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Social Determinants of Health: Current State and the Opportunity Impact of Health Information Technology

September 17, 2019

Agenda

- Social Determinants of Health (SDOH)
- Impact on Community and Patient Well-being
- Clinical and Business Drivers for Managing SDOH
- Technology Enablers for Addressing SDOH in Health care Practices, Healthcare Delivery Systems and Public Health Infrastructure



Objectives

- Increase knowledge of social determinants of health (SDOH) and their impact on community and patient health and wellbeing
- Increase understanding of the clinical and business drivers associated with SDOH
- Define barriers to addressing SDOH in health care practice and public health infrastructure
- Understand information technology barriers and emerging solutions to support clinicians in managing SDOH

Health Equity



Health equity is the absence of the unfair and avoidable differences in health status.

Vulnerable Populations



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Health Disparities



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Why are Social Determinants of Health Important?

Why should I care?

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SDOH – Effect Every Aspect of Life



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What Drives Health?



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SDOH – Influencers - 80/20

- **80%** - Environment
 - 40% Socioeconomic
 - Access to nutritious food.
 - Adequate and safe housing
 - Available transportation
 - Financial ability to pay for medications
 - Financial ability to pay for utilities
 - Caregiver needs
 - 20% - Health Behaviors
 - 20% - Physical Environment
- **20%** - Clinical Health Care Services



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Pivotal Questions Surrounding SDOH



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Social Determinants of Health

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			
Support	Walkability				
Health Outcomes Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations					

Source: Artiga, Samantha, and Elizabeth Hinton. 2018. "Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity." The Henry J. Kaiser Family Foundation. May 10. (accessed July 20, 2018).

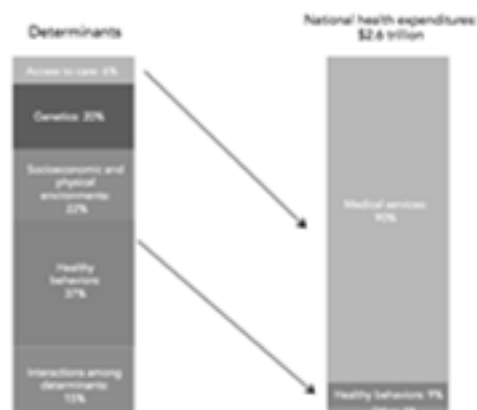
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Health Determinants vs. Health Expenditures

The Mismatch

- Medical care is insufficient for ensuring better health outcomes
- Medical care is estimated to account for only 10-20 percent of the modifiable contributors to healthy outcomes for a population



Source: Hood, C. M., K. P. Gennuso, G. R. Swain, and B. B. Catlin. 2016. County health rankings: Relationships between determinant factors and health outcomes. *American Journal of Preventive Medicine* 50(2):129-135.
 Photo via *Healthy People/Healthy Economy: An Initiative to Make Massachusetts the National Leader in Health and Wellness*. 2015. Data from NEH 2013. Also featured on *18 Charts That Make the Case for Public Health*. August 28, 2016.9+

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Strategies to Address Social Determinants of Health from within Health Care



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Strategies to Address Social Determinants of Health from within Health Care – Provider-Level



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MMS Initiatives to Address Social Determinants of Health



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SDOH and Population Health



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Integrating the SDOH in All Sectors



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Strategies to Address Social Determinants of Health from within Health Care – Information Technology



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SDOH & Information Technology



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How do We Acquire & Utilize SDOH Data When Clinicians Practice on a Volume-Driven Assembly Line?



RESULTS Clinicians spent 355 minutes (5.9 hours) of an 11.4-hour workday in the EHR per weekday per 1.0 clinical full-time equivalent; 269 minutes (4.5 hours) during clinic hours and 86 minutes (1.4 hours) after clinic hours. Clerical and administrative tasks including documentation, order entry, billing and coding, and system security accounted for nearly one-half of the total EHR time (157 minutes, 44.2%). Inbox management accounted for another 85 minutes (23.7%).

