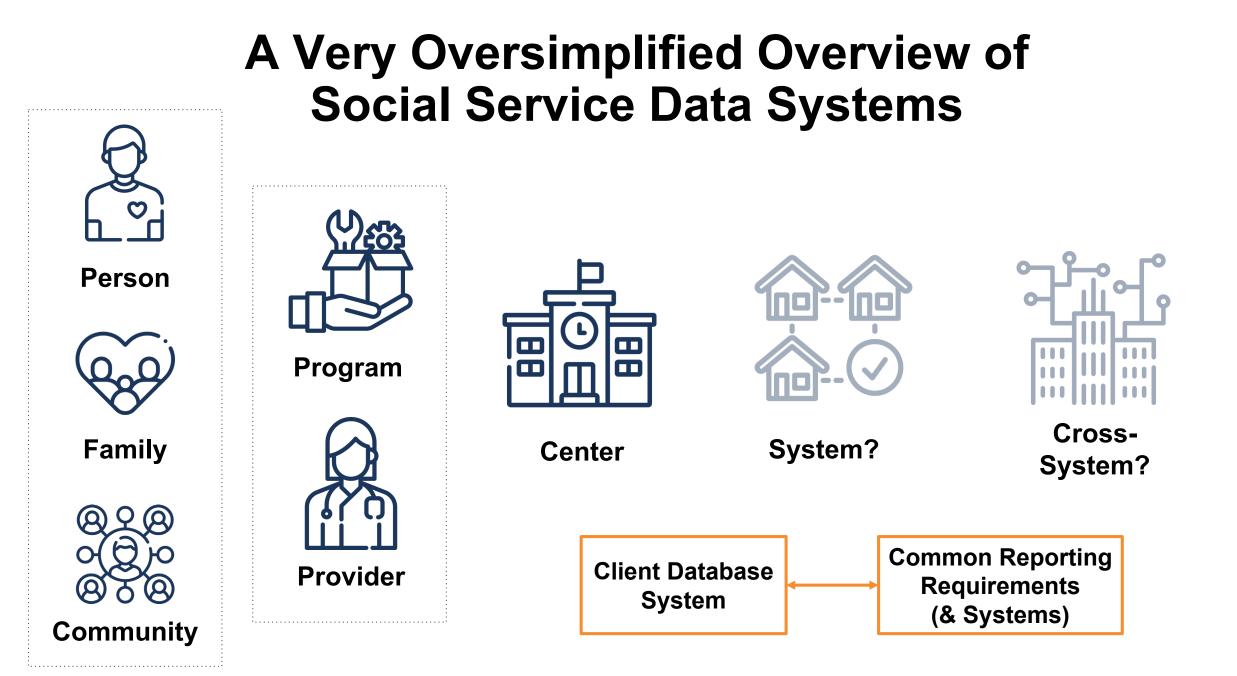
Data Backbone

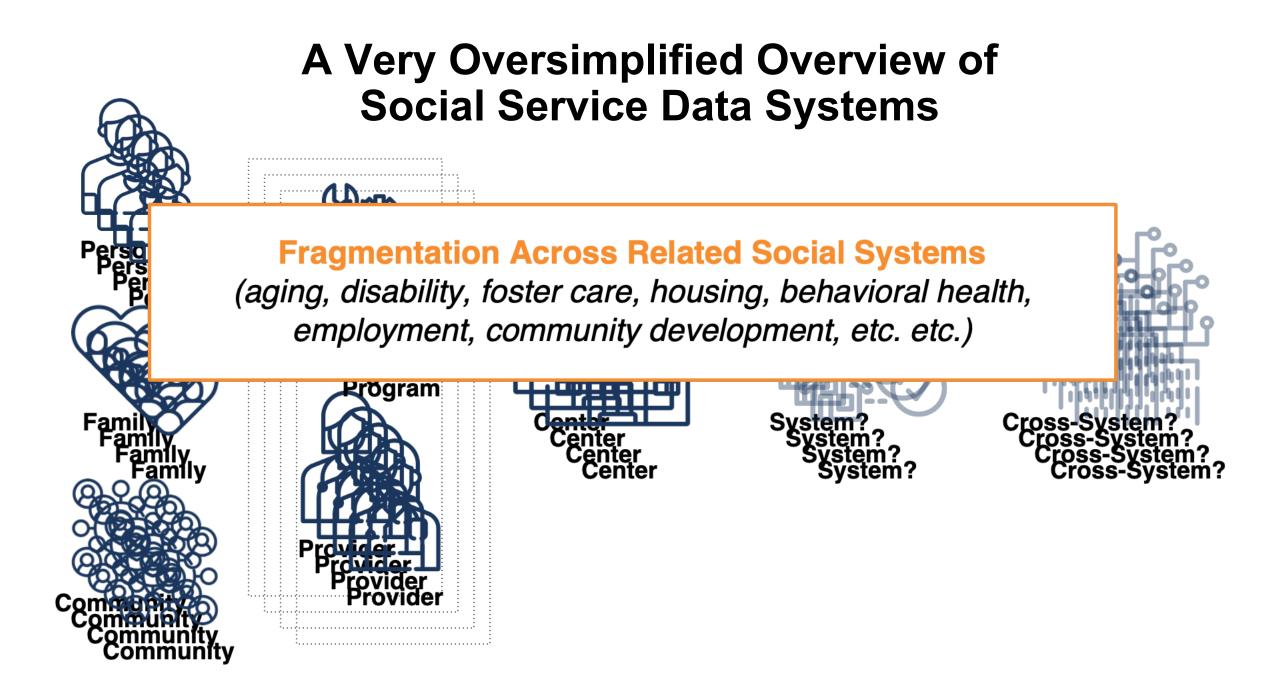


Social Care Referrals Challenge Finalist

A Very Oversimplified Overview of Healthcare Data Systems



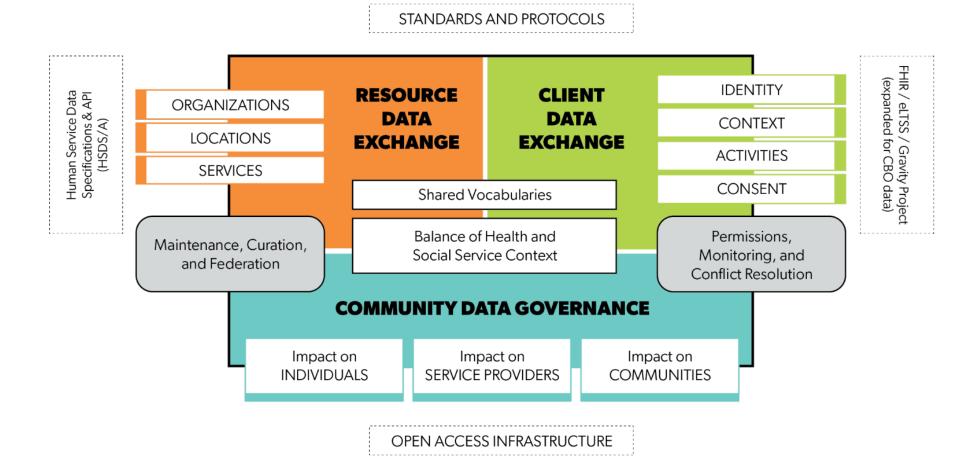




Key Differences Between Health and Social Service Data

Healthcare Data	Social Service Data
Common Funding Sources	Diversity of Funding Sources
Clinically-Centered Interventions	Person and Community Centered
Largely Mature Data Systems	Scattered Data / Data Systems
Interoperability Push / FHIR	Interoperability? (Few Standards)
Robust Communities of Practice	Data as Burden / Afterthought

Primary Components of "Community Information Exchanges®"

