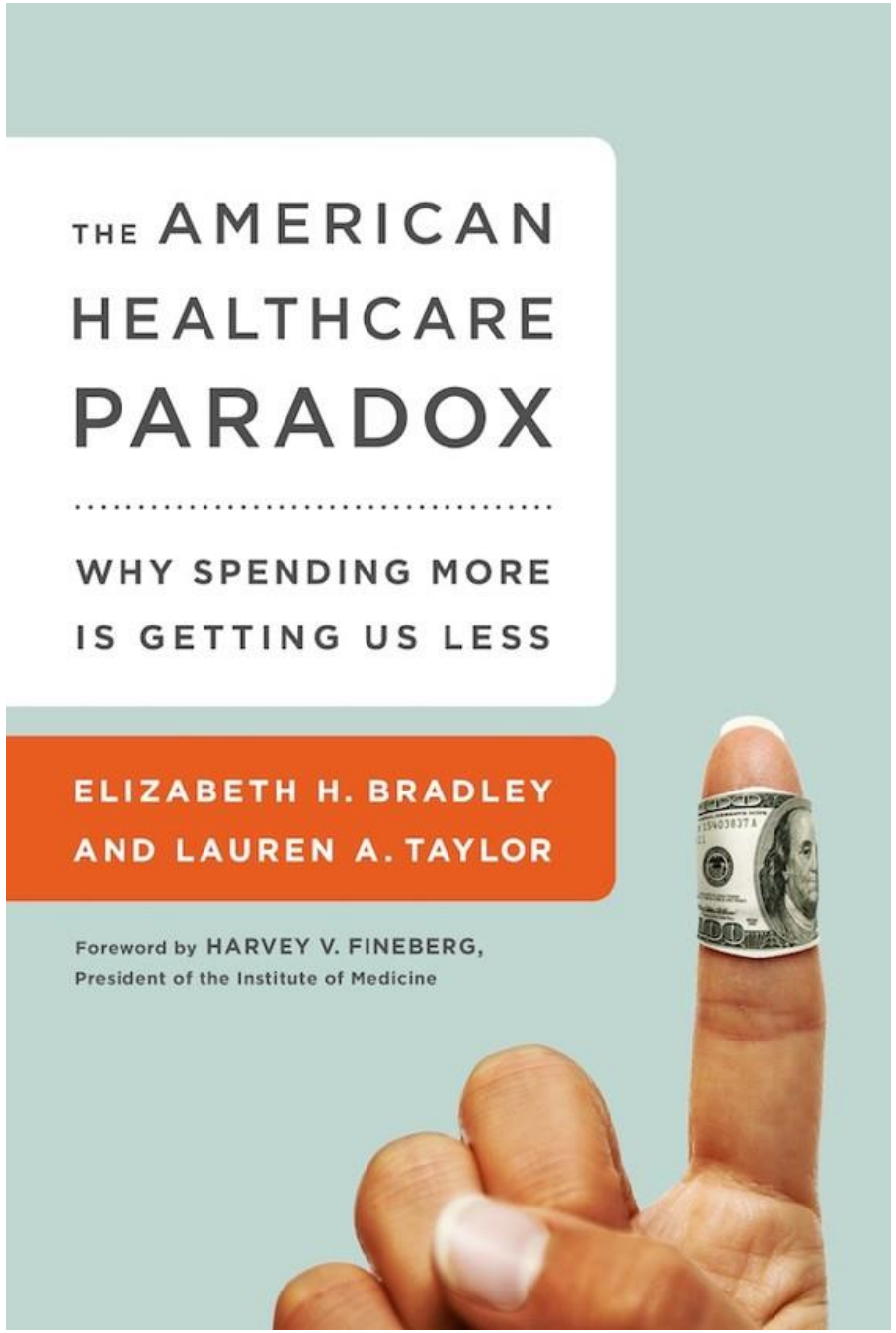
