Public health laboratories are responsible for monitoring, detecting and responding to all-hazards threats that can occur anytime across the globe. In recent years, emerging and re-emerging infectious diseases, natural disasters and other public health threats have reminded us of how important public health laboratory preparedness is in sustaining operations before, during and after unanticipated events. A skilled and resilient workforce is a vital component of public health laboratory operations and critical to the provision of essential public health services. During public health emergencies, public health laboratories must make staffing adjustments to ensure continuity of operations and meet testing demands. As demonstrated by the testing needs of the coronavirus disease (COVID-19) pandemic, public health laboratories play a lead role in the detection and response to infectious diseases and that role cannot be performed without a highly trained and resilient workforce.

As part of its mission to ensure that public health laboratories are equipped with the resources needed to protect the public’s health, APHL regularly assesses the capability and capacity of state and large local public health laboratories to respond to emergencies. This issue brief summarizes key workforce findings from the 2021 APHL All-Hazards Laboratory Preparedness Survey.

KEY FINDINGS

Impact of COVID-19 on the Workforce
The COVID-19 pandemic continued to disrupt public health laboratory operations, impacting laboratory training, education and practice while emphasizing the need for more trained personnel. Prolonged high testing volumes forced laboratories to divert staff for surge testing to meet demands and required staff to work additional hours. Shortages were heightened by staff illnesses from COVID-19, and social distancing approaches greatly altered laboratory operations. These changes directly impacted routine work, such as conducting preparedness exercises and trainings at clinical and other laboratories.

Staffing Challenges
The nation faces a number of workforce challenges, compromising our laboratory system and reducing our vigilance for pathogens of public health significance. These challenges encompass:

- **Workforce Shortages:** There is a limited pool of highly-skilled laboratory personnel who are willing to work in the governmental sector.
- **Recruitment:** Many public health laboratories do not have comparable salaries or recruitment incentives to attract qualified applicants.
- **Retention:** Retaining highly-qualified staff is difficult due to low salaries, lack of a career path and a growing number of retirees.
- **Bureaucracy:** The complexity of administrative processes at state and local governments and the reliance on federal funding for preparedness leaves little flexibility for recruitment and retention of a qualified workforce.

To cope with workforce shortages and budget constraints, public health laboratories reported that they are combining positions and cross-training staff, placing more responsibilities on fewer personnel.
CONCLUSION

Laboratories play a key role in protecting the public’s health. The ability of the public health system to prevent, respond to and recover from all-hazards threats depends upon a well-trained, resilient and sustainable public health laboratory workforce. Unfortunately, the viability of public health laboratories is threatened by ongoing workforce challenges like staff shortages, issues with recruitment, hiring and retention, budget constraints and non-competitive salaries for laboratory personnel. These staffing issues—coupled with an ongoing pandemic—have made it difficult for public health laboratories to not only carry out day-to-day responsibilities, but also to prepare for public health threats of the future.

While today’s workforce faces a number of challenges, their value has been clearly demonstrated during the ongoing response to COVID-19, which has required all components of our public health laboratory system to come together to monitor, detect and respond, to protect the public’s health within the US and globally.

ACKNOWLEDGMENTS

Thank you to the 52 public health laboratories that completed the 2021 All-Hazards Laboratory Preparedness Survey.