A NIC *Deeper Dive* Webinar

Knowledge from the North: What Canada can Teach US about the Social Determinants
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Our Hosts:

Daniel Stein
Moderator
President, SOC Institute and Co-P.I.,
National Interoperability Collaborative (NIC)
@DanielLStein

Margo Edmunds, Ph.D.
Responder
Vice President, Evidence Generation & Translation,
AcademyHealth, and Co-P.I., NIC
@RedWoofer
Our Speakers:

PG Forest, PhD  
Director, School of Public Policy and  
James S. and Barbara A. Palmer  
Chair in Public Policy,  
University of Calgary

Dan Dutton, PhD  
Post-Doctoral Scholar,  
School of Public Policy,  
University of Calgary

Norma Padron, PhD  
Sr. Director, Applied Research &  
Data Analytics  
Center for Health Innovation –  
American Hospital Association
Pierre-Gerlier (PG) Forest is a professor of community health sciences and the director of the School of Public Policy at the University of Calgary, where he also holds the James S. and Barbara A. Palmer Chair in Public Policy. Prior to joining the University of Calgary in 2016, he served as director of the Institute for Health and Social Policy with the Bloomberg School of Public Health at Johns Hopkins University.

From 2006 to 2013, Dr. Forest was president and CEO of the Pierre Elliott Trudeau Foundation, where he was engaged in policy research in areas such as urban policy, immigration, social policy, and health reform. Earlier in his career, he held prominent leadership positions with national health organizations and with Health Canada, where as Chief Scientist, he was accountable for the quality and integrity of scientific and regulatory research. He also served as research director for the Royal Commission on the Future of Health Care in Canada. He completed an MA (political science) at Université Laval and a PhD (history and social studies of science) at Université de Montréal.
Dr. Dan Dutton

Daniel J. Dutton is completing a two-year term as a Post-Doctoral Scholar at the University of Calgary’s School of Public Policy. In January, he is taking a new position as Assistant Professor at Dalhousie University’s Department of Community Health and Epidemiology.

His current research falls into three general categories: social and health economics, applied policy, and computational epidemiology. Most of his work is quantitative, utilizing large data sets and modeling strategies from economics and epidemiology.

He has taught or currently teaches econometrics, statistics, epidemiology, and population health classes and served on the City of Calgary’s Calgary Equity Index working group. Dan completed his Ph.D. at the University of Calgary in 2014. His other degrees are in economics from Calgary (MA) and Queens (BAH). Prior to his Ph.D. Dan worked for a short time in the Ontario Ministry of Finance.
Norma A. Padrón, PhD, MA, MPH, is a health economist and health services researcher. She is Senior Director of Applied Research and Data Analytics at the Health Research and Educational Trust (HRET) of the American Hospital Association (AHA). Most recently, she was the founder and Associate Director at the Main Line Health Center for Population Health Research at the Lankenau Institute for Medical Research, and Assistant Professor at Thomas Jefferson University College of Population Health.

With her team, Dr. Padrón's work focuses on advancing quality, performance and implementation science using methodological strategies that leverage large clinical and public data assets. Hers and her team's work aims to improve the design, implementation and evaluation of quality, performance and innovation interventions for health systems across the country.

She earned her PhD in Health Economics from Yale University, a Master's in Economics from Duke University and a Master's in Public Health from Universitat Pompeu Fabra in Barcelona, Spain.
KNOWLEDGE FROM THE NORTH
WHAT CANADA CAN TEACH US ABOUT
THE SOCIAL DETERMINANTS

Daniel J. DUTTON, PhD
Pierre-Gerlier FOREST, PhD, FCAHS
School of Public Policy
University of Calgary

Calgary, AB 12-x-2018
TWO DISTINCT QUESTIONS

... AND A MISUNDERSTANDING

- USA: how can we mitigate the health impacts of social and economic inequalities?
- Rest of the World: how can we improve health outcomes by changing the distribution of social, economic, and political resources?
“It is fair to say that in the US researchers were slower to take up the challenge of social determinants of health, apart from the specific (and important) issue of racial inequalities. This may be because unequal access to health care in the distinctively market-dominated US health care environment tends to monopolize the policy terrain.”

