Standardizing Social Determinants of Health

SNOMED EXPO 2019

Defining Social Determinants

The social determinants of health are the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries.

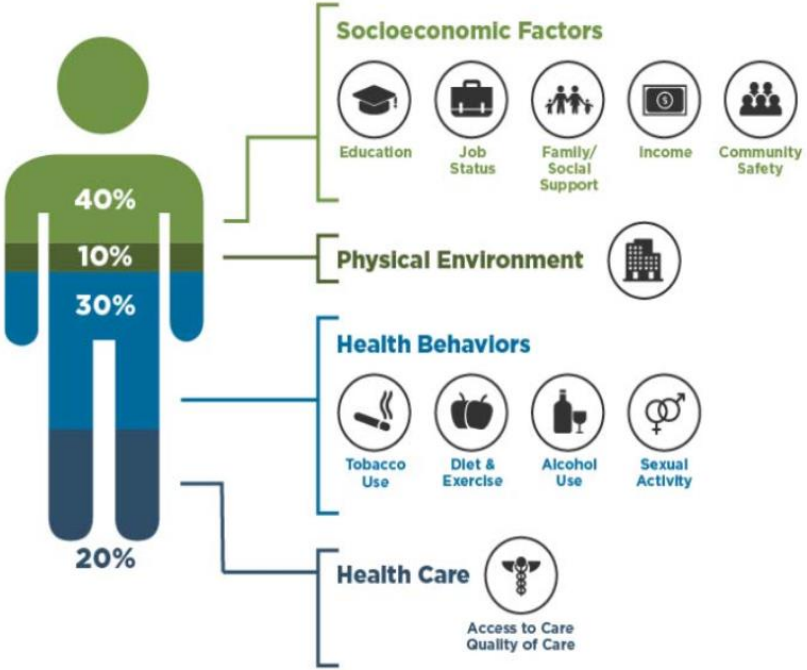
Economic Stability	Neighborhood and Physical Environment	Education	Food	Community and Social Context	Health Care System
Employment	Housing	Literacy	Hunger	Social integration	Health coverage
Income	Transportation	Language	Access to healthy options	Support systems	Provider availability
Expenses	Safety	Early childhood education		Community engagement	Provider linguistic and cultural competency
Debt	Parks	Vocational training		Discrimination	Quality of care
Medical bills	Playgrounds	Higher education		Stress	
Support	Walkability				
	Zip code / geography				

Health Outcomes

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

Source: World Health Organization and Henry J Kaiser Family Foundation, *Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity*

What Goes Into Your Health?



Source: Institute for Clinical Systems Improvement
Clinical Walls: Solving Complex Problems (Octobe

Adapted from The Bridgespan Group

Improving the System by Addressing Social Determinants

The Advisory Board: *Socioeconomic factors are far stronger determinants of health outcomes than medical care, and addressing Social Determinates of Health has been shown to be effective in improving outcomes.*[1]