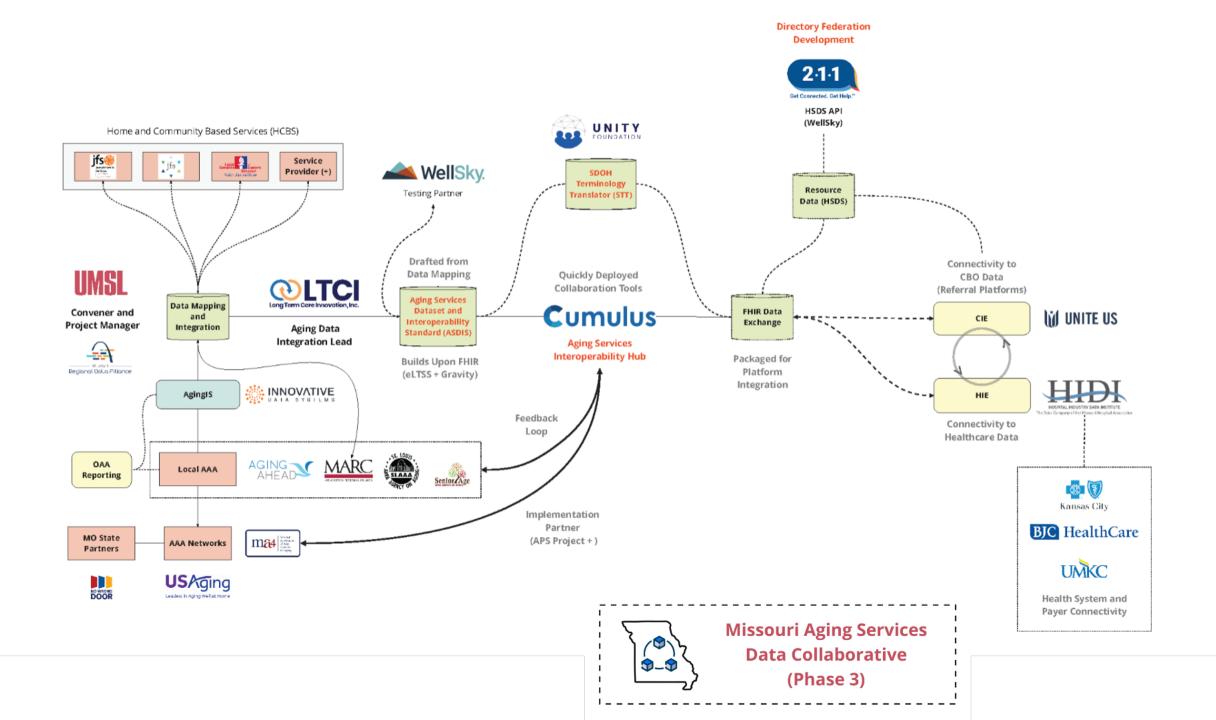


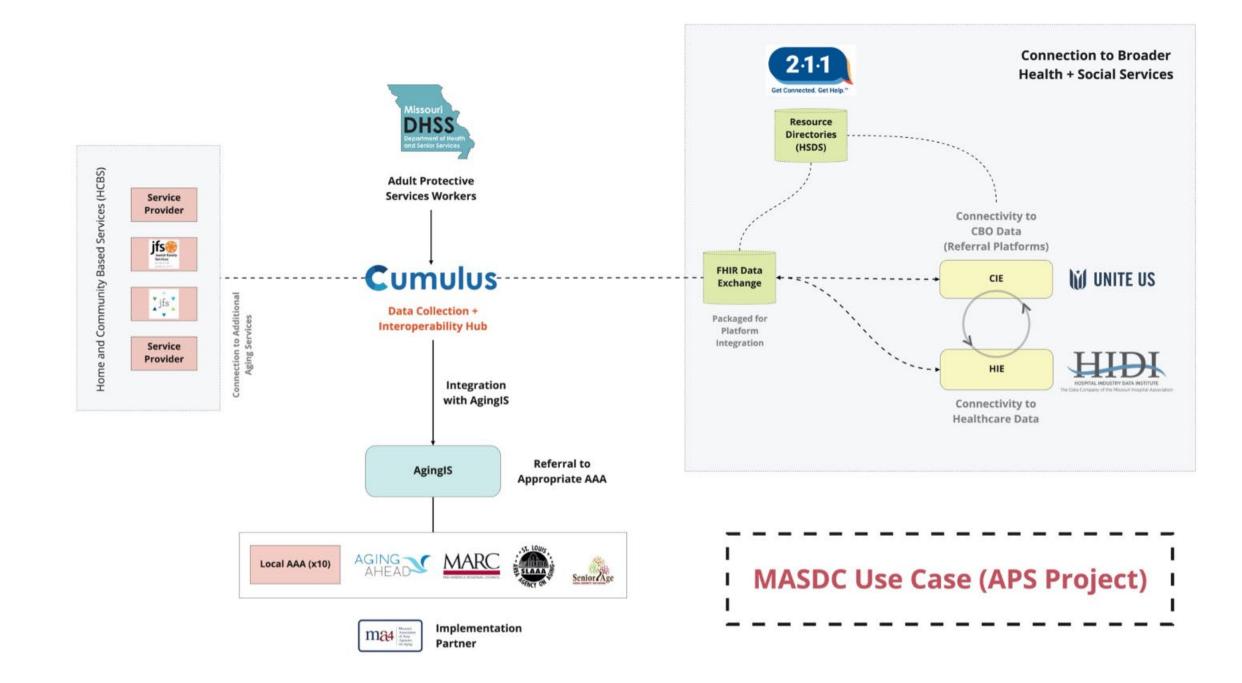
bit.ly/socialcaredatapdf

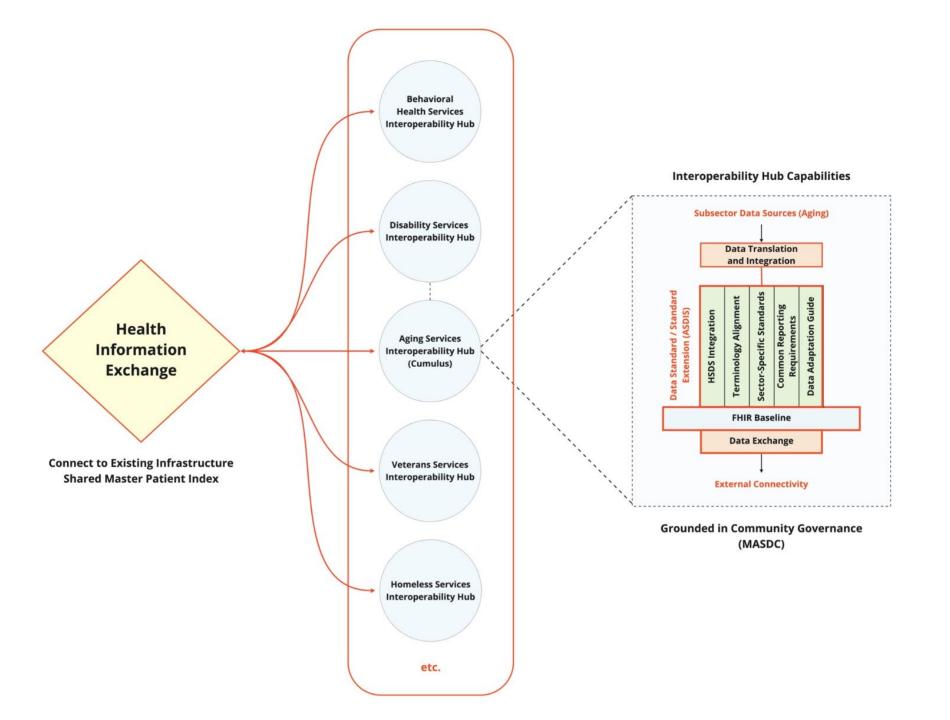
Client Data Exchange

- <u>Identity</u>: Systems can correctly match data from different records to the same person
- <u>Context</u>: Information about a person's social situation their demographic context, their needs, their goals, and other salient details
- <u>Activity</u>: Referrals, enrollment, documentation, status changes, client decisions, and other relevant actions
- <u>Consent</u>: Agreements over what information is shared with whom and in what context

What Can This Look Like?