A COSTLY SYSTEM

OECD Spending on Health Care by Country as a percentage of GDP (2016 figures)

Data extracted on 10 Oct 2018 02:49 UTC (GMT) from OECD.Stat
DETERMINANTS OF HEALTH
A NEW OLD IDEA

- an idea from the 1960s, yet with deep roots in social and preventive medicine
- first policy applications in the 1970s-1980s (Lalonde 1974; WHO Ottawa Charter 1986) – plurality of determinants including social
- constantly revisited and redefined to reflect social and economic priorities and scientific advances
- approaches to social determinants of health currently going through major revision (biological pathways; epigenetics; data integration)
SDOH
FIVE CRUCIAL SECTORS

TO FIX HEALTH CARE
HELP THE POOR

Figure 1  Total health-service and social-services expenditures for Organization for Economic Co-operation and Development (OECD) countries, 2005. *Expenditures for Portugal are from 2004, owing to missing data for 2005. Source: OECD Health Data 2009 (accessed June 2009); OECD Social Expenditure Dataset (accessed December 2009); authors’ calculations. GDP, gross domestic product.

Bradley et al., Health and social services expenditures: associations with health outcomes, BMJ Quality and Safety. 2011
SPENDING “VALUE”

- move from costs / outflow to what we get from the spending

- wider angle: value in health spending influenced by social safety net
RETURNS

- “wrong pockets” problem

- measured as a ratio:

SOCIAL
HEALTH
INTERNATIONAL COMPARISONS

- high ratio correlated with: better infant mortality, life expectancy, potential years of life lost ….

- most Western countries trend in good direction (“improvement” means: can do better!)

- US ratio among lowest compared to OECD
IN THE U.S.
THE RATIO MATTERS

RESULTS OF THE MODEL

- Life expectancy and preventable mortality improve with ratio increase
  - Ontario: 1 cent more social spending per health dollar =
    - Additional 3% drop in preventable mortality
    - Additional 5% increase in life expectancy
  - Cost: Less than 1% drop in health spending, ~3% increase social
  - That's one year .... we don't know yet what big changes do.
DIFFERENT PLACES
ROBUST PATTERNS

- U.S. studies include education
- OECD comparisons include private social spending
- Canadian study includes prevention and promotion as health spending
- All find the same thing in the presence of noisy spending!
STRATEGY

WHAT DO YOU NEED FOR REPLICATION?

- borders that matter (e.g., counties)
- information on key variables:
  - Spending
  - Demographics
  - Economic performance
  - Other budget information
  - Outcomes
- statistical models that account for changes over time
  - “Fixed effect” regression models, sometimes called “two-way fixed effects”
  - “Mixed-effects” models
  - “Multi-level” models
THE SOCIAL GRADIENT

“I am arguing that the problem of health inequalities within countries is the social gradient – from top to bottom, the lower our social position the worse our health. Focusing on the problem of the health gradient implies improving society. My answer is that improving society, improving everyone’s health up to that of the best off, does not preclude extra effort on improving health for the poor.”

THANK YOU!

@danduttonyyyc
@pgfor
SDoH from Evidence to Practice – Key Demands and Opportunities

Norma A. Padrón, PhD
Sr. Director, Applied Research & Data Analytics
Center for Health Innovation – American Hospital Association
About Me

Sr. Director, Applied Research & Data Analytics – Center for Health Innovation, American Hospital Association

Previously:
Associate Director – MLHS Center for Population Health Research
Assistant Professor – Thomas Jefferson College of Population Health
Chair – Industry Advisory Board of the National Science Foundation Center for Health Organization Transformation
Assistant Professor of Health Economics – Icahn School of Medicine at Mount Sinai
Research Scientist – Center for Health Innovation, The New York Academy of Medicine
Two Key Demands to Incorporate SDoH in HC

1. Bringing applications from the academic evidence to practice (faster, better, stronger)

2. Identifying and sustaining value-based care (#PopulationHealth)
Bringing applications from the academic evidence to practice (faster, better, stronger)
Perspective

Applied Research and Development in Health Care — Time for a Frameshift

Tracy A. Lieu, M.D., M.P.H., and Richard Platt, M.D.

