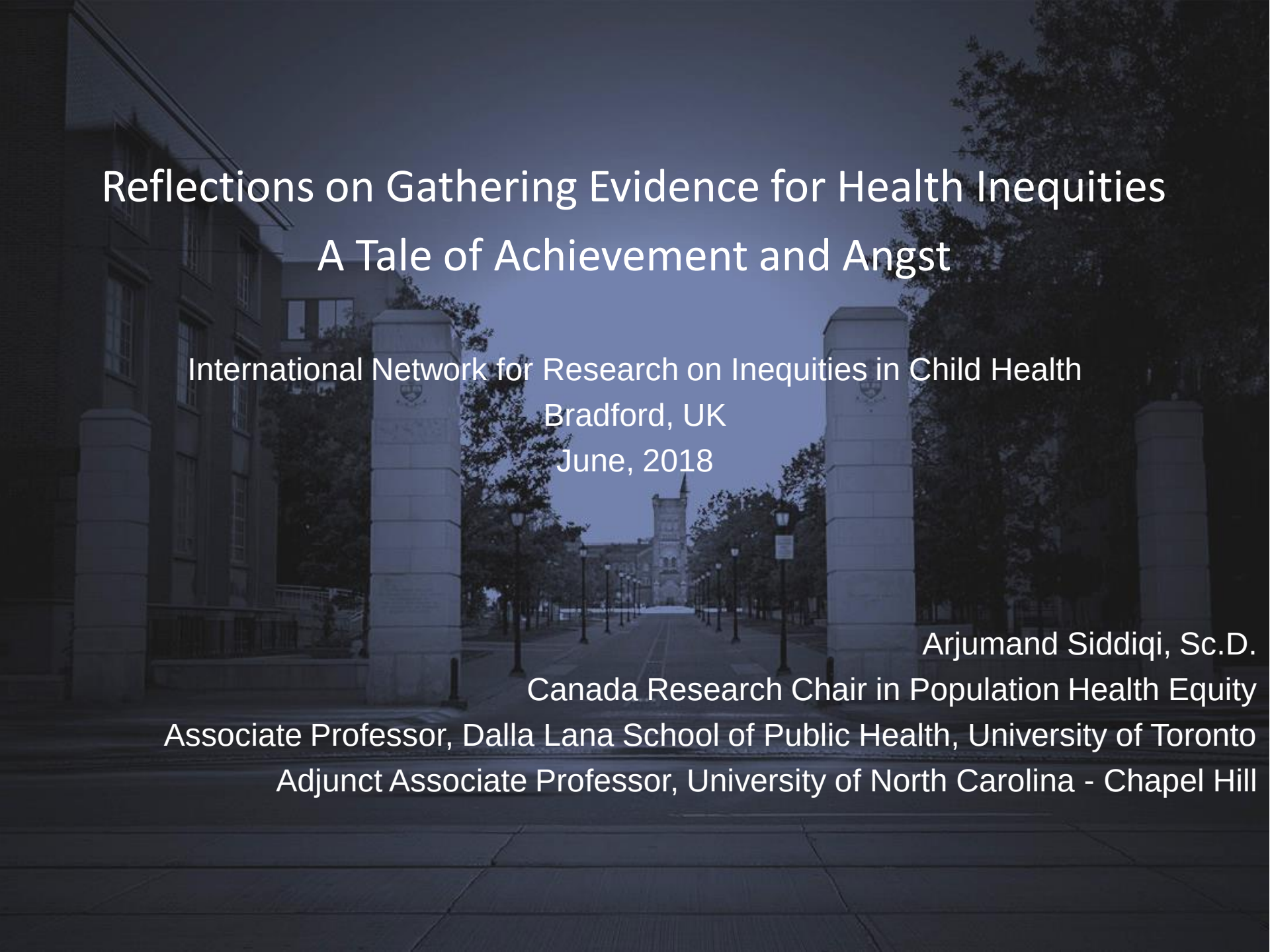
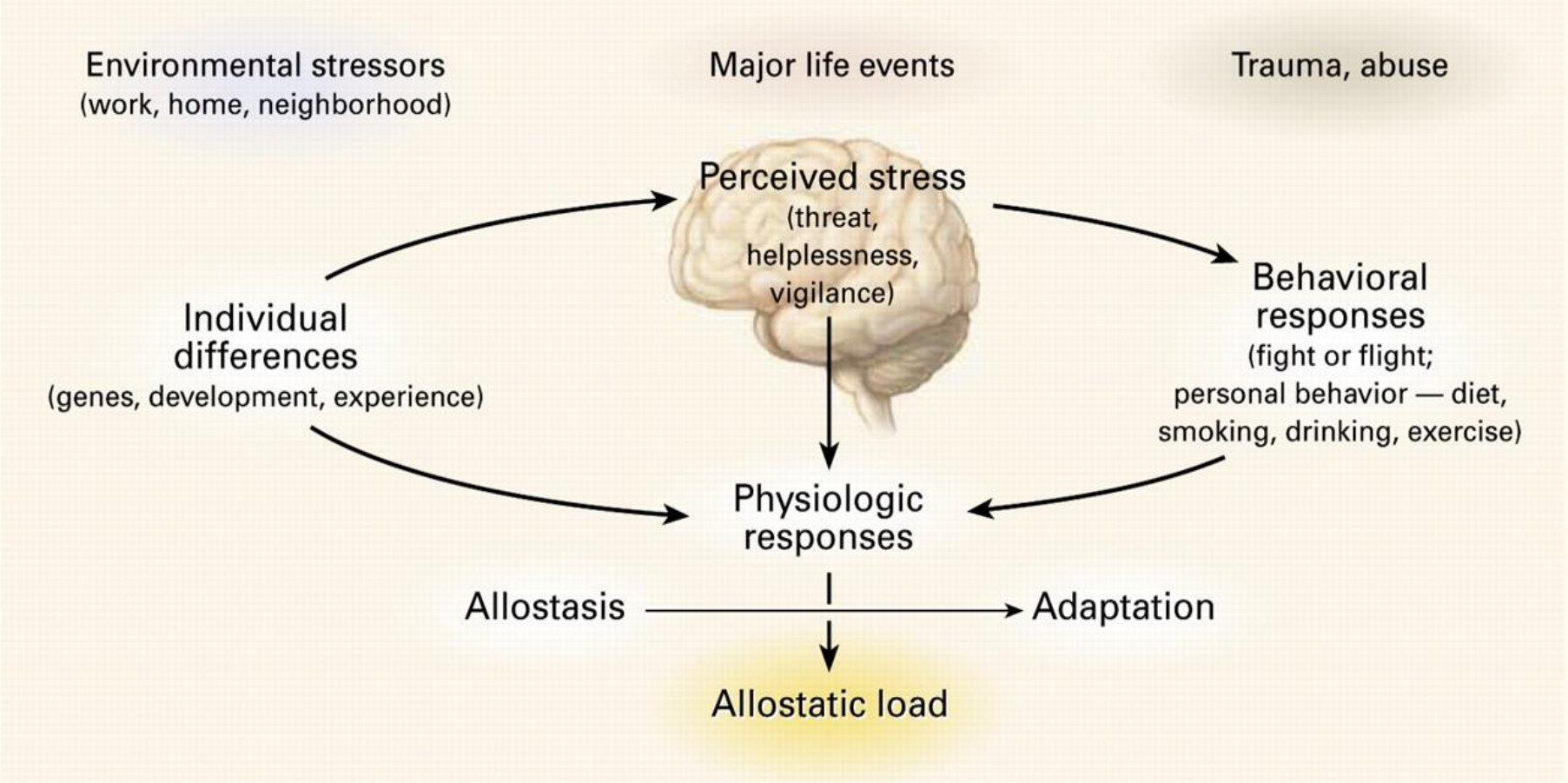


Reflections on Gathering Evidence for Health Inequities
A Tale of Achievement and Angst

International Network for Research on Inequities in Child Health
Bradford, UK
June, 2018

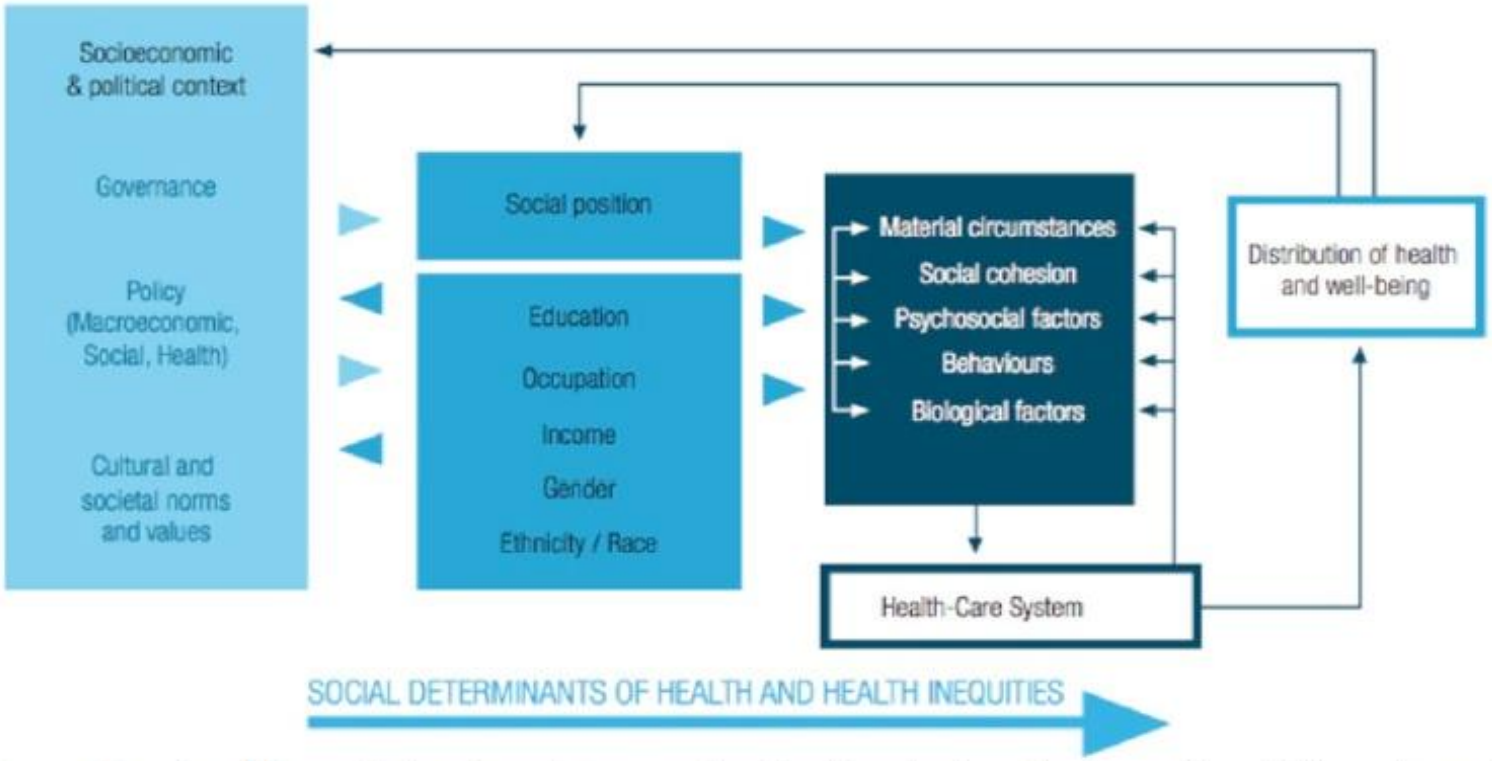
Arjumand Siddiqi, Sc.D.
Canada Research Chair in Population Health Equity
Associate Professor, Dalla Lana School of Public Health, University of Toronto
Adjunct Associate Professor, University of North Carolina - Chapel Hill

Proposition 1: Biological and behavioral mechanisms that produce health or ill health are fundamentally driven by socioeconomics.



Mcewen et. al., 2007

Proposition 2: Inequalities in socioeconomics produce inequalities in health, and are themselves a result of policies and other features of society.



Source: Reprinted from *Closing the gap in a generation: Health equity through action on the social determinants of health, final report of the Commission on Social Determinants of Health* (Geneva, Switzerland: WHO, 2008), p. 43, amended from O. Solar and A. Irwin, "A conceptual framework for action on the social determinants of health," discussion paper for the Commission on Social Determinants of Health (Geneva, Switzerland: WHO, 2007). Used with permission.

Many papers that examine health impact of social policies are highly descriptive.

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Social Science & Medicine 64 (2007) 589–603

SOCIAL SCIENCE & MEDICINE

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Towards an epidemiological understanding of the effects of long-term institutional changes on population health: A case study of Canada versus the USA

Arjumand Siddiqi*, Clyde Hertzman

We observed that Canada has a long-held health advantage over the United States.

