Incorporating Social and Behavioral Determinants of Health in Patient Care

Marisa L. Wilson DNSc, MHSc, RN-BC, CPHIMS, FAMIA, FAAN, Associate Professor

The University of Alabama at Birmingham School of Nursing

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NURSING INFORMATICS COMMUNITY

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Today's Speaker

Marisa L. Wilson
DNSc, MHSc, RN-BC,
CPHIMS, FAMIA, FAAN,
Associate Professor
The University of Alabama at
Birmingham School of Nursing

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Agenda

- Introduction
- Describe national momentum towards inclusion of SDOH data
- Examine potential sources of SDOH data
- Assess strategies for incorporating SDOH data
- Review optimization strategies for the inclusion of SDOH data
- Summarize lessons learned and issues
- Solicit audience lessons
- Questions?

Learning Objectives

- Describe the importance of social and behavioral determinants of health to patient care
- Provide on outline for incorporating social and behavioral determinants of health information into patient care and documentation.
- Describe strategies for optimizing health IT systems to capture and use information about social and behavioral determinants of health of individuals

Incorporating SDOH - New Role for Nurses?

The RWJF has commissioned The Future of Nursing 2020-2030, a consensus study to be conducted by the National Academy of Medicine, to gain insights into how nurses are—and can be—change agents to achieve healthier communities.

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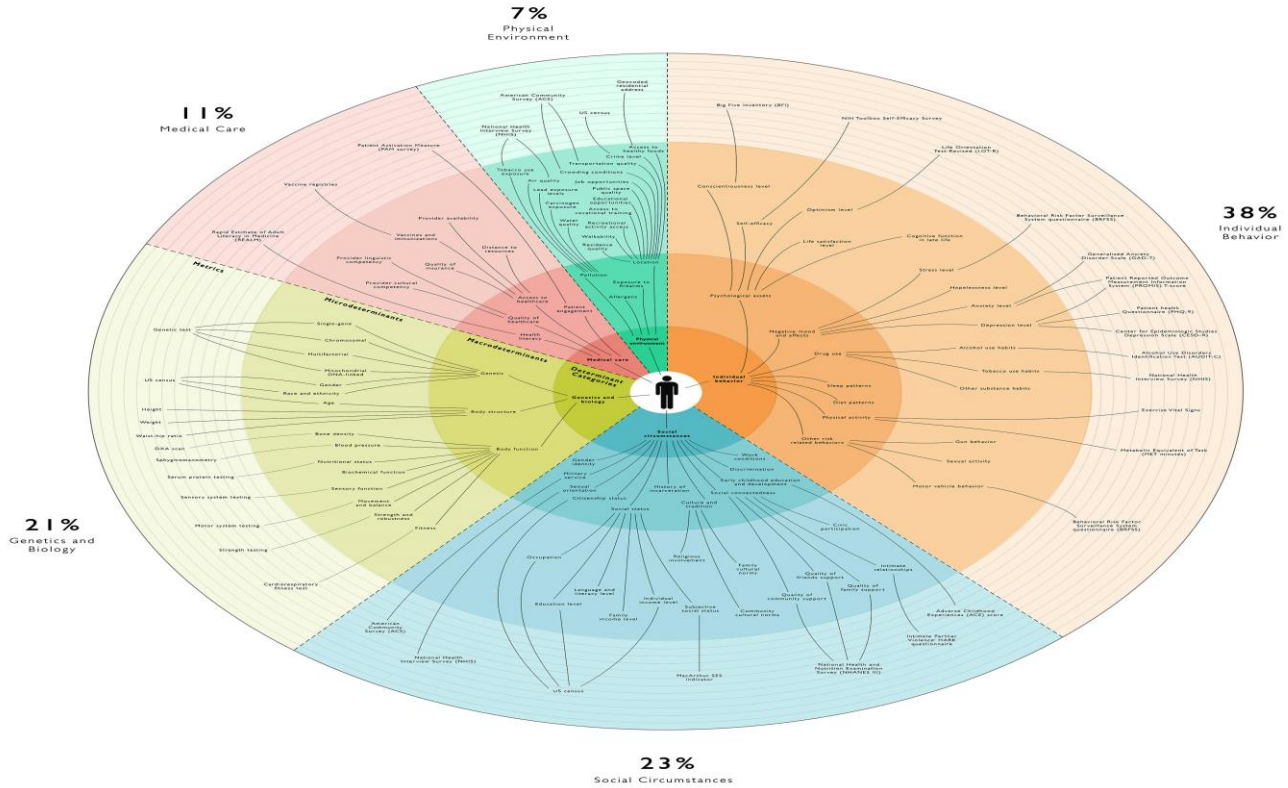
ANA Code of Ethics for Nurses with Interpretive Statements