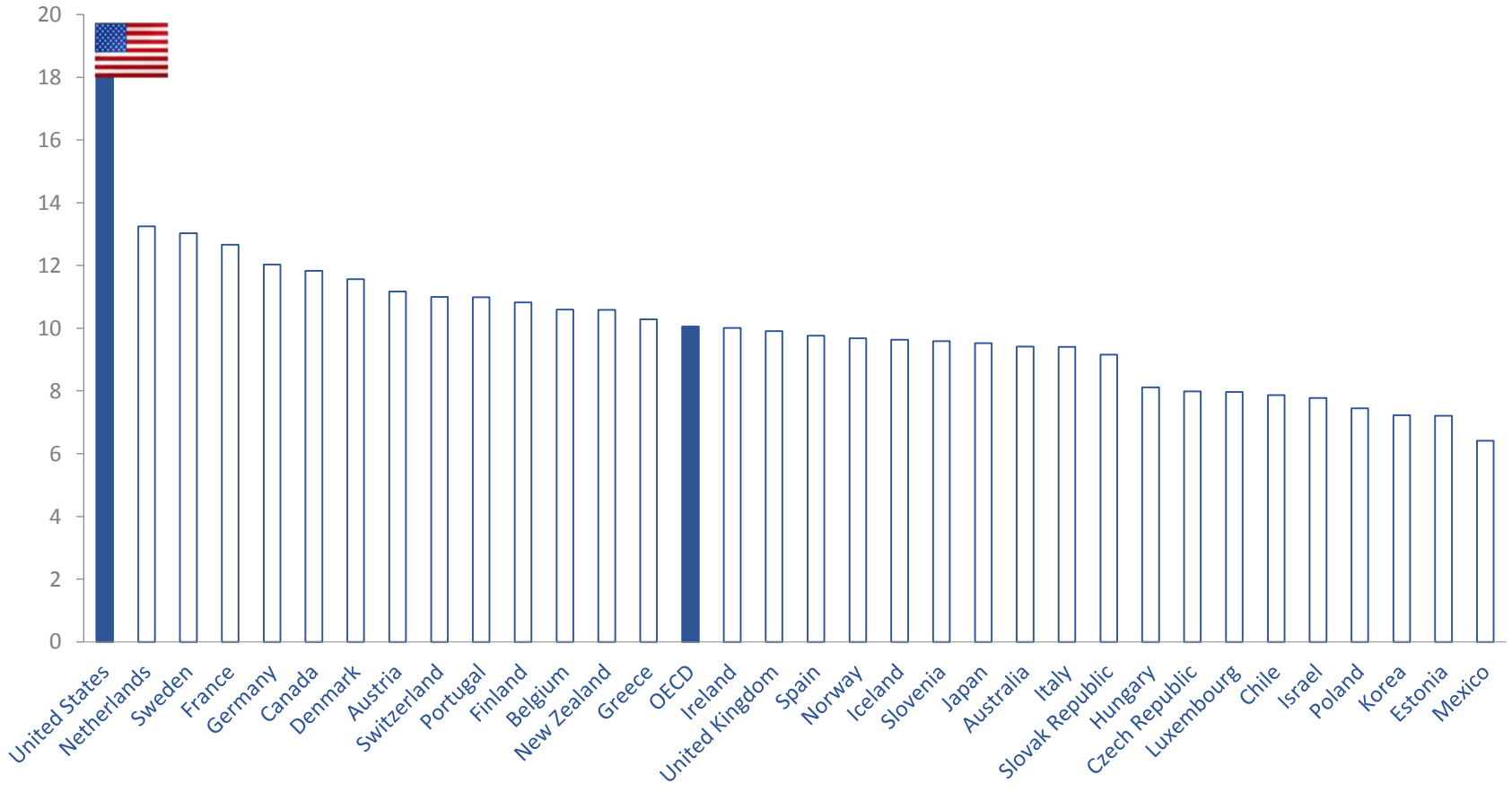