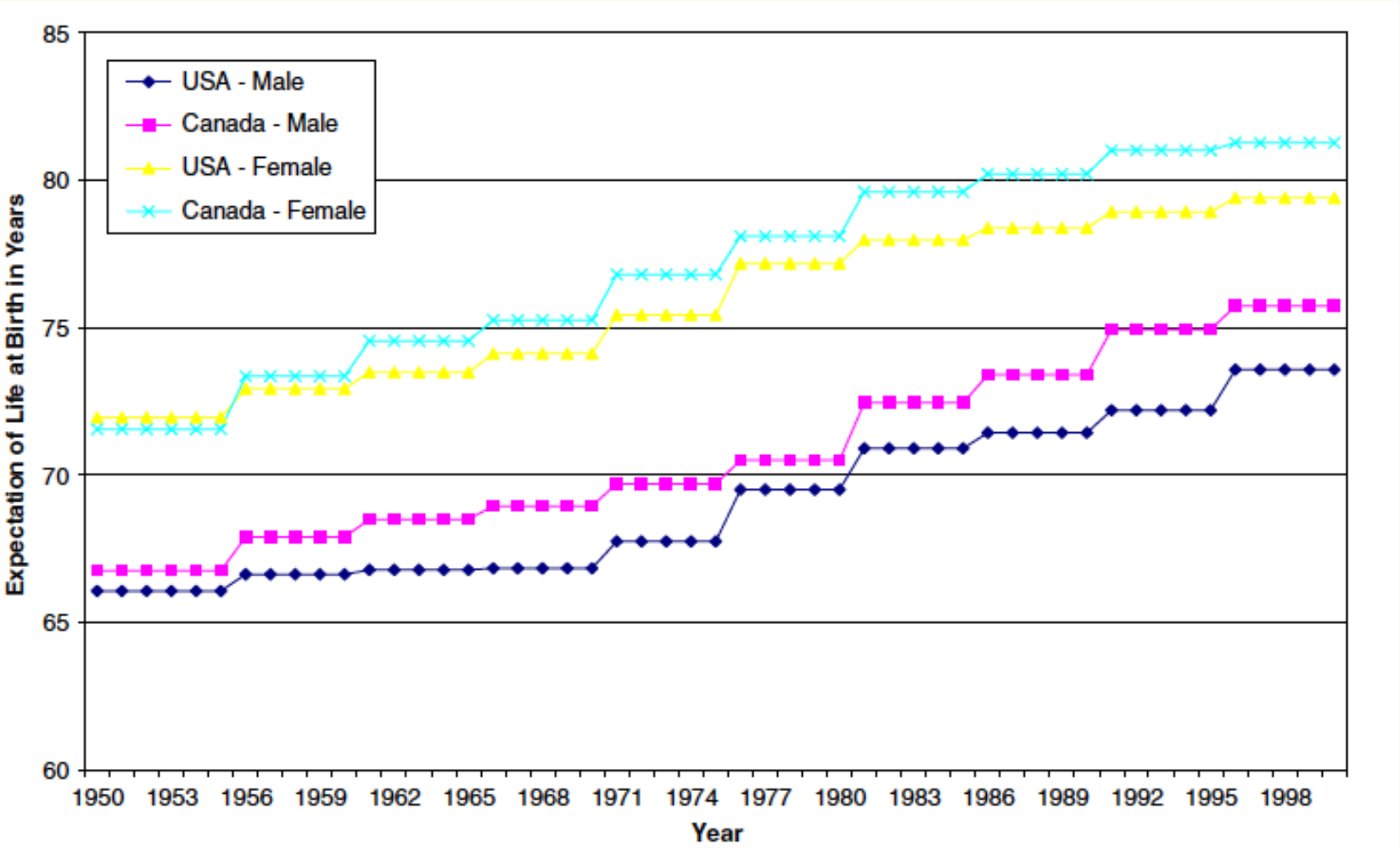
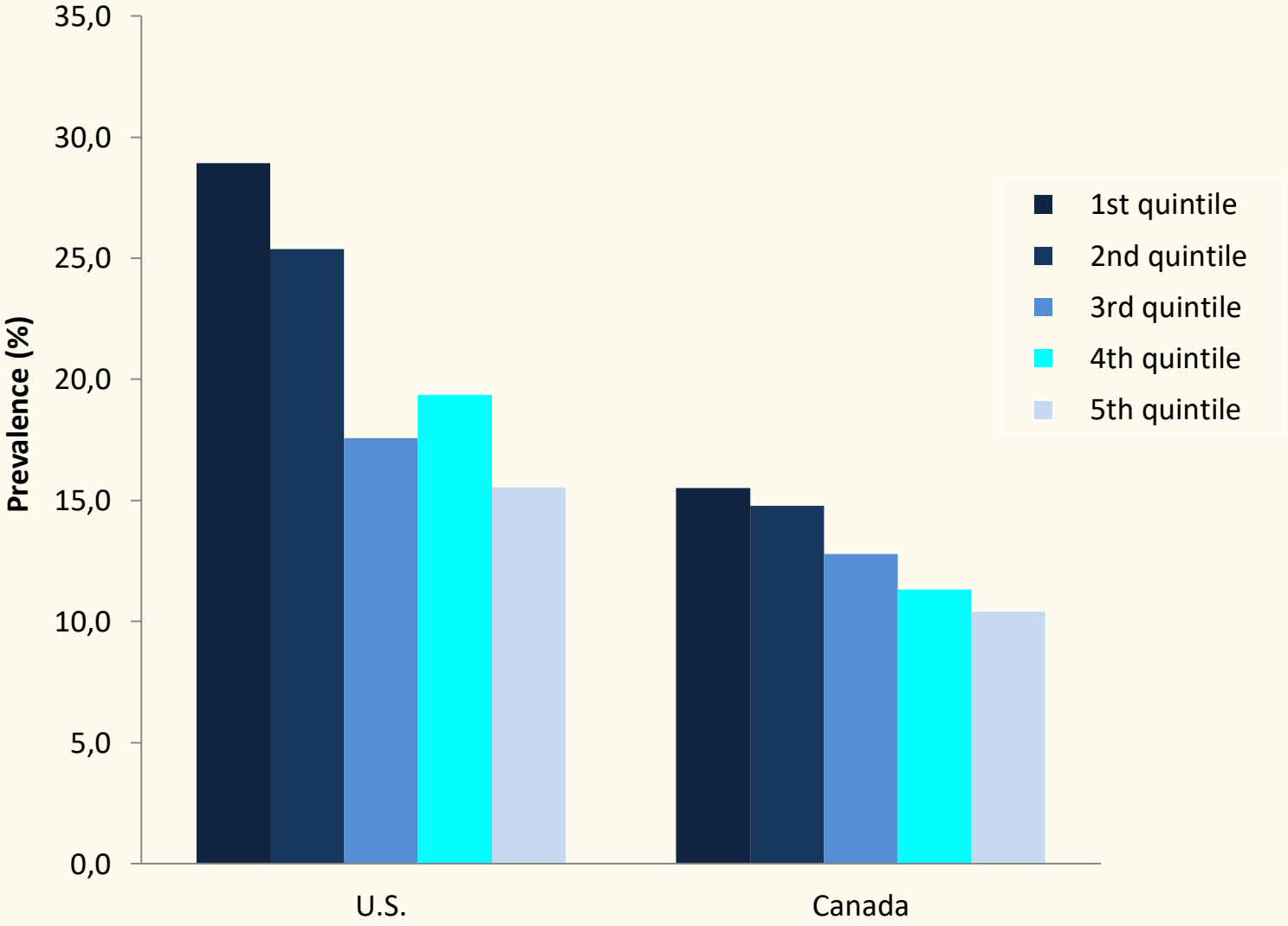


Fig. 1. Male and female life expectancy in Canada versus the USA.

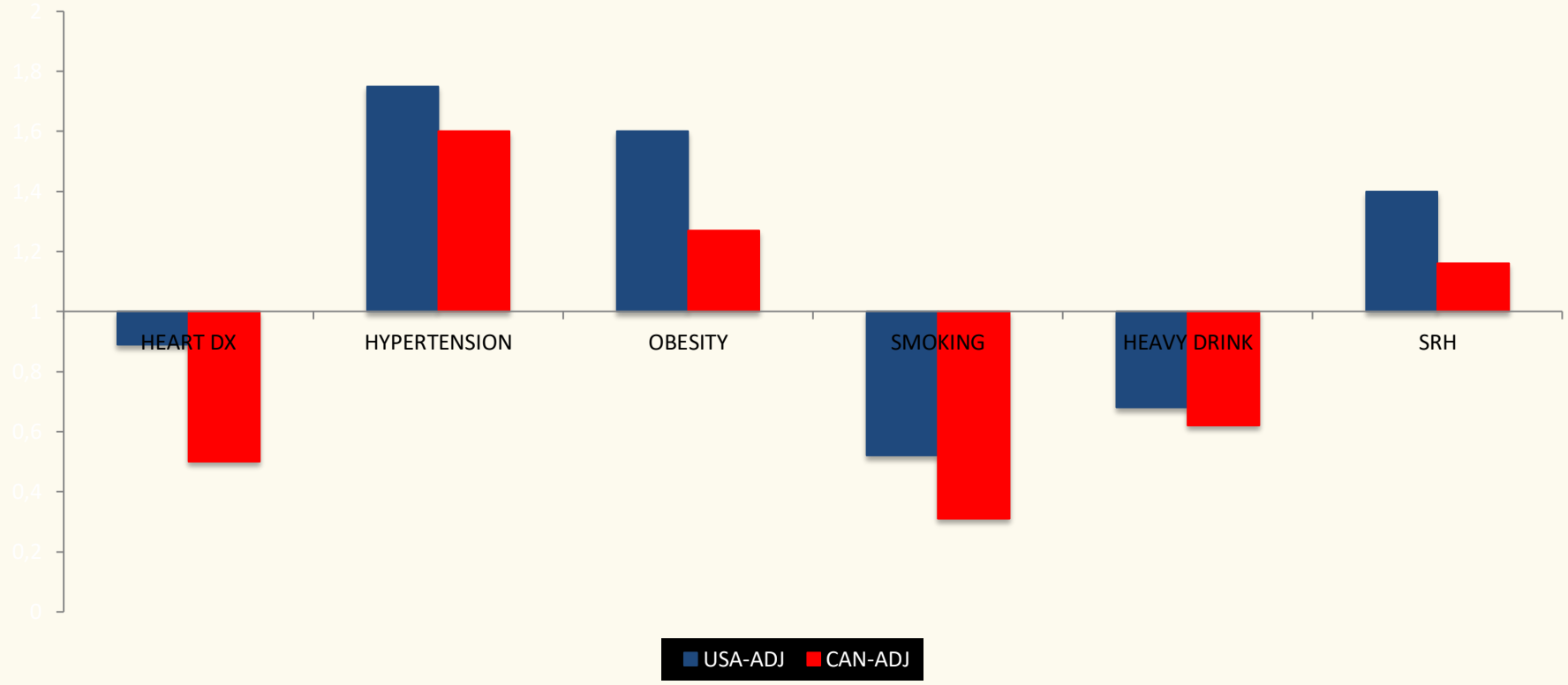
Siddiqi and Hertzman, 2007

We observed that Canada also has smaller health inequalities than the U.S.: the case of income inequalities in obesity.



Siddiqi and Hertzman, 2007

We observed that Canada also has smaller health inequalities than the U.S.: the case of racial inequalities in health.



ADJ = adjusted for age, sex, immigrant status, health insurance (U.S. only), education, employment, family income, smoker, drinker

Ramraj et. al., 2015

We suggested that this patterning does not seem to map onto traditional economic indicators.