- Provision 8 – The nurse collaborates with other health professionals and the public to protect human rights, promote health diplomacy, and reduce health disparities.
  - Advances in technology, genetics, and environmental science require robust responses from nurses working together with other health professionals **for creative solutions and innovative approaches that are ethical, respectful of human rights, and equitable in reducing health disparities**.
  - Through community organizations and groups, nurses educate the public, facilitate informed choice**, identify conditions and circumstances that contribute to illness, injury, and disease, foster healthy life styles, and participate in institutional and legislative efforts** to protect and promote health.

SDOH: Contributors to Health



Creative Commons: http://www.goinvo.com/features/determinants-of-health/

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SDOH Impact

- Social factors account for 25-60 percent of deaths in the United States in any given year according to various meta-analyses.

(Hieman & Artiga, 2015)

- Up to 70 percent of a person's overall health is driven by these social and environmental factors and the behaviors influenced by them.

(Schroeder, 2007)

National Momentum Towards Inclusion

Definitions of Social Behavioral Determinants of Health (SDOH)

- Complex, integrated, and overlapping social structures and economic systems that are responsible for most health inequities.

- These determinants include social environment, physical environment, health services, and structural and societal factors. (CDC)

  www.cdc.gov/nchhstp/socialdeterminants/definitions.html

- The conditions in which people are born, grow, live, work and age. (WHO)

  https://www.who.int/social_determinants/en/

Landmark Documents

- WHO *Closing the Gap in a Generation* (2008)

  https://www.who.int/social_determinants/final_report/csdh_finalreport_2008.pdf

- IOM *Recommended Social and Behavioral Domains and Measures for Electronic Health Records* (2014)

  http://nationalacademies.org/HMD/Activities/PublicHealth/SocialDeterminantsEHR.aspx

Call to Action

- To meet value based care demands and improve patient outcomes and satisfaction, efforts must be made to address social and behavioral determinants of health (SDOH).
- There is awareness that we need to tackle SDOH but no agreement on the best strategy.

AHA Center for Health Innovation Is Investing In Big and Bold Ideas To Create Healthier Communities

Press / Press Releases

AHA CENTER FOR HEALTH INNOVATION

Take the 2019 AHA Innovation Challenge to Address Social Determinants of Health Using New Technology Solutions

CHICAGO — Now in its second year, the 2019 AHA Innovation Challenge seeks new sustainable and scalable solutions using technology to combat the social determinants of health and transform community health. It is open to all American Hospital Association members and their partners. And it begins now.

Top three proposals receive $100,000, $25,000 and $15,000 to help bring the winning ideas to life.

"Today's hospitals and health systems are dedicated to transforming their communities into healthy living environments where all people can their reach highest potential for health," said Jay Bhatt, Senior Vice President and Chief Medical Officer, American Hospital Association. "Through this year's Innovation Challenge, our goal is improve living conditions of our most vulnerable populations by pushing the boundaries of today's and tomorrow's technologies. It's just one more way AHA is relentlessly pursuing innovations that advance and enhance the health of all people."

Initiatives to Address SDOH

- Federal and State Initiatives
  - 2016 Center for Medicare and Medicaid (CMMI) established by ACA announced Accountable Health Communities connecting Medicare and Medicaid beneficiaries with community services. CMMI awarded 32 grants.
- Medicaid Initiatives
  - Delivery and payment system reform linking health care and social needs
  - Medicaid Managed Care Organizations engaging in activities to address SDOH.
- Provider Activities
  - Not for profit hospitals required to conduct community heath needs assessments once every three years and to develop strategies

What are the social determinants of health?