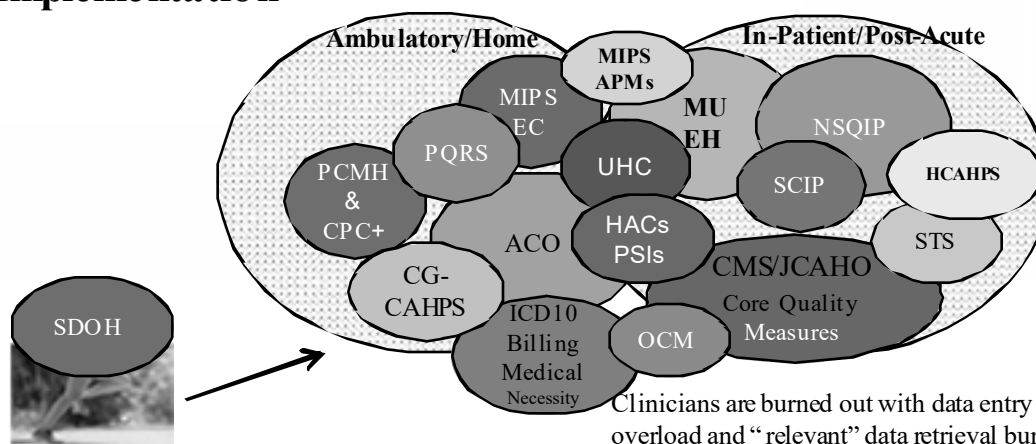


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Pay for Performance, Regulatory and Business Requirements Drive System Consolidation, Integration and Platform Implementation

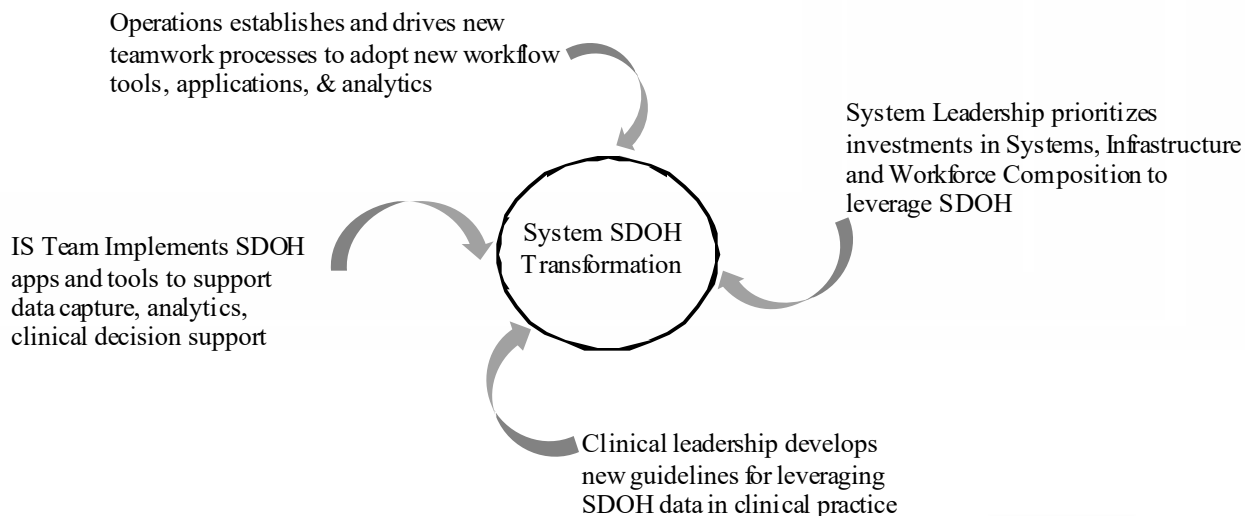


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Health Systems Need to Transform to Leverage SDOH Data



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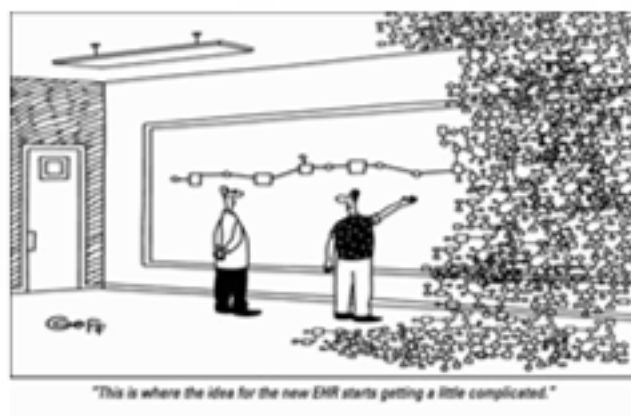
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EHR Vendors Need to Modernize Their Systems

Focus of the last decade has largely been on compatibility with MU Certification criteria and developing workflows and reporting tools to help clients meet regulatory compliance:

- System Integration
- Accountable Care
- Patient Portals
- Revenue Cycle
- Data and Application Interoperability

Demonstrating a renewed focus on clinician usability and efficiency, but regulations keep evolving; seem to burden more than simplify.

