Health Care is Not Enough: Addressing the Social Determinants of Health in St. Louis and Beyond

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American Hospital Association
Rural Health Care Leadership Conference
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FINANCIAL HEALTH IS PUBLIC HEALTH

Jason Q. Purnell
Washington University in St. Louis

“If you want to lower my blood pressure, help me pay my electricity bill.”

That statement from a resident of Rochester, NY, has remained with me for several years because it so intuitively speaks to the connection between financial health and physical and mental health. When the American Psychological Association released

What It’s Worth, Federal Reserve Bank of San Francisco & Corporation for Enterprise Development, 2015
Social determinants of health

“The social determinants of health are 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. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems.”

- World Health Organization

“Health happens where we live, learn, work and play.”

- Robert Wood Johnson Foundation
Report released in May of 2014

• Collaboration between scholars at Washington University in St. Louis and Saint Louis University

• Goals:
  – Inform public about SDH
  – Present economic and health consequences
  – Provide evidence of impact for all residents
  – Move policy discussion beyond medical care and individual responsibility
A) The concentration of African American population
Percent African American population by ZIP code

- 1% – 5% (Lowest)
- 6% – 44% (Middle)
- 45% – 97% (Highest)
- No data

Source: US Census 2010

B) The concentration of poverty
Percent of all residents living in poverty by ZIP code

- 1% – 8% (Lowest)
- 9% – 18% (Middle)
- 19% – 54% (Highest)
- No data

Source: American Community Survey 2007–2011 5 year estimates

C) Heart disease death rates
Heart disease death rates per 100,000 for all residents by ZIP code

- 103 – 195 (Lowest)
- 197 – 270 (Middle)
- 271 – 354 (Highest)
- No data

Source: Chronic Disease MICA 2009–2010

D) Cancer death rates
Cancer death rates per 100,000 for all residents by ZIP code

- 129 – 170 (Lowest)
- 171 – 212 (Middle)
- 213 – 359 (Highest)
- No data

Source: Chronic Disease MICA 2009–2010

Goodman & Gilbert, 2013
Social and economic factors influence health

**Figure 2.** Death rates among St. Louis County and St. Louis City residents of all ages

Rates are age-adjusted using the US 2000 standard population. Source: Death MICA, Missouri Department of Health and Senior Services

Death rates among St. Louis County and St. Louis City residents of all ages

Rates are age-adjusted using the US 2000 standard population. Source: Death MICA, Missouri Department of Health and Senior Services
Social and economic factors influence health

305 DEATHS
DUE TO POVERTY

263 DEATHS
DUE TO LESS THAN HIGH SCHOOL EDUCATION

COMBINED THE NUMBER OF DEATHS COULD FILL OVER 7 METROLINK CARS
Social determinants: Poverty

Percent of St. Louis County and St. Louis City residents with income below the poverty level

- Whites
- African Americans

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 18</td>
<td>22%</td>
</tr>
<tr>
<td>All ages</td>
<td>33%</td>
</tr>
</tbody>
</table>

*Source: ACS 2016 1-year estimates*
Social determinants: Education

Educational attainment of St. Louis County and St. Louis City residents 25 years & over

- Whites
- African Americans

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>Whites</th>
<th>African Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than HS diploma</td>
<td>6%</td>
<td>14%</td>
</tr>
<tr>
<td>HS graduate (includes equivalency)</td>
<td>20%</td>
<td>29%</td>
</tr>
<tr>
<td>Some college or Associate's degree</td>
<td>26%</td>
<td>38%</td>
</tr>
<tr>
<td>Bachelor's degree or higher</td>
<td>50%</td>
<td>19%</td>
</tr>
</tbody>
</table>

Source: ACS 2016 1-year estimates
Social determinants: Health insurance

Percent of St. Louis County and St. Louis City residents who are uninsured

- **Whites**
  - Under age 18: 0.5%
  - Ages 18-64: 5.1%
  - Ages 65 & over: 0.0%

- **African Americans**
  - Under age 18: 1.1%
  - Ages 18-64: 10.5%
  - Ages 65 & over: 0.1%

*Source: ACS 2016 1-year estimates*
Social determinants: Unemployment

Percent of St. Louis County and St. Louis City residents 16 years & over who are unemployed

- Whites: 3%
- African Americans: 12%

Source: ACS 2016 1-year estimates
**St. Louis County**

**Figure 51.** Infant death rate in St. Louis County

<table>
<thead>
<tr>
<th>AFRICAN AMERICANS</th>
<th>WHITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>16* Per 1,000</td>
<td>5 Per 1,000</td>
</tr>
</tbody>
</table>