Income and Income Distribution	Stress
Education	Social Exclusion
Unemployment and Job Security	Safety
Food Insecurity/Security	Domestic Violence
Housing	Incarceration
Health Services	Race and Ethnicity
Transportation	Veteran Status
Environment	Refugee Status

World Health Organization and Institute of Medicine

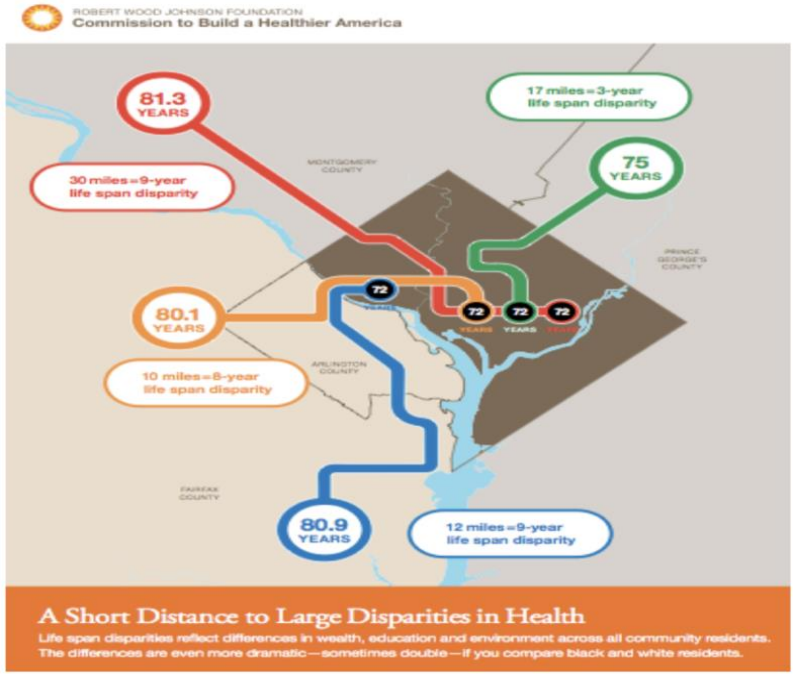
Sources of SDOH Data

- Community level determinants
- Individual level determinants

Community Level SDOH Data

- Zip code is more important than genetic code.

  Robert Wood Johnson Foundation, 2009



Community Level SDOH Data

- Useful at the system level
- Can enhance performance of predictive models
- Interest to researchers who want to determine the role of community context in health

- Tools for community generated SDOH
  - City Health Dashboard

    https://www.cityhealthdashboard.com

  - County Health Rankings and Roadmaps

    http://www.countyhealthrankings.org/explore-health-rankings#county-select-38

  - CDC Data Set Directory of Social Determinants of Health at the Local Level

    https://www.cdc.gov/dhdsp/docs/data_set_directory.pdf

Potential Census Bureau Data

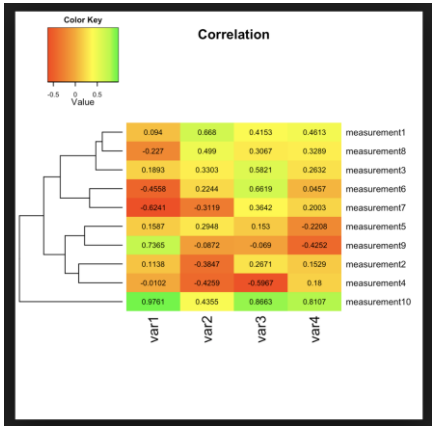
Age	Income and Earnings	Race and ethnicity
Ancestry	Labor Force status	School enrollment
Commuting Patterns	Language spoken	Gender
Disability	Marital status	Transportation to work
Educational Attainment	Mobility	Type of work
Employer Type	Nativity	Veterans disability
Fertility	Number of children	Wealth
Food Stamps	Other Income	Well being
Household and Family	Perceived health status	Basic needs, consumer durables
Housing value	Poverty	Crime

Big Data Strategies are Maturing

- Healthcare Organizations are revving up:
  - Data science talent
  - Health IT tools to support big data
  - Dedicated analytics teams
  - Machine Learning - an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience
  - Artificial Intelligence - the simulation of human intelligence processes by machines, especially computer systems.
  - Robotic process automation - emerging form of business process automation technology based on the notion of software robots or artificial intelligence (AI) workers

Issues Related to Community Level SDOH

- Securing appropriate data
- Attributing community data to an individual
- Determining the lowest appropriate level of measurement
- Engaging big data techniques
- Using predictive analytics tools,
- Learning new tools - heat maps
- Looking upstream with available data



Individual Level SDOH Data

- Collected through screenings, checklists, or surveys
- Can be embedded into the EHR, or a tablet, or PHR, or on paper
- Vendors have added SDOH screenings into EHRs
  - Intimate Partner Violence
  - Social Isolation
  - Alcohol and Tobacco Use
  - Depression
  - Financial Resources
  - Food, transport and housing insecurity

