Attending to the Whole Population

a population health roundtable

June 29, 2016
I think he's just seen 'the BIG picture' for the first time!

EEEK!
WHO definition of ‘health’

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
“Am I a happy man or just an asymptomatic one?”
Population Health

...the health outcomes of a group of individuals, including the distribution of such outcomes within the group.

These groups are often geographic populations such as nations or communities, but can also be other groups such as employees, ethnic groups, disabled persons, prisoners, or any other defined group.

Kindig and Stoddart, 2003
“...our national and local goals are improving overall health and reducing disparities...

A common assumption is that improving overall population health also reduces gaps by race, socioeconomic status, and geography, but this is not always the case.”

Kindig, 2015, Health Affairs Blog, Project HOPE: The People to People Health Foundation
• **1st WAVE: Building the Foundation**
  - De-institutionalization
    - *Getting people into the community*
  - Expanding Network of Providers
  - Creating CBH (Administrative Infrastructure)
  - Creating the Department & a single payor system

• **2nd WAVE: Transformation Decade**
  - Improving quality of life (recovery, resilience, self-determination)
    - *Helping people to be a part of the community*
  - Creating Learning Organization

• **3rd WAVE: Population Health**
  - Promoting Health & Wellness for the population
    - *Promoting healthy Communities*
  - Single unifying framework for all services and populations
  - Reaching everyone
  - Efficiency and Effectiveness
“...through community-level interventions and services, population approaches help to create communities in which every member—not just those who seek out health services—can thrive.”
Our Current Healthcare Approach

Focus →

- Healthy
- At Risk
- Diagnosed
Factors that Influence Health Status

- Health Care: 10%
- Environment: 19%
- Human Biology: 20%
- Lifestyle: 51%
The 5 Principles Needed for a Population Health Approach

1. Attend to the whole population
2. Promote health, wellness, and self determination
3. Provide prevention and early interventions
4. Address the social determinants of health
5. Empower individuals and communities to keep themselves healthy
Population Health: Dr. Fabius

Health Interventions

Determinants of Health

Health Status Improvement
Health Interventions

✧ CREATE TAXES (tobacco, ETOH)
✧ CREATE LAWS (seatbelts, helmets, ‘health in all policies’)
✧ CREATE MEDICAL BREAKTHROUGHS (vaccines, prenatal testing)
✧ CREATE SAFER WORKPLACES (OSHA)
Auto fatalities

Using Seatbelts %

New Seatbelt Law
Help Yourself, Help Others®

Mental Health First Aid ➤
Learn to identify, understand, and respond to signs of behavioral health challenges or crises.

Behavioral Health Screening ➤
If you feel sad, anxious or stressed, this screening tool can help you decide if you need further help.

Calendar ➤
Find awareness events, screenings or trainings, post your own event to the calendar, or request event support from DBHIDS.

Blog ➤
Thoughts and updates from Dr. Arthur C. Evans, Jr., Commissioner of DBHIDS and staff.

The Philadelphia Department of Behavioral Health and Intellectual disAbility Services (DBHIDS) offers these tools and resources for everyone seeking to support and improve the mental health and well-being of themselves or those they care about.
National SUICIDE Prevention Lifeline
1-800-273-TALK (8255)
www.suicidepreventionlifeline.org
With help comes hope

CRISIS COUNSELING
THERE IS HOPE
MAKE THE CALL

THE CONSEQUENCES OF JUMPING FROM THIS BRIDGE ARE FATAL AND TRAGIC.
“In Ohio, Kenney team finds an 'awesome' school plan.”

www.philly.com 11/15
Pre-K is a gift that keeps on giving

- IQ was over 90 at age 5: 67% with pre-K, 28% without pre-K
- Achieved basic or better at 14: 49% with pre-K, 15% without pre-K
- Graduated high school: 65% with pre-K, 45% without pre-K
- Owned home at 27: 27% with pre-K, 5% without pre-K
- Earned over $20K at 40: 60% with pre-K, 40% without pre-K

ts of Health
Optimal Lifestyle Metric (OLM)

✨ BEING PHYSICALLY ACTIVE
✨ NOT SMOKING
✨ 5 FRUITS & VEGETABLES/DAY
✨ ALCOHOL IN MODERATION

CDC: 80% of heart disease, 
80% of Type 2 diabetes, 
40% of cancer preventable if....
Why disease management needs to give way to population health

Zero Trends, Edington [Fabius]
“The Child is father of the Man.”

Wordsworth
Adverse Childhood Experiences

• The ‘ACE Study’: Kaiser Permanente and CDC
• Recruited > 17,000 participants in mid-90s, asked about 10 types of childhood trauma

Physical abuse
Emotional abuse
Sexual abuse
Household substance abuse
Parental separation/divorce

Physical neglect
Emotional neglect
Mother treated violently
Household mental illness
Incarcerated household member
Adverse Childhood Experiences
(Original study)

- Over 50% had at least one ACE
- 25% had experienced two or more ACEs
- Dose-response relationship between ACE scores and both risky health behaviors and poor health outcomes

<table>
<thead>
<tr>
<th>Health Behaviors</th>
<th>Health Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4 x Smoking</td>
<td>Depression</td>
</tr>
<tr>
<td>2-4 x STD</td>
<td>Cardiovascular disease</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>COPD</td>
</tr>
<tr>
<td>Obesity</td>
<td>Cancer</td>
</tr>
<tr>
<td>Promiscuity</td>
<td>Liver disease, etc</td>
</tr>
</tbody>
</table>
Philadelphia Urban ACE Study

