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A deficit of more than 250,000 public health workers is no way to fight Covid-19

By Robin Taylor Wilson, Catherine L. Troisi, *and* Tiffany L. Gary-Webb April 5, 2020

Workers wait for patients at a special coronavirus intake area at Maimonides Medical Center in Brooklyn, N.Y. *Spencer Platt/Getty Images*

What happens when a nation systematically cuts or underfunds its public health workforce? We are seeing an answer to that in the response to the Covid-19 pandemic sweeping across the United States.

Most news coverage has understandably focused on overburdened frontline clinicians. At the same time, epidemiologists and other public health workers in state and local governments are also serving on the front lines. They must conduct rapid case identification and trace contacts[2] for additional Covid-19 testing, isolation of cases, and quarantine of close contacts. Epidemiologists also

amass databases for situational disease surveillance, risk factor assessment, and disease mapping.

We write on behalf of the Epidemiology Section of the American Public Health Association, the largest and oldest organization of epidemiologists in the United States, to acknowledge the long hours, determination, and decisive actions of these workers.

Public health is a common good, funded primarily by taxpayer dollars. Inattention to public health has resulted in a tragedy of the commons[3] in which individuals act in their own self-interest to the detriment of the common good. The classic example of this involves livestock owners sharing a common pasture. As each tries to maximize his or her profits by putting additional animals on the land, the pasture becomes degraded, the common is destroyed, and everyone loses.

In the case of public health, federal and state politicians and governments have acted like self-interested livestock owners. But rather than seeking forage for livestock, they have sought financial resources by diverting them from public health agencies and institutions to other priorities. In this way, federal and state governments have degraded the public health commons to the point of destruction. And we are all losing out.

Here's some of the evidence of the tragedy of the public health commons:

Ignoring calls for system-wide change to stabilize the governmental public health workforce. In 2008 the Association of Schools and Programs in Public Health warned[5] that by 2020, "the nation will be facing a shortfall of more than 250,000 public health workers." The organization called for greatly expanding the public health workforce, recommending increased federal funding to state health departments to promote worker training; enumerate and identify current and future needs of the public health workforce; and establish a U.S. Global Health Service to "coordinate US efforts to build a workforce prepared to meet international needs."

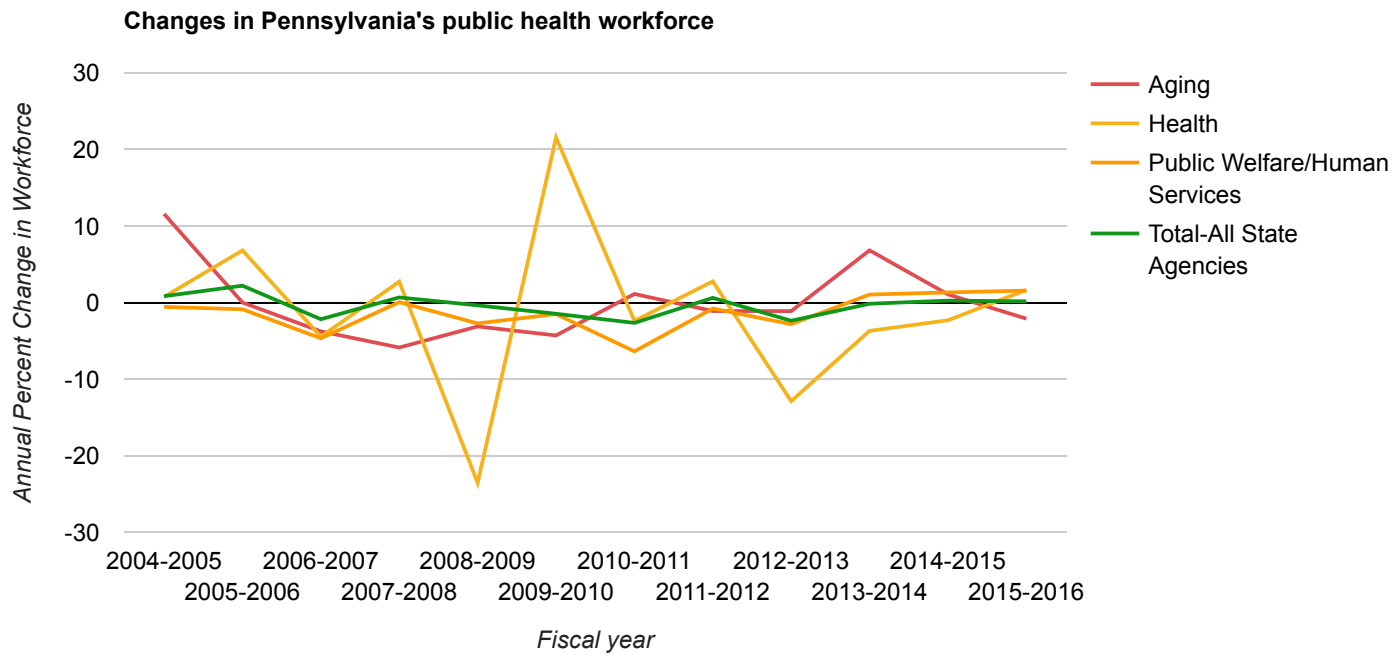
In 2009, the American Academy of Pediatrics[6] decried the "persistent lack of commitment to the public's health," pointing out that highest-priority risk-based federal emergency planning scenarios — 14 out of 15 disaster scenarios would require governmental public health agencies, officials, laboratories, and hospitals as "either primary first respondents or essential members of coordinated team respondents."

