The Impact of Social Determinant of Health (SDH) on Population Health Outcomes

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System Medical Director of Care Management
Franciscan Alliance
Agenda

- Population Health Management (PHM) definition and process
- Social Determinants of Health (SDH) definition and why it is now a very important component to incorporate in PHM strategy
- Where is the evidence that SDH improves patient outcomes
- SDH examples, some prominent vendors and innovative approaches
Learning Objectives

- Understand effective Population Health Management (PHM) strategies
- Understand Social Determinants of Health (SDH) and its role in effective PHM strategies
- How to apply SDH in Care Coordination activities
- Some SDH Innovative Approaches
Franciscan Health Overview

Mission: Continuing Christ’s Ministry in our Franciscan Tradition

One of the largest faith-based healthcare systems in the country, serving patients in Indiana, Illinois, and Michigan

- 14 hospitals and hundreds of outpatient and physician office locations
- 17,800+ doctors, nurses, and other healthcare professionals
- 4.3 million outpatient visits and services and 78,000 inpatient admissions annually
- $2.7 billion in net patient revenues
What is Population Health Management (PHM)?

PHM is defined as an approach that aims to improve the health outcomes of a population through coordination of care across the continuum.

- Continuum of care starts from primary prevention, to acute care, to chronic & complex care management, to end-of-life care.

- Health outcomes improvement efforts should focus on the ‘Quadruple Aim’ framework: improving the patient experience of care; improving the health of populations; reducing the per capita cost of health care; improving the work life of health care providers, including clinicians and staff.
Why is PHM so important now?

- Medicare shift from fee-for-service (FFS) to value-based care mainly driven by ACA
  - Health and Human Services (HHS) goal to have 30% of Medicare payments tied to quality and value through alternative payment models (ACOs, Bundled Payments, Medical Homes, etc.) by end of 2016 and 50% in 2018

- Commercial payers shifting more financial risk to Provider Organizations (Commercial ACOs)

- Provider Organizations with value-based payer contracts (especially with downside risk) are now investing in Social Determinants of Health (SDH) which account for 60% of total cost compared to healthcare which accounts for only 20%
Why is PHM so important now?

Target percentage of payments in ‘FFS linked to quality’ and ‘alternative payment models’ by 2016 and 2018

- Alternative payment models (Categories 3-4)
- FFS linked to quality (Categories 2-4)
- All Medicare FFS (Categories 1-4)

<table>
<thead>
<tr>
<th>Year</th>
<th>Historical Performance</th>
<th>Goals</th>
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<tbody>
<tr>
<td>2011</td>
<td>0%</td>
<td>~20%</td>
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<tr>
<td>2014</td>
<td>68%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>2016</td>
<td>30%</td>
<td>85%</td>
</tr>
<tr>
<td>2018</td>
<td>50%</td>
<td>90%</td>
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</table>
Why is PHM so important now?

<table>
<thead>
<tr>
<th>Description</th>
<th>Category 1: Fee for Service—No Link to Quality</th>
<th>Category 2: Fee for Service—Link to Quality</th>
<th>Category 3: Alternative Payment Models Built on Fee-for-Service Architecture</th>
<th>Category 4: Population-Based Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payments are based on volume of services and not linked to quality or efficiency</td>
<td>At least a portion of payments vary based on the quality or efficiency of health care delivery</td>
<td>Some payment is linked to the effective management of a population or an episode of care. Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk</td>
<td>Payment is not directly triggered by service delivery so volume is not linked to payment. Clinicians and organizations are paid and responsible for the care of a beneficiary for a long period (e.g. ≥1 yr)</td>
<td></td>
</tr>
<tr>
<td>Medicare FFS</td>
<td>• Limited in Medicare fee-for-service</td>
<td>• Hospital value-based purchasing</td>
<td>• Accountable care organizations</td>
<td>• Eligible Pioneer accountable care organizations in years 3-5</td>
</tr>
<tr>
<td>• Majority of Medicare payments now are linked to quality</td>
<td>• Physician Value-Based Modifier</td>
<td>• Medical homes</td>
<td>• Medical homes</td>
<td></td>
</tr>
<tr>
<td>• Readmissions/Hospital Acquired Condition Reduction Program</td>
<td>• Readmissions/Hospital Acquired Condition Reduction Program</td>
<td>• Bundled payments</td>
<td>• Bundled payments</td>
<td></td>
</tr>
<tr>
<td>• Comprehensive primary care initiative</td>
<td>• Comprehensive ESRD</td>
<td>• Comprehensive primary care initiative</td>
<td>• Comprehensive ESRD</td>
<td></td>
</tr>
<tr>
<td>• Medicare-Medicaid Financial Alignment Initiative Fee-For-Service Model</td>
<td></td>
<td>• Medicare-Medicaid Financial Alignment Initiative Fee-For-Service Model</td>
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</tbody>
</table>

