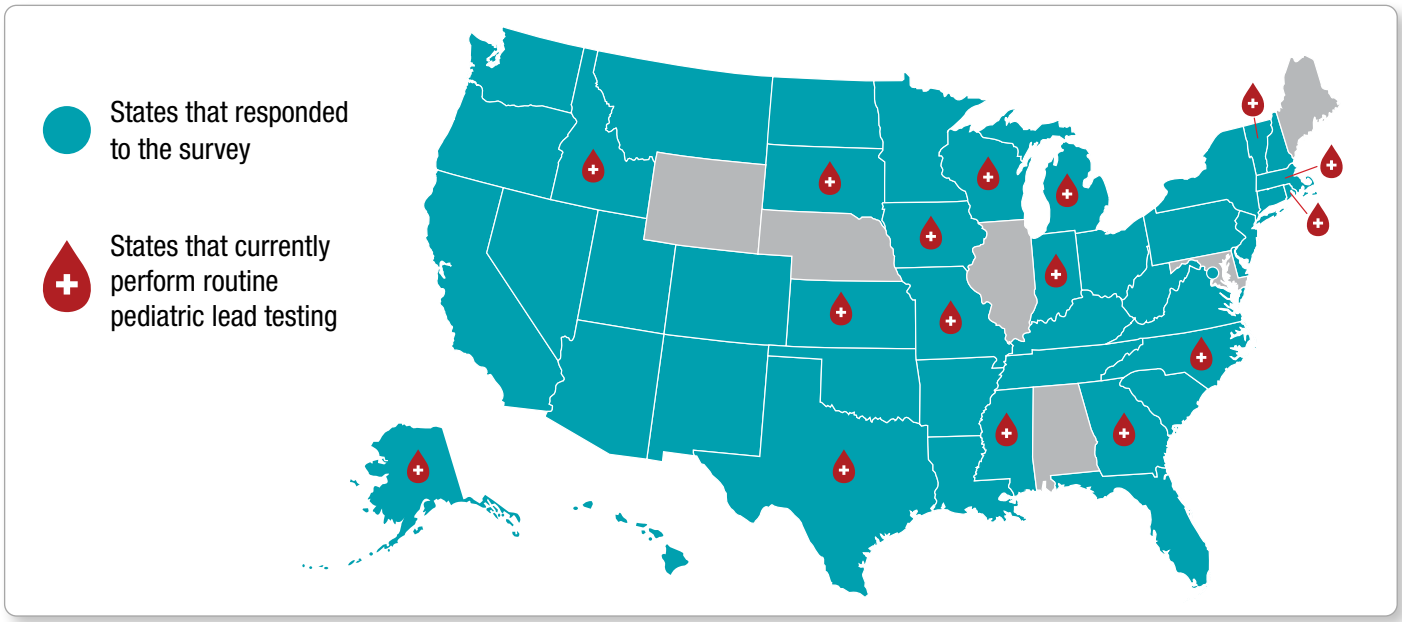
2023 Pediatric Lead Testing Capability and Capacity Survey

Blood Lead Testing in Public Health Laboratories

A blood lead test is the best way to find out if a child has lead poisoning, and public health laboratories are major contributors to blood lead testing in the US. The data* below explore the analytical capability and capacity of state and local public health laboratories to perform pediatric blood lead testing,** the status of their pediatric testing programs and their desire to develop or expand childhood lead testing programs. Of particular interest were changes to testing practices following the 2021 reduction in the US Center for Disease Control and Prevention's (CDC) blood lead reference value (BLRV) to 3.5 ug/dL.

Pediatric Lead Testing at State Public Health Laboratories



Of the 44 state public health laboratories that participated in the survey:

84% are qualified to conduct LRN-C lead testing

This means that CDC has approved for them to perform the Laboratory Response Network for Chemical Threats (LRN-C) blood metals panel for lead, mercury and cadmium (37/44).

34% currently perform routine pediatric lead testing (15/44)

57% (25) do not perform any pediatric lead testing. Five do conduct non-routine pediatric lead testing (four in emergency situations and one as part of a reference laboratory service).

Of the 19 state laboratories with lead testing programs:

95% analyze venipuncture samples (18/19)*

84% (16) analyze capillary blood, and 5% (1) analyze dried blood spots.

100% are willing to do more lead testing.

All indicated that they would be available to provide additional pediatric lead testing, if resources were available (19/19).

* These data are based on the Association of Public Health Laboratories (APHL)'s 2023 Pediatric Lead Testing Capability and Capacity Survey, distributed in the spring of 2023 to 112 state and local public health laboratories; 44 states and 25 local laboratories responded. See the full report for complete data from all survey respondents.

