Population Health Management: Promise, Progress and Pitfalls

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Population Health:
Policy is Key

Patterns of health determinants over the life course

Health outcomes and their distribution in a population

Policies and interventions at individual, community and societal levels
Johan Peter Frank, (German Physician) *The People’s Misery: Mother of Diseases, 1790*

“...the diseases caused by the poverty of the people and by the lack of all goods of life are exceedingly numerous.”
Epidemiological Transition

Graphs showing the percentage of all deaths due to various causes over time in different countries and regions, including England & Wales, Japan, Chile, and Ceylon.
Infant Mortality Rates Vary by Place, Race and Ethnicity in US

Non-Hispanic White Women

Hispanic/Black Women
Average Life Expectancy is Decreasing in U.S.

United States life expectancy at birth
(1960-2017) Average age for male and female

Rates of suicide and drug overdoses have continued to climb

**SUICIDE**

- Deaths per 100,000
  - Male: 17.8 to 22.4
  - Female: 4.0 to 6.1

**DRUG OVERDOSE DEATHS**

- Male: 8.2 to 14.4
- Female: 3.9 to 6.1

Source: Centers for Disease Control and Prevention
Evaluating Policy Impact on Population Outcomes

- U.S. entry into WWII
- Great Depression begins
- Confluence of evidence linking smoking and cancer
- Federal cigarette tax doubles
- Broadcast ad ban
- 1964 Surgeon General’s report on smoking and health
- Fairness doctrine messages on broadcast media
- Federal $0.62 tax increase
- 2006 Surgeon General’s report on secondhand smoke (an update)
- 1986 Surgeon General’s report on secondhand smoke
- FDA proposed rule
- Nicotine medications available over-the-counter
- Master Settlement Agreement
- Synar Amendment enacted
- Family Smoking Prevention and Tobacco Control Act
- Per capita number of cigarettes smoked per year
U.S. is an Outlier in Health Care Spending

Life expectancy vs. health expenditure over time (1970-2014)

- Health spending measures the consumption of health care goods and services, including personal health care (curative care, rehabilitative care, long-term care, ancillary services and medical goods) and collective services (prevention and public health services as well as health administration), but excluding spending on investments. Shown is total health expenditure (financed by public and private sources).

- **South Korea** spends less than 1/3 of the US per capita.
- **Japan**, **Australia**, and **France** spend less than 1/2 of the US per capita.

**US life expectancy is far lower than our global competitors.**

Health Expenditure (adjusted for inflation and PPP-adjusted for price differences between countries)

Data source: Health expenditure from the OECD; Life expectancy from the World Bank. Licensed under CC-BY-8A by the author Max Roser. The interactive data visualization is available at OurWorldinData.org. There you find the raw data and more visualizations on this topic.
Triple Aim of the Institute for Healthcare Improvement (2007)

- Better Health for the Population
- Better Care for Individuals
- Lower Cost Through Improvement
Related yet different fields of inquiry and practice

- Population health (longstanding)
- Public health
- Preventive medicine
- Population medicine
- Population health management:
  
  Aggregation and use of health information data and other actions to improve clinical and financial outcomes
Population Health Management
Population Health Management

- 70+ universities in U.S. have colleges, departments, degree programs in population health, population medicine or population health management
- Numerous health systems have PHM activities
- New business products, data analytics, consulting, etc.

**Themes:**
- Triple Aim - Emphasis on *patient* populations/outcomes
- Recognition of social determinants of health
- Partnerships with public health & community resources
Mostly Positive/But….Three Caveats

Medicalization and conflation

Efforts are primarily downstream:
- Referring patients with identified social needs to exhausted community partners and beleaguered safety net programs/agencies

Unproven interventions/overpromise of results
- Lack of evidence base for many interventions being used
- False hope that addressing downstream patient social needs will somehow magically improve their health status in a short period of time
Process by which personal, behavioral and social issues are viewed through a biomedical lens, emphasizing individual-level pathology and authority/treatment through clinical care. (Conrad)

CONCERNS:

* **Denominator shrinkage**: “Population” is those patients who temporarily share providers or insurance plan

* **Conflation** of SDOH with individual patient social needs
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More than Semantics

Long history of public policy and community efforts attempting to address social, economic and political drivers of population health patterns (including disparities) with personal health services.