Source: CMS.gov
Population Health Management Framework

Source: Population Health Alliance (PHA)
Risk Stratification of the Population with recommended strategies

- **Low Risk Patients – 75% of the Population**
  (engage patients to keep them healthy and improve stickiness)

- **Rising Risk Patients – 20% of the Population**
  (manage comorbidities or risk factors to delay or prevent movement to High Risk)

- **High Risk Patients 5% of the Population**
  (Dedicated Care Coordinators)
Population Health Management Process

- Identify the Population – Payer, Self-funded groups, Accountable Care Organization (ACO), etc.

- Stratify the Population: High, Rising and Low risk

- Assess individual patient’s health status with: claims data, clinical data, consumer data and/or standardized assessments

- Develop individualized Care Plan (with Problems, Goals, Barriers including SDH, Action Plan)
  - Integrate patient’s values into the Care Plan – Self management plan
  - Discuss Care Plan with PCP
  - The longitudinal Care Plan is shared with patient, follows patient across the care continuum and is updated as needed
Population Health Management Process

- Put Care Plan into action (Care Coordination activities)
  Connect patients in need with high-value community resources & plan benefits

- Measure Health Outcomes
  (Quality, Financial, Utilization & Patient Satisfaction metrics)

- Reassess
High Risk Population outreach

- Top 5% that accounts for about 50% of total healthcare cost

- Dedicated Care Coordinators utilize motivational interviewing techniques to engage patients and develop patient self-management plans
  - Assess Patient’s Confidence in achieving set goals (on scale of 0-10)
  - If confidence level to improve HbA1c from 10% to 8% in 6 months is just 3; how do you get it up to 5?

- Assess all patients to identify Social Determinants of Health (SDH) factors which account for 60% of total cost (compared to 20% due to healthcare and 20% due to genetics)
High Risk Population outreach

- Engaged patients would start contacting Care Coordinators first prior to going to ED for non-urgent problems – this should decrease admit/readmit and ED rates.

- Emergency Department (ED) program – for frequent ED utilizers to identify barriers leading to frequent ED visits e.g. PCP access issues, behavioral health issues like anxiety, no PCP, etc.

- Transitional Care Management (TCM) program – manage patients post hospitalization to reduce readmission especially those at high risk for readmission.
Rising and Low Risk Population Outreach

- **Rising Risk**: Team-based care at the provider practices with the goal of delaying or preventing movement up to High risk
  - About 18% of Rising Risk population will become High Risk in any given year (if not well managed)
  - Leverage Annual Wellness Visits (AWVs), Transitional Care Management (TCM), Chronic Care Management (CCM), Advance Care Planning (ACP) codes for all Medicare patients
  - Provider utilization of these codes could lower their PHM learning curve and generate additional revenue for them.
Rising and Low Risk Population Outreach

- **Low Risk:** Preventive visits with improved access for urgent care and scale with technology (Patient Portal, Video visits, etc.)
Inpatient-focused PHM Programs

- Most hospital executives think of PHM as ACO or Ambulatory focused only and not related to any inpatient activities – ‘cannibalization’ of inpatient revenues

- However, transitional care & post-acute care management is fraught with inefficiencies and duplication

- Many hospitalized patients are in the high risk population (especially those with ≥3 admits/yr.)
Inpatient-focused PHM Programs

Common Inpatient PHM programs are:

1) 30 Day Readmission programs
2) Length of Stay Reduction programs
   ✓ Minimize risk of HACs e.g. pressure ulcers, VTE, falls, etc.
   ✓ Early progressive mobility programs decreases LOS by about 0.5 days, risk of new SNF placement and need for rehab services
3) Improving overall healthcare utilization with evidence-based criteria to provide the right care, at the right time, in the most appropriate setting.
   ✓ Payers are no longer reimbursing for patients who should not have admitted (because they do not meet criteria) or readmitted within 30 days (because the provider failed to effectively manage their post discharge care.
   ✓ Care variations reduction - Institute of Medicine (IOM) estimates that 30% of healthcare spending is waste that directly results from clinical variation
Importance of Advance Care Planning (ACP) in Population Health Management