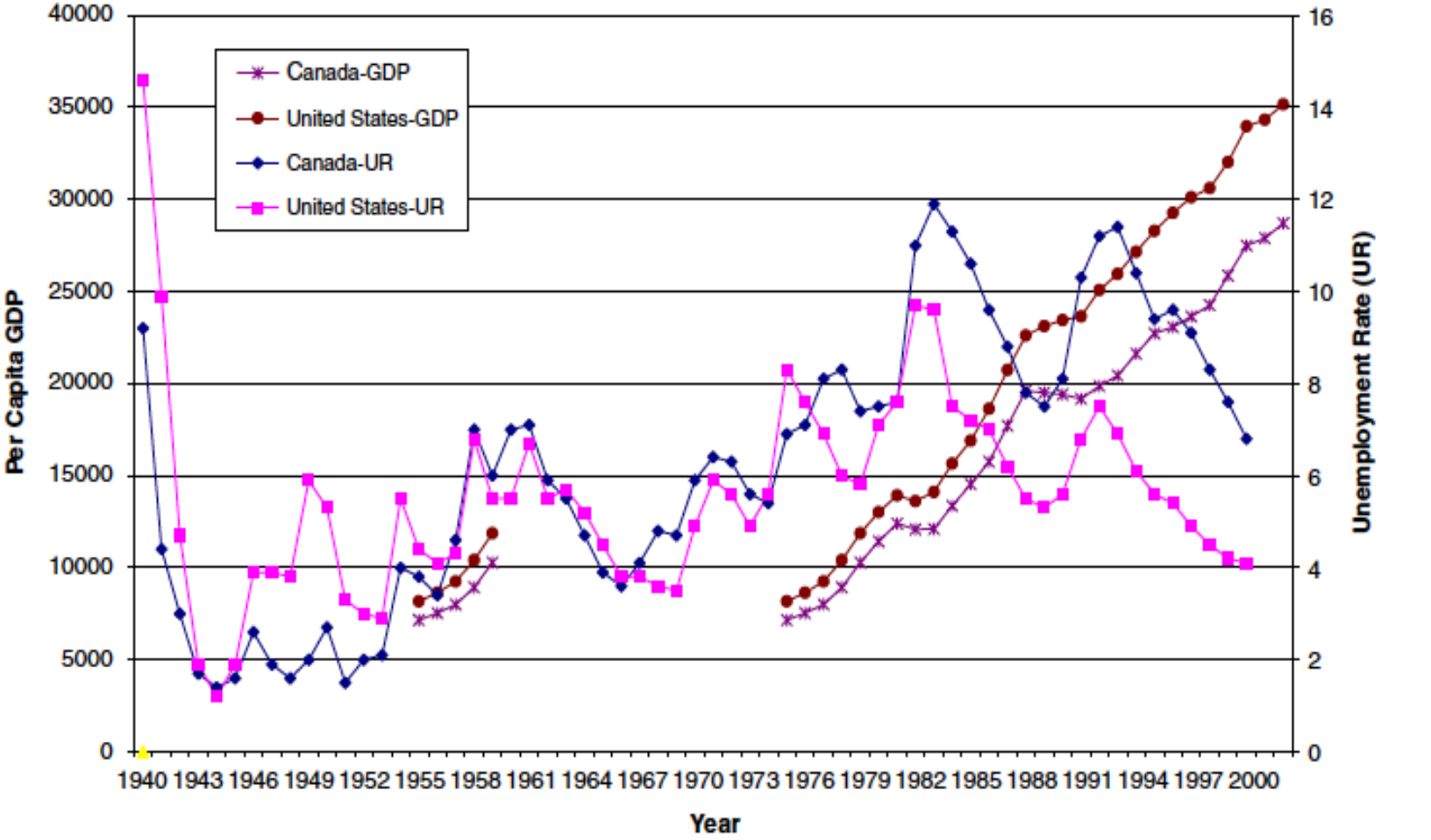


Fig. 2. Per capita gross domestic product and unemployment rates, 1940–2002.

Siddiqi and Hertzman, 2007

We suggested that this patterning better maps onto patterning of income inequality and social spending.

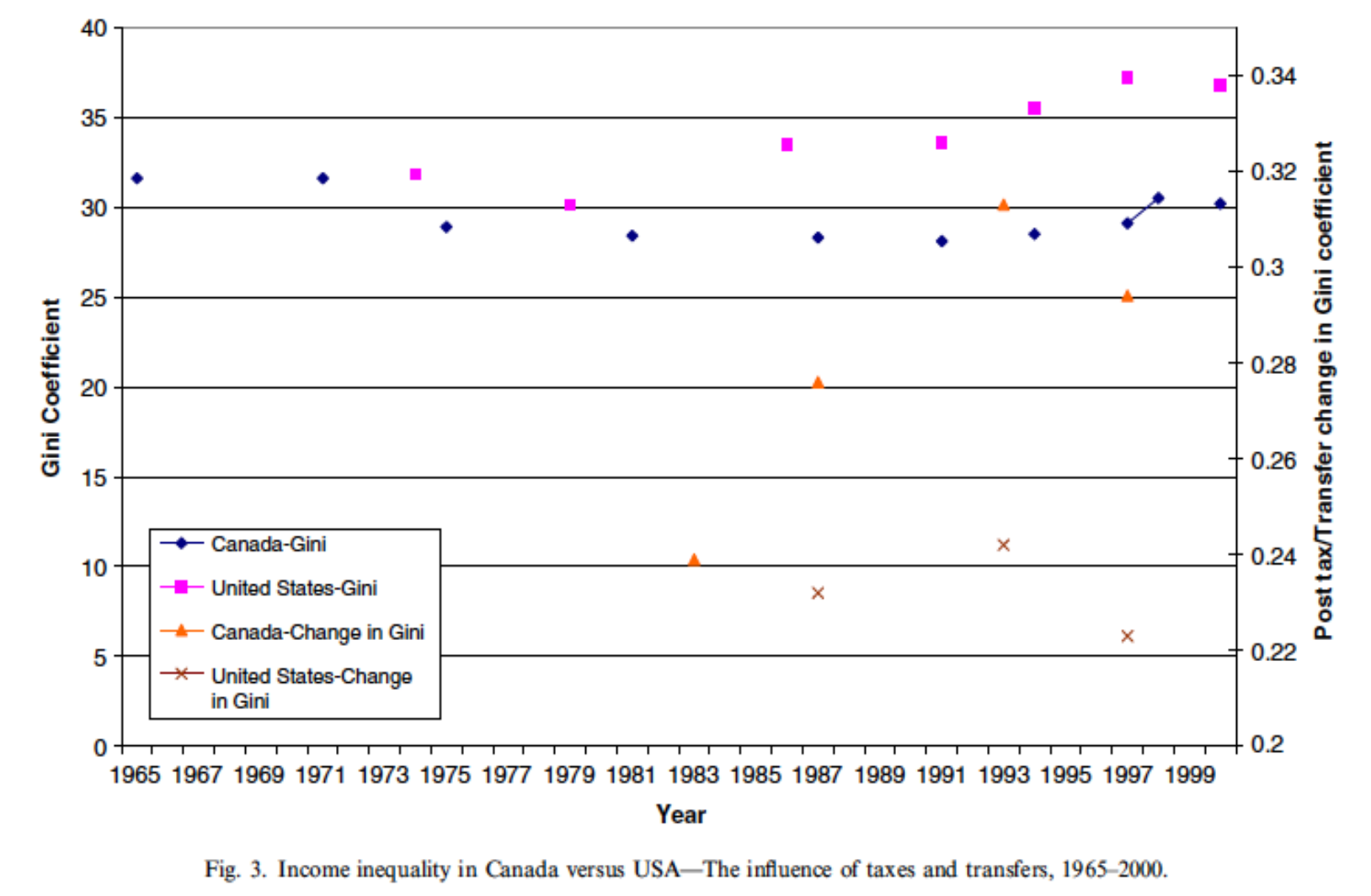


Fig. 3. Income inequality in Canada versus USA—The influence of taxes and transfers, 1965–2000.

Siddiqi and Hertzman, 2007

We concluded that our study generated a hypothesis.

The Canada-USA comparison is one of public provision and redistribution trumping traditional economic well-being and direct health spending from the perspective of population health.

Siddiqi and Hertzman, 2007

We recently produced a review of the latest (and greatest?) observational methods for evaluating the health impact of social policies.

Evaluating the Health Impact of Large-Scale Public Policy Changes: Classical and Novel Approaches

Annual Review of Public Health

Vol. 38:351-370 (Volume publication date March 2017)
https://doi.org/10.1146/annurev-publhealth-031816-044208

Sanjay Basu,[1,2,3] Ankita Meghani,[2] and Arjumand Siddiqi[4,5]

[1]Centers for Health Policy, Primary Care and Outcomes Research; Center on Poverty and Inequality; and Institute for Economic Policy Research, Stanford University, Stanford, California 94305; email: basus@stanford.edu
[2]Department of Medicine, Stanford University, Stanford, California 94305; email: ameghani@stanford.edu
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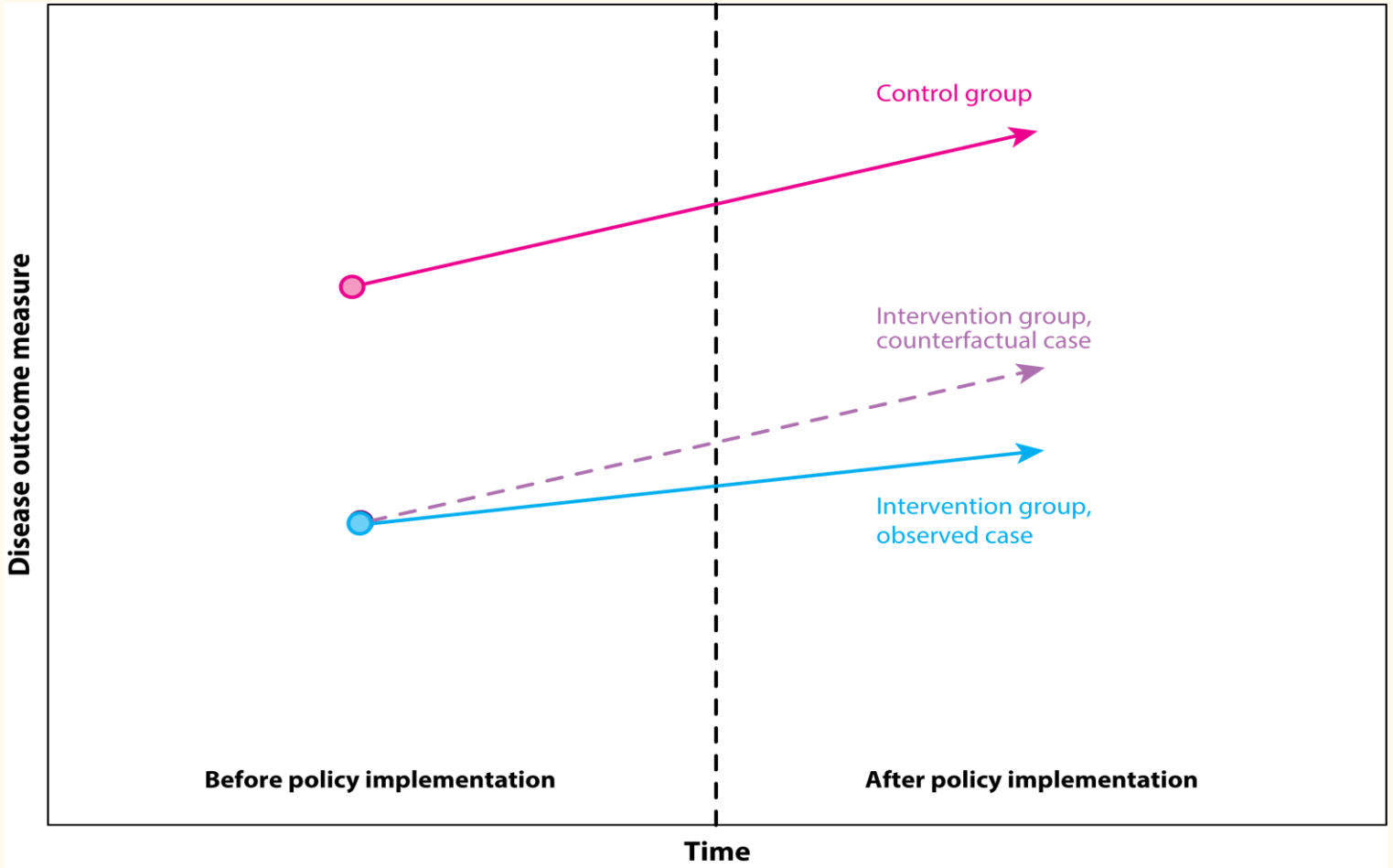
[4]Department of Epidemiology and Department of Social and Behavioral Health Sciences, Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario M5T 3M7, Canada; email: aa.siddiqi@utoronto.ca
[5]Department of Health Behavior, Gillings School of Global Public Health, University of North Carolina, Chapel Hill, North Carolina 27599

We applied these techniques to evaluate the health impact of 'Welfare Reform' in the United States.