Building an Interoperability Hub

- Anchor efforts in healthcare data connectivity
- Develop social service sector-specific governance structure
- Work with stakeholders to expand and develop standards
- Focus on intra-sector data connectivity challenges
- Align with adjacent sectors, including healthcare
- Establish ongoing process for improvement + connectivity



Missouri Aging Services Data Collaborative

Models + Case Study for Connecting Health and Social Care

Paul Sorenson Director, St. Louis Regional Data Alliance at UMSL sorensonp@umsl.edu 29





Questions & Discussion





United Way for Southeastern Michigan

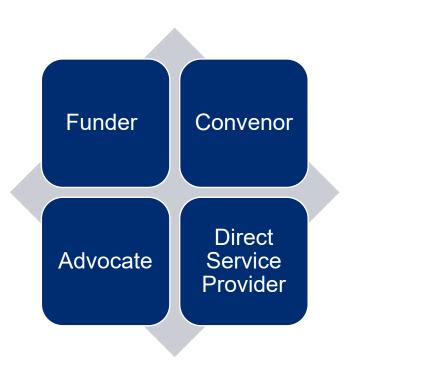


United Way for Southeastern Michigan

SDOH Information Exchange Learning Forum 6/14/2022

United Way for Southeastern Michigan: Backbone Capacity

38% of households in Southeastern Michigan struggle to meet their basic needs. (2021 ALICE REPORT)





Community:

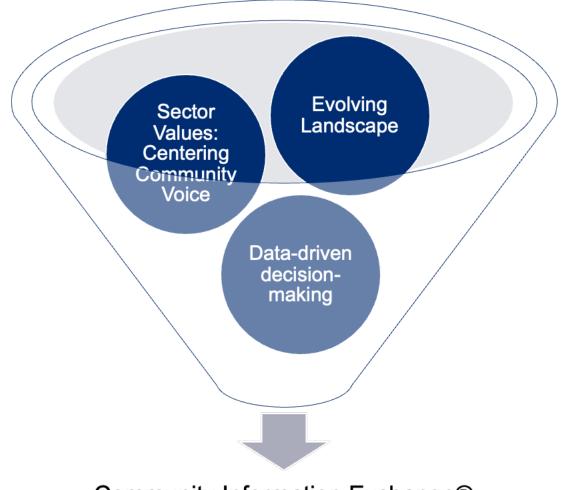
We are reactive but we want to be proactive. We need data to understand community trends and analyze gaps and barriers to needs being met.

Agencies:

We struggle to collaborate, serve clients more holistically across organizations, and document outcomes effectively.

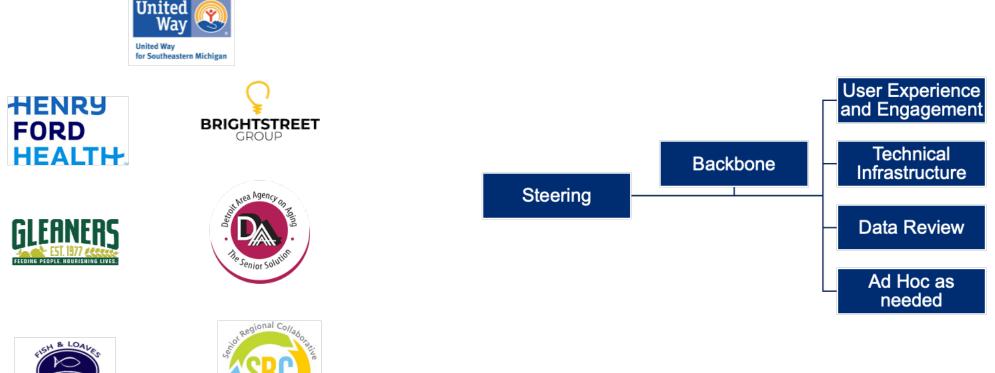
Individuals and Families: We hate navigating a disjointed system, repeating our needs to multiple service providers.

Commitment to Transformation and Progress



Community Information Exchange®

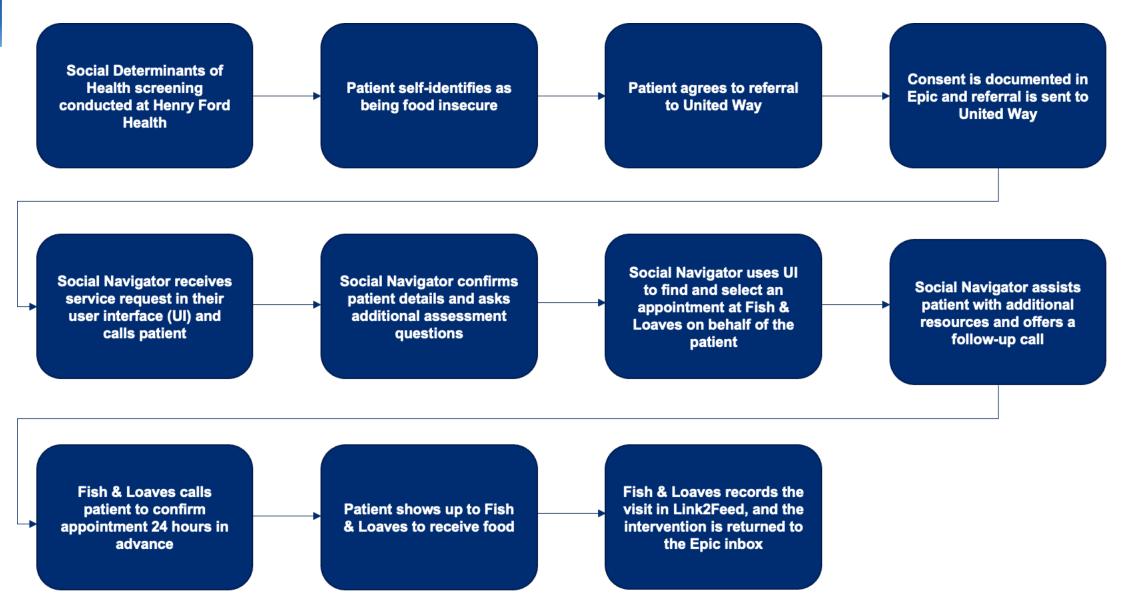
Convening Stakeholders to Launch a Demonstration Project