Advance Care Planning (ACP)

✓ ACP is associated with reduced hospitalization at end of life, receipt of less intensive treatments at end of life, increased utilization of hospice services, increased likelihood of patients dying in their preferred place

✓ Medicare spends about 28% of total beneficiary cost on last 6 months of life

1. Kaiser Health News: End-Of-Life Care: A Challenge In Terms Of Costs And Quality
Importance of Advance Care Planning (ACP) in Population Health Management

- ACP code reimbursement by CMS became effective January 1, 2016 (1.5 & 1.4 wRVU for initial 30 mins & additional 30 mins.)
- Care Coordinators should empower their patients to have this discussion with their providers
- Care Coordinators should remind providers that this is a billable service
Importance of Palliative Care in PHM

Live Well and Live Long with Palliative Care

- Better quality of life
- Less pain and shortness of breath
- Better mood
- Less likely to get invasive care at end of life
- Better health for loved ones
- Increased satisfaction with care
- Live just as long, and maybe longer

If PC was a drug, everyone would want it

Temel et al. NEJM 2010;363:733-42
Kavalieratos et al. JAMA 2016;316:2104-14
El-Jawahri et al. JAMA 2016;316:2094-2103
The World Health Organization (WHO) defines Social determinants of health (SDH) as the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.

- SDH accounts for 60% of health outcomes while healthcare accounts for just 20% and genetics for 20%

Therefore it is very important to include SDH factors in PHM programming.

- Providers with value-based contracts with payers are now looking into SDH investment as an opportunity to improve patient outcomes
Healthy People 2020

- The U.S. Department of Health and Human Services (HHS) sets the Healthy People goals and 10-year objectives
- Healthy People provides science-based, 10-year national objectives for improving the health of all Americans
- Overarching goals:
  - Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
  - Achieve health equity, eliminate disparities, and improve the health of all groups.
  - Create social and physical environments that promote good health for all (Social Determinants of Health)
  - Promote quality of life, healthy development, and healthy behaviors across all life stages.
## Evolution of Healthy People

<table>
<thead>
<tr>
<th>Target Year</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overarching Goals</strong></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>• Decrease mortality: infants–adults</td>
<td>• Increase span of healthy life</td>
<td>• Increase quality and years of healthy life</td>
<td>• Attain high-quality, longer lives free of preventable disease</td>
</tr>
<tr>
<td></td>
<td>• Increase independence among older adults</td>
<td>• Reduce health disparities</td>
<td>• Eliminate health disparities</td>
<td>• Achieve health equity; eliminate disparities</td>
</tr>
<tr>
<td></td>
<td>• Achieve access to preventive services for all</td>
<td></td>
<td></td>
<td>• Create social and physical environments that promote good health</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Promote quality of life, healthy development, healthy behaviors across life stages</td>
</tr>
<tr>
<td><strong># Topic Areas</strong></td>
<td>15</td>
<td>22</td>
<td>28</td>
<td>42</td>
</tr>
<tr>
<td><strong># Objectives/Measures</strong></td>
<td>226</td>
<td>312</td>
<td>1,000</td>
<td>~1,200</td>
</tr>
</tbody>
</table>
Top SDH Domains

- Race/Ethnicity
- Health Literacy
- Employment status
- Financial Status
- Housing Status
- Transportation
- Social Isolation
- Behavioral/Mental Health (stress, anxiety, depression, psychological assets, trauma)
- Health Behaviors (tobacco use, alcohol & substance use, physical activity, diet)
- Safety (exposure to crime, violence)
- Insurance Status

This list is based on identifying SDH domains from three credible sources: Institute of Medicine (IOM), PRAPARE (Protocol for Responding to and Assessing Patient’s Assets and Experiences) and Health Leeds Social Needs Domain.
SDH – Determinants of Population Health Spending

- Genetics: 60%
- Health Care: 20%
- Social, Environmental & Behavioral factors: 20%
SDH – Determinants of Population Health Spending

Source: Elizabeth Bradley, Yale School of Public Health
Communities with Innovative Approaches to SDH

- Camden NJ
  - Camden Coalition led by Dr. Brenner
  - Healthcare Hot spotting using hospital data to discover outliers (frequent ED utilizers and high cost)
  - Addressing SDH with community health workers (mainly unstable housing, mental health and substance abuse issues)