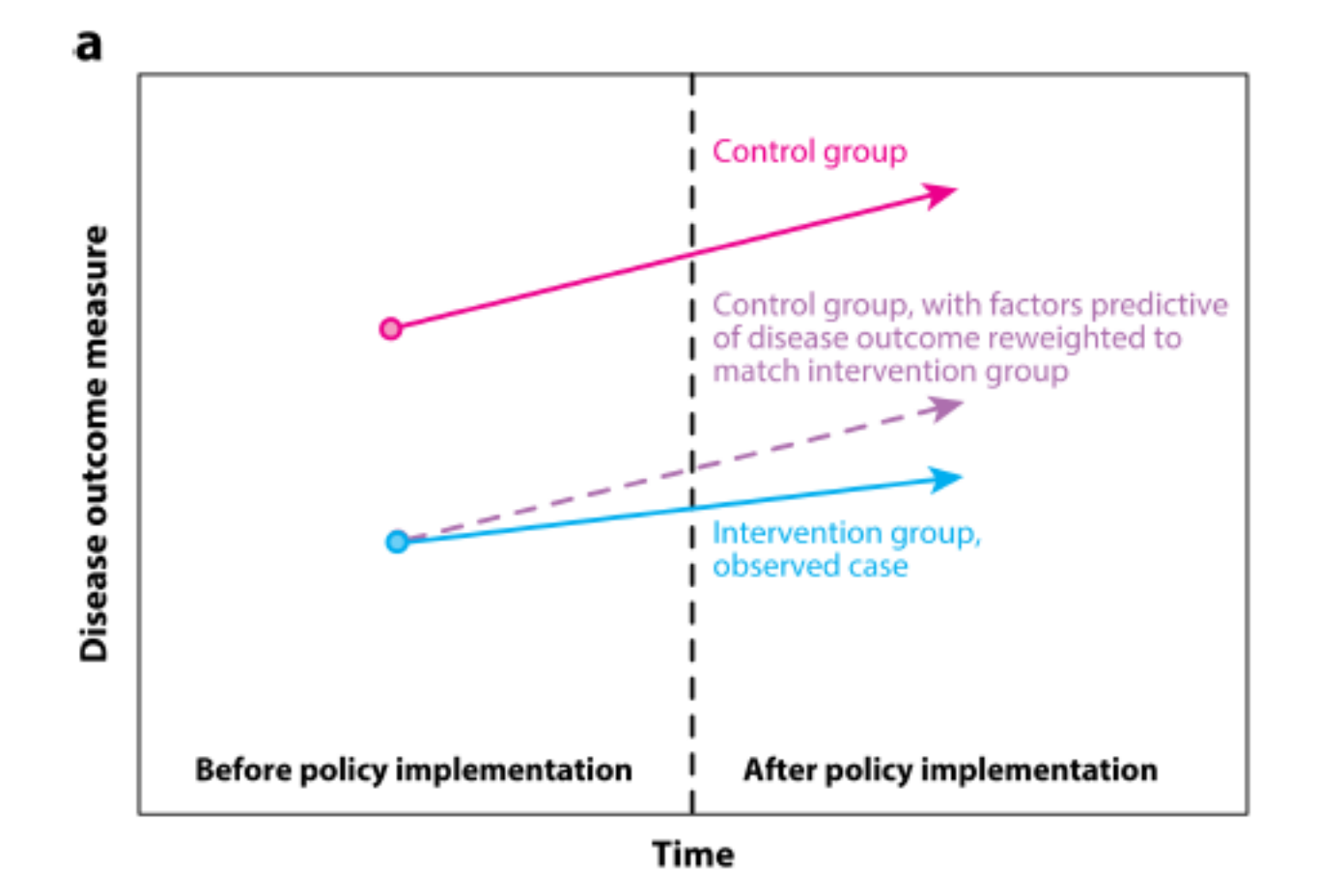
Basu et. al., 2016

We used one of the strongest known policy evaluation methods: Difference-in-Differences.



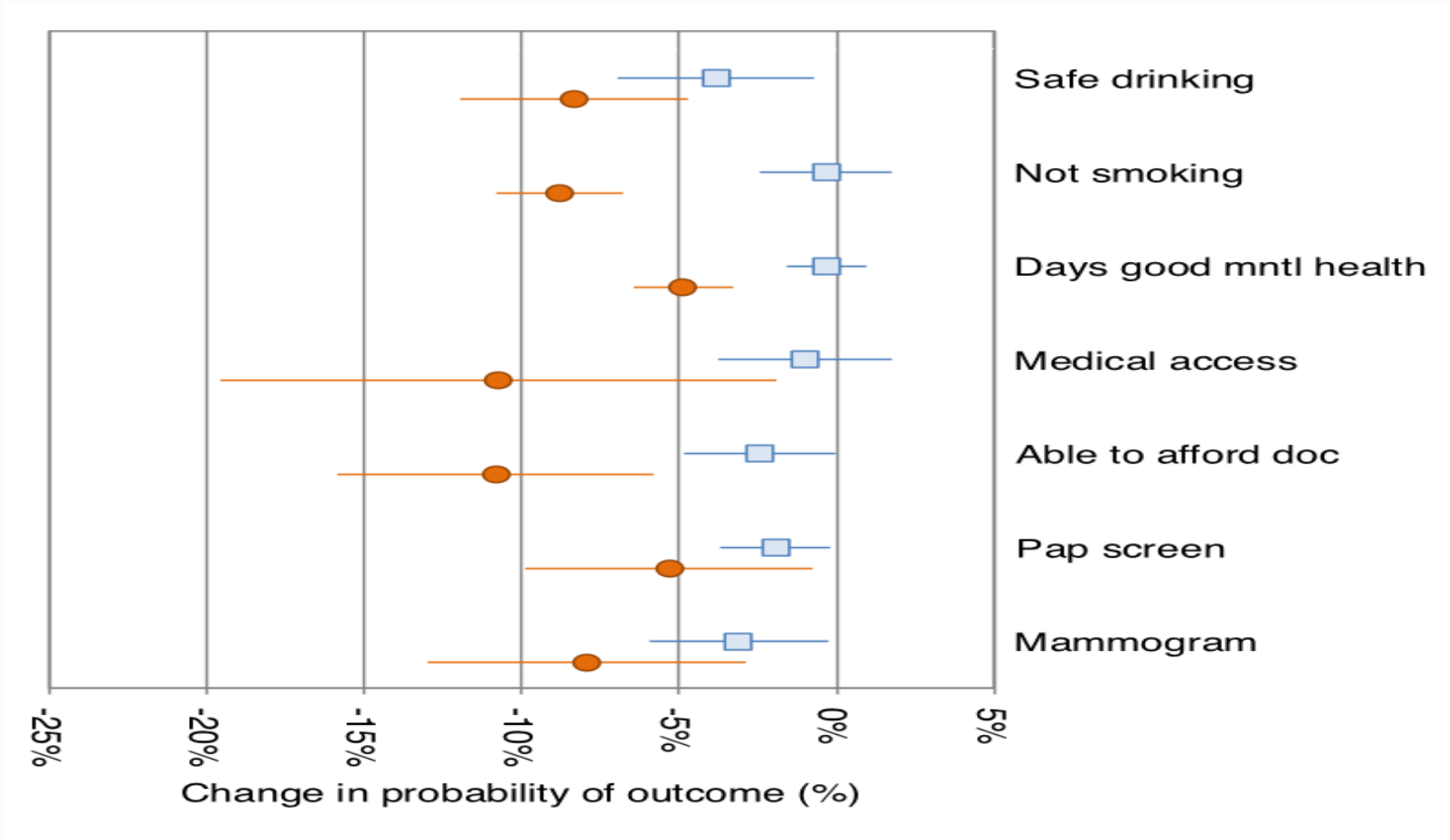
Basu S. 2017.
Annu. Rev. Public Health. 38:351–70

We also used a purportedly even stronger method: Synthetic Control.



Basu et. al., 2017

We evaluated the change in outcomes for low-income single mothers compared to other possible control groups



Basu et. al., 2016; American Journal of Epidemiology

We wrote a ministerial report on the health impact of social assistance policies.

Do Government Social Assistance Programs Protect the Health of Society's Most Income-Insecure?

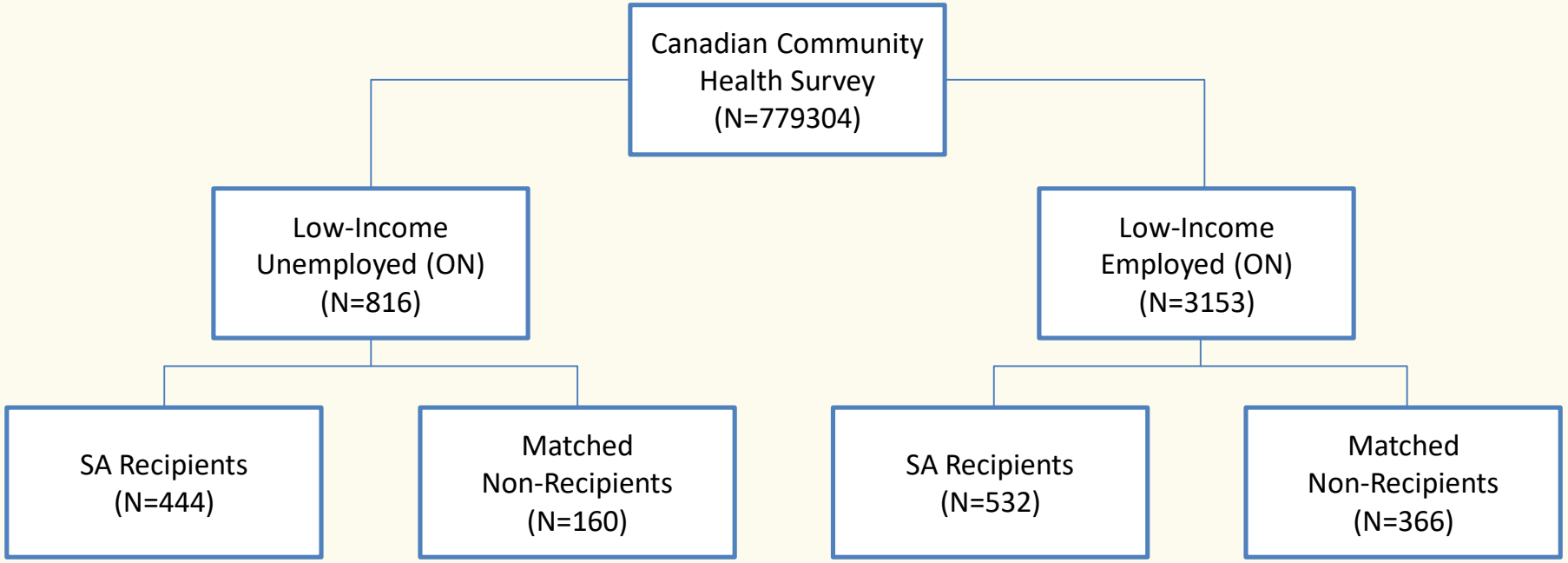
An Examination of Ontario and Comparable Jurisdictions in Canada, the United States, and the United Kingdom

November 2017

A report submitted to the
Ontario Ministry of Community and Social Services

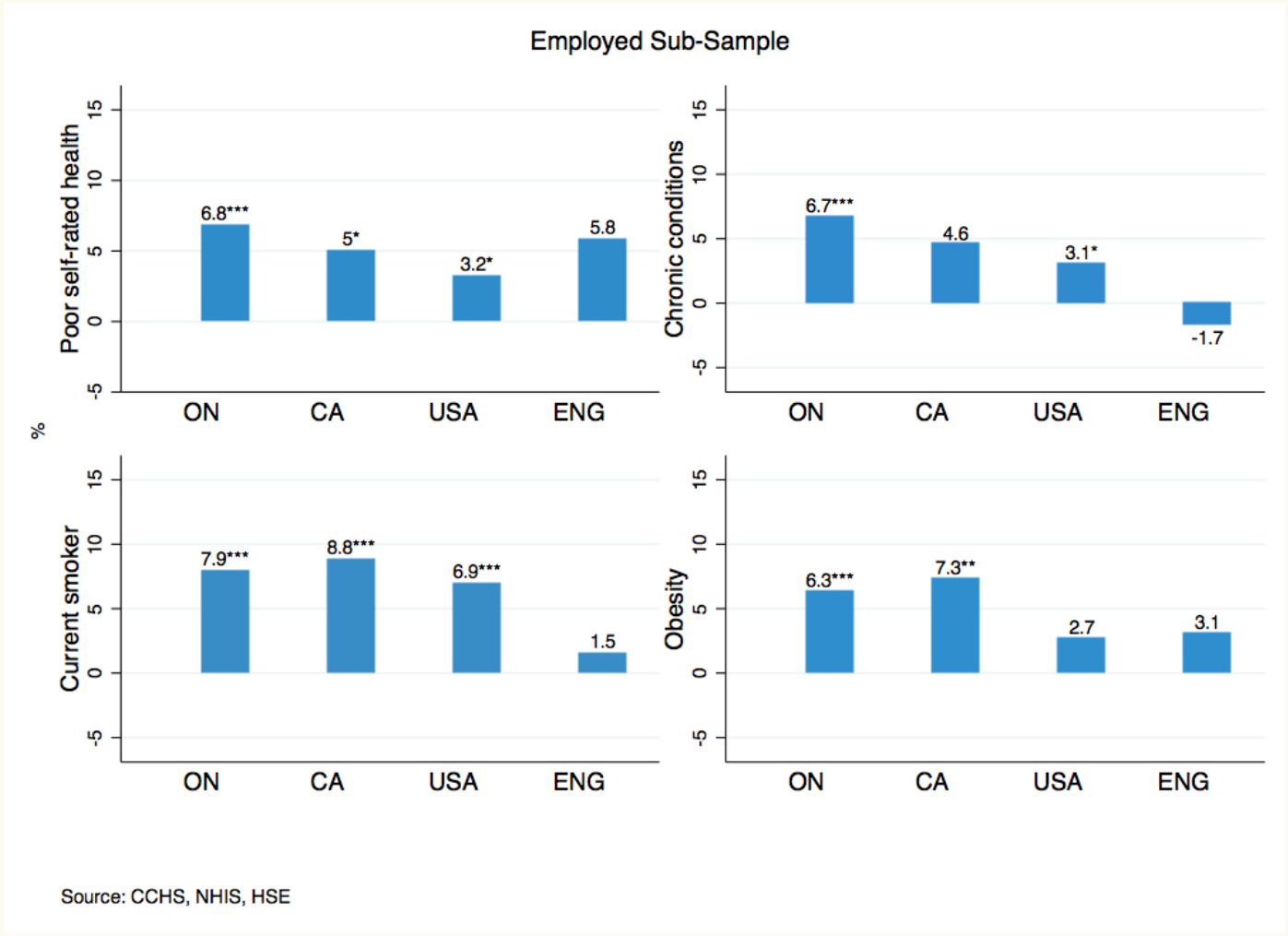
Siddiqi et. al., 2017

We used propensity-score-matching to evaluate the health status of social assistance recipients compared to matched non-recipients in Ontario, Canada-wide, the United States and, England.



