



State Strategies to Improve Childhood Lead Screening and Treatment Services under Medicaid and CHIP

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Many states have adopted strategies to increase lead screening rates and better link children with elevated blood lead levels to critical treatment. More than 535,000 children in the United States under age five have high blood lead levels.¹ Low-income and minority children, who are more likely to live in older housing that exposes them to lead, are particularly at risk.² Medicaid and the Children's Health Insurance Program (CHIP), which serve low-income children, are in a unique position to implement policies and strategies that:

- Identify children who have been exposed to lead;
- Refer them for proper follow-up treatment; and
- Ensure that their ongoing lead treatment is properly managed.

This issue brief details the potential health impacts of lead toxicity in children and Centers for Medicare & Medicaid Services (CMS) requirements for screening and treatment under Medicaid and CHIP. It also explores several state approaches to improve both lead screening rates and treatment of lead toxicity in children.

The Impact of Lead Exposure in Children

Linking children with elevated blood lead levels to treatment is vitally important to limit the impact of lead toxicity on their health and development. Although lead's effects vary widely, a child exposed to lead can experience significant health issues in both the short- and long-term.³ Children with blood lead levels between 5 and 10 micrograms per deciliter ($\mu\text{g}/\text{dL}$) may experience delayed puberty and decreases in hearing, cognitive performance, and postnatal growth or height. Negative health effects can also occur when blood lead levels are less than 5 $\mu\text{g}/\text{dL}$, including lower IQ scores, decreased academic achievement, and increases in both behavioral problems and attention-related behaviors.⁴ Childhood lead exposure can have impacts beyond healthy growth and development, it can also potentially limit lifelong socioeconomic advancement.⁵

Lead contamination can originate from a number of sources, including paint in housing built before 1978, leaded pipes (which can contaminate drinking water), and imported items such as toys, cooking containers, and beauty products.⁶ Approximately 1.1 million low-income households with children under age six contain significant amounts of lead-based paint, placing those children at elevated risk of lead toxicity.⁷

Though no safe blood level of lead has been identified, in 2012 the US Centers for Disease Control and Prevention (CDC) determined a ceiling threshold of 5 $\mu\text{g}/\text{dL}$ and recommended medical action when blood lead levels exceeded that amount.⁸ Treatment for confirmed blood lead levels up to 44 $\mu\text{g}/\text{dL}$ includes interventions ranging from monitoring blood levels and taking proactive measures, including nutritional counseling and taking an abdominal X-ray.⁹ High levels (more than 45 $\mu\text{g}/\text{dL}$) require oral or inpatient chemical chelation, a type of molecular bonding process that doctors use to leach lead from the body.¹⁰ The serious health impacts of childhood exposure to lead underscore the importance of screening and early detection.

Lead Screening and Treatment Requirements under Federal Medicaid and CHIP

What childhood risk factors should trigger lead screening?

- Older housing
- Elevated blood lead levels in siblings
- Travel to countries where lead is commonly used

By following lead screening guidelines and properly screening children for elevated blood lead levels, states are better able to identify children who need treatment and mitigate potentially longer-term health issues.

Lead screening guidelines are an important resource for states seeking to improve screening rates in children. The American Academy of Pediatrics (AAP) *Bright Futures Guidelines* recom-

mends that a risk assessment (e.g. questionnaire) for lead exposure be performed by a medical provider during well-child visits at ages 6, 9, 12, and 18 months and 2, 3, 4, 5, and 6 years. If certain risk factors are identified during the assessment, AAP guidelines recommend the child's blood be screened for lead.¹¹ For children enrolled in Medicaid or who live in high lead exposure-prevalence areas, AAP recommends universal screening at age one and two well-child visits. Federal lead screening requirements give state Medicaid programs clear direction on the frequency and scope of screenings and the types of treatment covered by Medicaid.

Children under age 21 enrolled in Medicaid have access to comprehensive coverage through the Early Periodic Screening, Diagnostic and Treatment (EPSDT) benefit that includes preventive health care services, diagnosis, and treatment.¹² The EPSDT benefit requires screening and treatment for elevated blood lead levels with screening tests performed at ages one and two, which is consistent with the *Bright Futures* recommendations. Additionally, Medicaid-enrolled children between ages two and six with no record of previous blood lead testing must be screened.¹³ Separate CHIP programs must have a schedule for screenings covered by their program and CMS recommends that states align their CHIP screening schedule with their Medicaid schedule.¹⁴ The Medicaid lead screening guidelines are designed to ensure that children are screened early and often for lead exposure so that if elevated lead levels exist, treatment can begin as soon as possible.