** Pediatric lead testing defined as any blood test on a child less than six years old.

APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES®

7700 Wisconsin Avenue, Suite 1000, Bethesda, MD 20814 | www.aphl.org | 240.485.2745 | info@aphl.org

Impact of Reduced CDC Blood Lead Reference Level

CDC's recommended BLRV was reduced from 5 ug/dL to 3.5 ug/dL in October 2021. The following reflect the changes that have been enacted since the new BLRV was put into effect.

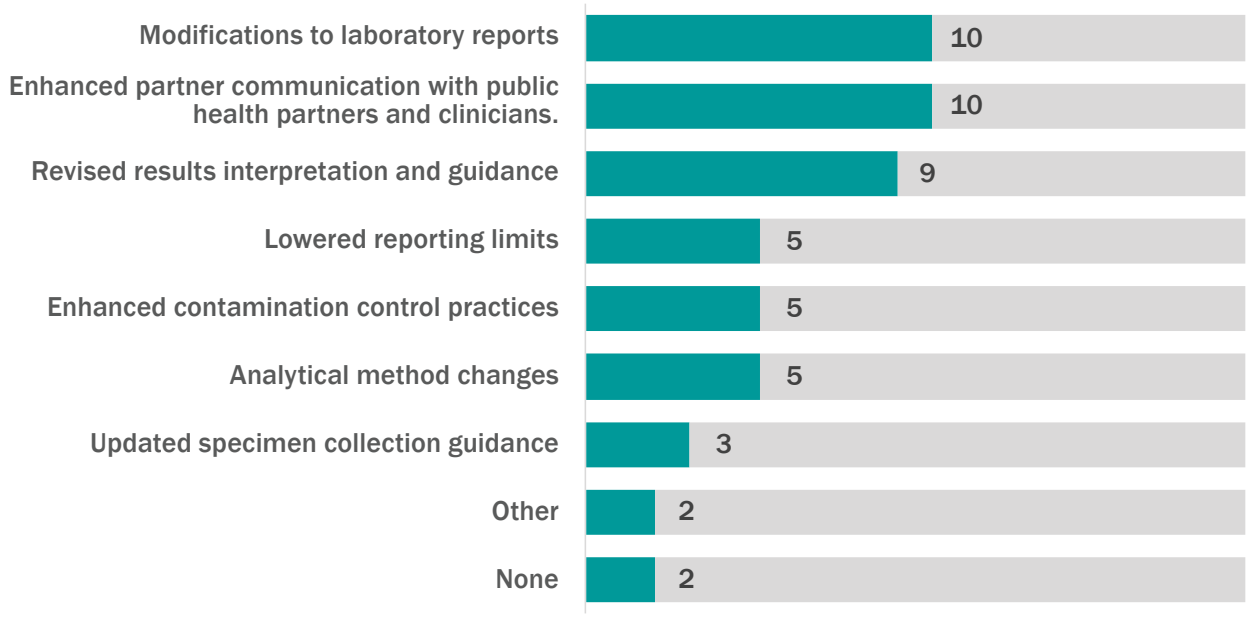
Out of the 44 state and 25 public health laboratories that participated in the survey:

49% **were in jurisdictions that have adopted the new CDC BLRV (34/69).**
An additional 9% (6) were working to adopt the new BLRV, while 32% (22) were unsure about BLRV status.

35% **collaborated with Childhood Lead Poisoning Prevention partners to communicate about the new BLRV, testing options and result interpretation (24/69).**
Almost half (42%, 29) reported no collaboration, while 23% (16) were unsure about collaboration efforts.

Modifications Made in Response to the CDC BLRV Reduction

at the 19 state laboratories with lead testing programs:



Other responses included 1) implementation of online training via a public website for correct specimen collection, packaging, and shipping; 2) a shift in testing methodology from GFAAS to ICP-MS. One laboratory reported that adjustments have not yet been made due to coordination with public health nurses and logistical considerations, with a potential implementation date of Summer 2023. Individual responses are on file with APHL.

Read the full survey report for complete data from all participants, and visit APHL.org/pubs-search to find more resources from APHL.

This project was 100% funded with federal funds from a federal program of $1,087,467 supported by Cooperative Agreement number #NU60OE000104, funded by the US Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC or the US Department of Health and Human Services.

APHL ASSOCIATION OF PUBLIC HEALTH LABORATORIES®

7700 Wisconsin Avenue, Suite 1000, Bethesda, MD 20814 | www.aphl.org | 240.485.2745 | info@aphl.org