



Beyond the Tip of the Iceberg: Impacts of Federal Actions on State and Local Public Health Infrastructure

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It is a Wednesday afternoon, and a pediatrician in the emergency department of a children's hospital in Los Angeles (LA) County is called in to see a child presenting with cough, fever, and rash. The child is unvaccinated, and the parents report recent travel to Texas. The child is currently hypothermic and lymphopenic, and the astute clinical team is concerned about measles given the history and physical examination. The pediatrician contacts the on-call vaccine public health epidemiologist at the LA County Health Department, who gathers detailed information about the case, facilitates shipment of a specimen to the LA County Public Health laboratory for measles testing, and begins gathering information about potential exposures. A positive measles PCR result is reported less than 24 hours after the patient presented in the ED, and a public health investigation and response ensue. Local health department staff work in conjunction with hospital staff to identify anyone who might have been exposed to the child across several settings, assess their immune status, and supply and administer postexposure prophylaxis with vaccine or measles immune globulin to those without evidence of immunity.

This real-world scenario and many like it occur every day across the country. It is often said that people only notice public health when it is not working, and with the constant press of other responsibilities, clinicians might rarely consider the public health infrastructure that is required at all levels—federal, state, and local—to effectively respond when they encounter a patient with a condition of public health significance. While measles is (appropriately) on the minds of many clinicians at the moment, public health investigation and response are critical for many other conditions, from more common diseases like meningococcal infection, pertussis, hepatitis A, and

foodborne infections to rare conditions like flea-borne typhus, botulism, acute flaccid myelitis, anthrax, and infection with novel influenza viruses. It is important that people with these infections are identified, because of the transmissibility, novelty, and severity of the infections.

State and local health departments provide a range of services to prevent, detect, and respond to these and other public health threats in their communities. These services include conducting routine surveillance and providing information to clinicians and the public (eg, through dashboards, educational campaigns, and public health alerts); making vaccines and other preventive measures available to providers and communities; and investigating and responding to situations like the one described above to ensure access to appropriate testing and treatment and prevent further spread. While much of the public health infrastructure and legal authorities in the United States exist in local and state health departments, funding, coordination, support, and expertise from the federal level are vitally important for supporting the health of our public health system and our population. Recent and proposed reductions to federal public health staff, infrastructure, and funding result in fiscal and other challenges at the local and state jurisdictional levels.

Federal support and funding are necessary to ensure that responses to measles and other diseases of public health importance happen in a timely manner. According to a recent report from the Council of State and Territorial Epidemiologists, 84% of funds for state and territorial epidemiology staff were provided by the federal government in 2024.¹ This proportion is much higher in some jurisdictions; in North Carolina, for example, 95% of epidemiology staff are supported by federal funds (North Carolina 2024 Epidemiology Capacity Assessment Report, unpublished). America's largest metropolitan health departments are also heavily dependent on federal funds, although to a lesser degree, with direct federal support comprising 39% of funding for epidemiology activities and staff in 2024.² The LA County Department of Public Health, for example, receives about 39% of its funding directly from the federal government and 32% of its funding from the state, of which

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approximately 40%-60% is from federal pass-through funding.

Stagnant or declining federal funding led to the US state and local governmental public health workforce losing 40 000 jobs between the 2009 H1N1 pandemic and the onset of the COVID-19 pandemic.³ In response to the COVID-19 pandemic, massive one-time investments were made to shore up the resulting gaps in the public health infrastructure and bring health department funding from a minimally sustainable prepandemic level to a more functional level. These one-time investments allowed for dramatic and greatly needed improvements, particularly in the areas of data modernization and outbreak management. These included facilitating sharing of electronic health information (eg, laboratory results or immunization records) between healthcare organizations and public health departments, enhancing analytic capacity and data transparency. Staffing for public health departments, including informaticists, epidemiologists, programmers, physicians, public health investigators, and nurses, increased during the pandemic, which led to improved investigations and more timely data for action. Web-based dashboards were developed and deployed to give the public insight into COVID-19 transmission risk and increase access to data that drove public health decision-making. These short-term investments improved the efficiency and accuracy around COVID-19 data sharing. However, many of these infrastructure improvements could not be sustained without consistent support. Even before the recent and proposed cuts to federal public health funding, local and state health departments were already planning for significant reductions in capacity, including the expected loss of nearly one-fifth of the 2024 state and territorial applied epidemiology workforce as these one-time pandemic funds expired.¹ For many jurisdictions, this abrupt loss was exacerbated by federal efforts to claw back COVID-era funds that had already been awarded. Ultimately, the COVID-19 pandemic epitomized the “boom and bust” cycle of public health funding, and state and local health departments remain dependent on federal funding to sustain and further improvements made during the pandemic.⁴

