The Role of PCMH in Addressing the Social Determinants of Health (SDoH)

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Our time together:

- Social Determinants: What are they?
- SDoH and Place: Inextricably linked
- SDoH and Health Outcomes
- SDoH and the Patient-Centered Medical Home
Addressing the Social Determinants of Health Within the Patient-Centered Medical Home: Lessons From Pediatrics

Shokouhi Sharifian, MD

ORIGINAL RESEARCH
Screening for Social Determinants of Health in Michigan Health Centers

Elena Rybalka, MD, MS, Abigail J. Cohen, MD, MS, Mary C. Heimatt, BS, Julie Ttero, RN, Matthew M. Davis, MD, MPH, and Barkeisha Tinnemore, MD, MS

Objective: Through an academic-community partnership with a statewide consortium of health centers (ECHs) in Michigan, we characterize the current scope of screening for social determinants of health (SDH).

Methods: We requested copies of forms used to screen for SDH at the 90 PCMH organizations in Michigan. Using content analysis, we examined screening in direct and process domains. We present descriptive analysis of SDH characteristics and patterns.

Results: We received seven documents from 33 of the 90 PCMH (10%). Ten different SDH domains were identified. Three domains included material health, educational, and social contexts. Other domains included housing, financial stability, food security, employment, and physical safety.

Conclusion: While our results are suggestive of a large and diverse range of screening tools for SDH and largely agree on common screening domains, using existing empiric data from electronic patient records can inform potential best practices in SDH screening.

Keywords: Community Health Centers, Michigan, Screening, Social Determinants of Health

Annals of Internal Medicine

Addressing Social Determinants to Improve Patient Care and Promote Health Equity: An American College of Physicians Position Paper

Henry B. Newhouse, MD, Kristin A. Javdani, MD, and Gregory C. Bansley, MD

Social determinants of health are intertwined factors that can affect a person’s overall health and health outcomes. Where a person is born and the social conditions they are born into can influence their life course factors, including health status. In this position paper, the American College of Physicians (ACP) recognizes the role of social determinants in health and puts forward its position paper on addressing these conditions in conjunction with patients, and offers recommendations on further work to improve health equity.

Keywords: Social Determinants of Health, Health Equity, Health Policy, Primary Care, Health Care Reform

To address health outcomes associated with social determinants of health, physicians, policymakers, community members, and others should work together to understand the factors that influence health outcomes and promote health equity. The ACP position paper provides recommendations on how to improve health outcomes, including investments in community-based interventions, such as increasing access to affordable health care, improving education and economic opportunities, and promoting healthy living environments.

See also: Editorial comment... 594

Editorial comment... 594
Figure 1

Social Determinants of Health

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

**Health Outcomes**
Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations
Figure 2
Impact of Different Factors on Risk of Premature Death

- Genetics: 30%
- Individual Behavior: 40%
- Social and Environmental Factors: 20%
- Health Care: 10%

## Typical Indicators in Kirwan’s Opportunity Index*

**ALL Reflect Social Determinants of Health**

<table>
<thead>
<tr>
<th>Educational Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Student poverty rates in neighborhood schools (Free/Reduced Price Lunch Eligibility)</td>
</tr>
<tr>
<td>• Student math/reading proficiency levels</td>
</tr>
<tr>
<td>• Early childhood education (ECE) indicators:</td>
</tr>
<tr>
<td>• Proximity to licensed ECE centers and high-quality ECE centers</td>
</tr>
<tr>
<td>• Participation patterns</td>
</tr>
<tr>
<td>• High school graduation rates</td>
</tr>
<tr>
<td>• Adult educational attainment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health &amp; Environmental Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Proximity to health facilities</td>
</tr>
<tr>
<td>• Retail healthy food environment index</td>
</tr>
<tr>
<td>• Proximity to toxic waste release sites</td>
</tr>
<tr>
<td>• Volume of nearby toxic release</td>
</tr>
<tr>
<td>• Proximity to parks and open spaces</td>
</tr>
<tr>
<td>• Housing vacancy rates</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social &amp; Economic Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Foreclosure rates</td>
</tr>
<tr>
<td>• Poverty rates</td>
</tr>
<tr>
<td>• Unemployment rates</td>
</tr>
<tr>
<td>• Public assistance rates</td>
</tr>
<tr>
<td>• Proximity to employment</td>
</tr>
</tbody>
</table>

*Child Opportunity Index: http://www.diversitydatakids.org*
Kirwan’s Opportunity Index*
Positive and Negative Neighborhood Influences on Well-Being

*Child Opportunity Index: http://www.diversitydatakids.org
Infant Mortality and Opportunity (Social Determinants)
Life Expectancy: The Other End of the Life Course

Life Expectancy at Birth in Franklin County, by ZIP Code

Ages

Hospital Admissions for Type II Diabetes
The Child Opportunity Index and Disparities in Pediatric Asthma Hospitalizations Across One Ohio Metropolitan Area, 2011-2013

Andrew F. Beck, MD, MPH\textsuperscript{1,2}, Bin Huang, PhD\textsuperscript{3}, Kathryn Wheeler\textsuperscript{4}, Nikki R. Lawson, BS\textsuperscript{5}, Robert S. Kahn, MD, MPH\textsuperscript{1}, and Carley L. Riley, MD, MPP, MHS\textsuperscript{6}

**Objectives** To determine whether the Child Opportunity Index (COI), a nationally available measure of relative educational, health/environmental, and social/economic opportunity across census tracts within metropolitan areas, is associated with population- and patient-level asthma morbidity.