- Funded by RWJ Foundation, conducted by Public Health Management Corp (PHMC) for the Institute for Safe Families
- Surveyed almost 2,000 Philadelphians in 2012-13
- Added five additional “urban ACE indicators”

Witnessed violence
Felt discrimination (racism)
Unsafe neighborhood
Experienced bullying
Lived in foster care
Philadelphia Urban ACE Study

- Higher prevalence of ACEs than previous studies, especially emotional & physical abuse
- Almost 40% experienced ≥ 4 ACEs
- ~ 35% grew up with substance abuse in household

Urban Indicators

- 40.5% witnessed violence
- 34.5% experienced racial/ethnic discrimination
- 27.3% felt unsafe in their neighborhood
- 8% experienced bullying
- 2.5% spent time in foster care
## ACEs in PHL vs. Original Kaiser Sample

<table>
<thead>
<tr>
<th>Standard ACE Indicators</th>
<th>PHL Sample (N=1,784)</th>
<th>Kaiser Sample (N=17,337)</th>
<th>BRFSS, 2010 PA Sample (N=5,646)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional abuse†</td>
<td>33.2%</td>
<td>10.6%</td>
<td>30.8%</td>
</tr>
<tr>
<td>Physical abuse*†</td>
<td>35.0%</td>
<td>28.3%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Sexual abuse*†</td>
<td>16.2%</td>
<td>20.7%</td>
<td>9.7%</td>
</tr>
<tr>
<td>Physical neglect*</td>
<td>19.1%</td>
<td>14.8%</td>
<td>Not measured</td>
</tr>
<tr>
<td>Emotional neglect*</td>
<td>7.7%</td>
<td>9.9%</td>
<td>Not measured</td>
</tr>
<tr>
<td>Substance using household member*</td>
<td>34.8%</td>
<td>26.9%</td>
<td>20.7%</td>
</tr>
<tr>
<td>Mentally ill household member*</td>
<td>24.1%</td>
<td>19.4%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Witnessed domestic violence*†</td>
<td>17.9%</td>
<td>12.7%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Incarcerated household member*</td>
<td>12.9%</td>
<td>4.7%</td>
<td>4.6%</td>
</tr>
</tbody>
</table>

### Urban ACE Indicators

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<tbody>
<tr>
<td>Witnessed violence</td>
<td>40.5%</td>
<td>Not measured</td>
<td>Not measured</td>
</tr>
<tr>
<td>Felt discrimination</td>
<td>34.5%</td>
<td>Not measured</td>
<td>Not measured</td>
</tr>
<tr>
<td>Unsafe neighborhood</td>
<td>27.3%</td>
<td>Not measured</td>
<td>Not measured</td>
</tr>
<tr>
<td>Experienced Bullying</td>
<td>7.9%</td>
<td>Not measured</td>
<td>Not measured</td>
</tr>
<tr>
<td>Lived in foster care</td>
<td>2.5%</td>
<td>Not measured</td>
<td>Not measured</td>
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* Asked slightly different than Kaiser; † Asked slightly different than BRFSS.
Among those with >4 ACEs, increased number of:

- multiple sexual partners
- suicide attempts
- substance abuse

>4 reported ACES also correlated to poor health outcomes which include higher rates of:

- Cancer
- Diabetes
- Severe Obesity
- Asthma
Planning districts are depicted on a green-yellow-orange-red gradient, with green indicating better outcomes and red indicating poorer outcomes. The planning districts with the best and poorest outcomes are also highlighted with a thick black border.

Source: American Community Survey, 2009-2013
Conclusions

- ACEs are prevalent in PHL
  - 81% of participants experienced $\geq 1$ ACE indicator
  - 68% experienced $\geq 1$ of the Standard ACE indicators
  - 58% experienced $\geq 1$ of the newly established Urban ACE indicators
  - 45% experienced at least one Standard and at least one Urban indicator

- Future work needs to explore how ACEs vary by gender, race and zip code
“The findings from this study suggest the need for services that address the unique environmental stressors experienced in urban neighborhoods to mitigate their impact on individuals and prevent ACEs.”

Philadelphia Urban ACE Report, 2013
Social Determinants of Health

Those elements of social structure most closely shown to affect health and illness, including:

- INCOME INEQUALITY
- FOOD SECURITY
- HOUSING QUALITY
- SOCIAL STATUS
- NEIGHBORHOOD CONDITION
- EMPLOYMENT OPPORTUNITY
- DISCRIMINATION
- CULTURAL NORMS
- SOCIAL EXCLUSION
- POLITICAL MARGINIALIZ’N
- PHYSICAL ISOLATION
- PUBLIC SERVICE SYSTEMS

The Adler School’s Institute on Social Exclusion, 2010
While comprehensive action across the life course is needed, there is a considerable evidence base and scientific consensus that action to give every child the best possible start in life will generate the greatest societal and mental health benefits... action needs to be...proportionate to disadvantage in order to level the social gradient and successfully reduce inequalities in mental disorders.”

WHO, 2014
“Although social determinants of health, or fundamental causes, or causes of the causes, might appear to be quite far upstream compared with the more proximal risk factors that they create, they set the stage for poor mental health, and indeed mental illnesses and substance use disorders, in individuals and communities.”

Compton and Shim, 2015
FIGURE 1-1. Framework for understanding the social determinants of mental health.

G × E = gene-by-environment interaction.
Unequal Distribution of Opportunity
Social Determinants of Health
Increased Risk Factors
Poorer Health Outcomes
“Instead of waiting for the next big thing to transform our lives, why don’t we give it a shot ourselves?”
And now, the roundtable...