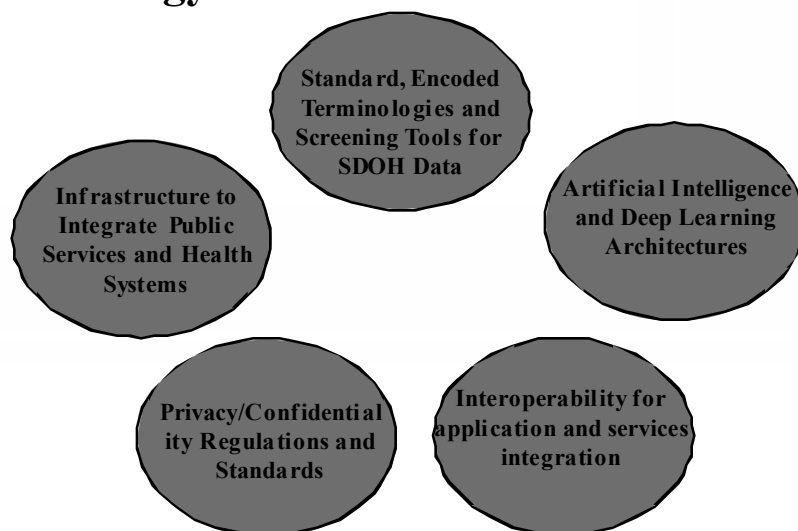


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SDOH Technology Enablers



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Terminology and Coding Initiatives Underway



The Gravity Project

A National Collaborative to Advance Interoperable Social Risk and Protective Factors Documentation

Focuses on coding standards for Screening, Diagnosis and Treatment in 3 priority domains: Food Insecurity, Housing Stability, Transportation <https://sirennetwork.ucsf.edu/TheGravityProject>

Fair Haven CHC ICD10 Crosswalk

Exhibit 1 Social Determinants of Health: ICD-10 Crosswalk

Social Determinant	ICD-10 Code/Description
Food Insecurity	Z63.0 [Food insecurity]
Housing Instability	Z63.1 [Housing instability]
Transportation	Z63.2 [Transportation barrier]
Unemployment	Z63.3 [Unemployment]
Low Income	Z63.4 [Low income]
Health Insurance	Z63.5 [Lack of health insurance]
Health Literacy	Z63.6 [Low health literacy]
Healthcare Access	Z63.7 [Lack of access to health services]
Healthcare Quality	Z63.8 [Poor quality of health services]
Healthcare Costs	Z63.9 [High cost of health services]

https://childrenshealthwatch.org/wp-content/uploads/An-Overview-of-Coding_2.15.18_final.pdf



Children's Healthcare Watch: Food Insecurity as a Vital Sign

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Standard Screening Tools are Emerging



The Accountable Health Communities Health-Related Social Needs Screening Tool

What's the Accountable Health Communities (AHC) Health-Related Social Needs (HRSN) Screening Tool?

We at the Centers for Medicare & Medicaid Services (CMS) Center for Medicare and Medicaid Innovation (CMMI) create the Accountable Health Communities (AHC) Health-Related Social Needs (HRSN) Screening Tool to use in the AHC Model. We're looking to see if systematically finding and dealing with the health-related social needs of Medicare and Medicaid beneficiaries has any effect on their total health care costs and makes their health outcomes better.

AHC HRSN Screening Tool Core Questions

If someone chooses the underlined answers, they might have an unmet health-related social need.

Living Situation

1. What is your living situation today?

- ☐ I have a steady place to live
- ☐ I have a place to live, but I am worried about losing it in the future
- ☐ I do not have a steady place to live, I am frequently moving with others, e.g., hotel, a shelter, living outside on the street, in a beach, in a car, abandoned building, job at 180.0000.00.0.0.0000

2. Think about the place you live. Do you have problems with any of the following?

- (CHOOSE ALL THAT APPLY)
- ☐ Drafty walls, floors, roofs, or doors
 - ☐ Mold
 - ☐ Leaky pipes or drains
 - ☐ Lack of heat
 - ☐ Lack of clean water and sewage
 - ☐ Excessive moisture, humidity, or bad ventilation



Patient-reported data will be eventually likely be reconciled with data from other sources (wearables, data submitted to government agencies, publicly available data, etc.)