- Hawaii has the highest per capita homeless population in the nation
  - Homeless Medicaid population cost $120,000 annually (many times the cost of basic housing of about $18,000)
  - Cost decreased by 43% when homeless patients were given decent housing for at least 6 months
  - Proposed bill would classify homelessness as a medical condition with the prescription of supportive housing
Communities with Innovative Approaches to SDH

- Montefiore ACO - The Bronx, NY
  - 1.4 million residents in the poorest urban county in the US
  - 1:3 residents born outside the US
  - 55% Hispanic, 29% African American, 10% White
  - 80% of healthcare costs paid by government payers
  - Median household income of $37,000
  - High burden of chronic diseases

- Out of the initial 32 Pioneer ACO participants in 2012, Montefiore was one of the 8 left when program ended in 2016 and had the 3\textsuperscript{rd} highest savings ($7.4M) of the 6 that generated shared savings with the 2\textsuperscript{nd} highest overall quality score of 95%.

- Generated $73M savings to Medicare during the program in spite of challenges in the community
SDH – Determinants of Population Health Spending

Social Determinants of Healthcare Costs

- Lacks Social Support: 10% higher costs
- Lacks a Primary Care Physician: 12% higher costs
- Has Physical Limitations: 9% higher costs
- Substance Abuse: 89% higher costs
- Financial Distress: 25% higher costs
- Mental Health Diagnosis: 38% higher costs
- 16% Report Unstable Housing Situation

Based on results of over 4,000 assessments of high-risk patients conducted at Montefiore CMO
Behavioral Health SDH – Mental Health & Substance Abuse

- About 25% of all adults in the US have a Mental Illness (CDC)
- About 8.4% of all adults in the US had a Substance Use disorder in the past year (SAMHSA)
- SDH accounts for 60% of all health outcomes
- Behavioral factors account for about 50% of the SDH outcomes i.e. 30% of all health outcomes (greater than physical health)
- A significant amount of ‘noncompliant’ patients have undiagnosed or undertreated behavioral health problems
- Medical cost for patients with comorbid BH problems is 2.5 – 3.5 x higher than those without BH problems (APA)
- Need for Physical & BH integration - we cannot separate the mind and the body
Physical & Behavioral Health Integration

Key Federal Legal Principles

Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule

- Permits covered entities to use and disclose protected health information for "treatment," "payment," and "health care operations"
- "Treatment" includes provision, coordination, or management of care
- HIPAA should not serve as a legal impediment to robust health information exchange

Exception: Psychotherapy notes may be disclosed only with written patient authorization

42 CFR Part 2 (Federal Alcohol and Drug Abuse Treatment Confidentiality Rules)

- Applies to "federally assisted alcohol and drug abuse programs" (e.g., those receiving Medicare or Medicaid payments, federal grants, registration to dispense controlled substances, and tax exempt status)
- Does not apply to general medical facilities or offices, except for any identified alcohol or drug abuse unit contained therein
- Requires patient consent to disclose records for treatment, care coordination, or quality improvement purposes

Support for this webinar was provided through a grant from the Robert Wood Johnson Foundation’s State Health and Value Strategies program.
## Common Obstacles to Information Exchange: Key Misconceptions About Privacy Law

Providers often interpret the requirements of federal and state privacy laws as more restrictive than they actually are.

<table>
<thead>
<tr>
<th>Key Misconception</th>
<th>Actual Legal Rule</th>
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<tbody>
<tr>
<td>HIPAA requires patient authorization for disclosures for treatment purposes</td>
<td>No patient authorization is required</td>
</tr>
<tr>
<td>HIPAA’s minimum necessary provision forces providers to determine which part of the medical record they can share with other providers for treatment purposes</td>
<td>The minimum necessary rule does not apply to disclosures for treatment purposes</td>
</tr>
<tr>
<td>A provider may not disclose information to another provider for treatment purposes unless the receiving provider has a preexisting relationship with the patient</td>
<td>No preexisting relationship is required to receive information for treatment purposes (A prior relationship is required to receive information for quality improvement purposes)</td>
</tr>
<tr>
<td>HIPAA’s restriction on the disclosure of psychotherapy notes applies to all notes of counseling sessions that are part of the patient’s medical record</td>
<td>A clinician’s notes qualify as psychotherapy notes under HIPAA only if they are maintained separately from the patient’s medical record</td>
</tr>
<tr>
<td>The Part 2 Regulations restrict the disclosure of all substance abuse treatment information</td>
<td>The Part 2 Regulations apply only to specialized substance abuse providers, not general medical providers who deliver substance abuse services</td>
</tr>
<tr>
<td>A consent for the release of a Part 2 Provider’s records must be a separate document and cannot be combined with any other type of patient consent</td>
<td>A Part 2 consent can be combined with another patient consent form if the form contains all of the elements required under the Part 2 Regulations</td>
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</tbody>
</table>
Physical & Behavioral Health Integration