Implementing a Use Case: Clinical and Social Integration



AGENDA

- Pre-existing considerations
- Technical Infrastructure
- Interoperability
- Where do we go from here?



Pre-existing architectural considerations

- Varied technical sophistication from initial referral partners
 CCDA, HL7, FHIR (and more!)
- Varied technical sophistication from participating agencies
- Reluctance to rely on a single vendor for interoperability or data exchange - "You can't buy a box of CIE[®]"
- Emerging but evolving standards
- Clear interest from all parties to have granular insights into the process/workflow
- Significant chance that workflows could be disrupted
- Adoption/participation by partners must be minimally disruptive to existing tech

Technical Infrastructure (current)

- AWS Cloud Serverless IaaS
- AWS Lambda Event-Driven Code as microservices
- RESTful Application Programming Interfaces (APIs) using AWS API Gateway

OAPI keys and access tokens

AWS Open Search for real-time analytics and dashboards

Um, say what??



UNITED WAY FOR SOUTHEASTERN MICHIGAN

Technical Infrastructure in Plain(er) Language

- Using the premier cloud infrastructure provider is extremely cost effective, requires minimal upfront investment, is subscription-based (no licenses per se) and can infinitely scale on demand
- Microservices make software updates very easy, allow for fragile processes to be "re-started" if something goes amiss, and enable extremely granular capture and reporting of "events" as the workflow progresses
- APIs "decouple" layers so, for example, multiple user interfaces can be attached to the same backend services

Interoperability

- There are NO proprietary technologies or schemas in the Hub
- ALL available standards have been adopted to the extent possible
 - FHIR person repository
 - HL7 inbound referrals
 - HL7/Gravity Intervention Coding
 - ICD-10 Z code or other medical coding for inbound "observations"
 - Working to adopt emerging semantic nomenclature including "observations", "interventions" and "service requests"
 - HSDS-based API for third party queries to the 211 Statewide Social Services Resource Directory

Future Vision

- SDOH closed loop referrals are just one important use case in the effective use and adoption of a Community Information Exchange
- Move from a static "yellow pages" directory to an interactive directory providing real time eligibility, services (e.g., appointments) and enrollments
 - Tax appointments
 - Childcare subsidies
 - Food pantry appointments and enrollment
 - Housing services
- Inter-agency information sharing including real-time inventory and "marketing" of underutilized services
- Subscription-based event reporting for Tier 3 partners





Questions & Discussion

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Gravity Project

Consensus-driven Standards on Social Determinants of Health



Aaron Seib, SVP Strategy and Innovation SAFFRON Labs

Gravity's

- Executive Committee Co-chair
- Governance and Finance Committee Chair







Gravity Project

A collaborative public-private initiative launched in May 2019 with the goal to develop consensus-driven data standards to support the collection, use, and exchange of social determinants of health (SDOH) data.



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





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

Project Scope



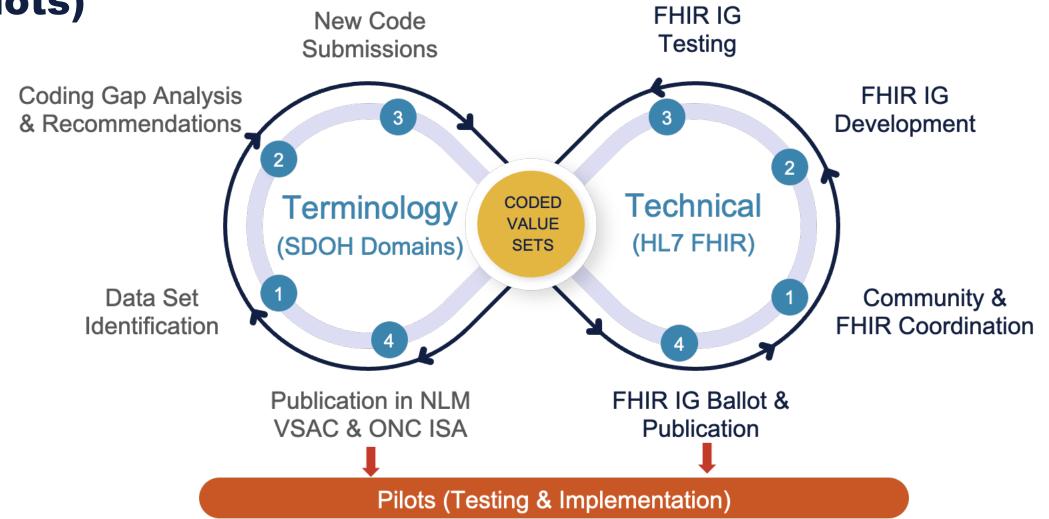
- Develop data standards to represent and exchange patient level SDOH data documented across four clinical activities:
 - Screening
 - Assessment/diagnosis
 - Goal setting
 - Treatment/interventions.
- Test and validate standardized SDOH data for use in patient care, care coordination between health and human services sectors, population health management, public health, value-based payment, and clinical research.