Examples of Individual Level Tools

- Protocol for Responding to and Assessing Patients' Assets, risks, and Experiences (PRAPARE) from the
  - 15 core and 5 supplemental question
  - Structured data
  - Administered by a clinician or staff

http://www.nachc.org/research-and-data/prapare/toolkit/

- CMS Accountable Health Communities Health Related Social Needs Screening Tool
  - Medicare and Medicaid recipients
  - Self administered
  - Covers 5 domains with 8 supplemental domains

https://innovation.cms.gov/Files/worksheets/ahcm-screeningtool.pdf

Compilations and Comparisons of SDOH Tools

- Social Interventions Research and Evaluation Network (SIREN)

  Collects, summarizes, and compares tools for adults and pediatric populations

  Has compiled information on the most widely used tools

AHC-Tool	HealthBegins	Health Leads	MLP IHELLP	Medicare Total Health Assessment Questionnaire	NAM Domains	PRAPARE	WellRx	Your Current Life Situation		iHELP	SEEK	SWYC	We Care

https://sirenetwork.ucsf.e https://sirenetwork.ucsf.edu/tools-resources/mmi/screening-tools-comparison/adult-nonspecific du/about-us

Issues with Individual SDOH Tools

- Who is the population – Adults? Pediatric?
- Do you need a targeted tool?
  - Interpersonal Violence screening in pregnant women
  - Adverse Childhood Experiences (ACE) for children
  - Homelessness
- Are the tools validated?
- Is there a cost to use the tool?
- Are the assessments and measures standardized and coded for reuse?
  - https://loinc.org/sdh/

Triple S of SDOH Data

- Systematic SDOH collected in all encounters
- Structured SDOH via tools
- Standardized SDOH using datasets to allow for aggregation and interoperability

cpt

LOINC®
from Regenstrief

Standards and Coding for SDOH Data - ICD

- ICD-10-CM codes included in categories Z55-Z65

  Z55 Health literacy (illiteracy, schooling…)

  Z56 Employment and unemployment (work environment)

  Z57 Occupational exposure (radiation, dust, smoke…)

  Z59 Housing and economic circumstances (homeless, inadequate housing…)

  Z60 Social environment (life transitions, living alone…)

  Z62 Upbringing (inadequate parental supervision, overprotection…)

  Z63 Primary Support Group (family member absence, disappearance, death, stress…)

  Z64 Psychosocial Circumstances (unwanted pregnancy, discord…)

  Z65 Other Psychosocial (convictions, imprisonment, crime…)

PRAPARE template uses the Z codes

https://images.magnetmail.net/images/clients/AHA_MCHF/attach/2018/April/valueinitiativeicd10odesdoh0418.pdf

Standards and Coding for SDOH Data - LOINC

- Social, psychological and behavioral observations
- 80216-5 panel data from:
  - 2015 Health IT Certification Criteria
  - Patient Health Questionnaire (PHQ-2)
  - Alcohol Use Disorder Identification Test – Consumption (AUDIT-C)
  - Humiliation, Afraid, Risk, and Kick (HARK)
  - National Health and Nutrition Examination Survey (NHANES)
- 82152-0 panel data from:
  - Adverse Childhood Events (ACE)
  - Behavioral Risk Factor Surveillance System (BRFSS)

https://s.details.loinc.org/LOINC/80216-5.html?sections=Comprehensive

AMA and UnitedHealth Partnership

AMA, UnitedHealth Partner for Social Determinants ICD-10 Project

The AMA and UnitedHealthcare will collaborate to develop new ICD-10 codes and data analytics models to address the social determinants of health.

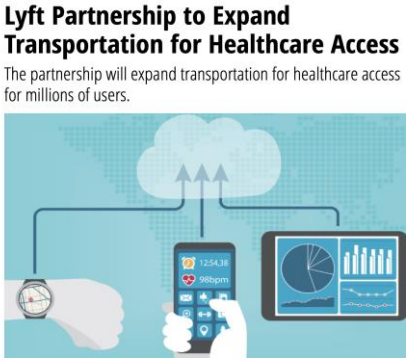
https://healthitanalytics.com/news/ama-unitedhealth-partner-for-social-determinants-icd-10-project

Creative Responses to SDOH

- Transportation
- Uber Health removing transportation as a barrier

  https://www.uber.com/newsroom/uber-health/

- LogistiCare and Lyft – coordinating transportation for non emergency medical appointments