- HIPAA generally does NOT limit disclosures of PHI between health care providers for treatment, case management, and care coordination, except that covered entities must obtain individuals’ authorization to disclose separately maintained psychotherapy session notes for such purposes.

- Psychotherapy notes are treated differently from other mental health information both because they contain particularly sensitive information and because they are the personal notes of the therapist that typically are not required or useful for treatment, payment, or health care operations purposes, other than by the mental health professional who created the notes.
Social Determinants of Health Outcome Research Studies

- **Physical Activity**: Inadequate Physical Activity accounts for about 11% of total healthcare cost\(^2\)
- **Tobacco Use**: Smoking is the leading cause of preventable death – responsible for one in five deaths in the US with average smoker dying 10 years earlier than non-smokers\(^3\)
- **Transportation**: About 25% of lower-income patients have missed or rescheduled their appointments due to lack of transportation\(^4\)

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Social Determinants of Health Outcome
Research Studies

Social Isolation:

- The influence of social isolation on risk for mortality is comparable with well-established risk factors for mortality (smoking) and it exceeds many well-known risk factors for mortality (e.g. obesity, physical inactivity)\(^5\)
- Social isolation can increase the risk of heart disease by 29%, and the risk of stroke by 32%\(^6\)

Health Literacy:

- Patients with low health literacy are at risk of adverse health outcomes e.g. such as higher systolic blood pressure, poor glycemic control, higher rates of hospitalization and longer stays, insufficient knowledge of treatment plan after discharge, and less knowledgeable about chronic disease management.  

- Health literacy is essential in involving patients in their care and improving health outcomes. Therefore, all strategies developed to strengthen patient engagement should focus on improving health literacy.

- Low health literacy is associated with more hospitalizations, greater use of emergency care, lower use of screening and vaccination programs, less adherence to treatment recommendations, worse health status, and higher mortality rates.


**Food Insecurity:**

- Food insecurity is lack of access, at times, to enough food for an active, healthy life for all household members.
- Food insecurity exist in every county in the US.
- 46 million (1 in 6) people in the US are living in food-insecure households (about 16 million of whom are children).
- As poverty and unemployment increases and home ownership decreases, food insecurity increases.
- Multiple studies have shown correlation between food insecurity and poor health outcomes like growth retardation in children, chronic diseases in adults (e.g. DM, HTN, CAD, etc.), poor DM and CHF self-management, and higher healthcare cost.

Social Determinants of Health Outcome Research Studies

CONSEQUENCES OF DIABETES

By Hilary K. Seligman, Ann F. Bolger, David Guzman, Andrea López, and Kirsten Bibbins-Domingo

Exhaustion Of Food Budgets At Month’s End And Hospital Admissions For Hypoglycemia

ABSTRACT One in seven US households cannot reliably afford food. Food budgets are more frequently exhausted at the end of a month than at other points in time. We postulated that this monthly pattern influenced health outcomes, such as risk for hypoglycemia among people with diabetes. Using administrative data on inpatient admissions in California for 2000–08, we found that admissions for hypoglycemia were more common in the low-income than the high-income population (270 versus 210 admissions per 1,000,000). Risk for hypoglycemia admission increased 27 percent in the last week of the month compared to the first week in the low-income population, but we observed no similar temporal variation in the high-income population. These findings suggest that exhaustion of food budgets might be an important driver of health inequities. Policy solutions to improve stable access to nutrition in low-income populations and raise awareness of the health risks of food insecurity might be warranted.
Social Determinants of Health and Physician Burnout
Mr. Smith is a 55 yo otherwise healthy librarian who lives with his wife in Westfield, IN. His wife is a teacher at a local middle school. Both have Anthem health insurance coverage.