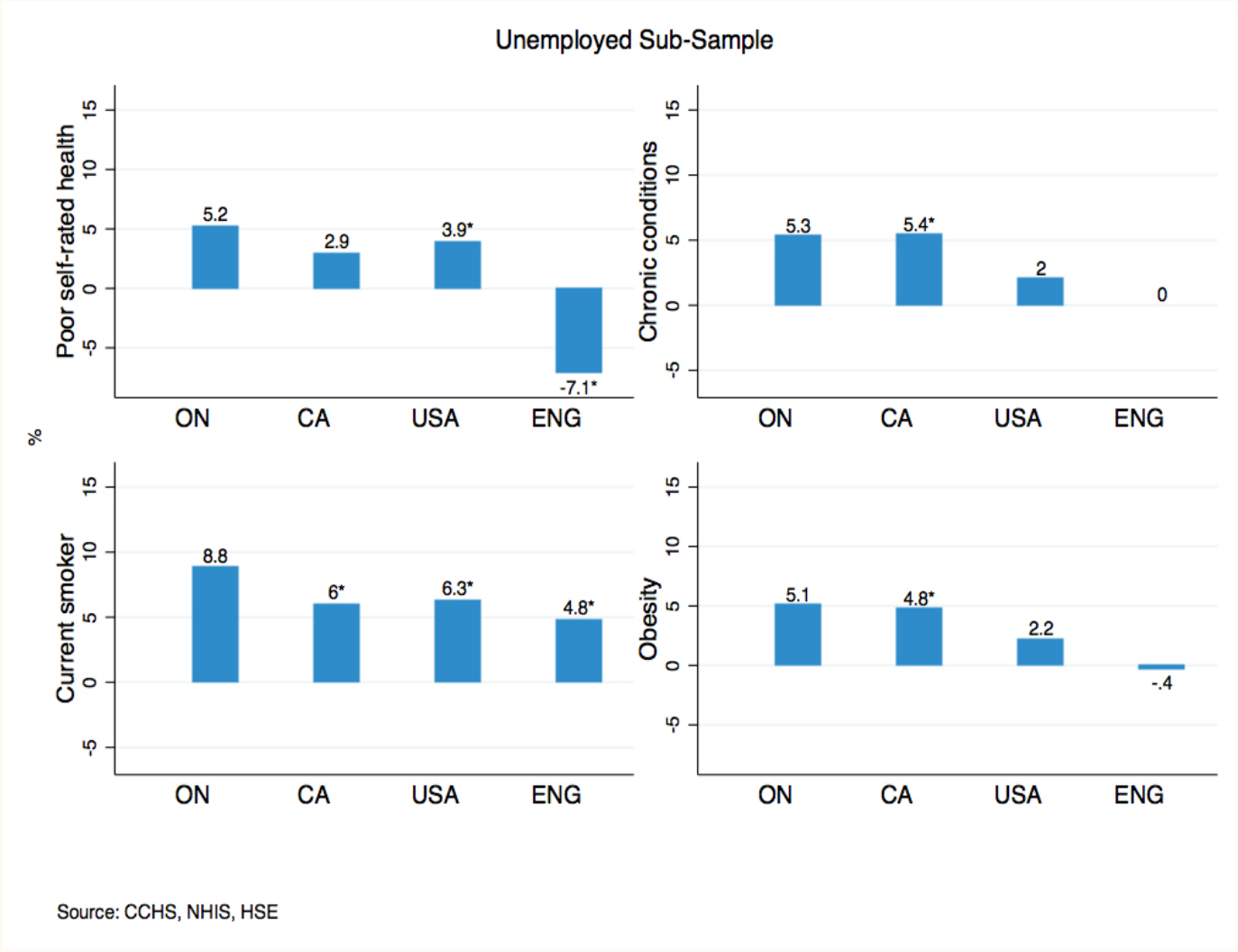
Siddiqi et. al., 2017

Employed recipients of social assistance had worse (or no different) health outcomes than their non-recipient counterparts.



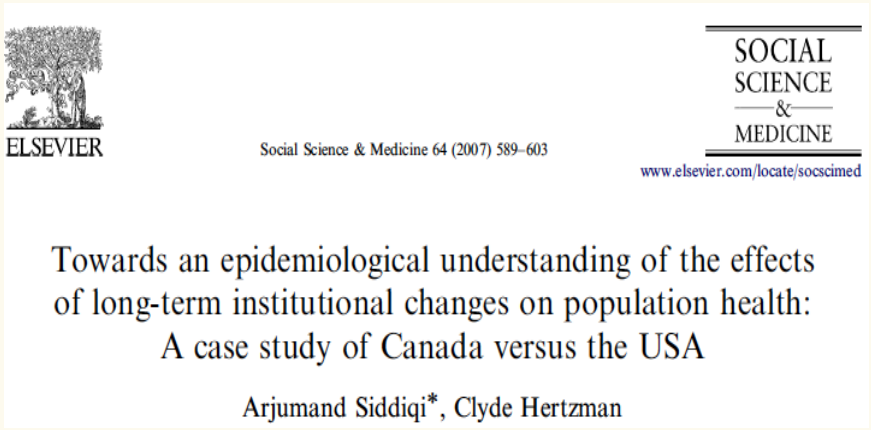
Siddiqi et. al., 2017

Unemployed recipients of social assistance had worse (or no different) health outcomes than their non-recipient counterparts.



Siddiqi et. al., 2017

Are we better able to explain the how and why we have health inequalities?



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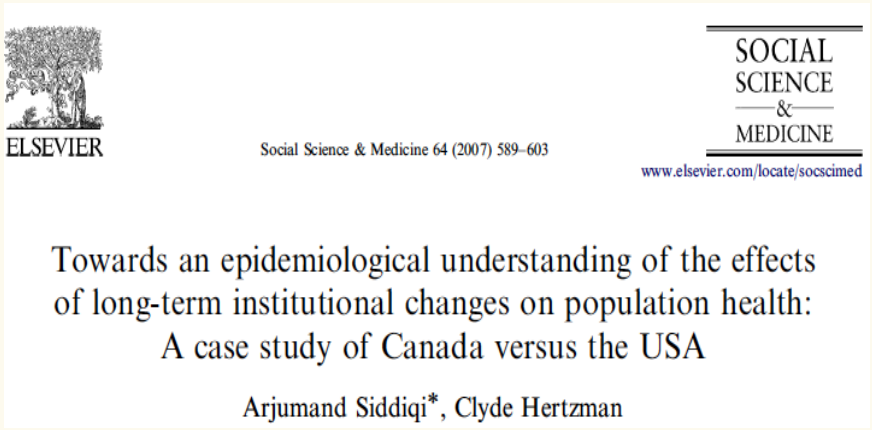

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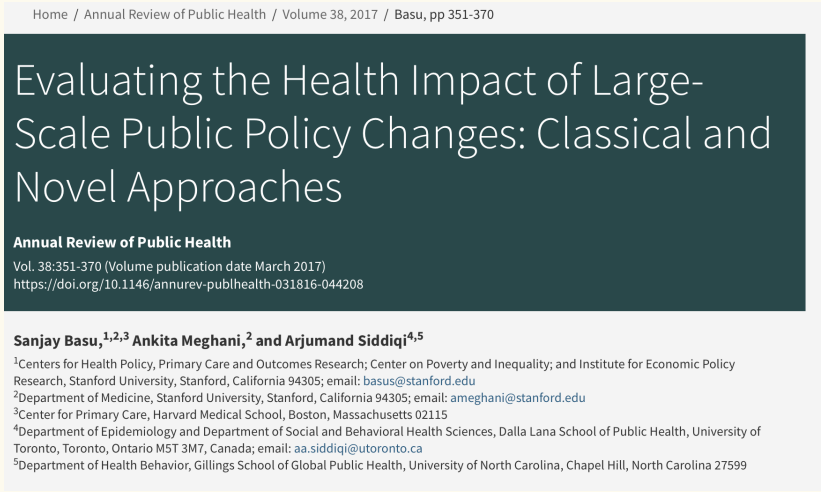