*11 more people per 1,000

Adapted from Visualizing Health (see resources)
Source: MODHSS, Infant Health Profile
Notes: Data years include 2000-2010

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**St. Louis City**

**Figure 52.** Infant death rate in St. Louis City

<table>
<thead>
<tr>
<th>AFRICAN AMERICANS</th>
<th>WHITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>15* Per 1,000</td>
<td>5 Per 1,000</td>
</tr>
</tbody>
</table>

*10 more people per 1,000

Adapted from Visualizing Health (see resources)
Source: MODHSS, Infant Health Profile
Notes: Data years include 2000-2010
Infant mortality rates for St. Louis County and St. Louis City

Source: Death MICA, Missouri Department of Health and Senior Services
Recommendations

1. Invest in quality early childhood development for all children.

2. Help low-to-moderate income families create economic opportunities.

3. Invest in coordinated school health programs for all students.

4. Invest in mental health awareness, screening, treatment, and surveillance.

5. Invest in quality neighborhoods for all in St. Louis.

6. Coordinate and expand chronic and infectious disease prevention and management.
Rural Missouri mortality trends

WHY ARE DEATH RATES RISING AMONG WHITES IN MISSOURI?
COMMUNITIES FACING NEW SOCIAL & ECONOMIC REALITIES
Rural Missouri mortality trends

585% increase in drug overdose
763% increase in alcohol poisoning
30% increase in suicides

The rise in drug and alcohol abuse and suicides is striking—what some have called “deaths of despair”

Woolf et al., 2017
Figure 2. All-cause mortality increased primarily in rural counties of Missouri

Note: Map depicts the magnitude of change in age-adjusted mortality rates (for all causes) between 1995-1999 and 2010-2014, measured in deaths per 100,000. Counties that experienced a decrease in mortality (lightest shading) were concentrated in metropolitan areas in and around Kansas City and St. Louis and along the I-70 corridor that links these cities. Counties with the largest increases in all-cause mortality—an increase of more than 50 deaths per 100,000 persons (darkest shade)—were largely in rural areas.
Rural Missouri mortality trends

Figure 3. Poverty rates in Missouri counties, 2000-2015

Notes: Heavily and less impacted counties included those in which the increase in age-adjusted mortality between 1999 and 2014 was greater or less than 50 per 100,000 deaths, respectively. Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program, 1999-2015; U.S Census Bureau, Historical Income Tables, Counties, Table C4 (https://www.census.gov/programs-surveys/saipe.html)

Woolf et al., 2017
Similar determinants: St. Louis vs. Dunklin
Dunklin County in Missouri’s Bootheel

A DYING TOWN
Here in a corner of Missouri and across America, the lack of a college education has become a public-health crisis.

Kennett, Missouri – Population: 10,564

Similar determinants

In Context: Education and Income

Population with at least a bachelor's degree

Median household income in 2017 dollars

Life expectancy

Source: U.S. Census Bureau

Source: Institute for Health Metrics and Evaluation (IHME)

Poor health outcomes

In Context: Health Outcomes

Mental and substance-use disorders

Self-harm and interpersonal violence

Chronic obstructive pulmonary disease (COPD)

Source: Institute for Health Metrics and Evaluation (IHME)

Recommendations

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Strategic work groups

Emerge from Next Steps convenings co-hosted by the Institute for Public Health at WUSTL and Forward Through Ferguson, focused on strategies to:

1. Improve early childhood quality and awareness
2. Establish universal Child Development Accounts (CDAs)
3. Establish and sustain school-based health clinics (SBHCs)
4. Disseminate and implement coordinated school health (WSCC)
5. Establish mental health data system
6. Support advocacy for affordable, inclusive housing
7. Address gun violence as a public health problem*
8. Expand the role of community health workers

* St. Louis Area Violence Prevention Collaborative (Washington University & United Way)
Establish universal CDAs

- Strong evidence from Center for Social Development
- 5-year pilot in 20 zip codes
  - $500 529 college savings accounts at birth for all children
  - $100 deposit at age 5 for Year 1 cohort
- Sets stage for regional and statewide implementation
- Partnered with Commerce Bank, United Way and Wells Fargo to complete feasibility study on $16.8 million goal
Establish and sustain SBHCs

School health clinics are growing in number in St. Louis region

- Diverse stakeholders behind new Normandy High School SBHC and more planned
- Funding from Dana Brown and Interco Charitable Trusts
- Emerging affiliate of the national School-Based Health Alliance
- Building regional and statewide infrastructure to support SBHCs
## Ranking of need for SBHCs