- Developed sciatica after lifting book cases at work
- Treated by Dr. Brown (Sports Medicine physician in Westfield) with work restriction, NSAIDs and PT
- Applied for FMLA at work
- Fully recovered after 2 months and returned to work without any restrictions

Mr. Sokolov is a 55 yo otherwise healthy Polish immigrant who lives in Westfield, IN and works for a construction company there. His wife is unemployed. Both have Anthem health insurance coverage.

- Developed sciatica after lifting heavy equipment at work
- Treated by same Dr. Smith who recommended work restriction, NSAIDs and PT initially
- Due to language barrier*, didn’t understand recommended treatment plan and was not aware of FMLA benefit available at work
- Didn’t take time off work as he thought he would not be paid - got laid off work after a month as he couldn’t perform his job due to worsening pain.
- Lost health coverage and did not keep F/U appointments with Dr. Brown due to financial constraints*
- Soon lost his home and moved to Indianapolis to live with his wife’s relatives. Still unemployed and now on disability

Example of SDH effect on patient outcomes
Potential SDH Solutions

- Race/Ethnicity - community resources, match with appropriate providers
- Health Literacy - Teach-back, educational services
- Employment status - community resources
- Financial Status - community resources
- Housing (unstable or homeless): community resources - provide resources to prevent eviction or foreclosure
- Transportation: community resources, non-emergency medical transportation (NEMT) services
- Social Isolation: Referrals to support groups, community activities, social clubs and volunteer services
- Behavior/Mental Health (stress, anxiety, depression, psychological assets, trauma): Behavioral Health referral
- Health Behaviors (tobacco use, alcohol & substance use, physical activity, diet) - community resources, program referrals
- Safety (exposure to crime, violence): community resources - referral to support group
- Insurance Status - qualification for Medicaid, Medicare, HIP, CHIP, Charity Care, etc.
A thriving health system, a community in need

ProMedica is a highly successful, well-respected, integrated delivery system with 332 sites of care, 4.7 million patient encounters system-wide, 13 hospitals and 323,000 lives covered by its owned health plan, and with 800-plus employed physicians, $3.1 billion revenue and strong financial ratings.

• Social determinants of health: The ProMedica story
• Poor education, food insecurity, underemployment and inadequate housing all can harm an individual’s — and community’s health.
To achieve meaningful outcomes with Community Health Benefit programs, provider organizations need to align their business needs and mission with the top SDHs that their patients are struggling with.

The top 2 SDHs that provider organizations are currently addressing are food insecurity and housing instability.

SDH is most effectively addressed at the community level but the crucial first step is to recognize that investment is required.

Funding of SDHs could come from the current Community Health Benefit costs being realigned to address the SDHs.
Experian Health Consumer Data

Experian has a 360 degree view of the consumer

- 300 million consumers
- 4.1 billion trades
- 299 million consumers; 116 million households
- 3,500+ attributes
- 70+ million: Households that self-report consumer marketing information
- 3.2 million births annually
- 16 million moves annually
- 20 million new homeowners
- Hundreds of public and proprietary sources
- 650+ psychographics
- 38 RFM product categories
- 25 million Internet users interacting with one million Websites
- 100 million+ email addresses
- 200 million+ cookies
- 16 million businesses
- Identification, firmographic, credit information on businesses and owners
- Business Owner Link
- Syndicated research: 30,000 consumers annually
- 60,000 + data variables
- 8,000 brands and over 500 product categories
- Over 600 attitudes and opinions
- Media viewer-ship across traditional and digital media
- 694 million vehicles in North America
## LexisNexis® Socioeconomic Data Points and possible SDH

<table>
<thead>
<tr>
<th>Data Points from public records</th>
<th>Anticipated risk or possible SDHs</th>
</tr>
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<tbody>
<tr>
<td>1) Registered voter</td>
<td>Individuals engaged in their community are more likely to engage in their health</td>
</tr>
<tr>
<td>2) Lower level of education</td>
<td>Lower health literacy</td>
</tr>
<tr>
<td>3) When a woman changes her name</td>
<td>Marriage (which often leads to pregnancy and additional health expenses) or Divorce (which can be a major cause of financial and emotional stress)</td>
</tr>
<tr>
<td>4) Experiencing financial difficulty (income level, income reductions, bankruptcies and applications for high interest loans)</td>
<td>Financial strain: May not be able to afford medications or follow-up care</td>
</tr>
</tbody>
</table>
To predict risk related to these social determinants of health, LexisNexis leverages more than 65 billion records from over 10,000 different public and proprietary sources, including:

- 19.2 billion consumer records
- 10.2 billion unique name and address records
- 5 billion property records
- 45 million active US business entities
- 44 million business contact records
- 278 million unique cell phone numbers
- 1.5 billion bankruptcy records monitored monthly
- 5 billion motor vehicle registrations
- 1.1 billion vehicle title records
- 517 million criminal records
Example of SDH programs: Circulation for Transportation with Uber & Lyft
Example of SDH programs: Circulation for Transportation with Uber & Lyft
Identification of Social Determinants in the EHR

[Diagram showing healthcare management interface with various options and checkboxes for social determinants.]