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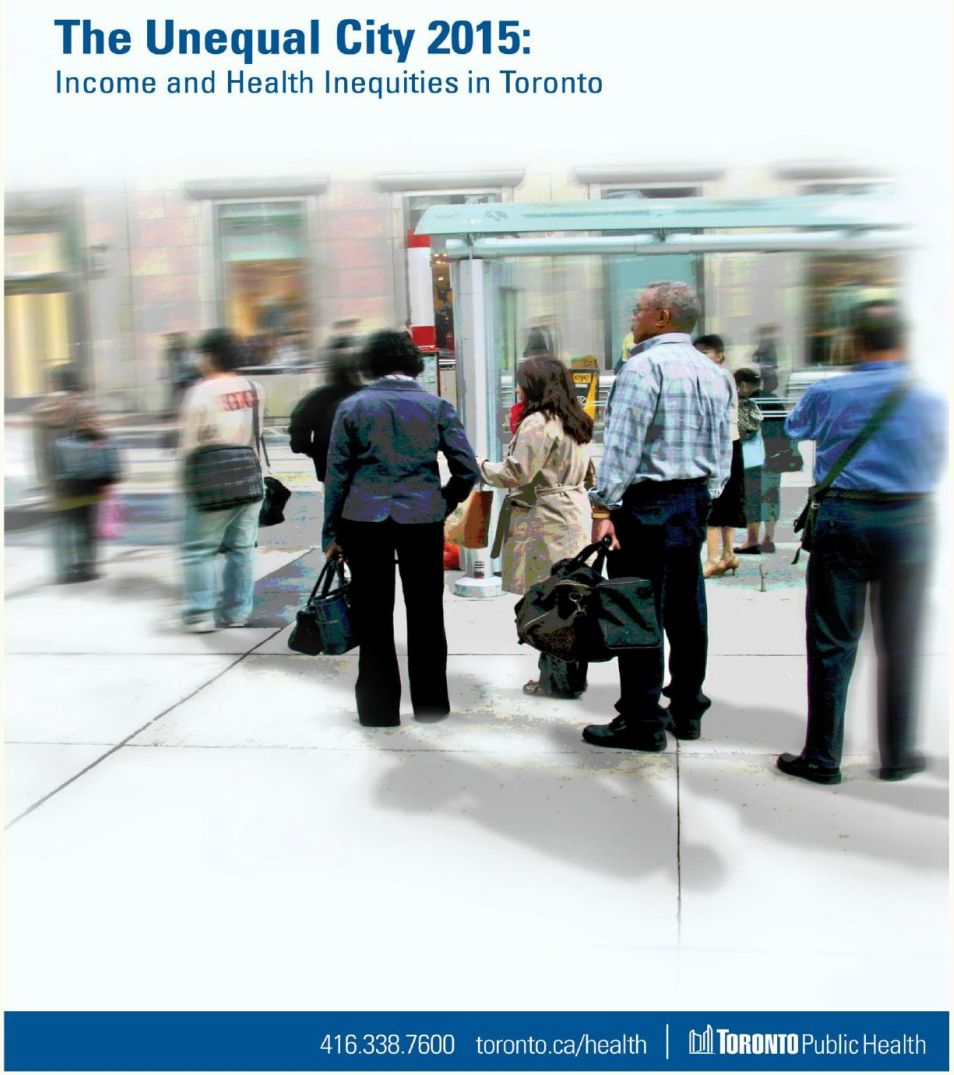
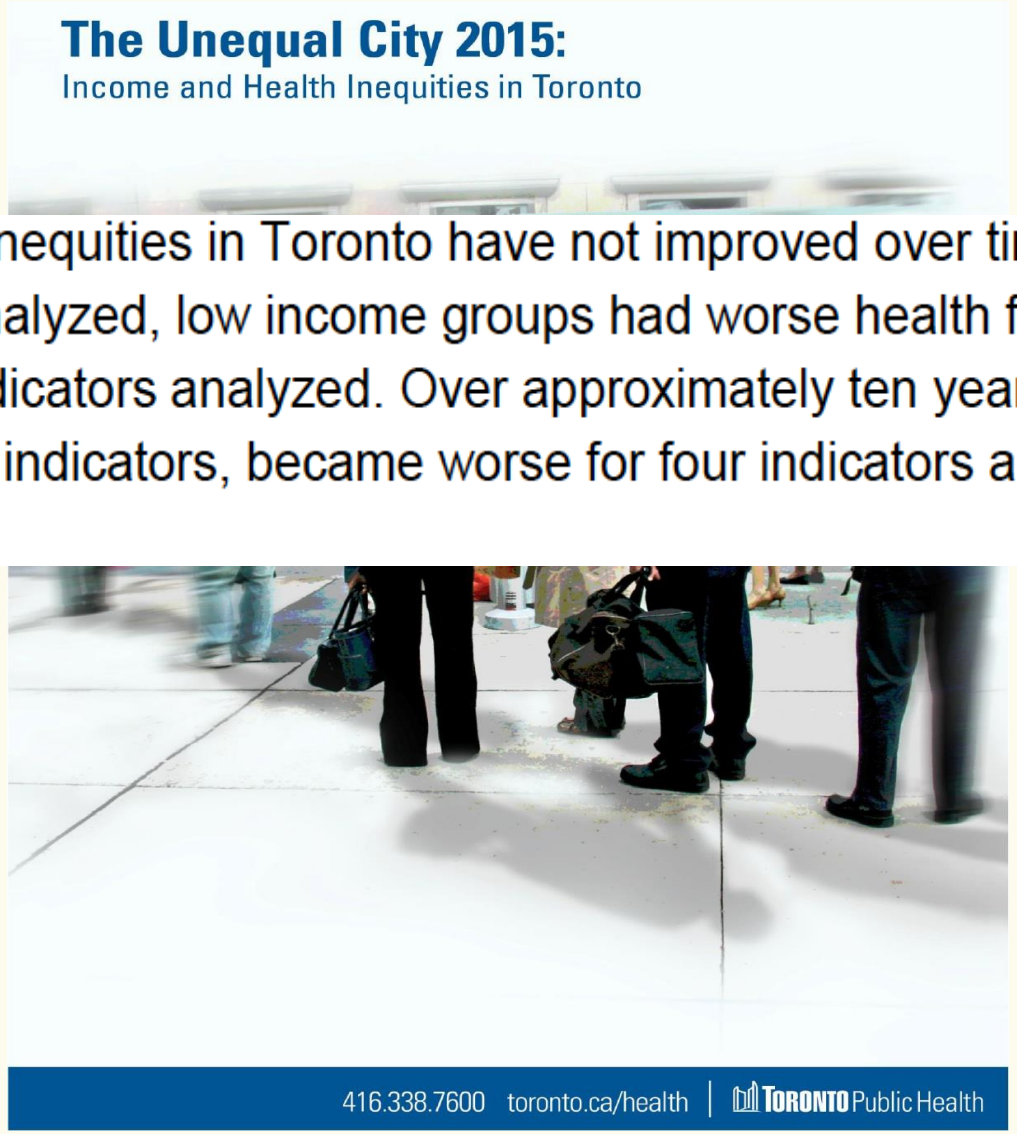
BUT….

One of the major recent insights (and problems) is that we not only have health inequalities, but they are either remaining stagnant or growing.



Toronto Public Health, 2015

Health inequalities are stagnating or growing in Toronto, and Canada-wide.

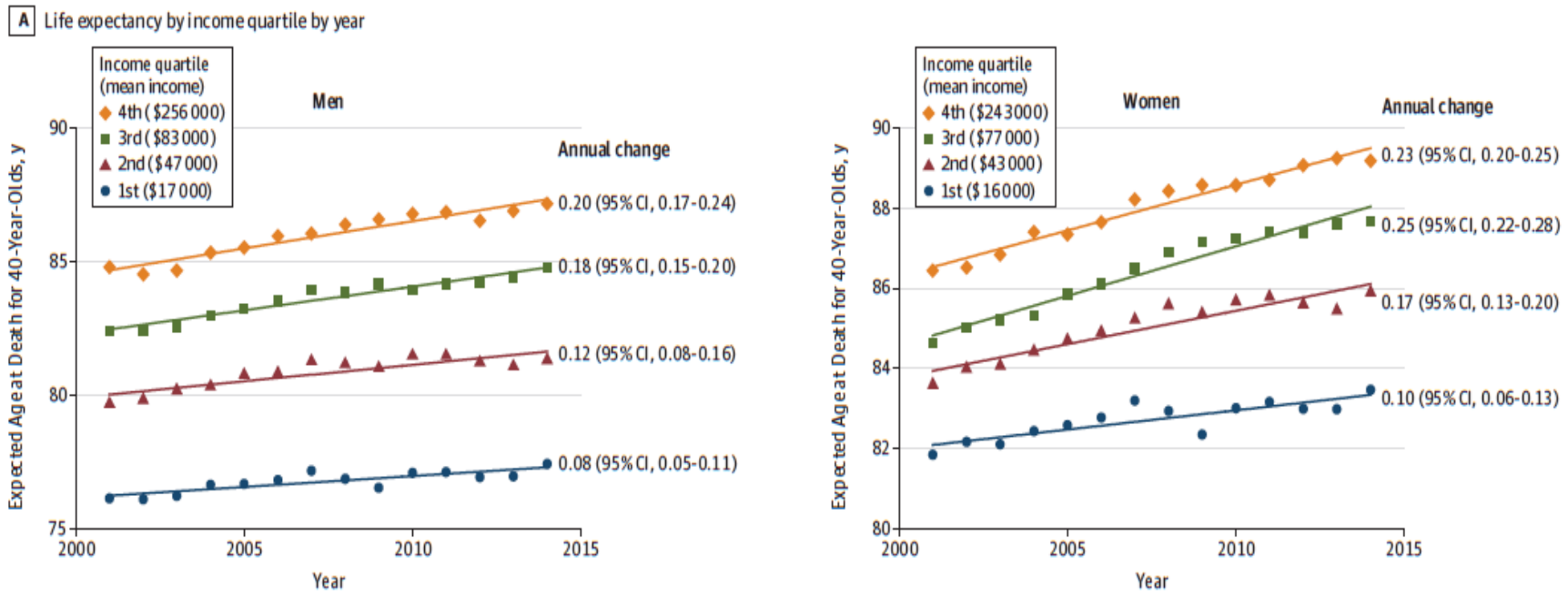


Overall, health inequities in Toronto have not improved over time. For the first years of data analyzed, low income groups had worse health for 21 of the 34 health status indicators analyzed. Over approximately ten years, health inequities persisted for 16 indicators, became worse for four indicators and improved for one indicator.

Toronto Public Health, 2015

Health inequalities are stagnating or growing in the United States.

Figure 3. Changes in Race- and Ethnicity-Adjusted Life Expectancy by Income Group, 2001-2014



Chetty et. al., 2016

Health inequalities are stagnating or growing in the United Kingdom.

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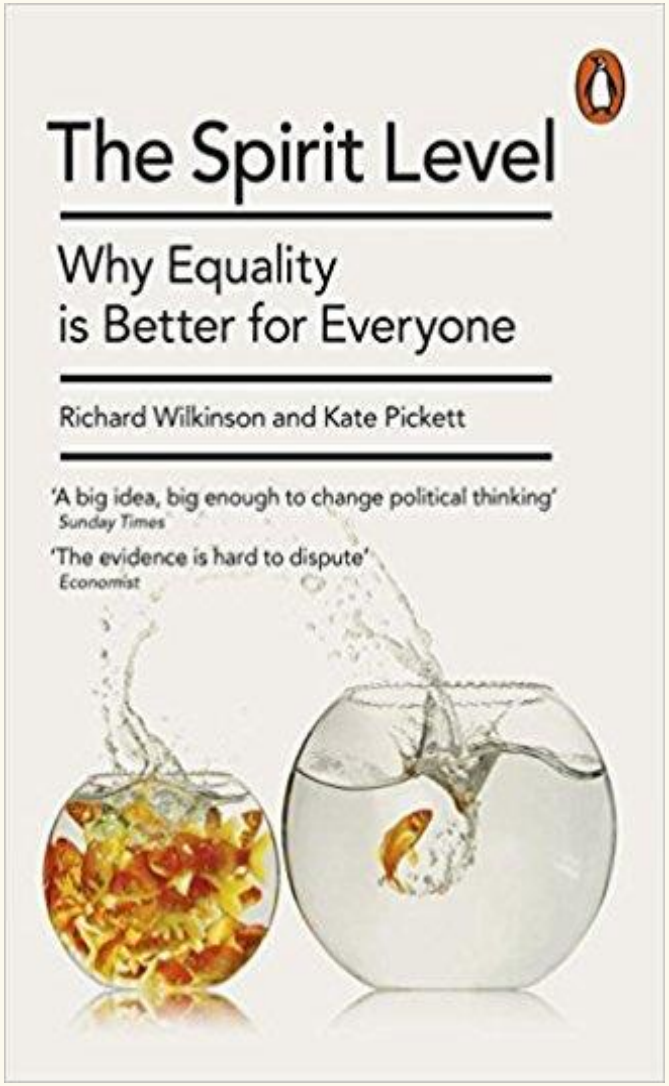
Health
The Observer

Health inequality gap 'is still growing' in England, new Department of Health data shows

Poor people face years of failing health and earlier death compared to the rich, despite government pledges to reduce inequality

Guardian, 2017

Scholars of societal conditions have been working to understand this.



Scholars of neoliberalism have been working to understand this.

We dug deeper into the Canada-U.S. Comparison in order to examine the health effects of neoliberalism.

A COMPARATIVE STUDY OF POPULATION HEALTH IN THE UNITED STATES AND CANADA DURING THE NEOLIBERAL ERA, 1980–2008

Arjumand Siddiqi, Ichiro Kawachi, Daniel P. Keating,
and Clyde Hertzman

Siddiqi et. al., 2013

Recall that Canada has a health advantage over the United States.