Domains grounded by those listed in the NASEM "Capturing Social and Behavioral Domains in Electronic Health Records" 2014

SDOH Domains

Project Execution: Three Workstreams (Terminology, Technical, Pilots)





Public Collaboration via 2 Public Workgroups



Gravity has convened over 2,500+ participants from across the health and human services ecosystem.

Terminology Workstream Products developed via Public Collaborative.

Meet bi-weekly on Thursdays from 4 to 5:30 pm ET.

LOINC



Technical Workstream Products developed via HL7 SDOH FHIR IG WG.

Meet weekly on • Wednesdays from 3 to 4 pm ET.

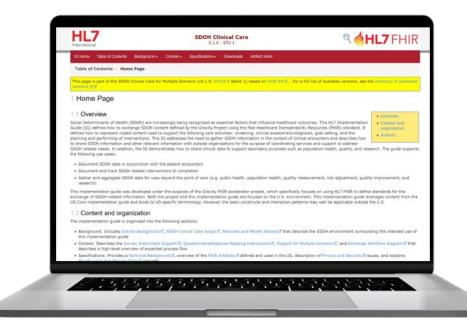


https://confluence.hl7.org/pages/viewpage.action?pageId=46892669#JointheGravityProject-GravityProjectMembershipList

HL7 SDOH Clinical Care FHIR Implementation Guide

- 1. This is a framework Implementation Guide (IG) and supports multiple domains
- 2. IG support the following activities
 - Assessments
 - Health Concerns / Problems
 - Goals
 - Interventions including referrals
 - Consent
 - Exchange with patient/client applications
 - Draft specifications for the capture and exchange of Personal Characteristics
- 3. STU1 published August 2021
- STU2 balloted in HL7 January 2022 Ballot Cycle; target Summer 2022 publication – see Build Specification <u>here</u>.





http://hl7.org/fhir/us/sdoh-clinicalcare/STU1/

Funded Pilots Testing Gravity Standards



ONC Awardees

- OCHIN
- Alliance Chicago
- UT Austin (LEAP Awardee) <u>https://www.healthit.gov/buzz-blog/interoperability/by-leaps-and-bounds-newest-round-of-awardees-seek-to-advance-health-equity-and-research</u>

ACL Phase 2 Challenge Teams

- Closing the Loop Together in Southeast Michigan
- FHIR-FLI
- Missouri Aging Services Data Connectivity & Interoperability
- Thrive Hub South Carolina Referral System

https://acl.gov/news-and-events/announcements/acl-announcessocial-care-referrals-challenge-phase-2-awardees



Gravity Standards Included in Policy, Programs, & Grants

- July 2021: Gravity data elements included in ONC USCDI version 2
- April 2022: CMS FY 2023 inpatient prospective payment system and long-term hospitals proposed rule includes voluntary reporting of screening for Social Drivers of Health, including using USCDI v2 SDOH data classes.
- May 2022: CMS CY 2023 Medicare Advantage (MA) and Part D final rule requires Special Needs Plans (SNPs) include standardized questions on housing stability, food security, and access to transportation as part of their currently required health risk assessments.
 - As noted in the Part D final rule, CMS plans to issue sub-regulatory guidance
- Gravity standards included in three federal grant programs:
 - Administration for Community Living (ACL) Social Care Challenge Grant
 - ONC Leading Edge Acceleration Projects (LEAP) in Health IT Referral Management to Address SDOH Aligned with Clinical Care
 - Administration for Children & Families (ACF) Human Services Interoperability Innovations Grant



Call for Participation! CMS July FHIR Connectathon - FREE

Please sign up for the CMS July FHIR Connectathon to be held on July 19th-22th.

- Register here by June 30th: <u>https://confluence.hl7.org/display/FHIR/CMS+2022+-</u> +07+FHIR+Connectathon+3
- View Gravity Track information here: <u>https://confluence.hl7.org/display/FHIR/CMS+2022+-</u> <u>+07+Gravity+SDOH+Track</u>

Pilots Call for Participation!



- We are currently seeking entities to participate in testing the Gravity-defined coded concepts and/or the HL7 SDOH FHIR IG STU1 and/or STU2.
- We will be standing up a **Pilots Affinity Group** to convene participating sites via a monthly webinar.
- Please submit your Pilot interest to gravityproject@emiadvisors.net



How to Engage!



How to Facilitate SDOH Data Standards Adoption



- Help us TEST the terminology and technical standards!
 - Sign up to be a Gravity Pilot site via email to gravityproject@emiadvisors.net
 - Sign up to test the standards at the CMS July 2022 FHIR Connectathon here.
- Volunteer to develop and review education and outreach materials to bring all stakeholders to the table.
- Finance testing and piloting of the standards with data sharing partners.
- Support local activities aimed at reaching consensus on what standardized SDOH data elements can be universally collected.
- Support local efforts to collect standardized SDOH data in electronic or claimsbased tools for health care providers to support local care coordination and closed loop referrals, including efforts that improve data validity.
- Provide resources for health care providers to take part in implementation research to identify and document best practices in SDOH and equity related data collection and sharing.