From the Division of Research, Kaiser Permanente Northern California, Oakland (T.A.L.); and the Department of Population Medicine, Harvard Pilgrim Health Care Institute and Harvard Medical School, Boston (R.P.).
HSR R&D

- Total spending in health care is now at 3.3 trillion (~18% GDP)

- Investment in Medical and Health R&D
  $171.8 Billion (2016)

- Health Services research accounted for .3% of national health expenditures
  - a 20-fold difference in comparison with total medical research
Funding Landscape for Health Services Research

**HSR R&D**

- Innovations in how health care is delivered (e.g., health insurance structures, interventions to encourage the use of appropriate care, and care coordination approaches) are rarely evaluated using rigorous methodologies.

- Between 2009-2013 only 18 percent of studies on the U.S. health care delivery were randomized studies.

- Concepts like *patient-centric care, value-based care, care coordination* and *interoperability of IT systems* though commonly used across systems, remain understudied.

Identifying and sustaining value-based care (#PopulationHealth)
The origin of the population health approach is an historic debate over the relationship between economic growth and human health.

In Britain and France, the Industrial Revolution disrupted population health and stimulated pioneering epidemiological studies, informing the early preventive public health movement. A century-long process of political adjustment between the forces of liberal democracy and property interests ensued.

The 20th-century welfare states resulted as complex political mechanisms for converting economic growth into enhanced population health. However, the rise of a “neoliberal” agenda, denigrating the role of government, has once again brought to the fore the importance of prevention and a population health approach to map and publicize the health impacts of this new phase of “global” economic growth.

The Population Health Approach in Historical Perspective

Simon Szreter, PhD
Population Health Imperatives

- Individuals to Populations
- Fragmented Care to Team-Based
- Health Care (Volume) to Health and Care (Value)

Equity
Care Coordination
Patient-Centered
Population Health Imperatives are Inherently Data-Driven

- **From individuals to populations**
  - Distribution of outcomes
  - Data-driven understanding
  - **Data volume**

- **From individual clinician to team-based**
  - Diversity in field expertise
    - Multiple processes, metrics
    - Need for bridging and translating
  - **Variety of data sources**

- **From healthcare (volume) to health and care (value)**
  - Patient-Centric
  - Data driven decision-making
  - **Data velocity**
The MLHS Center for Population Health Research – Context

- **Background:**
  - A strong system-wide agenda to address disparities
  - The MLHS 2013 and 2015 CHNAs for each hospital
  - 2015 Social Needs Survey
  - Diversity, Respect and Inclusion Agenda

- **Stark disparities in community health outcomes**
  - The suburban mortality rate attributed to diabetes is 12 deaths per 100,000, whereas the mortality rate attributed to diabetes for West Philadelphia is 22 per 100,000
Population Health Dashboard

Legend. Colors may represent quintiles, bins or categories.

Regions where MLH operates.

Main Line Health Hospitals and centers.

RWJF Health scores for each county.

When you select a Social determinant of health, this information changes.