# Social Determinants and Policy:
## Why Shifting the Care Paradigm is Good for Population Health and Health Care

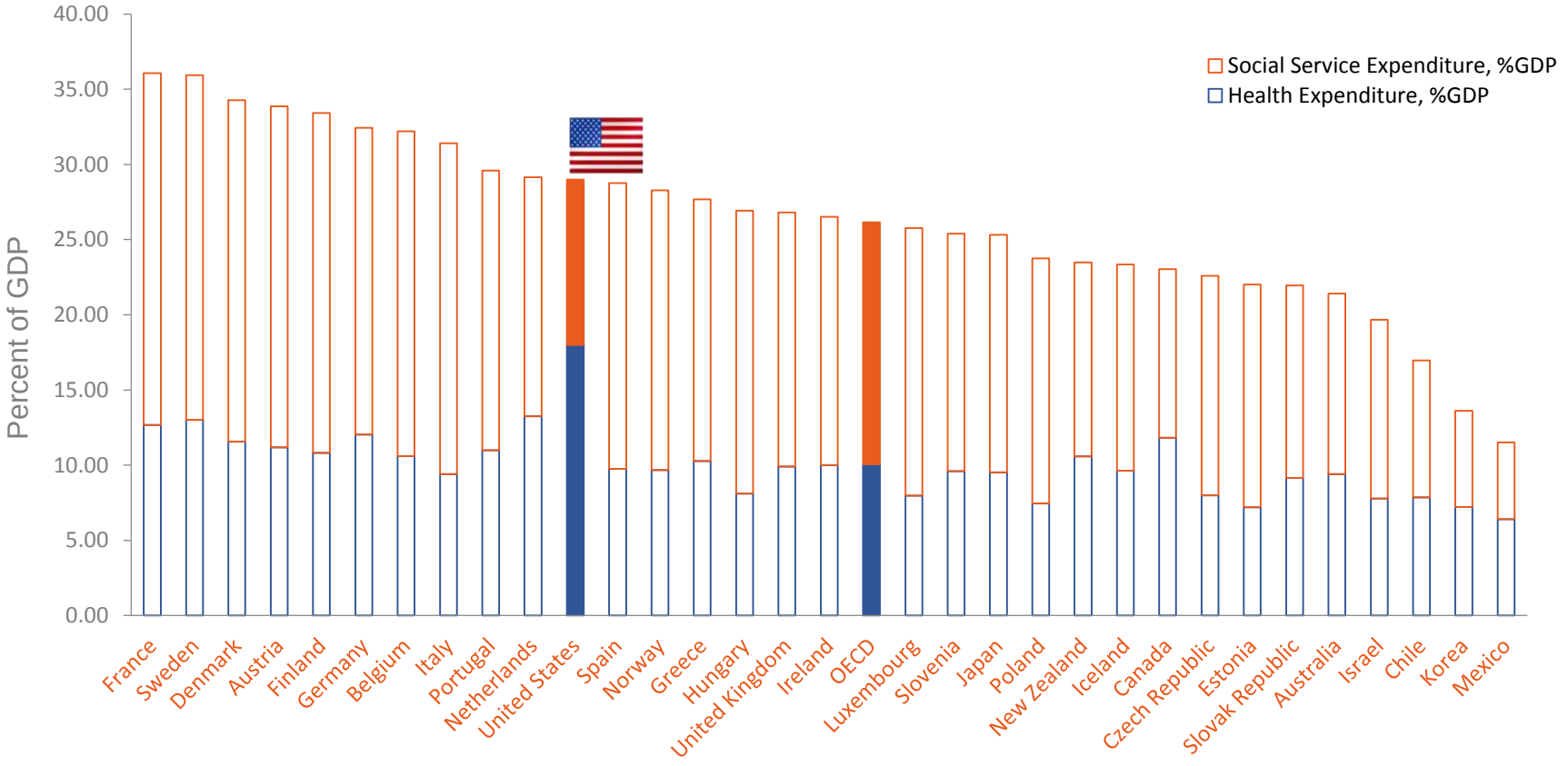
Lauren A. Taylor, MDiv, MPH
@LaurenTaylorMPH, ltaylor@hbs.edu

