

# *Optimizing Governmental Health and Social Spending Interactions*

## **Johns Hopkins Bloomberg School of Public Health**

David Bishai, MD, PhD, MPH

Beth Resnick, DrPH, MPH

J.P. Leider, PhD

Natalia Alfonso, MS

## **Arizona State University**

J. Mac McCullough, PhD, MPH

# Motivations

*Knowing what we spend on public health and social services is  
fundamental to demonstrating their value*



# Three Areas of Progress

1) Free, new, publicly-available data

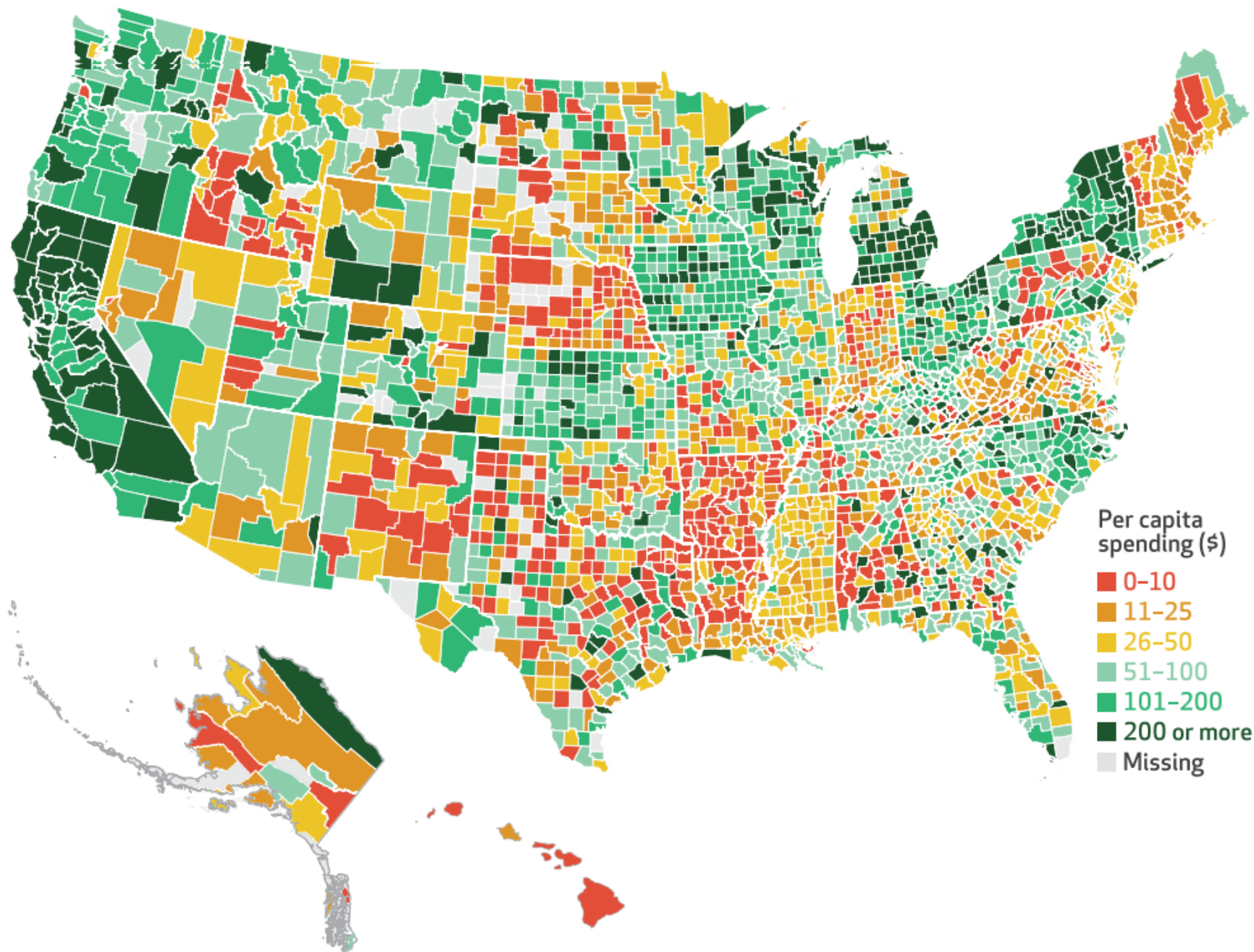
<https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/36741>

2) New estimates of the impact of public health and other social spending on mortality

3) Revised estimates of public health spending



# Local government per capita spending on nonhospital health spending in 2012



# Spending Impacts

**Non-hospital health spending (NHHS) was associated with a reduction in mortality.**

Overall, a 10% increase in NHHS was associated with a 0.024% ( $p < 0.001$ ) decrease in all-cause mortality after one year from the initial spending.

Cost of ~\$7.7 million per life saved

**Less clear evidence regarding social services' impact on mortality**

**Magnitude of the effect varied.**

- This effect was larger in counties with a higher proportion of people of color.
- Some regions saw no effects while others saw higher effects

CULTURE OF HEALTH

By Jonathon P. Leider, Natalia Alfonso, Beth Resnick, Eoghan Brady, J. Mac McCullough, and David Bishai

## Assessing The Value Of 40 Years Of Local Public Expenditures On Health

DOI: 10.1377/hlthaff.2017.1171  
HEALTH AFFAIRS 37,  
NO. 4 (2018): 560-569  
©2018 Project HOPE—  
The People-to-People Health  
Foundation, Inc.