One year later, Trust for America's Health rang the bell again[7] with its report "Shortchanging America's Health: A State-By-State Look at How Public Health Dollars Are Spent." In 2012, the Institute of Medicine (now the National Academy of Medicine) cited insufficient funding for public health[8].

In the United States, per capita spending on public health is less than 3%[10] of total health care expenditures and this amount is projected to fall to 2.4% in 2023. Preventing the spread of infectious disease is "minimum necessary" or foundational public health service. Full provision of all foundational public health services is projected to be $54 to $149 per capita[11]. This pales in comparison to the annual per capita expenditure of $10,739 on medical care[12].

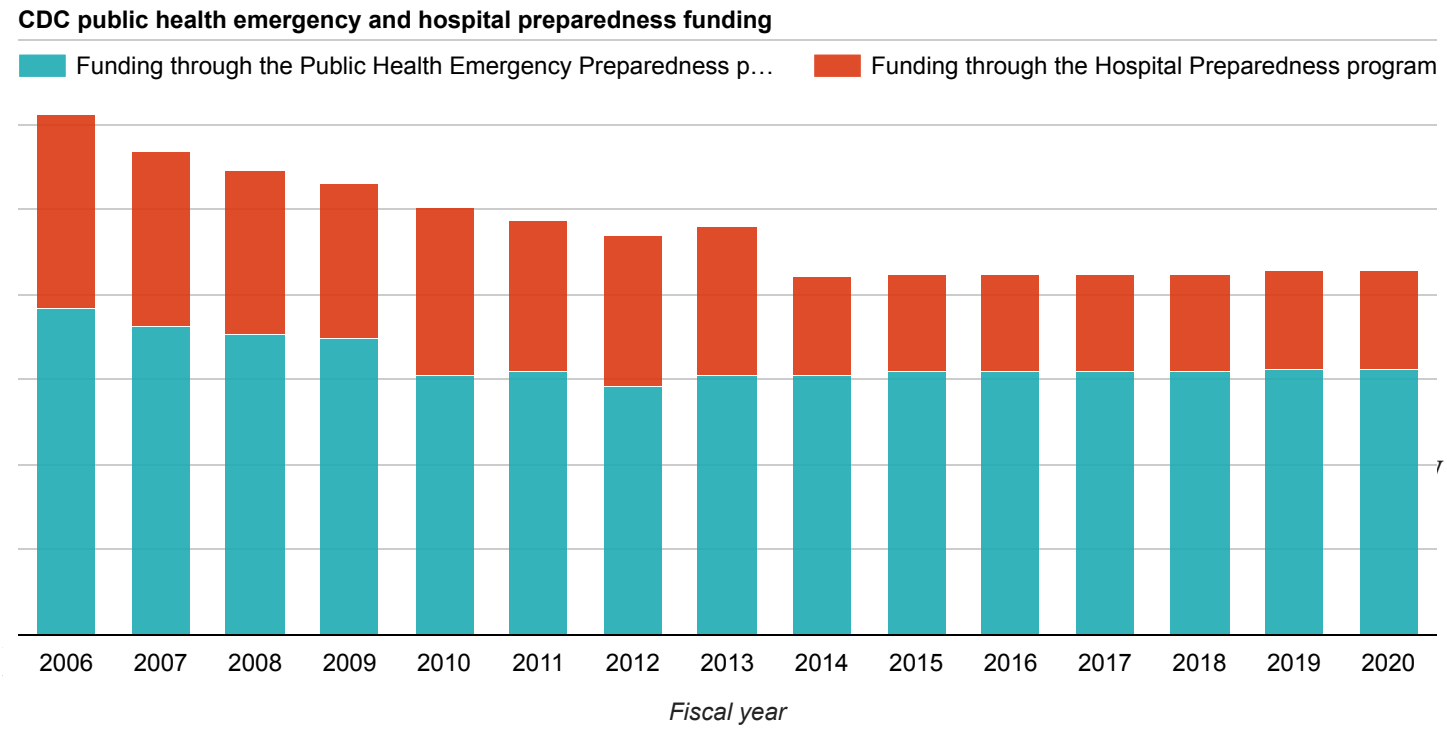
Public health jobs lost during the recession of 2008 were never replaced. Almost immediately after calls for a drastic increase in the public health workforce, an estimated 19% of governmental public health workforce positions — roughly 51,000 jobs[13] in state, territorial, and local public health departments were lost following the Great Recession of 2008. Not only were jobs lost, but volatility (annual percentage gains and losses) in some cases were greater for public health than for any other governmental sector.