# Health Expenditures as a % of GDP, 2009*



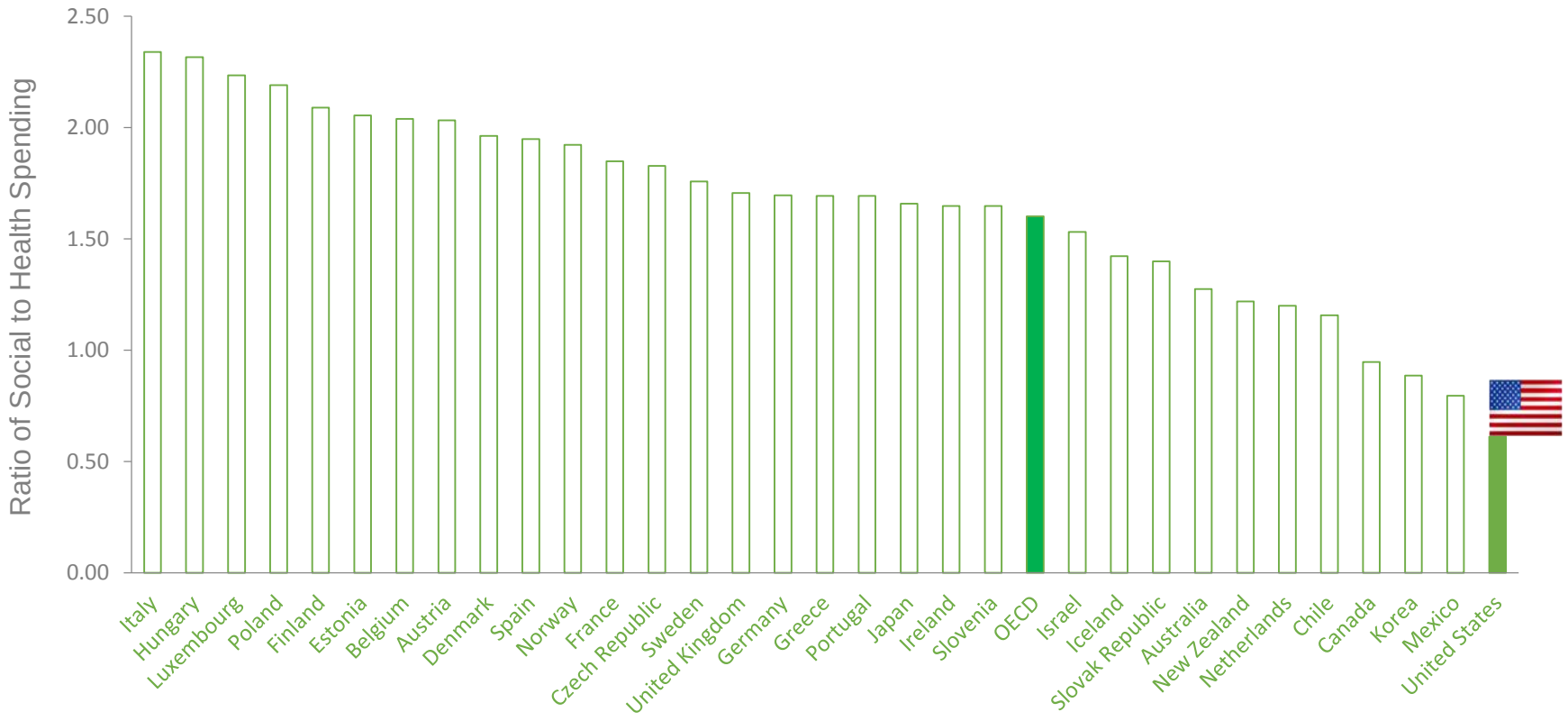

*Turkey is missing data for 2009

# Total Expenditures as a % GDP, 2009*




*Switzerland and Turkey are missing data for 2009

# Ratio of Social to Health Expenditures, 2009*




*Switzerland and Turkey are missing data for 2009



Original research

# Health and social services expenditures: associations with health outcomes

Elizabeth H Bradley,[1] Benjamin R Elkins,[1] Jeph Herrin,[2] Brian Elbel[3]

[1]Yale School of Public Health, Division of Health Policy and Administration, and Global Health Leadership Institute, New Haven, Connecticut, USA
[2]Yale School of Medicine, Division of Cardiology, New Haven, Connecticut, USA
[3]New York University School of Medicine, Division of General Internal Medicine; New York University Wagner Graduate School of Public Service, New York, USA

Correspondence to
Dr Elizabeth H Bradley, Yale School of Public Health, Division of Health Policy and Administration, 60 College Street, New Haven, CT 06520, USA;
elizabeth.bradley@yale.edu

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ABSTRACT

**Objective:** To examine variations in health service expenditures and social services expenditures across Organisation for Economic Co-operation and Development (OECD) countries and assess their association with five population-level health outcomes.

**Design:** A pooled, cross-sectional analysis using data from the 2009 release of the OECD Health Data 2009 Statistics and Indicators and OECD Social Expenditure Database.

**Setting:** OECD countries (n=30) from 1995 to 2005.

**Main outcomes:** Life expectancy at birth, infant mortality, low birth weight, maternal mortality and potential years of life lost.

**Results:** Health services expenditures adjusted for gross domestic product (GDP) per capita were significantly associated with better health outcomes in only two of five health indicators; social services expenditures adjusted for GDP were significantly associated with better health outcomes in three of five indicators. The ratio of social expenditures to health expenditures was significantly associated with better outcomes in infant mortality, life expectancy and increased potential life years lost, after adjusting for the level of health expenditures and GDP.

**Conclusion:** Attention to broader domains of social policy may be helpful in accomplishing improvements in health envisioned by advocates of healthcare reform.

Many countries are increasingly confronting issues of rising healthcare costs with limited improvement in health outcomes. The issue is particularly acute in the USA, which ranks highest among Organisation for Economic Co-operation and Development (OECD) countries in healthcare spending as a percentage of gross domestic product (GDP) while remaining among the lowest in key health indicators.[1–3] As an illustration, in 2005 the USA spent 16% of GDP on healthcare compared with an average of 9% spent by other OECD countries, and in 2006, the USA ranked 25th in life expectancy, 29th in infant mortality and 24th in maternal mortality among the 30 OECD countries.[4]

Previous efforts to understand the paradox of higher health care spending without necessarily better health outcomes have implicated over-reliance on private financing,[5 6] disparities in quality of care,[7 8] high medical prices[9] and too few primary care providers.[3 10–13] What has been less examined is the role of spending on social services, which may be productive for health. Social spending includes such investments as income supplements, housing, unemployment coverage and other social policy targets. Although health professionals have long recognised the importance of socio-economic, environmental and behavioural determinants of health, healthcare reforms have focused largely on spending for health services, with less attention focused on spending in potentially important social policy areas.

