THINK UPSTREAM, ACT LOCALLY:

DO SOMETHING (!) ABOUT SDOH

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Health Policy Institute of Ohio
Grove City, OH
April 4, 2019
Overview

• Why addressing social determinants of health should be part of our policy mix

• Why an economic approach might work best in some communities

• How our suggested approach would work

• Challenges, Next Steps and Questions?
Our Major Problem
Our Major Problem driven home:
Family Premium / Family Income

1996: 7.4%
2016: 23.4%
Pathways to Health Cost Reduction

- Reduce utilization
- Reduce prices
- Make patients pay more
- Eat better and exercise more
- Get smarter about advanced illness care
- Get smarter about social determinants of health = HEALTHY OPPORTUNITIES!
# Social Determinants of Health

## Healthy Opportunities

<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>Nutrition</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>Walkability</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Zip code / geography</td>
<td></td>
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</tbody>
</table>

## Health Outcomes

- Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations
Behavior conditioned by social, economic, and physical context
Hard-headed Economist’s View

• Health is a product of *choices* – current and past – made subject to *constraints*, e.g., income, education, insurance, knowledge/expectations of future, physical and social environment (i.e., SDoH or Healthy Opportunities).

• Are choices more important than constraints? Philosophers and politicians will always differ

• Odds can be overcome, but, Odds can also be Changed
And Odds Matter!!

“ZIPCODE” → Life Expectancy

http://www.cohealthmaps.dphe.state.co.us/cdphe_community_health_equity_map/

UNEVEN OPPORTUNITIES

http://www.cohealthmaps.dphe.state.co.us/cdphe_community_health_equity_map/

Steven Woolf, MD, MPH
Derek Chapman, PhD
Latoya Hill, MPH
Heidi Schoomaker, BA

David Wheeler, PhD
Lauren Snellings, MPH, CHES
Jong Hyung Lee, MS

VCU Center for Society and Health

October 2018
Leveraging What Works?

• Evidence is strong that SDOH/HO affect health outcomes and spending

• Specific interventions – investments in HO -- have payoffs too (as your 2019 Dashboard makes clear!)
  ➢ Housing First for SMI and SUD homeless
  ➢ Food through WIC, SNAP, Meals on Wheels
  ➢ Targeted case management for high need adults and children
  ➢ Non-emergency transportation
  ➢ SUD Treatment lowers crime costs
Health Expenditures as a % of GDP

(Slide borrowed from Lauren A. Taylor)

*Turkey is missing data for 2009; Data from Bradley and Taylor, The American Health Care Paradox.
Total Expenditures as a %GDP

(Slide borrowed from Lauren A. Taylor)

*Turkey is missing data for 2009; Data from Bradley and Taylor, The American Health Care Paradox.
METHOD: Multivariable regression using state-level repeated measures data from 2000-2009 with regional and time fixed effects.

FINDING: The lagged ratio of social to health spending was significantly associated with better health outcomes: adults who were obese; had asthma; reported fourteen or more mentally unhealthy days or fourteen or more days of activity limitations in the past thirty days and had lower mortality rates for lung cancer, acute myocardial infarction, and type 2 diabetes.
Social Determinants As Public Goods: A New Approach To Financing Key Investments In Healthy Communities

Motivations for the Work

• Overwhelming evidence that SDOH affects health, use, and costs

• Yet, underinvestment in SDOH is the norm

• Inequity and high cost are related and major problems in US

• Not many know or believe that financial self-interest could be aligned with the social interest in addressing SDOH

• Faith in possibility of local collaboration at scale has waned

• Response to our August 2018 *Health Affairs* paper has been inspirational
  ➢ 15 communities / coalitions; 5 regional Foundations (EHF, MFFH, BSCAF, COHF, KCHF)
<table>
<thead>
<tr>
<th>Community</th>
<th>First Stakeholder to contact Len and Lauren</th>
<th>Contact</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dallas, TX</td>
<td>Baylor, Scott and White Health System</td>
<td>Cliff Fullerton, Niki Shah, Jeff Zohar, BSW</td>
<td>Doing 41 DSRIPs for Texas, very invested in SDOH space across Metro-Plex</td>
</tr>
<tr>
<td>Communities in California: Stockton and Fresno? San Diego?</td>
<td>California Quality Collaborative</td>
<td>Melora Simon CQC, Peter Long and Carolyn Wong, BSCF</td>
<td>Could complement CACHI work already underway</td>
</tr>
<tr>
<td>Austin, TX</td>
<td>Seton (part of Ascension system)</td>
<td>Ingrid Taylor, Seton, Elena Marks, EHF</td>
<td>EHF knows this community well</td>
</tr>
<tr>
<td>Waco, TX</td>
<td>Elena Marks, Episcopal Health Foundation</td>
<td>Elena Marks, EHF</td>
<td>EH knows this community well</td>
</tr>
<tr>
<td>Kansas City, KA</td>
<td>Kansas Health Institute</td>
<td>Bob St. Peter</td>
<td>Have strong local collaborative, working on upstream investments</td>
</tr>
<tr>
<td>Springfield, MO</td>
<td>Missouri Fnd for Health</td>
<td>Ryan Barker</td>
<td>Foundation has played convener role in anti-poverty efforts in Springfield</td>
</tr>
<tr>
<td>Grand Junction, CO</td>
<td>Quality Health Network (HIE)</td>
<td>Dick Thompson, Steve Erkenbrack (Rocky Mountain Health Plan/United)</td>
<td>Reaching to CO Health Foundation on our behalf</td>
</tr>
<tr>
<td>Annapolis, MD/Anne Arundel Cnty.</td>
<td>County govt</td>
<td>Polly Pittman, GWU</td>
<td>Local political leaders very interested in VCG type-model for SDOH work</td>
</tr>
<tr>
<td>Tuscon, AZ</td>
<td>United Way of Tuscon</td>
<td>Sarah Ascher, Tony Penn</td>
<td>Called last week re: frail elderly</td>
</tr>
<tr>
<td>Cleveland, OH</td>
<td>United Way of Greater Cleveland</td>
<td>Ben Miladin</td>
<td>Would like to consider making VCG their CMMI ACH initiative for 2020</td>
</tr>
<tr>
<td>Atlanta, GA</td>
<td>GA St, Atlanta Regional Collaborative for Health Improvement</td>
<td>Kathryn Lawler and Karen Minyard</td>
<td>Think Atlanta is ready for this type of SDOH collaboration</td>
</tr>
<tr>
<td>Indianapolis, IN or Richmond, VA</td>
<td>Anthem; Virginia Center for Health Innovation</td>
<td>Mai Pham, MD, Anthem; Beth Bortz, CEO VCHI</td>
<td>Anthem would like to arrange for collective financing of SDOH work; VA VCHI has been approached to be TB</td>
</tr>
<tr>
<td>Cincinnati, OH</td>
<td>The Health Collaborative</td>
<td>Craig Brammer, MD</td>
<td>Have done AF4Q work and other collaborations, interested in SDOH models</td>
</tr>
<tr>
<td>Lawrence, MA</td>
<td>ACO + Mayor’s Council</td>
<td>Alexandra Schweitzer, consultant</td>
<td>Strong local mayor’s health office, collaborative hospital system</td>
</tr>
</tbody>
</table>
States with Communities Interested in using VCG to address their SDOH problems
Fundamental Insights