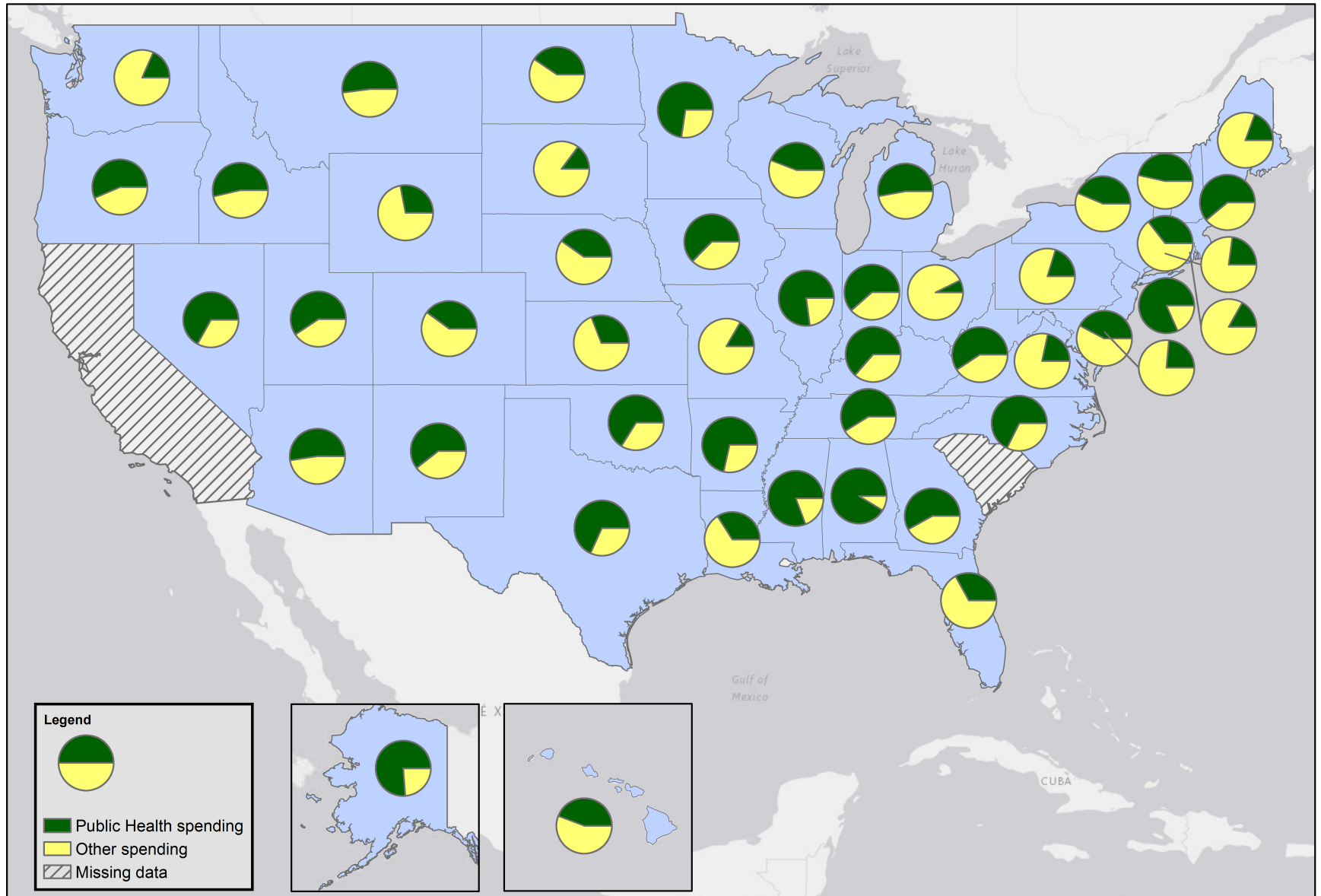
**Jonathon P. Leider** (leider@gmail.com) is associate faculty in the Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, in Baltimore, Maryland.

**Natalia Alfonso** is a research associate in the Department of Population, Family, and Reproductive Health, Johns Hopkins Bloomberg School of Public Health.