When those efforts do not work, it reinforces notions that some subpopulations are too difficult, problems are intractable, and inequity is inevitable.
Three Caveats

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WHO Conceptual Framework of Social Determinants of Health

Source: Amended from Solar & Irwin, 2007
• Example: Housing is a social determinant of health
• Addressing housing at level of individual need is necessary yet insufficient
• To address housing as a social determinant, policy change and other action needs to happen at:
  Neighborhood level
  Mezzo-level
  Macro-level
Screening Patients for SDOH (actually social needs)
MD Tweet: “I screen because some of my patients have SDOH”

3. Do you ever eat less than you feel you should because there is not enough food? □ Yes or □ No

4. Do you need a job or other steady source of income? □ Yes or □ No

5. Are you worried that in the next few months, you may not have safe housing that you own, rent or share? □ Yes or □ No

6. In the past year, have you had a hard time paying your utility company bills? □ Yes or □ No

7. Does getting child care make it hard for you to work, go to school or study? □ Yes or □ No

8. Do you think completing more education or training, like earning a high school diploma, going to college, or learning a trade, would be helpful for you? □ Yes or □ No

9. Do you need a dependable way to get to work or school and your appointments? □ Yes or □ No

10. Do you need household supplies? For example, clothing, shoes, blankets, mattresses, diapers, toothpaste, and shampoo. □ Yes or □ No

11. If you take medication, are you not taking it because it is too expensive? □ Yes or □ No

12. Do you need help finding or paying for care for loved ones? For example, child care or day care for an older adult. □ Yes or □ No

13. Do you ever feel unsafe in your home or neighborhood? □ Yes or □ No
Screening Patients for Social Needs

• Many “validated” measures –
  o Means screening tools do identify patient social and non-medical needs/concerns
• Such information can provide more context for medical care
• Primary questions:
  o What happens to the information collected?
  o What happens, if anything, for patients with serious social needs?
  o Screening 101: Never screen for something unless you can do something about it!
• Lack of evaluation research
### Screening in Clinical Settings

**Pros**
- Clinicians need to understand social situations/contexts of patients
- Important for predictive models/AI
- Standard set of social and behavioral metrics ties into PCMH and Meaningful Use
- Especially important for children and Medicaid population
- *Accountable Health Communities:* CMS initiative to test novel models that promote collaboration between health care and community organizations/services

**Cons**
- Screening without the capacity to ensure linkage to appropriate interventions/resources is **ineffective** and **unethical**
- Busy, untrained clinicians likely to exacerbate patient concerns about social stigma
- Can create unfulfilled expectations and further mistrust
- Medicalizes social factors; conflates SDOH with social needs
- Will likely divert resources away from upstream interventions
- AHC model will only work if community resources and capacity for addressing SDOH are there
Three Caveats

➢ Medicalization and conflation

➢ Efforts are primarily downstream:
  ○ Referring patients with identified social needs to exhausted community partners and beleaguered safety net programs/agencies

➢ Unproven interventions/overpromise of results
  ○ Lack of evidence base for many interventions being used
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Super-Utilizer Interventions:
Most studies with control groups do not show impact

Interventions to Decrease Use in Prehospital and Emergency Care Settings Among Super-Utilizers in the United States: A Systematic Review

Samantha Iovan, Paula M. Lantz, Katie Allan, and Mahshid Abir

Abstract
Interest in high users of acute care continues to grow as health care organizations look to deliver cost-effective and high-quality care to patients. Since “super-utilizers” of acute care are responsible for disproportionately high health care spending, many programs have been developed to target interventions for these high-cost patients. Most studies with control groups do not show impact.
Progress and Promise

• Medical-Legal Partnerships
• Community Benefit
• Housing Investments
• System Design Change (AAMC projects)
What is Medical-Legal Partnership?

MLP is a healthcare delivery model that integrates legal assistance as a vital component of patient care.

MLP’s 3 key activities *transform* the delivery of health and legal services and *improve* health and well-being for America’s most vulnerable.