Accordingly, we sought to examine the associations between social expenditures and health expenditures, and a set of common health outcomes across the OECD countries. As a measure of relative investment, we also examined the ratio of social expenditures to health expenditures and its association with life expectancy, infant mortality, low birth weight, maternal mortality and potential life years lost using the OECD Health Data 2009 Statistics and Indicators and the OECD Social Expenditure database.[4 14] Findings from our analysis can contribute to the current debate in the USA and other countries about how best to direct limited resources to promote population health outcomes.

## METHODS

### Study design and sample

We conducted a pooled, cross-sectional analysis of OECD countries (n=30 countries) using data from the 2009 release of the



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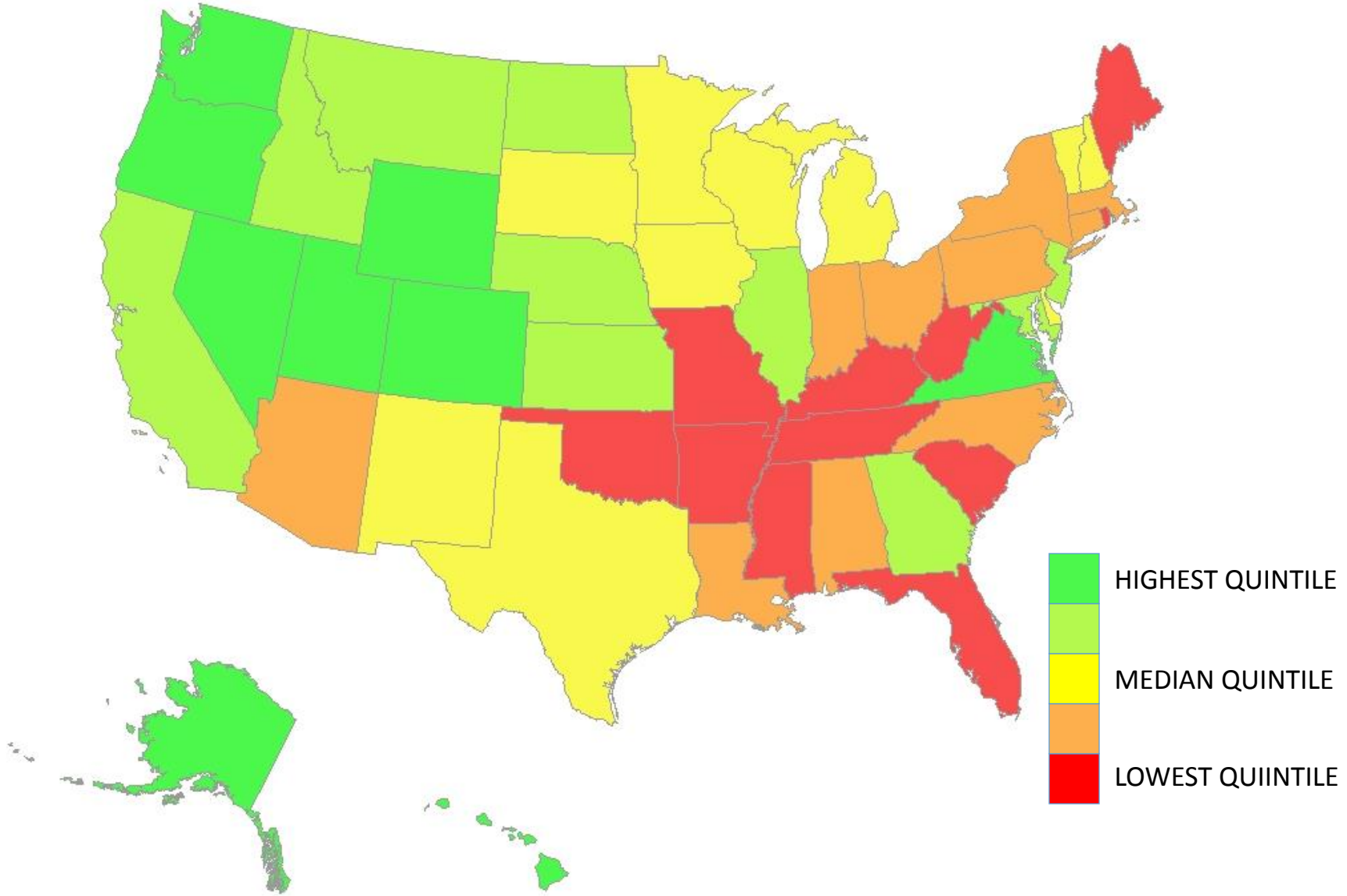
METHOD: Multivariable regression using OECD pooled data from 1995-2007 on 29 countries and 5 health outcomes.