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Terabytes of Public Data, Social Network Data, Wearables Data, Genomic Data, Clinical Data



MN Ahmed, AS Toor, K O'Neil and D Friedland
Cognitive Computing and the Future of Healthcare
IEEE Pulse, May 2017

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Artificial Intelligence and SDOH



SDOH data risks adding to the cognitive overload for clinicians and AI can be leveraged to help focus the clinician on actionable, relevant data, and interventions

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Many Roles of AI in SDOH

Interpret SDOH Data and Development of Prediction Models



Clinical Decision Support



SDOH Data Acquisition from Free Text Data



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SDOH-Enabled App/Services are Emerging and EHR Platforms are Becoming More Open



Virtual Reality Opens the Door to New Worlds

Over Americans can explore the globe – and their medicine – through a headset.



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Blurred Boundaries - Social Network Data, EHRs, Apps and SDOH



I'm prescribing you a new set of Friends and Family

The Spread of Obesity in a Large Social Network over 32 Years

Nicholas A. Christakis, M.D., Ph.D., M.P.H., and James H. Fowler, Ph.D.

patientslikeme

PATIENTS CONDITIONS TREATMENTS SYMPTOMS

Look up a condition

Obesity

We're all in this for good.

By sharing your stories and data, you will:

- help each other live better and uncover the best ways to manage your health today
- help researchers shorten the path to new treatments tomorrow



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The Health Care System Tug-of-War

Between Pressure to Not Block Information Sharing and Privacy Protection

Proposed Bill Would Close HIPAA Gaps, Curb Health App Privacy Risks

A proposed bipartisan bill would direct HHS to create regulations for health tech like apps and direct-to-consumer genetic tests, which HIPAA does not cover, to bolster patient privacy.



Trusted Exchange Framework and Common Agreement

Draft 2 of the Trusted Exchange Framework and Common Agreement (TEFCA), released on April 26, 2018, outlines a common set of principles, terms, and conditions to support the development of a Common Agreement that would help enable nationwide exchange of electronic health information (EHI) across disparate health information networks (HINs). The TEFCA is designed to scale (for exchange nationwide) and help ensure that HINs, health care providers, health plans, individuals, and many more stakeholders have secure access to their electronic health information when and where it is needed.

The Office of the National Coordinator for Health Information Technology
21ST CENTURY CURES ACT:
INTEROPERABILITY, INFORMATION BLOCKING, AND
THE ONC HEALTH IT CERTIFICATION PROGRAM PROPOSED RULE
**Seven Exceptions
to the Information Blocking Provision**

HIPAA AND COMPLIANCE NEWS

Stakeholders Desire Clarification on Secure Data Exchange in TEFCFA

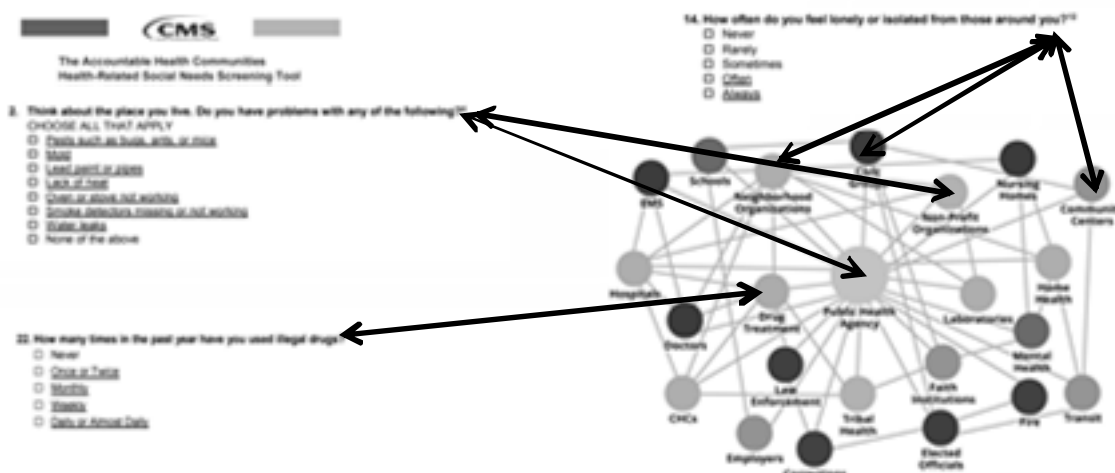
Several stakeholders called upon ONC to clarify how secure data exchange and certain aspects of HIPAA privacy and security will be impacted in TEFCA.

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Systems Integration between Health System EHRs and Public Health Resources



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Thank you / Questions / Discussion

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