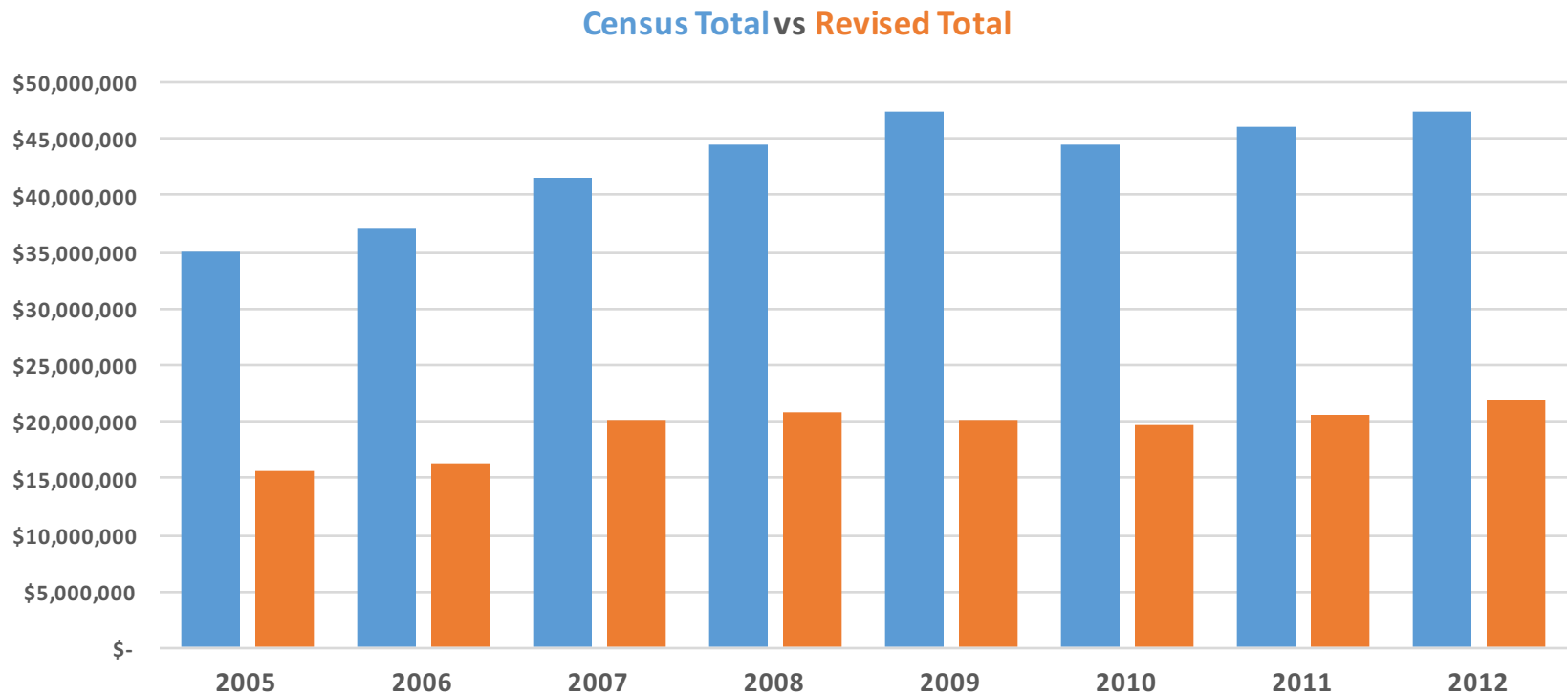
**Beth Resnick** is a senior scientist in the Department of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health.

**ABSTRACT** The US public and private sectors now spend more than \$3 trillion on health each year. While critical studies have examined the relationship between public spending on health and health outcomes, relatively little is known about the impact of broader public-sector spending on health. Using county-level public finance data for the period 1972–2012, we estimated the impact of local public hospital spending and nonhospital health spending on all-cause mortality in the county. Overall, a 10 percent increase in nonhospital health spending was associated with a 0.006 percent decrease in all-cause mortality one year after the initial spending. This effect was larger and significant in counties with greater proportions of racial/ethnic minorities. Our results indicate that county nonhospital health spending has health benefits that can help reduce costs and improve health outcomes in localities across the nation, though greater focus on population-oriented services may be warranted.

# Public spending on public health vs non-hospital health services, 2013



# Recoded Results: Reduced the Census Public Health Spending estimate by more than half



## *Removed Spending For:*

- Human services (34% of difference)
- Behavioral health (19%)
- Environmental protections (19%)
- Disability spending (15%)
- Health care financing (9%)
- Other (4%)

# Implications

Increases in per capita NHHS had a modest, but cost effective and statistically significant association with mortality reduction over time.

Previous estimates of “public health” spending using Census data likely overstate how much we spend on public health





# Placing Our Estimates in Context

Our estimates are directionally consistent with previous studies, but the effect size found was smaller in magnitude

- We examined all nonhospital health spending across all governmental agencies engaged in health-related work (for example, work on the environment).
- Seminal studies to date (Brown, Mays & Smith, etc.) have used much narrower measures of governmental public health agency spending alone
- We accounted for other forms of public spending (hospitals, education, welfare, safety, waste management)



# Key Implications

The line dividing health care from public health is murky in a key dataset. Using a broad measure of public health, we found lower estimates of impact on mortality.

Targeted spending from public health may have more direct impacts on health than the assortment of activities performed by local governments in the U.S.

In this bending-the-cost-curve era, our findings stress the need for data on the impact and cost-effectiveness of social service *and* public health *and* health care-adjacent or population-based activities.



# Thank You

Mac McCullough  
[mccullough@asu.edu](mailto:mccullough@asu.edu)

Link to our ***free, publicly-available*** data:  
<https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/36741>