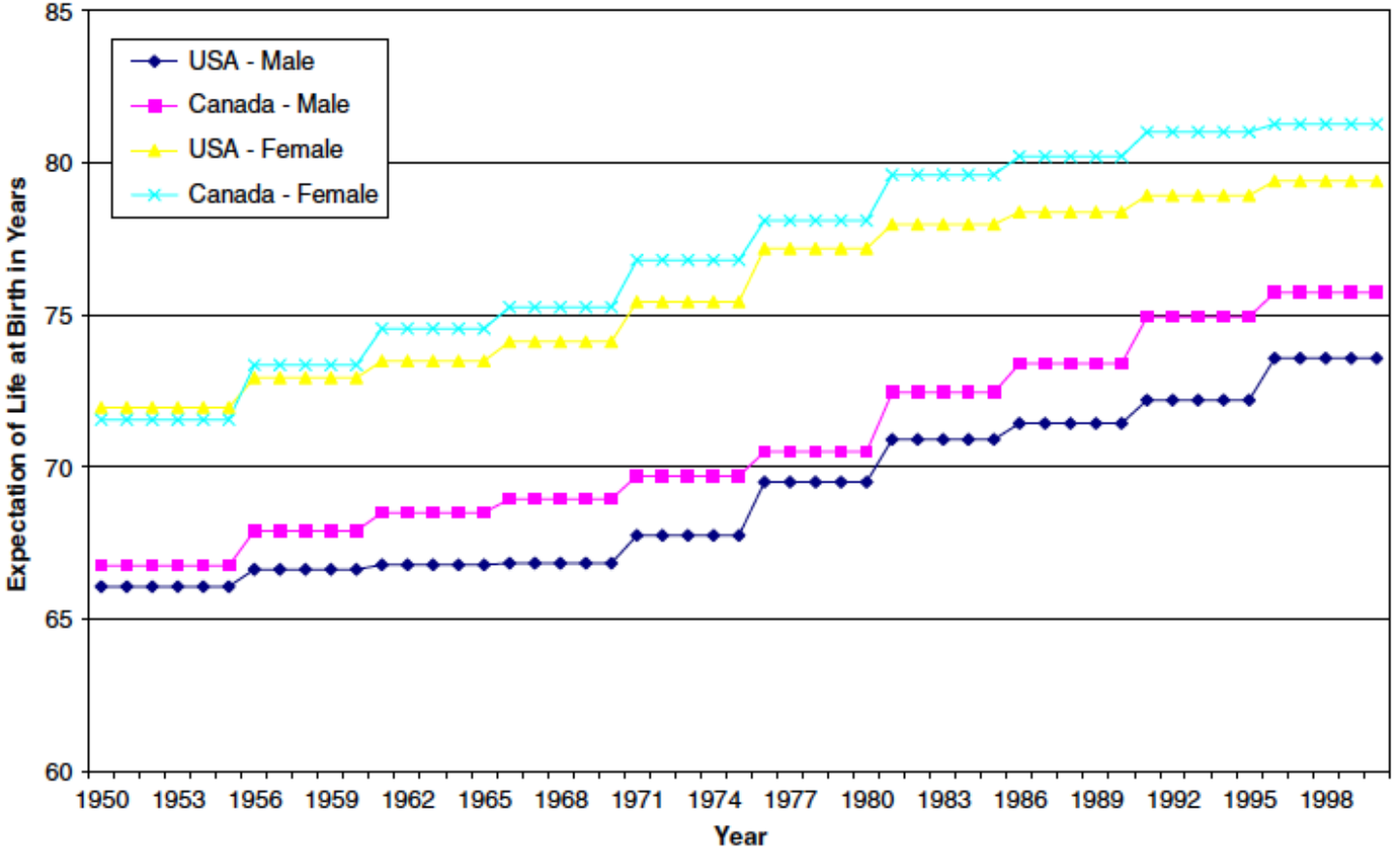


Fig. 1. Male and female life expectancy in Canada versus the USA.

Siddiqi and Hertzman, 2007

Recall our hypothesis about the role of factors like income inequality.

The Canada-USA comparison is one of public provision and redistribution trumping traditional economic well-being and direct health spending from the perspective of population health.

Siddiqi and Hertzman, 2007

Before taxes and transfers, income inequality in the two nations is rather similar.

	US	Canada	US	Canada	US	Canada
	Mid 1980s		Mid 1990s		Mid 2000s	
Pre-Tax/Transfer Gini	0.38	0.37	0.42	0.40	0.43	0.41

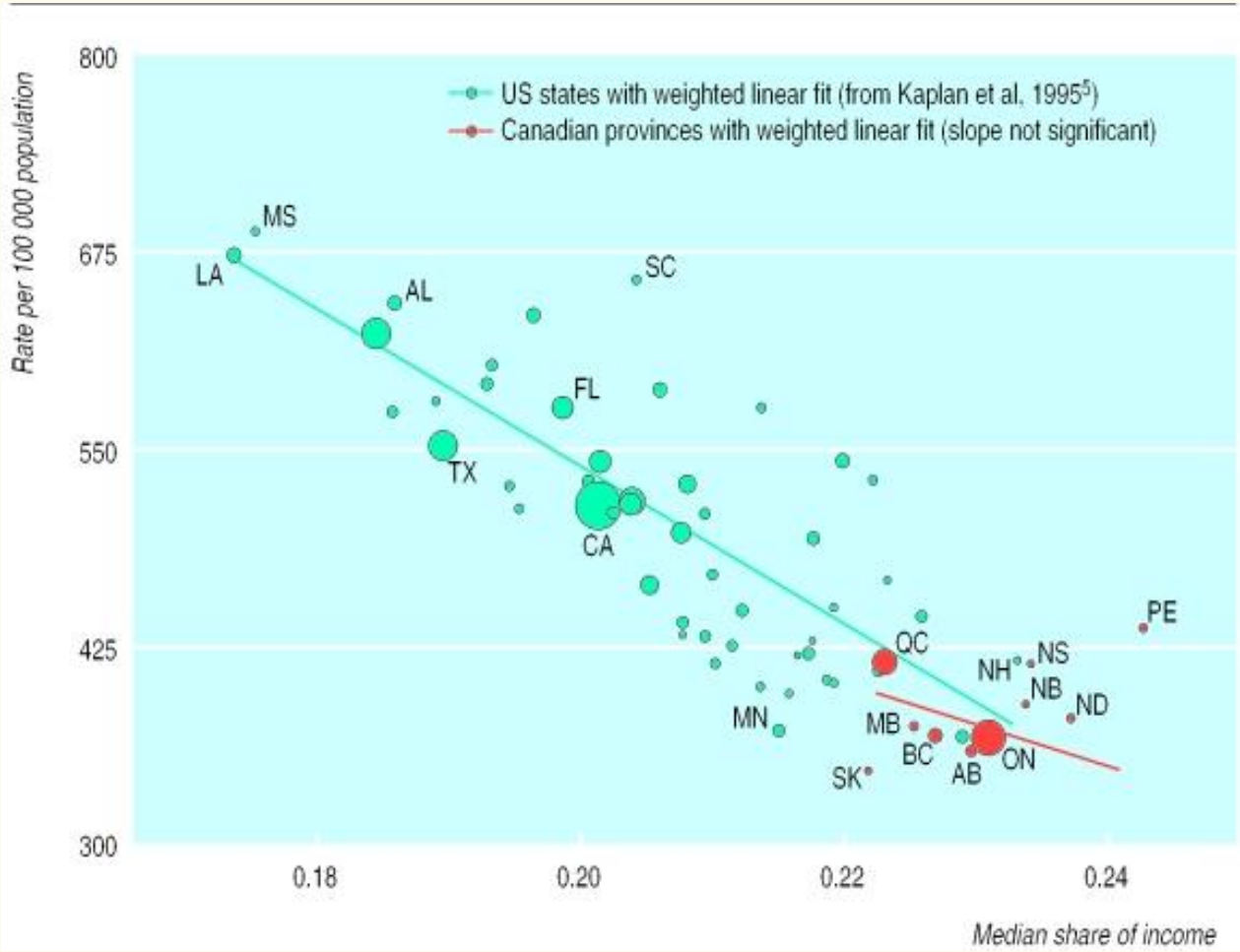
Siddiqi et. Al., 2013

But after taxes and transfers, the difference becomes apparent.

	US	Canada	US	Canada	US	Canada
	Mid 1980s		Mid 1990s		Mid 2000s	
Pre-Tax/Transfer Gini	0.38	0.37	0.42	0.40	0.43	0.41
Post-Tax/Transfer Gini	0.33	0.29	0.35	0.29	0.37	0.32
Difference	0.05	0.08	0.07	0.11	0.06	0.09

Siddiqi et. Al., 2013

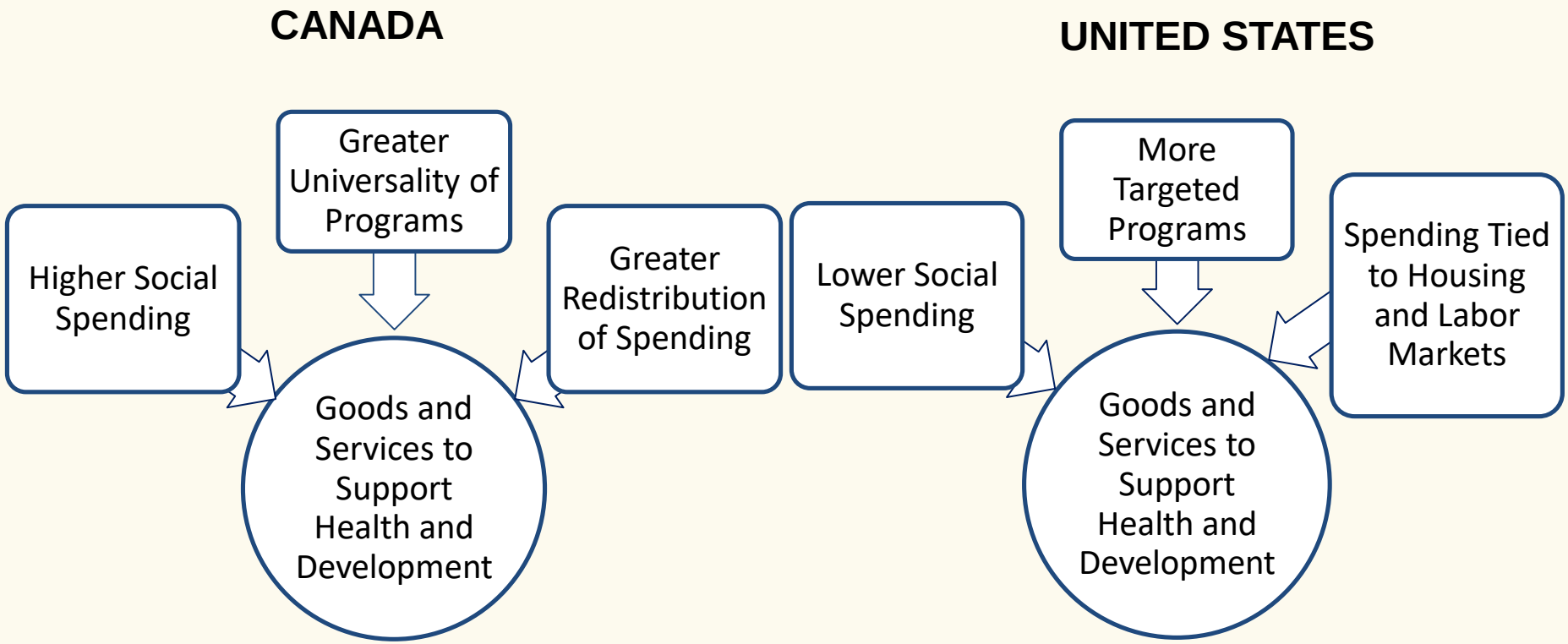
Indeed, the relationship between income inequality and mortality is significant in the U.S. but, not in Canada.



Ross et. al, 2000

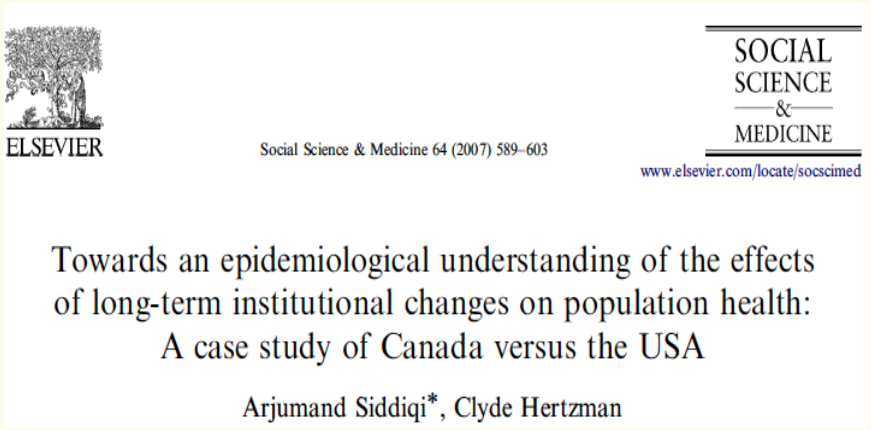
Ross et. al, 2000

We hypothesized that a range of manifestations of neoliberalism account for policy differences between the two countries, that then are expressed through health and health inequalities.



Siddiqi et. Al., 2013

In essence, in order to really explain what is happening to population health and health inequalities, we had to take a step back(wards), and use less refined tools.