**Study design** This population-based retrospective cohort study was conducted between 2011 and 2013 in a southwest Ohio county. Participants included all children aged 1-16 years with hospitalizations or emergency department visits for asthma or wheezing at a major pediatric hospital. Patients were identified using discharge diagnosis codes and geocoded to their home census tract. The primary population-level outcome was census tract asthma hospitalization rate. The primary patient-level outcome was rehospitalization within 12 months of the index hospitalization. Census tract opportunity was characterized using the COI and its educational, health/environmental, and social/economic domains.

**Results** Across 222 in-county census tracts, there were 2539 geocoded hospitalizations. The median asthma-related hospitalization rate was 5.0 per 1000 children per year (IQR, 1.9-8.9). Median hospitalization rates in very low, low, moderate, high, and very high opportunity tracts were 9.1, 7.6, 4.6, 2.1, and 1.8 per 1000, respectively ($P<.0001$). The social/economic domain had the most variables significantly associated with the outcome at the population level. The adjusted patient-level analyses showed that the COI was not significantly associated with a patient’s risk of rehospitalization within 12 months.

**Conclusions** The COI was associated with population-level asthma morbidity. The details provided by the COI may inform interventions aimed at increasing opportunity and reducing morbidity across regions. (*J Pediatr* 2017;190:200-6).
Areas Lacking in Measures of Social Determinants
Also Exhibit:

- Higher infant mortality rates
- Higher rates of lead exposure
- Higher exposure to toxic waste release
- Higher poverty rates
- Higher vacant property rates
- Higher residential subprime loan rates
- Lower life expectancy
Historical Drivers of Racial Segregation and Isolation of Communities of Color

Racial Segregation & Opportunity Isolation

Redlining & Investment Practices

Urban Renewal, Public Housing & Federal Highway Policies

Zoning & Land Use Practices

Explicit Racial Discrimination & Intimidation Practices
Historical Drivers of Racial Segregation and Isolation of Communities of Color (cont.)

- Redlining & Investment Practices
- Urban Renewal, Public Housing & Federal Highway Policies
- Zoning & Land Use Practices
- Explicit Racial Discrimination & Intimidation Practices

Racial Segregation & Opportunity Isolation
Systemic Racism: Federal Home Owner’s Loan Corp. (HOLC)
Systemic Racism: Federal Home-Owner’s Loan Corp.

- Local real estate professionals, mortgage lenders and others assessed a city’s neighborhoods for mortgage risk
- Federal government (HOLC) systematized the assessment process
- Both property AND residents evaluated
- Maps created from the assessor’s area descriptions
Grade A Area Description (Desirable)

INHABITANTS: White collar and
a. Occupation skilled mechanics; b. Estimated annual family income $2000-3600
c. Foreign-born families 0%; predominating: d. Negro 0% e. Infiltration of Desirable____; f. Relief families 0
g. Population is increasing Slightly decreasing; static


CLARIFYING REMARKS: A somewhat older but very fine, high type neighborhood. Pride of ownership is highly evident. Area was well planned and homes, soundly constructed, Uniform and stable population. Within short distance to University of Toledo. Abutment to cemetery and lower grade area should not jeopardize desirability for several years.

Grade D Area Description (Redlined)

INHABITANTS: Factory and common laborers
a. Occupation __________________; b. Estimated annual family income $900-1500
c. Foreign-born families ___%; predominating: d. Negro Yes 20%
e. Infiltration of Undesirable; f. Relief families Heavy
g. Population is increasing Slightly; decreasing; static

AVAILABILITY OF MORTGAGE FUNDS: a. Home purchase Very limited; b. Home building Very limited

CLARIFYING REMARKS: Area lies in north-east outskirts of city. Formerly a white neighborhood; now rapidly being run down through influx of colored and low income group of whites. Heavy relief load. High vacancy ratio.
Systemic Racism: Federal Home-Owner’s Loan Corp.
Addressing the Social Determinants: Clinical

- A patient’s health is conditioned by their environment
  - Physical, social

- Patient choices are constrained by their community’s resources

- PCMH can connect patients to the resources they need:
  - Transportation
  - Child care
  - Home visits

- CHALLENGE: How do you assess a patient’s Social Determinants profile?
Figure 1. Percentages of health centers screening for core domains.

Byhoff et al. (2017) *Journal of the American Board of Family Medicine*, 30(4), 418-427
Figure 2. Health center data collection survey results. Categories are not mutually exclusive and may total >100%. EHR, electronic health record; MA, medical assistant; RN, registered nurse.

Byhoff et al. (2017) Journal of the American Board of Family Medicine, 30(4), 418-427
Addressing the Social Determinants: Advocacy

- Ohio Senate Bill 302 – The Health and Equity in All Policies Initiative (HEiAP, Sen. Tavares)
  - Creates the Health and Equity Interagency Team
  - All state agencies must consider health and equity in their initiatives
- SB 302 will likely die with the 2018 session
- PCMH physicians can advocate for HEiAP:
  - Re-introduction in 2019
  - Provide expert testimony, patient anecdotes
  - Ohio Public Health Assn. can help
Works Referenced

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