• SDoH investments have public good-like properties => free rider problems

• Economics profession worked out a functional solution to the free-rider problem in the 1970s, Vickrey-Clarke-Groves (VCG), which works under 2 conditions
  o “trusted broker” and operational local stakeholder coalition must exist

• Those conditions are likely to be present in many communities grappling with SDoH/HO deficits today

• Key elements of VCG auction model:
  • Winner’s curse solution
  • Revelation of willingness to pay to trusted broker only
  • Two part pricing (p < v for all)
Suppose Cost of Health Opportunity = 180

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Value of Solution</th>
<th>Simple Cost Share</th>
<th>Tax or Side Payment</th>
<th>Net Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Insurer</td>
<td>110</td>
<td>60</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Hospital A</td>
<td>40</td>
<td>60</td>
<td>-25</td>
<td>35</td>
</tr>
<tr>
<td>Hospital B</td>
<td>50</td>
<td>60</td>
<td>-15</td>
<td>45</td>
</tr>
<tr>
<td>TOTAL</td>
<td>200</td>
<td>180</td>
<td>0</td>
<td>180</td>
</tr>
</tbody>
</table>

“magic” of VCG is that each P < V, so that self-interest drives, and will perpetuate, the solution
VCG Real World Example using NEMT

- Cost and benefit estimates, updated with M-CPI from 2005 NAS report, with updated prevalence estimates from Paul Hughes-Cromwick (of Altarum)

- Assume community of 300,000: estimate of transportation-challenged population = 7,000 (2.3%)
  - There are 162 MSAs in US with 300,000 or more residents

- Net Savings estimates of $2,200 per client per year

- Cost of transport = $750 per client per year

- Note: Providers LOSE margin when insured patients’ utilization goes down (we assumed 20% of gross revenue decline)
<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Market Share of Target patients</th>
<th>Gross value of investment</th>
<th>Loss from reduced care</th>
<th>Net Value, bid to trusted broker</th>
<th>Cost share</th>
<th>Tax or side payment</th>
<th>Net price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicaid</td>
<td>50%</td>
<td>7,700</td>
<td>0</td>
<td>7,700</td>
<td>1,312.5</td>
<td>500</td>
<td>1,812.5</td>
</tr>
<tr>
<td>Medicare</td>
<td>20%</td>
<td>3,080</td>
<td>0</td>
<td>3,080</td>
<td>1,312.5</td>
<td>200</td>
<td>1,512.5</td>
</tr>
<tr>
<td>Private insurer</td>
<td>10%</td>
<td>1,540</td>
<td>0</td>
<td>1,540</td>
<td>1,312.5</td>
<td>100</td>
<td>1,412.5</td>
</tr>
<tr>
<td>Providers/uninsured</td>
<td>20%</td>
<td>3,080</td>
<td>2,464</td>
<td>616</td>
<td>1,312.5</td>
<td>-800</td>
<td>512.5</td>
</tr>
<tr>
<td>TOTALS</td>
<td>100%</td>
<td>15,400</td>
<td>2,464</td>
<td>12,320</td>
<td>5,250</td>
<td>0</td>
<td>215,250</td>
</tr>
</tbody>
</table>
Criticism of this “economic” approach

• From the Left
Criticism of this “collaborative” approach

• From the Right
CHANGE THE GAME: FROM ZERO TO SYNERGISTIC NON-ZERO SUM GAME

ZERO SUM GAME
I win or You win
I win
You win

NON-ZERO SUM GAME
We both win
We win

SYNERGY
Our win is bigger than my win or your win
My win
OUR WIN
Your win
Challenges and Next Steps

• Convince funders to let us teach this through a learning collaborative or feasibility study to all willing communities / stakeholder coalitions

• Selecting sites and assembling a consortium of funders for implementation/testing/evaluation

• Is there sufficient local trust to make VCG-like collaboration happen?
  ➢ Would Pay for Success or Community Development Financial Institutions be better suited for some communities’ Healthy Opportunities?

• What we Believe: Collaboration and Trust can be re-learned