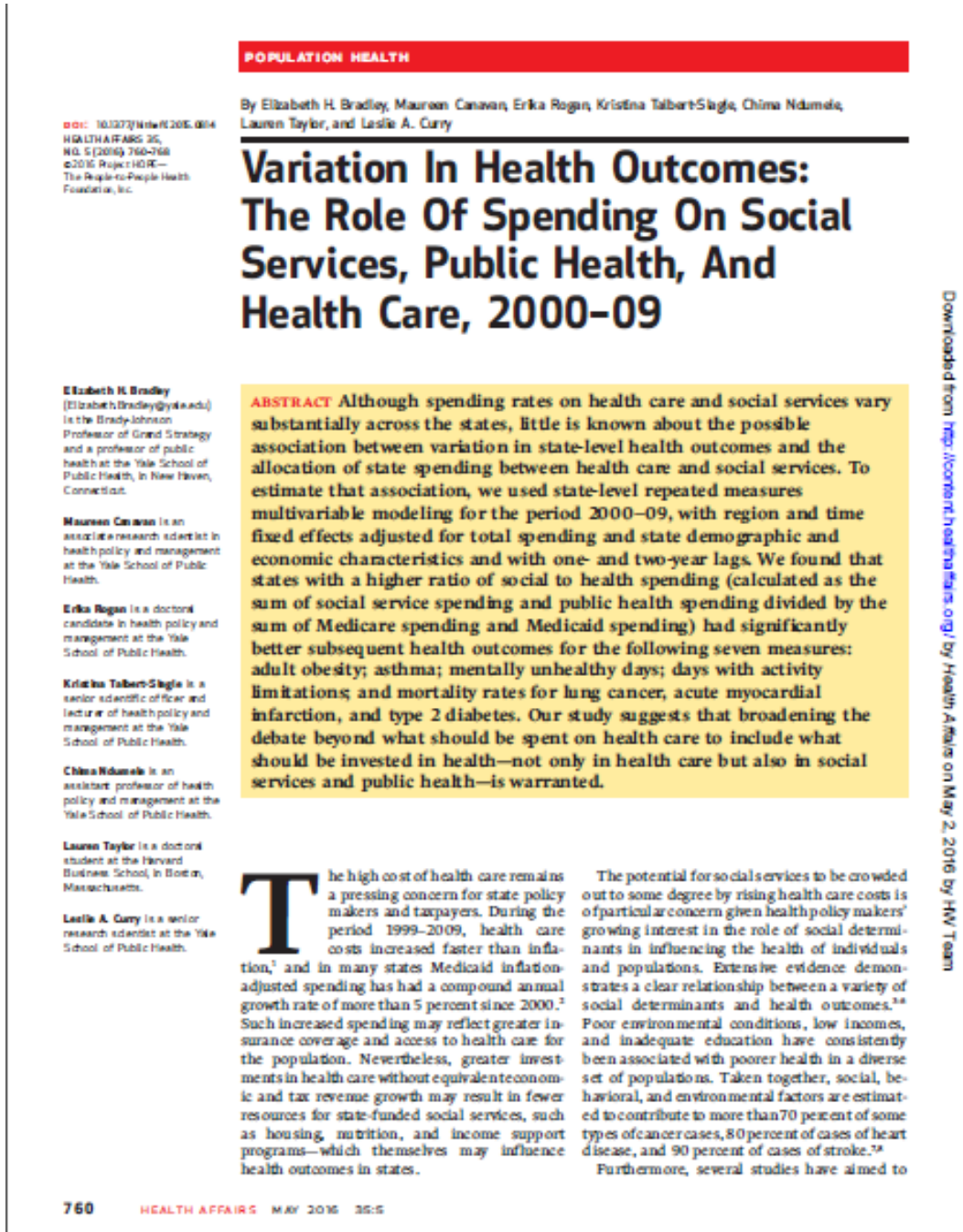
FINDING: The ratio of social to health spending was significantly associated with better health outcomes: less infant, mortality, less premature death, longer life, expectancy and fewer low birth weight babies.

NOTE: This remained true even when the US was excluded from the analysis.

# Ratio of social-to-health care spending*




*Medicare and Medicaid spending; Data from Bradley et al, Health Affairs, May 2016.