Legal Problems are Health Problems

- Income supports & insurance
- Housing & utilities
- Employment & Education
- Legal status
- Personal & family stability
Washington MLP Outcomes

SINCE MLP WAS LAUNCHED IN 2008

- 2,200 individuals received direct legal assistance
- 2,000 medical providers, social workers, and others received legal advocacy training
- 17,000 individuals and families benefited from system-wide advocacy
Community Benefit Example: University of Michigan

- Michigan Medicine made a commitment to target some of its community benefit dollars to upstream SDOH contributing to inequities in 3 priority areas identified by CHNA
- U-M health system Department of Community Health Services:
  - Developed RFP process to solicit community-based proposals in 2018
  - To date, $7.2 million awarded to 26 projects:
    - Supportive housing initiatives
    - School-based counseling for at-risk youth
    - Mobile finance resource services
    - Medical-Legal Partnership (child focus)
Health Care Systems & Insurers: *Housing*

- Funding *Housing First* and other supportive housing interventions for chronically homeless and other high-risk populations

- Working with developers and housing advocacy group to create affordable housing units:
  - Bon Secours Baltimore Health System (700 units)
  - UnitedHealthcare: Invested over $400 million in affordable housing in 80 housing communities (4,500 units)
3-year projects focused on health equity

10 teams of 6, including Public Health and community partners

Used CHNA as organizing principle
Leadership and Infrastructure Matter

- Health care system efforts aimed at SDOH and health equity must be mission aligned, come from executive leadership, and be supported and coordinated throughout system.
- CHNA process should point to community priorities.
- Efforts also need to be coordinated across entire system:
  - Research mission – CTSA
  - Medical education – teaching mission
  - Outreach and communication
  - Development
  - Organizational learning / systems engineering
  - Training and workforce development
SOCIAL DETERMINANTS AND SOCIAL NEEDS: MOVING BEYOND MIDSTREAM

**STRATEGIES**
- Improve Community Conditions
- Addressing Individuals’ Social Needs
- Providing Clinical Care

**COMMUNITY IMPACT**
- Upstream

**TACTICS**
- Laws, policies, and regulations that create community conditions supporting health for all people.
- Include patient screening questions about social factors like housing and food access; use data to inform care and provide referrals
- Social workers, community health workers, and/or community-based organizations providing direct support/assistance to meet patients' social needs
- Medical interventions

**INDIVIDUAL IMPACT**
- Midstream

**downstream**
Real Challenges for Health Care System to Go Upstream

- Not primary mission or responsibility
- Lack of expertise to engage in primary prevention through the upstream/macro-level social determinants of health
- Involves partnerships with communities and sectors beyond health
- Involves public policy analysis and design
- Involves policy advocacy:
  - Politically and legally challenging
Financing Challenges: Who is going to pay?

- Public Finance: Redirections and new investments
- Public-Private partnerships;
  - Social impact bonds/Pay for Success projects
- Medicaid policy changes, including incentives for MCOs
- Bi-Partisan Social Determinants Accelerator Act (July, 2019; Bustos D-IL and Cole R-OK)
The Imperative for Macro- and Mezzo-level Paths to Population Health
Key Upstream Policy Areas that Matter for Health

- Systemic racism and discrimination
- Early childhood investments – preventing ACEs
- Early childhood education and Pre-K
- Affordability & quality of education/Student debt burden
- Income security for families
- Wealth inequality
- Housing affordability and quality
- Employment training / financial technology training
- Food security systems
- Criminal justice system reform
- Environmental justice
- Voting rights and enforcement
- Gun violence prevention
- Health insurance reform/universal coverage
Conclusions

• GOOD NEWS: “Population health management” and other health care system efforts have brought some new attention to and action on SDOH and health equity

• CONCERNS: Has also narrowed and steered population health efforts towards a downstream path that is becoming bigger and better groomed but not heading toward macro-level change

• This path needs some critical re-evaluation and redirection to avoid conflating patient social needs as SDOH, and overpromising results from individual-level interventions.

• Otherwise, as Sharfstein laments, “we may find ourselves awash in population health efforts, without meaningful progress in the health of our population.”
Thank you!
Social Determinants Accelerator Act (2019)

- Bi-partisan authors (Bustos D-IL and Cole R-OK)
- Secretary of HHS would convey an inter-agency council
- Would appropriate $25 million in grants for SDoH planning grants and technical assistance, focused on Medicaid populations
- State, local and tribal governments would create partnerships to address high-need Medicaid patients through improved coordination of medical and social services
- Implement and evaluate evidence-based interventions to show outcomes achieved and return on investment
“But the health care system has the money” = Looking for keys under the lamppost
There is a difference between:

Policies that promote affordable housing in communities *versus*
Supportive housing intervention for chronically homeless

Poverty prevention and income security policies *versus*
Screening patients for trouble paying for Rxs or utility bills

Affordable public transportation systems for work, school, etc. *versus*
Transportation to medical appointments