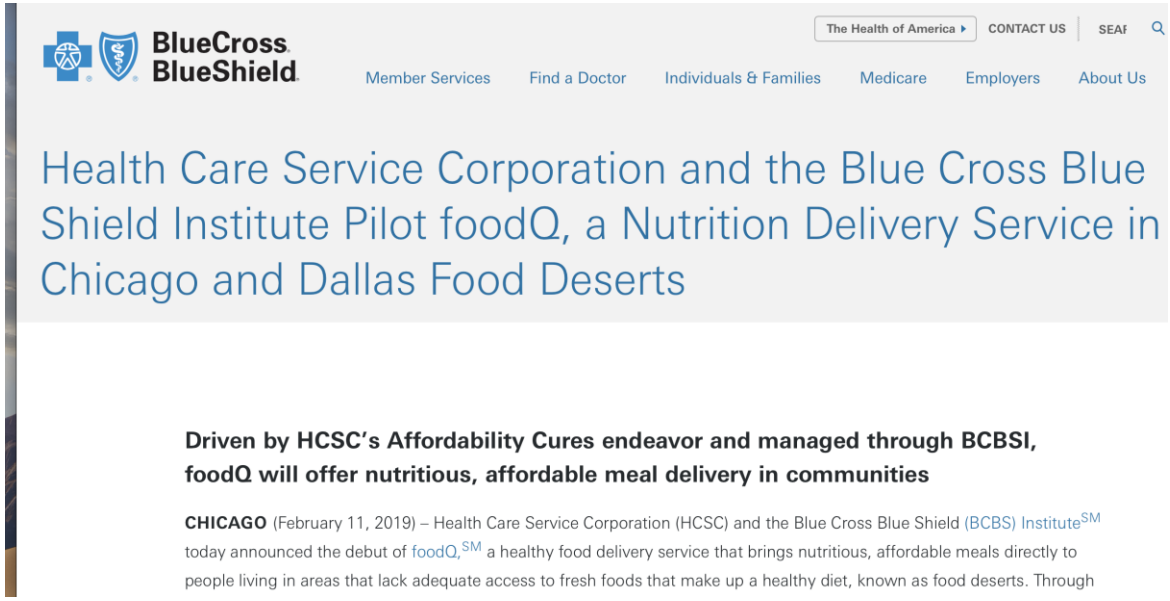


Food Insecurity

- UABSON's nurse managed PATH clinic
- UABMC Heart Failure Clinic
- Community Food Bank of Central Alabama
- Food Banks as partners in health promotion

http://www.rootcausecoalition.org/wp-content/uploads/2016/07/Food-Banks-as-Partners-in-Health-Promotion-FINAL.pdf

HCSC and BCBS Pilot foodQ



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Health Care Service Corporation and the Blue Cross Blue Shield Institute Pilot foodQ, a Nutrition Delivery Service in Chicago and Dallas Food Deserts

Driven by HCSC's Affordability Cures endeavor and managed through BCBSI, foodQ will offer nutritious, affordable meal delivery in communities

CHICAGO (February 11, 2019) – Health Care Service Corporation (HCSC) and the Blue Cross Blue Shield (BCBS) Institute℠ today announced the debut of foodQ,℠ a healthy food delivery service that brings nutritious, affordable meals directly to people living in areas that lack adequate access to fresh foods that make up a healthy diet, known as food deserts. Through

Alliances to Address SDOH

- Utah Alliance for Determinants of Health (Intermountain)

https://intermountainhealthcare.org/blogs/topics/transforming-healthcare/2018/07/new-alliance-seeks-to-address-the-social-determinants-of-health/

- Baltimore Accountable Health Community – the only health department to receive a CMMI grant

https://health.baltimorecity.gov/sites/default/files/health/attachments/Baltimore%20Accountable%20Health%20Community%20Overview.pdf

Humana Bold Goal Project

For individuals with chronic conditions, there is a need to increase self reported healthy days among Medicare Advantage members. A four question survey assesses physical and mental capacity.

Will focus on food insecurity, housing, and lack of transportation and social
Isolation…

Solera Health and Blue Cross/Blue Shield

To expand offerings that address SDOH:

Money has been raised to offer a wider array of services to combat barriers to care such as food insecurity, economic insecurity, transportation, fitness and social isolation.