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By Elizabeth H. Bradley, Maureen Canavan, Erika Rogan, Kristina Talbert-Slagle, Chima Ndumele, Lauren Taylor, and Leslie A. Curry

# Variation In Health Outcomes: The Role Of Spending On Social Services, Public Health, And Health Care, 2000–09

**Elizabeth H. Bradley** (Elizabeth.Bradley@yale.edu) is the Brady-Johnson Professor of Grand Strategy and a professor of public health at the Yale School of Public Health, in New Haven, Connecticut.

**Maureen Canavan** is an associate research scientist in health policy and management at the Yale School of Public Health.

**Erika Rogan** is a doctoral candidate in health policy and management at the Yale School of Public Health.

**Kristina Talbert-Slagle** is a senior scientific officer and lecturer of health policy and management at the Yale School of Public Health.

**Chima Ndumele** is an assistant professor of health policy and management at the Yale School of Public Health.

**Lauren Taylor** is a doctoral student at the Harvard Business School, in Boston, Massachusetts.

**Leslie A. Curry** is a senior research scientist at the Yale School of Public Health.

ABSTRACT Although spending rates on health care and social services vary substantially across the states, little is known about the possible association between variation in state-level health outcomes and the allocation of state spending between health care and social services. To estimate that association, we used state-level repeated measures multivariable modeling for the period 2000–09, with region and time fixed effects adjusted for total spending and state demographic and economic characteristics and with one- and two-year lags. We found that states with a higher ratio of social to health spending (calculated as the sum of social service spending and public health spending divided by the sum of Medicare spending and Medicaid spending) had significantly better subsequent health outcomes for the following seven measures: adult obesity; asthma; mentally unhealthy days; days with activity limitations; and mortality rates for lung cancer, acute myocardial infarction, and type 2 diabetes. Our study suggests that broadening the debate beyond what should be spent on health care to include what should be invested in health—not only in health care but also in social services and public health—is warranted.

The high cost of health care remains a pressing concern for state policy makers and taxpayers. During the period 1999–2009, health care costs increased faster than inflation,[1] and in many states Medicaid inflation-adjusted spending has had a compound annual growth rate of more than 5 percent since 2000.[2] Such increased spending may reflect greater insurance coverage and access to health care for the population. Nevertheless, greater investments in health care without equivalent economic and tax revenue growth may result in fewer resources for state-funded social services, such as housing, nutrition, and income support programs—which themselves may influence health outcomes in states.

The potential for social services to be crowded out to some degree by rising health care costs is of particular concern given health policy makers' growing interest in the role of social determinants in influencing the health of individuals and populations. Extensive evidence demonstrates a clear relationship between a variety of social determinants and health outcomes.[3,4] Poor environmental conditions, low incomes, and inadequate education have consistently been associated with poorer health in a diverse set of populations. Taken together, social, behavioral, and environmental factors are estimated to contribute to more than 70 percent of some types of cancer cases, 80 percent of cases of heart disease, and 90 percent of cases of stroke.[3,5]

