Health is more than healthcare

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Duke/NIH Collaboratory Grand Rounds
October 6, 2017
GOALS

1. Share mounting evidence that bending trends will require attention to more than health care
2. Highlight some ways the practice environment active in efforts to address health beyond health care
3. Raise areas of priority in the research agenda around the social determinants of health
BETTER, MORE AFFORDABLE HEALTHCARE

- Significant progress
  - Quality and safety improved
  - Patient experience improved
  - Bent the cost curve
- Ongoing movement
  - MACRA
  - Medicaid
  - Private sector

Source: Burwell SM. Setting Value-Based Payment Goals ─ HHS Efforts to Improve U.S. Health Care. NEJM 2015 Jan 26;
HEALTH CARE COSTS CONCENTRATED IN SICK FEW

Distribution of health expenditures for the U.S. population, by magnitude of expenditure, 2013

Source: Agency for Healthcare Research and Quality analysis of 2013 Medical Expenditure Panel Survey; MEPS Statistical Brief 480.
HIGH-NEED ADULTS HAVE MORE EMERGENCY DEPARTMENT VISITS AND HOSPITAL STAYS

![Bar chart showing Emergency department visits and Inpatient hospital discharges for different categories of adults.]

- Total adult population
- Three or more chronic diseases, no functional limitations
- Three or more chronic diseases, with functional limitations (high need)

<table>
<thead>
<tr>
<th>Category</th>
<th>Emergency department visits Rate per 1,000</th>
<th>Inpatient hospital discharges Rate per 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total adult population</td>
<td>183</td>
<td>107</td>
</tr>
<tr>
<td>Three or more chronic diseases, no functional</td>
<td>248</td>
<td>147</td>
</tr>
<tr>
<td>Three or more chronic diseases, high need</td>
<td>619</td>
<td>535</td>
</tr>
</tbody>
</table>

Note: Noninstitutionalized civilian population age 18 and older.
ADULTS WITH HIGH NEEDS HAVE UNIQUE DEMOGRAPHIC CHARACTERISTICS

Notes: Noninstitutionalized civilian population age 18 and older. Public insurance includes Medicare, Medicaid, or combination of both programs (dual eligible).

ACTION BEYOND THE BLUE BOX

Health

Genetics: 20%
Healthcare: 20%
Social, Environmental and Behavioral Factors: 60%
“conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.”

- Healthy People 2020

**SOCIAL DETERMINANTS OF HEALTH (SDOH)**

<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></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>Walkability</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Health Outcomes**
- Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

**Outcomes**
- Readmission
- Non-compliance
- Cost
- Outcomes
- Satisfaction
- Risk

SDOH CORRELATED WITH POOR HEALTH OUTCOMES

- Prevalence of diabetes, hypertension, depression, and ED usage is higher in patients with unmet needs
- Worse glycemic and cholesterol control as well as more “no shows”

- Associations between:
  - Depression ➔ Accessing and affording care
  - Unmet foods needs ➔ Finding employment
  - Housing ➔ Diabetes
  - Transportation ➔ Hypertension
  - Legal needs ➔ No shows
  - Low income ➔ Lower reported health status
  - Less education

ADDRESSING SDOH IMPROVES OUTCOMES

• For high cost high need patients:
  • Camden model
  • Arkansas

• Associated with clinically meaningful improvements:
  • blood pressure
  • lipid levels

• Associated with reductions in utilization and cost:
  • Hospital readmissions following total joint surgery

Practice environment active in efforts to address health beyond health care
Key Innovations

- **Systematic screening** of all Medicare and Medicaid beneficiaries to identify unmet health-related social needs
- Testing the **effectiveness of referrals** and **community services navigation** on total cost of care using a rigorous mixed method evaluative approach
- **Partner alignment** at the community level and implementation of a community-wide quality improvement approach to address beneficiary needs

3 Model Tracks

**Track 1** **Awareness** – Increase beneficiary **awareness** of available community services through information dissemination and referral