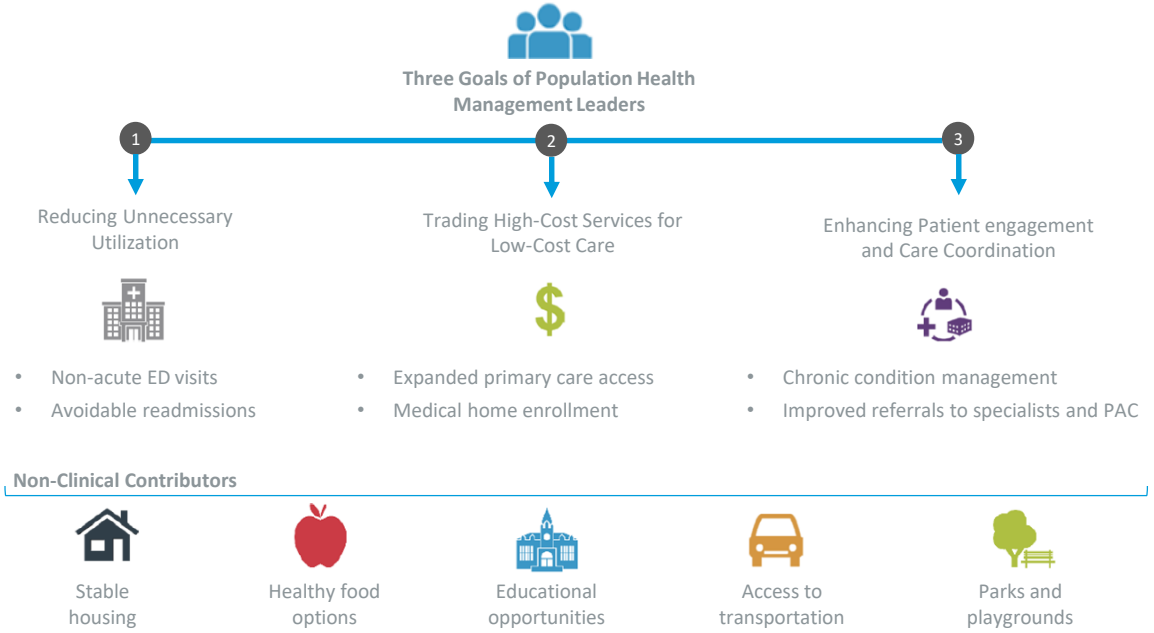


Figure 2 – Three Goals of Population Health Management Leaders[2]

Addressing Non-clinical Barriers to Care

25% — **Missed appointments or rescheduling needs due to transportation problems**

$8K — **Annual per-person health care savings as a result of offering housing and supportive services to high-cost homeless individuals**

39% — **Increased likelihood of a Medicaid-enrolled child visiting an ED more than once in a year if living in un-renovated public housing**

Source: Silver D, et al, "Transportation to clinic," Journal of Immigrant and Minority Health, 14, no. 2 (2012), 350–355; Kersten EE, et al., "San Francisco Children Living in Redeveloped Public Housing Used Acute Services Less than Children in Older Public Housing, Health Affairs, 33, no. 12 (2014), 2230-2237; Corporation for Supportive Housing, "FAQ's About Supportive Housing Research, http://www.csh.org/wp-content/uploads/2011/11/Cost-Effectiveness-FAQ.pdf; Population Health Advisor research and analysis.

[1]The Advisory Board – Social Determinates of Health Data. Educational Briefing for Non-IT Executives
[2]Advisory Board, "Building the Business Case for Community Partnership." December 2016 Adobe PDF Presentation

AMA | Integrated Health Model INITIATIVE™

Make the world's growing health data useful and actionable by enabling, creating, and applying common standards to it.

Improve patient health outcomes by empowering physicians with the clinically valid health care data needed to make informed decisions.

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AMA is committed to contributing resources and expertise to the development of consensus driven SDOH standards that are freely available and can be openly used.

The work begins with improvements to the collection and use of SDOH data in existing infrastructure and expands to provide clinically clear and consistent SDOH definitions that support next-generation systems for population health management and value-based care.

Improve U.S. administrative use cases: Drive consistent capture and use of CPT and ICD-10 codes in existing infrastructure

Develop comprehensive U.S. standards:
- Identify SDOH gaps and duplicates in existing code sets (CPT, ICD, LOINC, SNOMED)
- Develop use case specific value sets through consensus process
- Author FHIR implementation guides for identified value sets/use cases

Align U.S. requirements with global use cases:
- Collaborate with SDOs to reconcile duplicates and fill gaps
- Develop geography-agnostic SDOH FHIR models for global use cases

WHY START WITH ICD-10 and CPT?

Most coded SDOH data being exchanged in the U.S. today is from large payers based on administration and claims. Focusing on code sets in existing workflows is a pragmatic first step toward capturing and normalizing SDOH data.