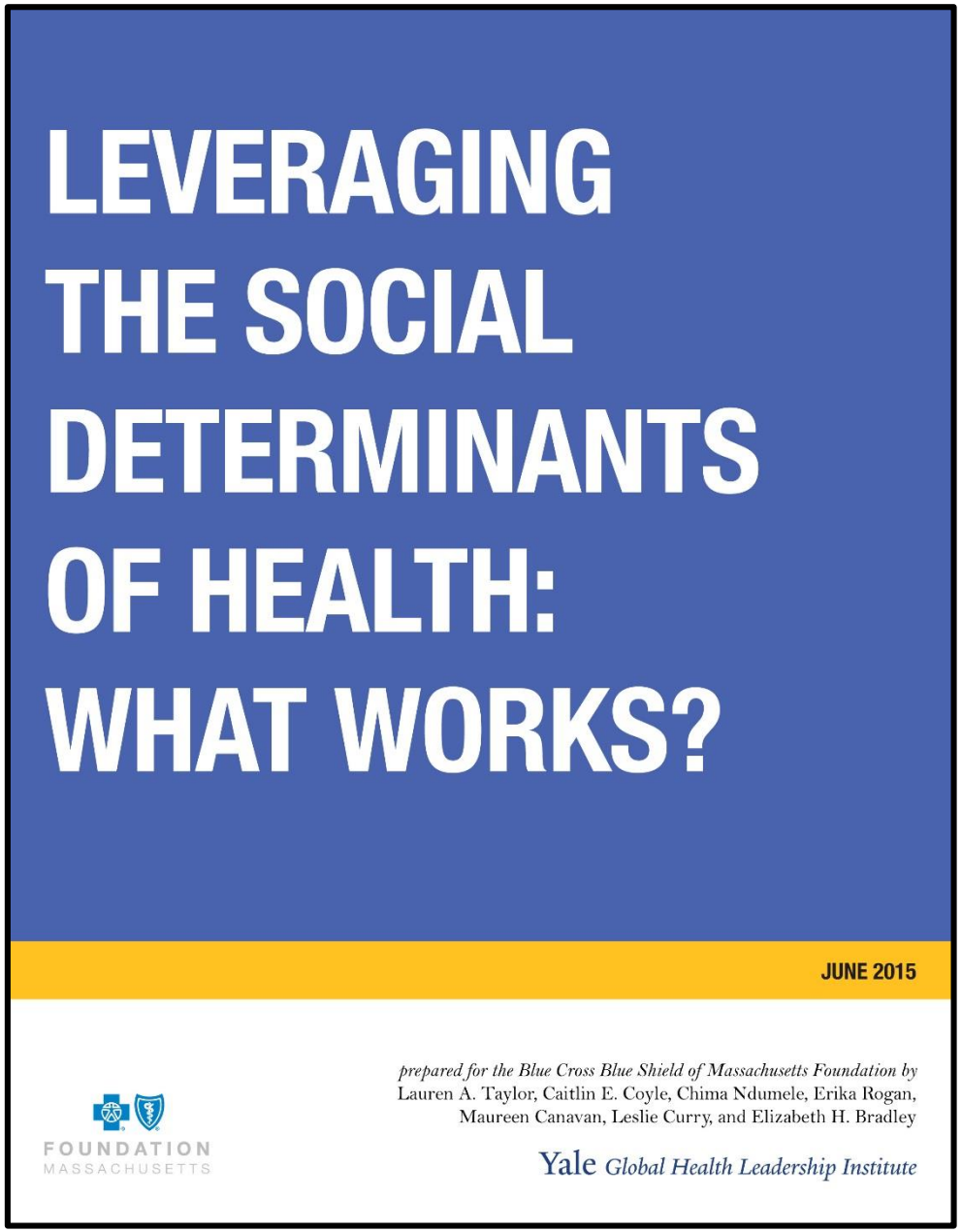
Furthermore, several studies have aimed to





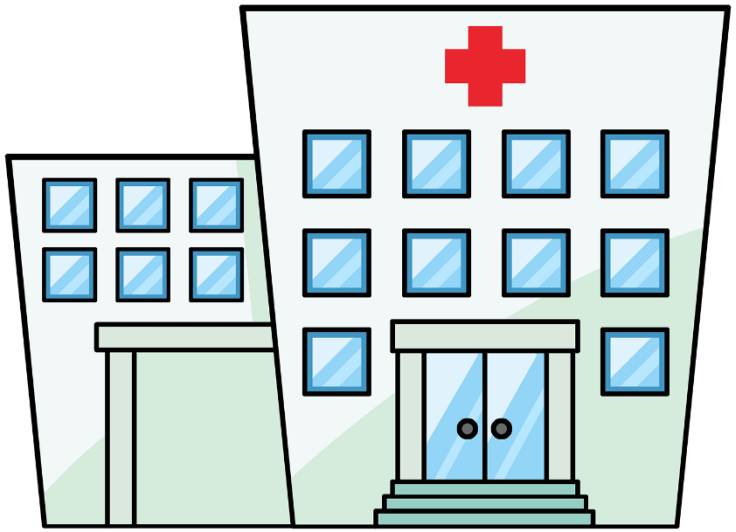
METHOD: Multivariable regression using state-level repeated measures data from 2000-2009 with regional and time fixed effects.

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.




*Which* social services produce better health and save dollars?

# Evidence Exists for Various Integration Models



Traditional Health Care Sector

Community Benefit Grants

Offering Individual Social Services

Programmatic Partnership

Strategic Investments

Pooled Health and Social Services Budgets


Is this all "good for health care"?
Historical & Current Fee-For-Service
AIR-VENT SYSTEM 50 L
Value-Based Payment & Population Health Management
AIR-VENT SYSTEM 50 L

# Is it all worth it?

*"It really was a coordinated intervention. And that was satisfying. I think it was an experience where I really got to be a physician. I think a lot of times here we are sort of playing social worker, playing psychiatrist when we're not necessarily trained to do that. We do medical care, you know? And so it was very refreshing. The patient needed an internist and she got an internist."*

- Physician Interviewee

The American Health Care Paradox

Looking forward to learning from you. Questions?

ltaylor@hbs.edu
@LaurenTaylorMPH