Incorporating Social and Behavioral Determinants of Health in Patient Care

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Today’s Speaker

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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 an 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.
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/
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)
  

• 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.
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 health needs assessments once every three years and to develop strategies
### What are the social determinants of health?

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<table>
<thead>
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<tbody>
<tr>
<td>Income and Income Distribution</td>
<td>Stress</td>
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<td>Education</td>
<td>Social Exclusion</td>
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<td>Unemployment and Job Security</td>
<td>Safety</td>
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<td>Food Insecurity/Security</td>
<td>Domestic Violence</td>
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<td>Housing</td>
<td>Incarceration</td>
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<td>Health Services</td>
<td>Race and Ethnicity</td>
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<td>Transportation</td>
<td>Veteran Status</td>
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<td>Environment</td>
<td>Refugee Status</td>
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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

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

- 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](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

<table>
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<tr>
<th>AHC-Tool</th>
<th>HealthBegins</th>
<th>Health Leads</th>
<th>MLP IHELPP</th>
<th>Medicare Total Health Assessment Questionnaire</th>
<th>NAM Domains</th>
<th>PRAPARE</th>
<th>WellRx</th>
<th>Your Current Life Situation</th>
<th>iHELP</th>
<th>SEEK</th>
<th>SWYC</th>
<th>We Care</th>
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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
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
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.

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

HCSC and BCBS Pilot foodQ

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) InstituteSM today announced the debut of foodQ,SM 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)

• Baltimore Accountable Health Community – the only health department to receive a CMMI grant
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)
• 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:

- **Community Resources Referral Platforms: A Guide for Health Care Organizations**
- **How do safety net clinics pay for social care programs?**
- **Incorporating Social Determinants of Health in Electronic Health Records: A Qualitative Study of Perspectives on Current Practices among Top Vendors**
- **Investing in Social Services as a Core Strategy for Healthcare Organizations: Developing the Business Case**

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**Incorporating Social Determinants of Health in Electronic Health Records: A Qualitative Study of Perspectives on Current Practices among Top Vendors**

**FINAL REPORT**
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

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