- U.S. providers already utilize existing ICD-10 Z codes. UnitedHealthcare has received more than **5 million c**laims for social barriers using existing ICD-10 Z codes, demonstrating providers do submit codes when available
- Much of this data **exists in a physician's electronic medical records** as a result of health risk assessments, but can't be used right now without additional codes in existing workflows
- Proposed codes are not payer-specific and would **integrate** into standard language between care providers and payers

IMPROVE SDOH CODING IN EXISTING WORKFLOWS

	NOW (2019)	NEXT (2020)
ICD	• Joined UHC to support creation of new ICD-10 codes for reimbursable SDOH use cases like transportation and isolation • Released interoperable FHIR resources for efficient exchange of ICD-10 value sets in UHC use cases • Engaging across healthcare to drive awareness and consistent use of ICD-10 codes for SDOH	• Leverage FHIR resources to pilot ESRD use case with UHC, Healthify and MedTrans • Integrate relevant ICD-10 codes into comprehensive FHIR implementation guide for food insecurity through the Gravity Project
CPT	• Engaging with CPT Panel/staff and concerned stakeholders in the New York Department of Health to educate about the need for CPT codes to reimburse for SDOH assessments • Exploring how changes in E&M coding rules may allow reimbursement for assessments	• Educate industry on appropriate use of CPT to document SDOH assessments • Test need for new codes in CPT to document SDOH interventions

UnitedHealthcare®

Where We Started

- Began SDOH collection with 18 existing ICD-10 Z codes
- Developed standardized data collection model and added placeholder codes
- Leveraged the PRAPARE tool in data collection expansion (National Association of Community Health Centers-NACHC endorsed)
- Creates industry model that can be used consistently across payers and providers

Results in 2018

500K Members served

700K Social referrals

TABULAR MODIFICATIONS

Z55 Problems related to education and literacy
Excludes1: disorders of psychological development (F80-F89)
New code Z55.5 Less than a high school degree
New code Z55.6 High school diploma or GED

Z56 Problems related to employment and unemployment
Excludes2: occupational exposure to risk factors (Z57.-)
problems related to housing and economic circumstances (Z59.-)

Z56.8 Other problems related to employment
New Code Z56.83 Unemployed and seeking work
New Code Z56.84 Unemployed but not seeking work
New Code Z56.85 Employed part time or temporary
New Code Z56.86 Employed full time

New subcategory Z59.6 Low Income
New Code Z59.61 Unable to pay for prescriptions
New Code Z59.62 Unable to pay for utilities
New Code Z59.63 Unable to pay for medical care
Z59.64 Unable to pay for transportation for medical appointments or prescriptions
New Code Z59.65 Unable to pay for phone
New Code Z59.66 Unable to pay for adequate clothing
New Code Z59.67 Unable to find or pay for child care
New Code Z59.69 Unable to pay for other needed items

Z59 Problems related to housing and economic circumstances
Excludes2: problems related to upbringing (Z62.-)

Z59.9 Problem related to housing and economic circumstances, unspecified
New Code Z59.91 Worried about losing housing

Z60 Problems related to social environment

Z60.8 Other problems related to social environment
New Code Z60.81 Unable to deal with stress
New Code Z60.82 Inadequate social interaction - limited to once or twice a week
New Code Z60.83 Can hardly ever count on family and friends in times of trouble
New Code Z60.84 Feeling unsafe in current location
New Code Z60.85 Stressed quite a bit or very much
New Code Z60.86 Stressed somewhat

Integrated Health Model INITIATIVE™

Encourage consistent use of ICD-10 Z codes to capture SDoH

Understand use cases for coding and documenting SDoH

Develop information structures to consistently capture and analyze SDoH in ICD-10 right now, and comprehensive data models across medical terminologies for the future

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WHAT'S NEXT?