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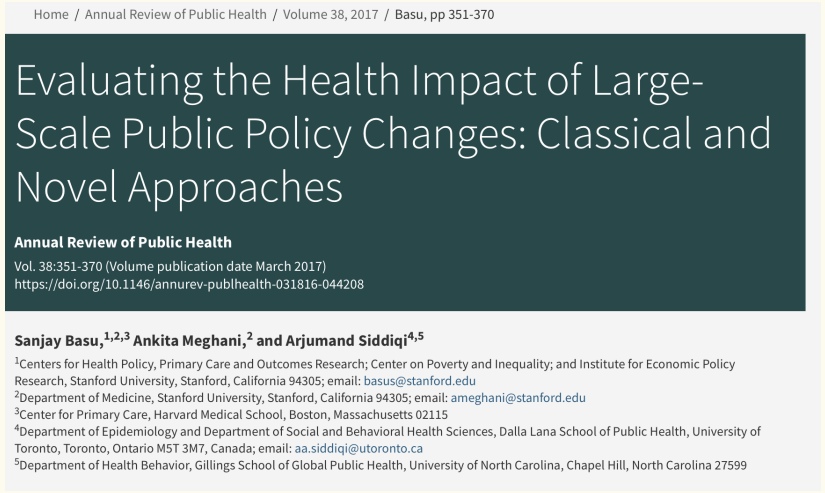

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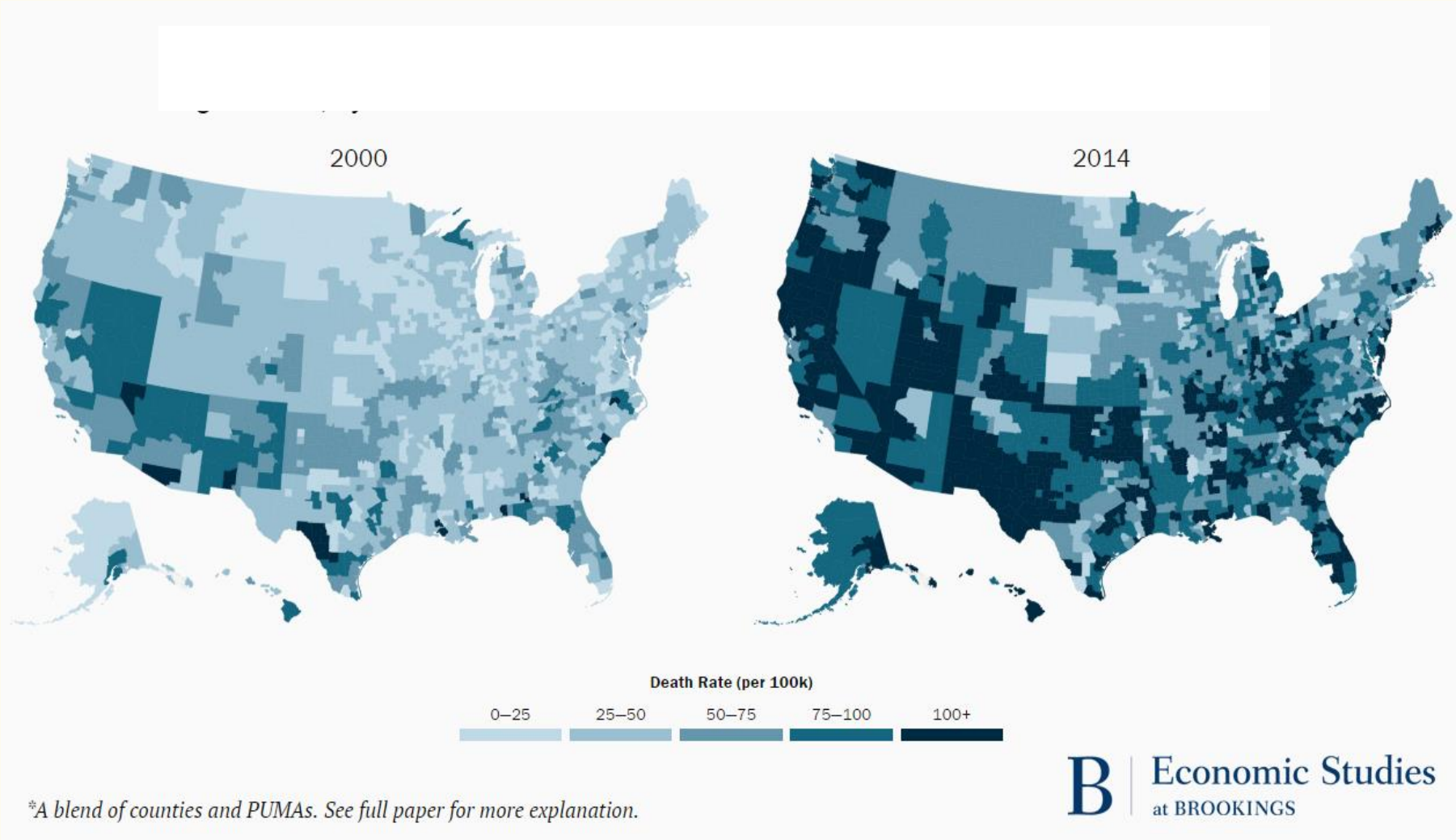
A new major public health problem highlights the tension between using focused evaluation of policies, and broader analysis societal phenomena to explain health inequalities.

Economist, 2017

Case and Deaton: White mortality has been rising



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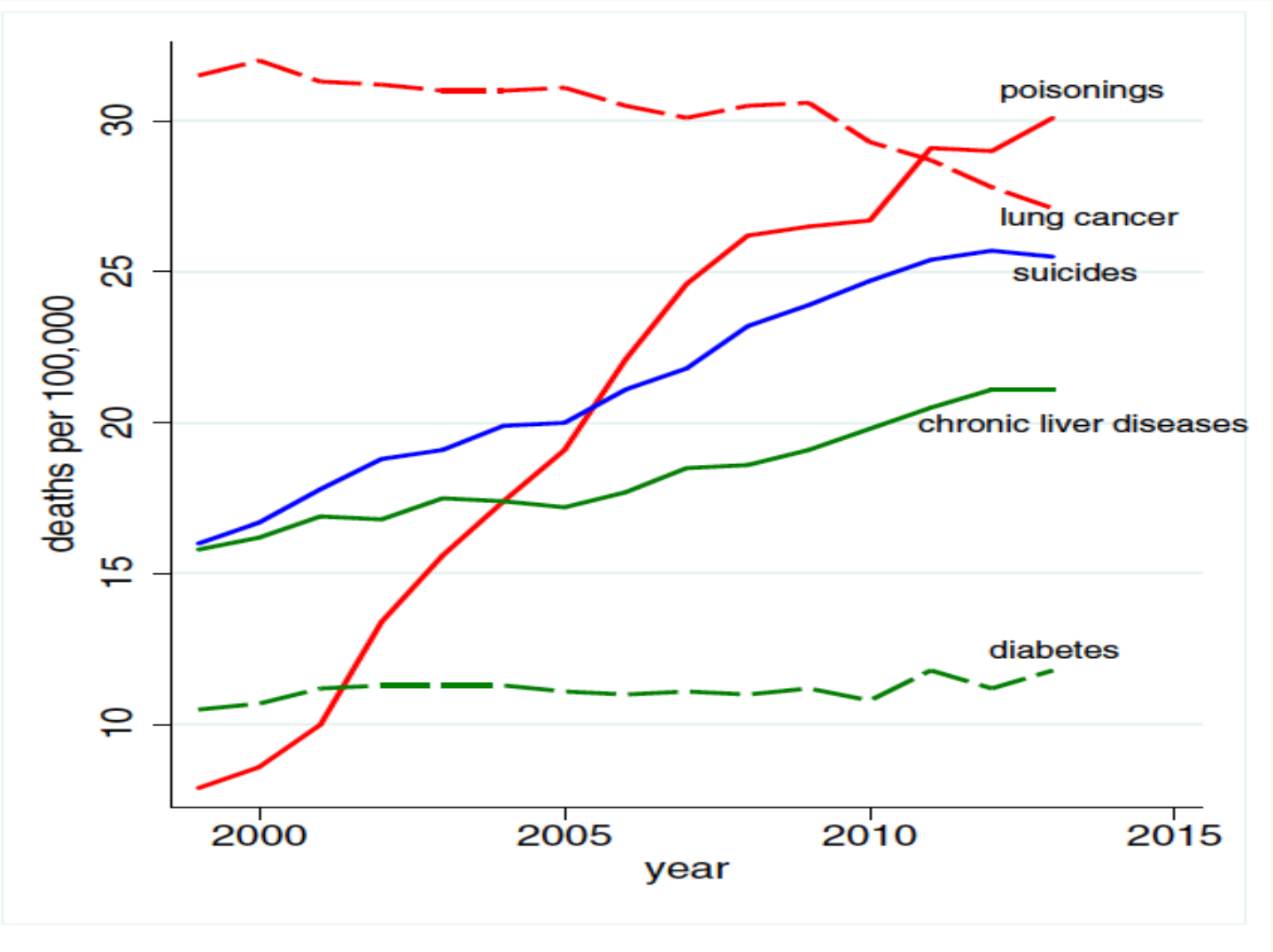

Case and Deaton, 2017

Can the opioid epidemic be explained by isolating the effects of specific policies or other societal conditions?

The authors suspect more amorphous, long-term forces are at work. The fundamental cause is still a familiar tale of economic malaise: trade and technological progress have snuffed out opportunities for the low-skilled, especially in manufacturing. But social changes are also in play. As economic life has become less secure, low-skilled white men have tended towards unstable cohabiting relationships rather than marriages. They have abandoned traditional communal religion in favour of churches that emphasise personal identity. And they have become more likely to stop working, or looking for work, entirely. The breakdown of family, community and clear structures of life, in favour of individual choice, has liberated many but left others who fail blaming themselves and feeling helpless and desperate.

The Economist, March 23, 2017

The Economist, 2017

Have advances in producing evidence for health inequalities improved our ability to understand health inequalities?

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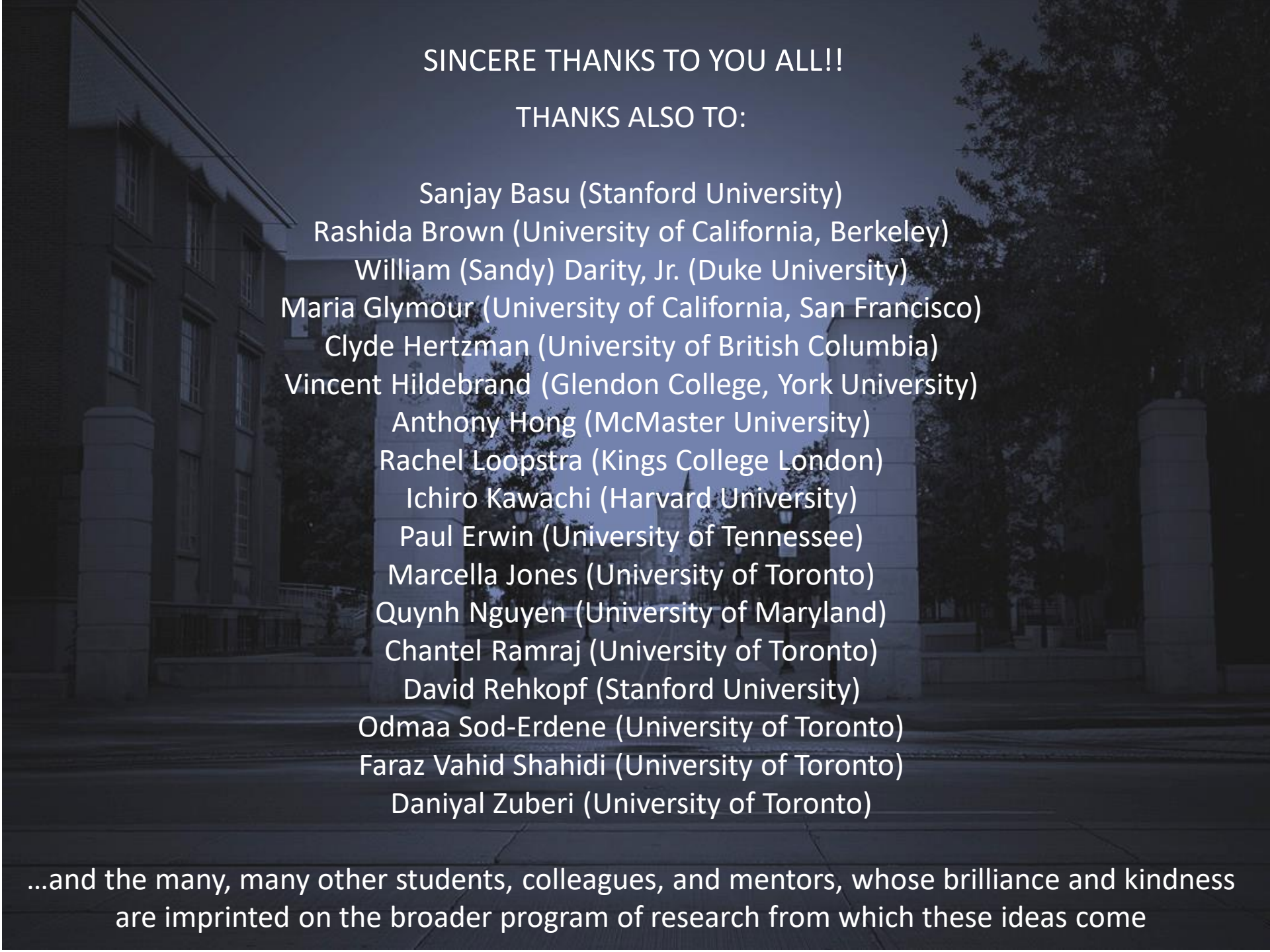

SINCERE THANKS TO YOU ALL!!

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