Planning Districts from Philadelphia Community Health Assessment.

https://cphratlimr.shinyapps.io/CPHR_PopulationHealthDashboard/
Increasing Complexity of Health Services Delivery

- Service lines
- Payment and Delivery Models
- Coordination and Management

Primary Care
- MSSP
- Commercial

CV
- HQEP
- Devices
- Bundles

Cancer
- Bundles
- Partnership

Post Acute Strategies
Applied R&D in Population Health
Getting Started

Identify programs, data and research partners across system

4 Acute Care Hospitals
  • Bryn Mawr Hospital
  • Lankenau Medical Center
  • Paoli Hospital
  • Riddle Hospital

1 Rehabilitation Hospital
  • Bryn Mawr Rehab Hospital

Employed Physician Network
  • Main Line HealthCare

Home Care and Hospice
  • Home Care Network

Other Entities
  • 5* Ambulatory Health Centers
    Lankenau Institute for Medical Research
  • Main Line Affiliates
  • Mirmont Treatment Center
  • Main Line Health Wellness
Applied R&D in Population Health
Getting Started

Identify programs, data and research partners across system

Develop research agenda responsive to system values, needs, resources and environment

- Medical Student Health Advocates (MSA)
- Colocation of psychological, nutrition and physical exercise
- Health Education and Health Literacy
Applied R&D in Population Health
Getting Started

- Identify programs, data and research partners across system
- Develop research agenda responsive to system values, needs, resources and environment
- Recruit new staff and leverage internal capacity to drive research agenda and products

**Internal Staff:**
IT, Quality & Analytics, Marketing, Fellowships (GME)

**New Staff:**
Data Science, Public Health, Social Science

**Local Academic Partnerships**
Jefferson, Drexel, St. Josephs, West Chester Univ., PCOM
Health Systems Seek to Integrate Evidence-Based Practices to Health Care Delivery

- A robust body of rigorous evidence of now several decades has established the connection between social and economic factors and health.

What are the applications of this evidence to the delivery of high quality, value-based health care?
So, how would incorporating the SDoH Look Like?

- Community programs
- Depression care pathways
- Breast cancer nurse navigator services
- HPV vaccine uptake
- Women’s heart health
- Workforce development in health care
- Comprehensive user engagement settings
- Community farm
- Cancer patients and quality of life
- Diabetes medication adherence
- Emergency department visits for overdose

https://www.mainlinehealth.org/research/lankenau-institute-for-medical-research/researchers/primary-research-programs/population-health-research/news

Opportunities
Opportunities

◎ The pace of technology change and the complex financial and regulatory landscape of the health care industry increasingly require that hospitals and systems leverage evidence-based strategies to advance health care delivery in efficient ways.

◎ There is a gap between the body of academic research and the applications of this knowledge—How to’s applicable to hospitals across different stages in their journey to transformation.
By 2021, 99% of hospital executives think it at least somewhat likely that patients in their hospitals will demand a greater role in the planning of their treatment.


Health care leaders’ perspective

66% say their organizations are fully committed and underway with the transition to value-based care or have experimental or pilot programs.

65% of CEOs view shared-risk models as an opportunity.

“Annual Industry Outlook: The Road to Value-Based Care,” HealthLeaders Media, January/February 2017

System and Health Plan Engagement in SDoH
Patient engagement continues to rise

70% of patients say they have become **more engaged** with their healthcare during the past two years, up from 57% in 2016. The top two drivers are greater access to personal health records and online patient portals.

71% of providers say patient engagement is a **top priority** at their organizations, up from 60% in 2016. The top drivers are technology advancements and meaningful use requirements, both important to improving overall care.

95% of patients experience benefits from engagement with their **personal health care information online**. Benefits include becoming more knowledgeable about personal medical information and saving time.

Providers say **online patient portals** have improved overall patient care, improved records tracking and increased office efficiency.

“2017 Patient Engagement Perspectives Study,” CDW, February 2017
NIC’s Deeper Dive Webinar Series

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Q & A -
Add Your Questions in the Uber Chat Bar

Dr. Margo Edmunds, Responder
Vice President, Evidence Generation & Translation, AcademyHealth, and CO-P.I., NIC
Step-by-Step
The NIC Collaboration Hub

https://hub.nic-us.org/

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