Next-generation care, payment and research models will require improved richness, granularity and semantic consistency in medical terminology and information models.

- Support and drive Gravity Project toward SDOH value set definition rooted in real-word use cases and deep clinical informatics experience
- Collaborate with standard developers to fill gaps and avoid duplication
- Advance Gravity Project output through HL7's FHIR Accelerator program to fast track standard development and adoption
- Engage with international health community to understand and align with global use cases

CHALLENGE STATEMENT

The systematic documentation and aggregation of SDH data in EHRs and related systems is limited due to:

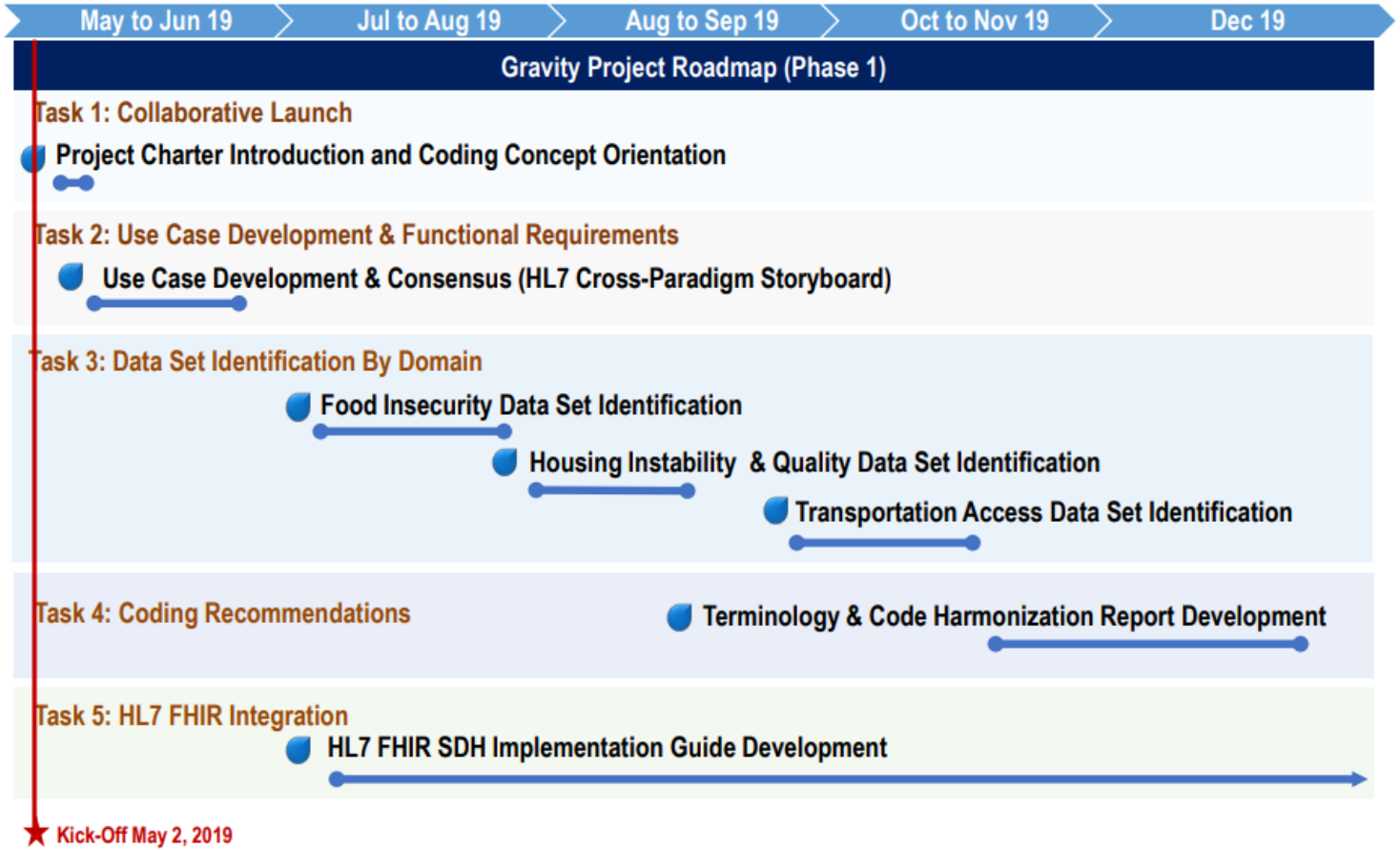
1. partial understanding of the value and use of such data for clinical care and population health management;
2. capture of SDH data in unstructured and non-standardized formats, which inhibits the ability to normalize, exchange, and aggregate the data regardless of the data source; and
3. gaps in and overlap between existing terminologies and codes available to represent SDH-related activities undertaken in clinical delivery settings.