Integrating Social Determinants across Transitions

- Integration of SDOH across primary care to transitions workflows
- Creation of communications' pathways between hospital and home
- Systems approach to managing complex, chronically ill patients
- Relies on tools developed using interoperability standards
- Incorporates claims based risk stratification and an assessment of SDOH using the Patient-Centered Assessment Method (PCAM)
- PCAM – 12 item Likert scale tool measuring 4 domains: physical and mental health, social support, health literacy, and engagement with services
- SDOH incorporated into a reworked informational and clinical workflow
- Operationalized through a collaboration of University of Buffalo SON, Department of Family Medicine, a RHIO, and a PCMH

(Hewner, Casucci, Sullivan et al, 2017)

Optimizing the Collection of SDOH

- Identify the population and evidence supported purpose
- Determine community or individual level data needs
- If individual is it clinician or patient entered
- Decide if data will be collected as part of a flowsheet, through portal, or on paper
- Ensure that SDOH data is incorporated and reported
- Use clinical decision support tools (rosters, alerts)
- Identify and create referral database
- Create referral ordering functions
- Use coded, standardized tools
- Create data linkages and closed loops

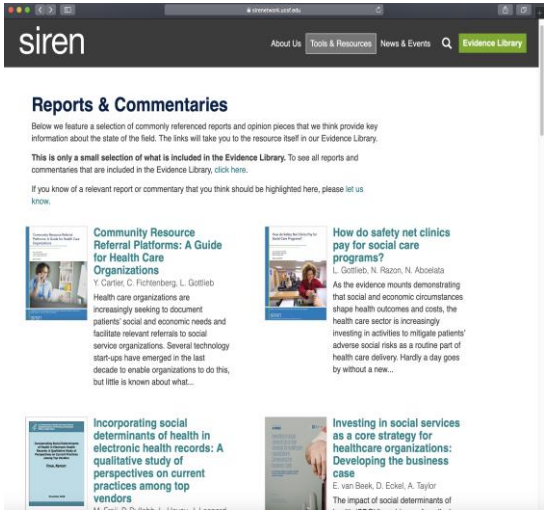
Optimizing by Closing the Loop

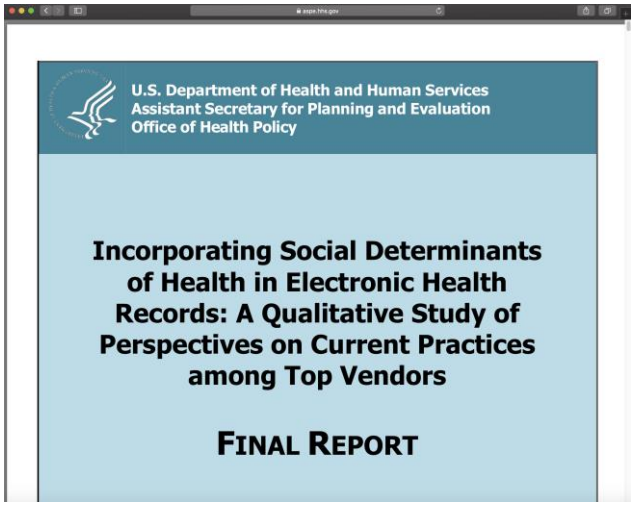
- Creating actionable SDOH data is vital
  - Social determinants referrals
  - Making a match
  - Workflow implications
  - Closed loop reporting – Do we know they got the service?
  - Start ups are addressing the loop:
    - NowPow
    - Healthify
  - Vendor responses

Lessons Learned

- Documentation burden
- Implementation is challenging – can you act on the data?
- Clinician engagement
- Support staff engagement
- Requires input from other professionals (SW, OT, PT, etc)
- Operational challenges – where is the ROI?
- No closed loop between care and services
- Patients may not want to answer or want help
- Screenings take time – referrals can be burdensome
- Interpreters may be needed
- Fragmentation of data
- **Training, training, training**

Recommended Resources:





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Resources

- Centers for Disease Control and Prevention

  https://www.cdc.gov/nchhstp/socialdeterminants/resources.html

- Institute of Medicine

  http://nationalacademies.org/HMD/Activities/PublicHealth/SocialDeterminantsEHR.aspx

- National Association of Community Health Centers

  http://www.nachc.org/research-and-data/prapare/

- Social Interventions Research and Evaluation Network (SIREN) University of California, San Francisco

  https://sirenetwork.ucsf.edu

Questions and Thank You

Marisa L. Wilson

DNSc MHSc RN-BC CPHIMS FAMIA FAAN

mwilsoa@uab.edu

@UABSON

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HIMSS Nursing Informatics Community Contact Information

Tammy Kwiatkoski, MBA
Director, Clinical Informatics
tkwiatkoski@himss.org

Trisha Pongco, CAHIMS
Coordinator, Clinical Informatics
tpongco@himss.org

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