**Track 2** **Assistance** – Provide community service navigation services to **assist** high-risk beneficiaries with accessing services

**Track 3** **Alignment** – Encourage partner **alignment** to ensure that community services are available and responsive to the needs of beneficiaries
UNDERSTANDING POPULATION NEEDS

• SDOH Assessment tools
  • Many now available
  • Most focused on “health-related social needs”
• Examples
  • PRAPARE
  • Center for Medicare and Medicaid Services proposed tool
• Will allow for sharing best practices

HEALTH LEADS’ SOCIAL NEEDS DASHBOARD


Unique Clients

<table>
<thead>
<tr>
<th></th>
<th>August, 2015</th>
<th>Average month</th>
<th>Total lives touched</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>806 served</td>
<td>67</td>
<td>56</td>
<td>3145</td>
<td>730</td>
</tr>
</tbody>
</table>

# of Enrollments March, 2015 -- August, 2015

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Screens Returned</td>
<td>180</td>
<td>174</td>
<td>163</td>
<td>147</td>
<td>132</td>
<td>146</td>
</tr>
<tr>
<td># Positive Screens</td>
<td>90</td>
<td>85</td>
<td>73</td>
<td>67</td>
<td>54</td>
<td>58</td>
</tr>
<tr>
<td># Enrollments</td>
<td>111</td>
<td>104</td>
<td>96</td>
<td>88</td>
<td>77</td>
<td>94</td>
</tr>
</tbody>
</table>

Resource Connections

<table>
<thead>
<tr>
<th></th>
<th>August, 2015</th>
<th>Average month</th>
<th>Benchmark</th>
<th>% Successful/All</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 made</td>
<td>56</td>
<td>47</td>
<td>623</td>
<td>56%</td>
</tr>
</tbody>
</table>

Screening and Referral in August

<table>
<thead>
<tr>
<th></th>
<th>Average month</th>
<th>Positive screen rate</th>
<th>Referring providers</th>
<th>Referrals / provider</th>
<th>Enrollment rate (111 enroll of 146 pos. screens)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30%</td>
<td>35%</td>
<td>23</td>
<td>5</td>
<td>76%</td>
</tr>
</tbody>
</table>

60% of Clinic Screened

<table>
<thead>
<tr>
<th></th>
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<td>77</td>
<td>94</td>
</tr>
</tbody>
</table>

Top Presenting Needs

<table>
<thead>
<tr>
<th>Need</th>
<th># Closed</th>
<th>% Connected</th>
<th>Days open</th>
<th>% of patients who...</th>
<th>Bench mark</th>
<th>% of patients who...</th>
<th>Bench mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>666</td>
<td>60%</td>
<td>43</td>
<td>successfully accessed a resource</td>
<td>36%</td>
<td>successfully accessed a resource</td>
<td>33%</td>
</tr>
<tr>
<td>Child-Related</td>
<td>394</td>
<td>52%</td>
<td>40</td>
<td>equipped to access a resource</td>
<td>34%</td>
<td>equipped to access a resource</td>
<td>40%</td>
</tr>
<tr>
<td>Health</td>
<td>332</td>
<td>45%</td>
<td>21</td>
<td>did not access any resources</td>
<td>3%</td>
<td>did not access any resources</td>
<td>5%</td>
</tr>
<tr>
<td>Employment</td>
<td>278</td>
<td>19%</td>
<td>37</td>
<td>disconnected from services</td>
<td>18%</td>
<td>disconnected from services</td>
<td>19%</td>
</tr>
<tr>
<td>Utilities</td>
<td>254</td>
<td>36%</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Education</td>
<td>174</td>
<td>41%</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commodities</td>
<td>170</td>
<td>43%</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing</td>
<td>153</td>
<td>62%</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results