Domain	Screening				Assessment/Diagnosis				Treatment/Intervention					
					ICD-10-CM (Domain-specific codes only--please see Table 2 for additional mapped ICD-10-CM codes)		SNOMED		Referral codes		Counseling/Education codes		Provision of Services/Orders codes	
	Question panel name	LOINC codes for question panels	SNOMED codes for question panels	SNOMED screening procedure codes	ICD-10-CM Parent Code AXX.X	ICD-10-CM Child Codes AXX.XX, AXX.XXX	SNOMED Parent codes (if also a domain-specific assessment/diagnosis)	SNOMED Child codes	SNOMED codes	CPT codes	SNOMED	CPT codes	SNOMED	CPT
Food	BRFSS AHC/SEEK (Hunger Vital Sign) PhenX-Healthy food environments (Perceived Availability of Healthy Foods Scale)	77234-3 88121-9 63024-4		709478004 Assessment of food supply (procedure)	E63.9 Nutritional deficiency, unspecified Z59.4 Lack of adequate food and safe drinking water			445281000124101 Nutrition impaired due to limited access to healthful foods 286441005 Able to obtain food 286443008 Does obtain food 733423003 Food Insecurity 706875005 Insufficient Food Supply 286442003 Unable to obtain food 286445001 Difficulty Obtaining Food 286444002 Does not obtain food	713109004 Referral to community meals service 384811003 Meals on wheels program management		410293007 Food education, guidance and counseling 385767005 Meals on wheels provision education 385766001 Meals on wheels provision assessment		410388007 Food surveillance 710925007 Provision of food 183681001 Arrange meals on wheels	

SNOMED CT is the most comprehensive source of granular SDOH terms. Advancing goals for improved documentation and semantic interoperability will require careful collaboration and value-set curation rooted in pragmatic use cases.

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**

Arons A, DeSilvey S, Fichtenberg C, Gottlieb L. Documenting social determinants of health-related clinical activities using standardized medical vocabularies. JAMIA Open. 2018;2(1):81-88. (http://sirenetwork.ucsf.edu/tools-resources/mmi/compendium-medical-terminology-codes-social-risk-factors)



Gravity Project Mission

To create and maintain a consensus-building community to expand available SDOH Core Data for Interoperability and accelerate standards-based information exchange by using HL7 FHIR.

Create & Maintain Consensus-building Community

Expand Core Data for Interoperability to include SDOH elements

Accelerate Standards-based Info Exchange

HL7 International

gravity PROJECT

Integrated Health Model INITIATIVE™

Founding member of Gravity FHIR Accelerator project

Provide informatics expertise to advance goal of semantic interoperability

Author FHIR implementation guides and drive participation in connectathons and pilots

AMA

Get Involved

Join the Gravity Project
https://sirenetwork.ucsf.edu/TheGravityProject

Join IHMI
https://www.ama-assn.org/amaone/integrated-health-model-initiative-ihmi

Share your challenges using SDOH, and key domains your organization would like to see standardized
IHMI@ama-assn.org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