© 2018 Epic Systems Corporation. Used with permission.
CMS is expanding the definition of ‘primarily health related’ to address SDH
Amazon accepts Food Stamps in pilot program

USDA Announces Retailer Volunteers for SNAP Online Purchasing Pilot

WASHINGTON, Jan. 5, 2017 - The U.S. Department of Agriculture (USDA) today announced the seven retail firms selected to take part in a pilot designed to enable Supplemental Nutrition Assistance Program (SNAP) participants to purchase their groceries online. The two-year pilot is slated to begin this summer.

"Online purchasing is a potential lifeline for SNAP participants living in urban neighborhoods and rural communities where access to healthy food choices can be limited," USDA Secretary Tom Vilsack said. "We're looking forward to being able to bring the benefits of the online market to low-income Americans participating in SNAP."

Firms selected include:

**Retailers - Pilot States**

- **Amazon** - Maryland, New Jersey, New York
- FreshDirect - New York
- Safeway - Maryland, Oregon, Washington
- ShopRite - Maryland, New Jersey, Pennsylvania
- Hy-Vee, Inc. - Iowa
- Hart's Local Grocers - New York (based in Rochester)
- Dash's Market - New York (based in Buffalo)
Oak Street Health: community rooms for regular Social & Educational Events
Example of SDH programs: Health Leads
Example of SDH programs: Aunt Bertha
Example of SDH program database:
Indiana 2-1-1

NEED HELP? CALL 2-1-1 OR SEARCH OUR DATABASE

2-1-1 is a simple way to connect to food, shelter and housing assistance, employment services, counseling resources and much more. GET HELP by dialing 2-1-1. If you are unable to dial 2-1-1 from your landline or cellular phone, you can dial your local 2-1-1 service center’s 10 digit number listed below or click on your county to be taken to your 2-1-1 service center’s website.
SDH: Your Zip Code may be more important to your health than your Genetic Code

Worlds apart
Two communities that are both situated within the Indianapolis metropolitan area and separated by only 28 miles are in reality worlds apart. One sits in a northeastern suburb of Indianapolis. Its residents have a life expectancy of 83.7 years, rivaling the top-ranking countries of the world, Switzerland (83 years) and Japan (84 years). Taking a drive from that community along I-465 and I-70 into the city, life expectancy drops off – to 78.9 years, then to 74.2 years - until you arrive in the second community, situated within the urban core directly south of Monument Circle. Its residents have a life expectancy of 69.4 years, similar to countries like Uzbekistan (69 years), Bangladesh (70 years), and Iraq (70 years).

Source: SAVI/Richard M. Fairbanks School of Public Health at IUPUI
Eli Lilly Corporate HQ sits in the same Zip Code

Lilly gives $7M to 'where you live shouldn't determine how long you live' pilot program

Call it the Monon effect: As one heads north along the trail, life expectancy steadily increases. Average life expectancy on the north part of the trail is as much as 14 years greater than average life expectancy in neighborhoods 10 miles to the south.

Now, Eli Lilly and Co. — whose headquarters sit in the same ZIP code as that southern tip of the trail — will earmark $7 million to try to narrow such gaps for some underserved neighborhoods by focusing on diabetes in concert with a bevy of partners including IUPUI and Eskenazi Health.

The money will go to support a pilot program in three Indianapolis neighborhoods with high diabetes rates. Over the course of five years, the program will aim to do a better job of finding and diagnosing residents who already have diabetes, preventing onset of the disease in those at risk and working alongside community members to devise new solutions.

Community health workers will focus on increased screening, improving continuous care and identifying social determinants that play into diabetes to decrease the 17% DM rate in these 3 neighborhoods to IN rate of 12%
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East Carmel vs. Indianapolis (South of Monument Circle)
Questions?

Thank you!