<table>
<thead>
<tr>
<th>Metric</th>
<th># of advocates</th>
<th>NPS</th>
<th>Patients per advocate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touches per patient</td>
<td>5.6</td>
<td>5.9</td>
<td>15</td>
</tr>
<tr>
<td>Ave. Days of Engagement</td>
<td>47</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>NPS</td>
<td>74%</td>
<td>69%</td>
<td>74%</td>
</tr>
<tr>
<td>Clinic Rating due to HL</td>
<td>68%</td>
<td>64%</td>
<td>15</td>
</tr>
<tr>
<td># FTEs</td>
<td></td>
<td></td>
<td>4.0</td>
</tr>
</tbody>
</table>
ADDRESSING THE SOCIAL DETERMINANTS

- From paper resource guide to digital support tools
- Some are simple digital resource guides
- Others provide communication and analytic platforms
  - Health Leads
  - TAV Health
  - Healthify
  - NowPow
  - PCCI Pieces
  - CMS tool
  - Many more “home grown” versions of digital tools
- Not standardized or necessarily interoperable; other issues emerging
SOME INDUSTRY EXAMPLES

• Kaiser Permanente
• Intermountain Health Care
• Trinity
• United Healthcare
GOING FURTHER CHANGING THE CONTEXT

- Go beyond addressing health related social determinants
- Change upstream context
- Levels of engagement:
  - Refer to housing agency?
  - Pay for housing supportive services or Air-conditioner?
  - Build housing?
- Community alliances with public sector
- “Anchor Institution” concept

Need to Build Consistency in Resources

Our Zip Code Affects Our Health More Than Our Genetic Code...

Sources: Woolf, VCU; Chetty et al. JAMA 2016;315(16):1750-1766
ACTION BEYOND THE BLUE BOX

- Genetics: 20%
- Healthcare: 20%
- Social, Environmental and Behavioral Factors: 60%
Areas of priority in the research agenda around the social determinants of health
FIELD BUILDING NEEDS TO ACCELERATE

• Need “clear and coherent research agenda”

• Early focus on Health-care related efforts but more work needed beyond

• Avoid SDOH being a fad because “shot gun” approach in practice environment does not build the field, apply rigor

• Will require willingness to leverage new methods, data sources, fields
  • Simulation models
RESEARCH ISSUES AT THE FOREFRONT

• Foundational:
  • Percent SDOH contributes to health outcomes
• Assessment methods
• Study design for impact assessment
• Incentive structure and sectoral focus
• Outcomes measurement
Final Reflections on Policy Agenda
IT WILL TAKE SIGNIFICANT SYSTEMS CHANGE

• Great health at an affordable cost to society cannot be achieved by even the most competent physician’s actions

• It cannot be achieved by the highest quality health medical home or health system

• It requires
  • “society working together to create the conditions in which everyone can be healthy”

DeSalvo K, Harris A. “Bending the trends.” Annals of Family Medicine, Jul/Aug 2017
“Treating a homeless man’s frostbitten toes is surely a waste, when a pair of shoes could have prevented it.”

Source: Health Leads
Figure Legend:
Life Expectancy at Birth by County, 2014 Counties in South Dakota and North Dakota had the lowest life expectancy, and counties along the lower half of the Mississippi, in eastern Kentucky, and southwestern West Virginia also had very low life expectancy.
GOALS

1. Share mounting evidence that bending trends will require attention to more than health care
2. Highlight some ways the practice environment active in efforts to address health beyond health care
3. Raise areas of priority in the research agenda around the social determinants of health
Collaborative Action

School-Based Programs to Increase Physical Activity
School-Based Violence Prevention
Safe Routes to School
Motorcycle Injury Prevention
Tobacco Control Interventions
Access to Clean Syringes
Pricing Strategies for Alcohol Products
Multi-Component Workplace Obesity Prevention

Changing the Context
Making the healthy choice the easy choice

Social Determinants of Health

HI-5
HEALTH IMPACT IN 5 YEARS

→ Early Childhood Education
→ Clean Diesel Bus Fleets
→ Public Transportation System
→ Home Improvement Loans and Grants
→ Earned Income Tax Credits
→ Water Fluoridation