Beyond the role of the federal government for funding public health infrastructure at the state and local level, state and local health departments also rely on our federal counterparts for subject matter expertise, coordination of surveillance across jurisdictions, priority setting, and support with investigations and responses that require specialized expertise or additional capacity. Pathogens do not respect jurisdictional borders, and one of the key functions of the Centers for Disease Control and Prevention (CDC) is to coordinate responses to outbreaks or disease threats impacting multiple states, ensuring that information, guidance, and resources are shared with state and local partners. The CDC also provides health departments with access to specialized laboratory testing and to experts with deep clinical and epidemiological knowledge across a range of topics that might come up infrequently in any given jurisdiction, for example,

investigations of multistate *Escherichia coli* outbreaks, responses to exposure to a person with measles on an international flight, increases in influenza-associated encephalopathy cases, and many other situations that require national public health leadership. It is neither feasible nor desirable to replicate this expertise and capacity in every state or local health department.

Recent cuts to staffing at the CDC have already jeopardized some of these supports. As just one example, all staff positions at the CDC’s viral hepatitis laboratory were terminated on April 1, 2025. This laboratory had provided genomic analyses to determine relatedness of hepatitis virus in clinical specimens, analyses that have been central to viral hepatitis outbreak investigations in North Carolina, LA County, and many other jurisdictions.^{5,6} This testing is not available elsewhere in the US Department of Health and Human Services or in commercial laboratories, meaning that our ability to identify and interrupt chains of transmission has been weakened. While some terminated positions were subsequently restored, the future of this program remains uncertain. Federal public health expertise and support have also disappeared in other areas that state and local agencies rely on to protect children’s health, including investigation and prevention of lead poisoning.

The impact of some federal cuts is already being felt at state and local levels. Following the reductions to federal support for tuberculosis programs and immigrant and refugee health services, some state and local health departments are reporting challenges to maintain these programs, meaning that these already underserved populations could likely face further gaps in care. However, the full impact to state and local health departments and communities will not be known for some time. While federal funding for some state and local public health programs has already been terminated, at the time of this writing many other programs are still operating with grant funds that were awarded during the prior federal administration. In some cases, the federal programs that award and oversee those grants have been gutted, leaving the future of the programs and the funding uncertain. Moreover, many programmatic and administrative staff at CDC have been laid off. Even though these actions are being litigated, the reorganization has created huge gaps in communications with state and local partners about how to proceed with current work, lack of clarity, and uncertainty around the likelihood of future funding. Adding to the complexity of navigating this uncertainty is the abrupt and sudden nature of changes with differing timelines, which complicates strategic planning and proactive decisions to redesign public health systems.

The known or potential loss of funding combined with uncertainty about the future of our programs has made future planning for some programs nearly impossible and created a sense of fear among staff. At the same time, watching their federal counterparts being fired and exposure to messages from the current administration that are perceived to belittle the

value of government service in general and public health in particular have left many staff feeling demoralized. This climate of fear and uncertainty is exacerbating pre-existing challenges facing the country's public health workforce. Between 2017 and 2021, nearly half of state and local public health department employees (46%) left their organizations, with many citing stress and burnout as well as post-traumatic stress symptoms after 2 years of responding to the COVID-19 pandemic. Among those who were of age 35 or under or had 5 or fewer years of experience, that rate rose to 75%.⁷ Any further challenges to our ability to recruit and retain the next generation of public health leaders will undermine our current and future response capabilities and jeopardize the longer-term future of governmental public health.

The effectiveness of state and local health departments is further challenged by confusing and conflicting health messages from the federal government and decisions made outside of transparent, evidence-based processes, which threaten to further erode trust in public health institutions. Building and maintaining trust in public health has always been critical—and is even more so in today's environment. In the wake of the COVID-19 pandemic, the state health department in North Carolina launched a strategic public health campaign aimed at increasing visibility of its work and fostering greater trust. These intentional efforts were successful, with recent data showing that 8 in 10 residents viewed the state health agency as essential to improving health outcomes across the state, and ratings for the agency's effectiveness, compassion, and trustworthiness have all improved.⁸ Harming the fragile foundation of trust in health and public health systems threatens to reverse these successes and undermines the ability to respond effectively to current and future public health threats—at both the individual and population levels.