<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>City</th>
<th>Zip</th>
<th>Education: Index Score</th>
<th>Social Support: Index Score</th>
<th>Health Care: Index Score</th>
<th>Economic Determinant: Index Score</th>
<th>Composite: Index Score</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST. LOUIS CITY</td>
<td>VASHON HIGH</td>
<td>St. Louis</td>
<td>63106</td>
<td>3.26</td>
<td>1.89</td>
<td>2.56</td>
<td>2.28</td>
<td>2.50</td>
<td>1</td>
</tr>
<tr>
<td>NORMANDY SCHOOLS COLLABORATIVE</td>
<td>NORMANDY HIGH</td>
<td>St. Louis</td>
<td>63133</td>
<td>4.15</td>
<td>1.66</td>
<td>2.24</td>
<td>1.50</td>
<td>2.39</td>
<td>2</td>
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<tr>
<td>ST. LOUIS CITY</td>
<td>ROOSEVELT HIGH</td>
<td>St. Louis</td>
<td>63118</td>
<td>3.81</td>
<td>1.35</td>
<td>1.83</td>
<td>1.48</td>
<td>2.12</td>
<td>3</td>
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<tr>
<td>ST. LOUIS CITY</td>
<td>SUMNER HIGH</td>
<td>St. Louis</td>
<td>63113</td>
<td>2.01</td>
<td>1.70</td>
<td>2.68</td>
<td>1.90</td>
<td>2.07</td>
<td>4</td>
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<tr>
<td>RIVERVIEW GARDENS</td>
<td>RIVERVIEW GARDENS SR. HIGH</td>
<td>St. Louis</td>
<td>63137</td>
<td>2.68</td>
<td>1.72</td>
<td>1.76</td>
<td>1.64</td>
<td>1.95</td>
<td>5</td>
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<tr>
<td>FERGUSON-FLORISSANT R-II</td>
<td>MCCLUER SOUTH-BERKELEY HIGH</td>
<td>Ferguson</td>
<td>63135</td>
<td>1.96</td>
<td>1.53</td>
<td>1.92</td>
<td>1.49</td>
<td>1.72</td>
<td>6</td>
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<tr>
<td>JENNINGS</td>
<td>JENNINGS HIGH</td>
<td>Jennings</td>
<td>63136</td>
<td>0.89</td>
<td>1.79</td>
<td>1.98</td>
<td>1.77</td>
<td>1.61</td>
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<tr>
<td>FERGUSON-FLORISSANT R-II</td>
<td>MCCLUER HIGH</td>
<td>Florissant</td>
<td>63031</td>
<td>1.51</td>
<td>1.31</td>
<td>1.24</td>
<td>1.16</td>
<td>1.31</td>
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<tr>
<td>HAZELWOOD</td>
<td>HAZELWOOD EAST HIGH</td>
<td>St. Louis</td>
<td>63138</td>
<td>1.22</td>
<td>1.39</td>
<td>1.44</td>
<td>1.10</td>
<td>1.29</td>
<td>9</td>
</tr>
<tr>
<td>RITENOUR</td>
<td>RITENOUR SR. HIGH</td>
<td>St. Louis</td>
<td>63114</td>
<td>1.10</td>
<td>1.13</td>
<td>1.31</td>
<td>0.96</td>
<td>1.13</td>
<td>10</td>
</tr>
</tbody>
</table>
Disseminate and implement CSH/WSCC

- Received $1.1 million from the Robert Wood Johnson Foundation for research on implementation of WSCC model
- Community and research partnerships to determine best system of delivery
- Using social network, communication, systems, and dissemination and implementation science
Advocacy for affordable, inclusive housing

- New report on residential segregation and its impacts
- Work group of leading housing and low-income advocacy organizations
- Will rank municipalities in St. Louis County and the City of St. Louis in terms of exclusionary/inclusionary zoning and land use
- Will include recommendations
Lessons learned

• Collaboration must be someone’s job
• Interests must be announced and aligned
• Clear roles, responsibilities, and decision making are key
• Lead partners are critical
• Feasible and understandable goals are best
• Data-driven decision making adds credibility and objectivity
• Affected stakeholders should be engaged early and often
Applications and recommendations

• Start with the best available population data
• Gather systematic, sustained insight from those affected
• Determine the best ways to talk about what you find
  • Tailored messages for different audience; local media strategy
• Consider schools as hubs of access for community
• Build infrastructure for community health workers
• Meaningfully engage partners outside of health sector
  • Medical-legal partnerships; social services; community and economic development
• Consider the multiple roles you play:
  • Anchor institution, employer, purchaser, provider
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