Join the Gravity Project!

Learn More

https://confluence.hl7.org/display/GRAV/Join+the+Gra vity+Project

- Terminology Public Workgroup meets bi-weekly on Thursdays' 4:00 to 5:30 pm ET.
- SDOH FHIR IG Workgroup meets weekly on Wednesdays' 3:00 to 4:00 pm ET.



Help us find new sponsors and partners

Partner with us on development of blogs, manuscripts, dissemination materials

Submit SDOH domain data elements (especially for Interventions): https://confluence.hl7.org/display/GRAV/Data+Elemen t +Submission

Help us with Gravity Education & Outreach

Use Social Media handles to share or tag us to relevant information

- 🍯 @thegravityproj
- in <u>https://www.linkedin.com/company/gravity-</u> project

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Questions & Discussion





Learning Forum Series and Small Group Opportunities



Learning Forum: Webinar Series Schedule

Торіс	Date & Time	Learning Objectives
SDOH Information Exchange Foundational Elements Framework Introduction	March 29 th 1:30pm – 3:00pm EST	Learn about the SDOH landscape and foundational elements to enable SDOH information exchange.
SDOH Information Exchange: Vision, Purpose, and Community Engagement	April 22 nd 1:00pm – 2:30pm EST	Learn about promising practices to engage with community stakeholders and define a mission and purpose.
SDOH Information Exchange: Governance	May 13 th 1:30pm – 3:00pm EST	Learn about different levels of governance for stakeholders engaged in SDOH information exchange initiatives.
SDOH Information Exchange: Technical Infrastructure and Interoperability	June 14 th 1:00pm – 2:30pm EST	Learn about data systems and standards to enable SDOH information exchange.
SDOH Information Exchange: Policy and Funding	July 19 th 1:30pm – 3:00pm EST	Learn about privacy and security considerations, as well as financing models to support organizations pursuing SDOH information exchange.

https://www.healthit.gov/news/events/oncs-social-determinants-health-information-exchange-learning-forum



Learning Forum: Small Group Opportunities

ONC is also offering additional opportunities for interested stakeholders to participate in small group learning.

- Groups of approximately 10-15 individuals across a diverse set of stakeholder groups.
- Paired with a facilitator and subject matter experts who will guide and support learning and engagement.
- Discussion questions and focus areas will be collaboratively developed.
- Topics will align with the Learning Forum monthly webinar series.

To express interest in small group participation, please email <u>oncsdohlearningforum@hhs.gov</u> for more information on how to join.



Upcoming Small Group Sessions

Upcoming small group sessions:

- Wednesday, June 22nd, 2:00 3:00 pm ET
- Friday, June 24th, 2:00 3:00 pm ET
- Monday, June 27th, 1:00 2:00 pm ET

To express interest in small group participation, email <u>oncsdohlearningforum@hhs.gov</u> for more information on how to join.



Feedback Questions:

You may enter into the chat your thoughts on these two questions:

- How useful did you find today's ONC SDOH Information Exchange Learning Forum webinar on Technical Infrastructure and Data Standards?
- What other content or information would be useful for you in your efforts?

Other feedback or suggestions?

Email: oncsdohlearningforum@hhs.gov

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Thank You!



The Office of the National Coordinator for Health Information Technology

Contact ONC

Learning Forum contact information: oncsdohlearningforum@hhs.gov





- Health IT Feedback Form: <u>https://www.healthit.gov/form/</u> <u>healthit-feedback-form</u>
- **Twitter:** @onc_healthIT
- **in** LinkedIn: Search "Office of the National Coordinator for Health Information Technology"



Subscribe to our weekly eblast at <u>healthit.gov</u> for the latest updates!





Appendix



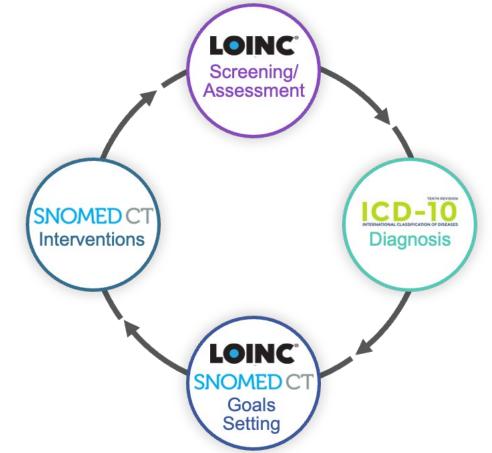
Additional Gravity Project slides for distribution

THEGRAVITYPROJECT.NET

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Terminology Workstream Accomplishments

- Data definitions and code submissions for 14 SDOH Domains
- LOINC screener codes available for 13 domains
- ICD-10 z-codes available for 12 domains (8 codes included in FY2023 CMS IPPS Proposed Rule)
- **SNOMED-CT** intervention codes available for **14** domains
- Published 106 value sets in National Library of Medicine (NLM)
- Data class included in ONC USCDI v2