These pressures on our federal, state, and local public health infrastructure are coming at a time when we are facing multiple emerging and reemerging threats. In addition to the resurgence in measles, we have seen increasing spread of several other familiar pathogens, including hepatitis A, pertussis, tuberculosis, and syphilis. Decades of evidence tell us that bringing any one of these under control will require a comprehensive and sustained public health response. Conversely, we know that if basic control measures are lost, we risk seeing a return to rates of infection that have not been seen in our lifetimes. At the same time, we are continuing to see circulation of avian influenza viruses in wild and domestic animals in the United States with documented spillover to humans,⁹ highlighting the need for enhanced surveillance and coordinated containment and response activities. Emerging diseases such as locally acquired dengue require a dedicated public health workforce to improve surveillance and inform testing and mitigation measures.

While we cannot yet know the full scope or impacts of recent and proposed federal actions on our public health infrastructure, what is certain is that local and state public health staff remain committed to protecting their communities, including by supporting clinicians and community partners who are on the front lines. It is unrealistic to expect that clinicians, health systems, and community-based clinics and organizations will step in to fill all the gaps that will remain when prevention, testing, response, and other traditional public health services are reduced or no longer available. For example, if public health no longer has the infrastructure to obtain and test clinical specimens, perform timely investigations to identify exposed individuals who lack immunity, and coordinate administration of postexposure prophylaxis, single measles cases will lead to outbreaks that are dangerous and difficult to contain. During this period of uncertainty, it is more important than ever for frontline clinicians to collaborate with their health departments and public health partners. This includes staying abreast of updates and changing guidance and engaging directly and through medical societies and associations to understand what public health services might no longer be available and where the clinical community may need to adapt. It is also important for clinicians to communicate clearly to their policymakers the importance of maintaining a strong public health infrastructure at all levels to protect the health of our patients and all communities.

Conflicts of interest

None declared.

REFERENCES

1. Council of State and Territorial Epidemiologists. *2024 Epidemiology Capacity Assessment*. Council of State and Territorial Epidemiologists, 2024. Accessed June 5, 2025. <https://www.cste.org/group/ECA>
2. Auer S, Armstrong E, Simmons A, Arrazola J, Masters A, Juliano C. *Big Cities Health Coalition Epidemiology Capacity Assessment*. Council of State and Territorial Epidemiologists, 2024. Accessed July 16, 2025. https://eca.cste.org/wp-content/uploads/2024/10/BCHC-2024-Report_FINAL.pdf
3. Leider JP, Yeager VA, Kirkland C, Krasna H, Hare Bork R, Resnick B. The state of the US public health workforce: ongoing challenges and future directions. *Annu Rev Public Health* 2023;44:323-341. <https://doi.org/10.1146/annurev-publhealth-071421-032830>
4. McKillop MK, Lieberman DA. *The Impact of Chronic Underfunding on America's Public Health System: Trends, Risks, and Recommendations 2024*. Trust for America's Health, 2024. Accessed June 5, 2025. <https://www.tfah.org/wp-content/uploads/2024/08/2024-PublicHealthFunding-FINAL.pdf>
5. Alarcón J, Dao BL, Santos M et al. Hepatitis C virus outbreak at a pain clinic in Los Angeles. *Infect Control Hosp Epidemiol* 2024;45:549-550. <https://doi.org/10.1017/ice.2023.294>
6. Moore ZS, Schaefer MK, Hoffmann KK et al. Transmission of hepatitis C virus during myocardial perfusion imaging in an outpatient clinic. *Am J Cardiol* 2011;108:126-132. <https://doi.org/10.1016/j.amjcard.2011.03.010>
7. de Beaumont Foundation. What is PH WINS? Accessed June 5, 2025. <https://debeaumont.org/phwins/what-is-phwins/>
8. North Carolina Department of Health and Human Services. *North Carolinians Trust Public Health*. Accessed July 16, 2025. <https://www.dph.ncdhhs.gov/about-us/north-carolinians-trust-public-health>
9. Centers for Disease Control and Prevention. *H5 Bird Flu: Current Situation*. *Avian Influenza (Bird Flu)*. Centers for Disease Control and Prevention, 2025. Accessed June 5, 2025. <https://www.cdc.gov/bird-flu/situation-summary/index.html>