Pennsylvania is an example of this. While all other state agencies were losing jobs at a less than 3%, the state's Department of Health experienced a single year loss in 2008 of nearly 24% of its employees. Although the federal stimulus led to gains in 2009, it was not sufficient to stave off an overall 18% long-term loss in workers. Nationwide, total jobs lost in public health[14] from the Great Recession have remained at 50,000.



STAT *Patrick Skerrett / STAT* Source: Robin Taylor Wilson

U.S. preparedness funding is at an unacceptable low. Federal funds for state, local, and tribal public health preparedness were cut[15] from $940 million in 2002 to $675 million in 2019, and now total about $2 per citizen. During the same time period, health care emergency preparedness was cut by nearly 50%, from $515 million in 2004 to $265 million in 2019, and is now less than $1 per citizen.



unprepared."

Last year, several leading medical organizations declared a public health crisis[18] in the health care workforce due to increased workplace demands. As Covid-19 began, the major strength of our public health system — its people — were not fully supported.

Improvements are not likely to be made without acknowledging the benefits of a strong public health infrastructure and the benefits of public health investment in health promotion and disease prevention. Benefits of public health investment accrue to the private sector[19] but have not been proportionally re-invested in governmental public health.

Consider the emergence of Zika and the increases in screening that were rolled out in state, local, and tribal health departments. In New York[22], the Zika plan included universal screening for travel-associated Zika virus exposure, signs and maps depicting areas with active Zika virus transmission, laboratory services, and medical care referral. The emotional and psychological costs aside, the economic costs — anywhere from $1 million to $10 million over a lifetime for one case of microcephaly — are devastating. Quick response by state and local health departments, including epidemiologists, likely averted additional cases.

The benefits of prevention must be re-invested in strengthening our public health commons.

We face Covid-19 with a governmental public health workforce deficit of as many as 300,000 workers. The Public Health Foundation and others have recognized that[23] "no single system currently provides the number of public health employees working in the United States or provides information on the composition and training levels of these employees."

It's past time to increase the public health workforce and address training needs. How do we act to save the public health commons? We can no longer dedicate so few resources to preparedness and continue to cut governmental public health resources already committed. Depending on the need, some of the public health workforce expertise lost since the Great Recession will take years to regain. We strongly urge Congress, as well as state and local leaders, to finally heed the collective warnings of the past and bolster the U.S. public health system immediately and in perpetuity.

Future generations should be reaping the rewards of a public health system that is foundational to our collective rights to life, liberty, and the pursuit of happiness.

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and chair of the epidemiology section of the American Public Health Association. The authors write on behalf of the leadership of the Epidemiology Section of the American Public Health Association, which also includes Oscar Alleyne, James Gaudino, Stanley H. Weiss, Sarah Patrick, Victor Ilegbodu, Kathryn Marwitz, Christine Arcari, H. Eduardo Velasco, Ramzi W. Nahhas, Timothy Sankary, Longjian Liu, Kari-Ann Hunter-Thompson, Arsham Alamian, Tomas Nuño, Kesha A. Baptiste-Roberts, Otto J. Ike, and Toby R. Levin. The views expressed in this article are those of the individuals above and do not necessarily reflect those of any employer or organization with which they are affiliated.

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