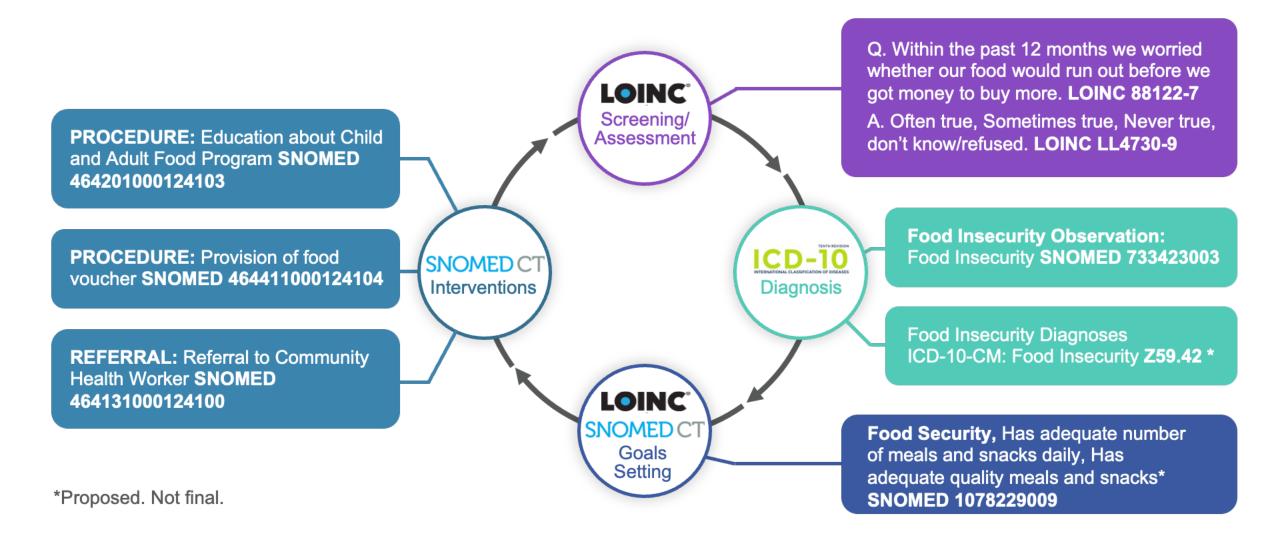
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Food Insecurity Terminology Build





SDOH Domain Code Dashboard



Domain	Activities (Aligns with USCDI SDOH Data Class)	Select Codes Present	Comprehensive List of Codes Present
FOOD	Screeners (LOINC)		x
	Diagnoses (SNOMED CT, ICD-10)		x
	Goals (LOINC, SNOMED CT)		x
	Interventions (SNOMED CT)		x
HOUSING INSTABILITY	Screeners (LOINC)	×	
	Diagnoses (SNOMED CT, ICD-10)		
	Goals (LOINC, SNOMED CT)		
	Interventions (SNOMED CT)		
	Screeners (LOINC)	x	
HOMELESSNESS	Diagnoses (SNOMED CT, ICD-10)	x	
	Goals (LOINC, SNOMED CT)		
	Interventions (SNOMED CT)		
	Screeners (LOINC)	x	
INADEQUATE	Screeners (LOINC) Diagnoses (SNOMED CT, ICD-10)	×	
INADEQUATE HOUSING			x
INADEQUATE HOUSING	Diagnoses (SNOMED CT, ICD-10)		x
INADEQUATE HOUSING	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT)		X
	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT)		x
	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT) Interventions (SNOMED CT)	X	x
INADEQUATE HOUSING TRANSPORTATION INSECURITY	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT) Interventions (SNOMED CT) Screeners (LOINC)	x	X
	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT) Interventions (SNOMED CT) Screeners (LOINC) Diagnoses (SNOMED CT, ICD-10)	x	X
	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT) Interventions (SNOMED CT) Screeners (LOINC) Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED) Interventions (SNOMED CT)	X	X
TRANSPORTATION	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT) Interventions (SNOMED CT) Screeners (LOINC) Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED) Interventions (SNOMED CT) Screeners (LOINC) Screeners (LOINC)	x	X
	Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED CT) Interventions (SNOMED CT) Screeners (LOINC) Diagnoses (SNOMED CT, ICD-10) Goals (LOINC, SNOMED) Interventions (SNOMED CT)	X	x

https://confluence.hl7.org/display/GRAV/SDOH+Data+Elements+And+Status







A Social Determinants of Health Lexicon



- Health Equity is "achieved when every person has the opportunity to attain his or her full health potential and no one is disadvantaged from achieving this potential because of social position or other socially determined circumstances".
 - Social Determinants of Health: "the conditions in which people are born, grow, live, work and age," which are "shaped by the distribution of money, power and resources.
 - **Protective Factors:** characteristics or strengths of individuals, families, communities or societies that act to mitigate risks and promote positive well-being and healthy development.
 - **Social Risks:** Adverse social conditions associated with poor health.
 - Social Needs: Non-medical patient prioritized needs that impact health.

Addressing SDOH and its various key areas is an approach that can be used to improve equity and reduce disparities.

Alderwick and Gottlieb (2019) Meanings and Misunderstandings: A Social Determinants of Health Lexicon for Health Care Systems Center for the Study of Social Policy (2018) About Strengthening Families[™] and the Protective Factors Framework Physician-Focused Payment Model Technical Advisory Committee (2021) SDOH and Equity Report to the Secretary