Under the EPSDT benefit, any service that is medically necessary to treat a condition identified during an EPSDT screening (including a lead screening) is covered by Medicaid.¹⁵ Referral of children with elevated blood lead levels to treatment is an important step to mitigating the damage that lead toxicity has on children's health and development. Medical and environmental interventions to treat a child with lead toxicity are widely accepted and have been shown to be effective at mitigating the effects of lead toxicity.¹⁶

State Strategies to Improve Lead Screening Rates

Targeted Screening

Lead exposure is often not evenly distributed geographically across a state and carefully targeted state resources may be better deployed. In recognition of this, CMS gives states the option to seek approval to implement a targeted lead screening plan for identified high-risk populations, rather than use a universal screening approach.¹⁷ CMS has provided guidance detailing how states can transition to a targeted blood lead screening approach for Medicaid-eligible.¹⁸

Arizona, the only state to receive CMS approval for a targeted screening plan, has created a method to identify geographic areas of the state with high lead risk.¹⁹ Using data from the Arizona Department of Health Services Office of Environmental Health, Arizona developed a lead poisoning risk index to identify high-risk zip codes. Using this high-risk index, *all* children living in targeted zip codes -- not just those who found to be at risk during well-child visit assessments -- should have a blood lead test at age 12 and 24 months. Since implementing the targeted screening strategy, Arizona has continued to analyze the effectiveness of its risk index and plans to revise its list of targeted zip codes annually to make sure the highest-risk areas are targeted for screening.

For states that use the targeted screening strategy, having the ability to analyze the data and a collection methodology are critical to ensure that high-risk populations are properly identified for targeted screening. An important resource for state Medicaid agencies pursuing this strategy is their states' health departments, which typically have access to and experience with the population data needed to properly identify populations for lead screening.

Lead Screening Performance Improvement Projects

Another option states can use to increase lead screening rates is implementing a lead screening Performance Improvement Project (PIP) in their Medicaid managed care plans. PIPs allow Medicaid agencies to focus the performance improvement work of their managed care organizations (MCOs) in a particular service area and can help ensure that MCOs acknowledge and implement their goals. PIPs can also create a culture of collaboration between MCOs within a state to move the needle on the shared goal of improving screening rates for children. To improve screening rates through PIPs, states use Healthcare Effectiveness Data and Information Set (HEDIS) or other performance data to:

- Compare various MCOs' performance on lead screening measures, or
- Require managed care plans to implement PIPs that focus specifically on improving blood lead screening rates.²⁰

Kentucky, for example, requires its MCOs to track and report their performance on the HEDIS lead screening measure. If an MCO's HEDIS score is within the 50th percentile when compared to the National Committee on Quality Assurance averages, the MCO receives an incentive payment. In addition, Kentucky's MCOs can also receive an incentive payment if they improve at least two percentage points over their last year's HEDIS scores.²¹

Alternatively, states may impose sanctions or penalties on MCOs that fail to meet a lead screening goal. New Jersey allows a reduction in MCO capitation rates by up to \$4 per enrollee if the MCO fails to meet an established baseline lead screening rate.²² As of September 2016, five states (Florida, Iowa, New Jersey, Pennsylvania, and Wisconsin) have implemented lead screening PIPs, and six other states now track lead screening using performance measures (Georgia, Kentucky, Maryland, New York, Rhode Island, and Tennessee).²³

State Lead Screening Registries

Tracking cases of childhood lead exposure is an important strategy to identify sources of lead contamination and ensure that providers report screening test results. Many states require providers and laboratories to report test results to their state health departments.²⁴ Some states have created registries in order to improve data collection and provide public information about childhood lead exposure. The Texas Department of State Health Services, for example, requires reporting of blood lead test data for all children under age 15 through the Texas Child Lead Registry.²⁵ The Washington Department of Health oversees a tracking network with a Child Blood Lead Registry that represents a non-random

sampling of results from a small percent of children in the state.²⁶ In Virginia, prior to 2016, the level for mandated reporting was 10 µg/dl or above and the locality also had to be reported.²⁷ To align with CDC recommendations, Virginia now requires doctors and labs to submit data on all positive blood level tests above 5 µg/dl to the state health department, which uses the data to create the Annual Lead-Safe Virginia Summary Surveillance Report.²⁸

State Strategies to Improve Lead Toxicity Treatment in Children

Case Management for Children with Lead Exposure

Case management is a strategy to ensure children with elevated blood lead levels receive follow-up care. Specific lead case management services can include confirmation of blood lead levels, home visits for a visual assessment of potential sources of lead exposure, family education about lead hazards and toxicity effects, nutrition counseling, cleaning techniques, coordination of the child's ongoing care, and the development of a written care plan with the child's primary care provider.²⁹ States may have different standards for their Medicaid case management services.

- **Rhode Island** refers all children with blood lead levels at or above 5 µg/dL for case management services reimbursed through Medicaid.³⁰
- **Missouri** offers case management for children with blood lead levels greater than 10 µg/dL.³¹
- **Michigan** offers all Medicaid-eligible children served by Flint's water system access to case management services. Services include comprehensive assessments, development and management of individualized care plans, nutritional support, and early education programs.³²

To support the cost of case management, several states have used Health Services Initiatives (HSI), a state-designed initiative that permits the use of CHIP administrative funds to improve the health of low-income children enrolled in Medicaid or CHIP.³³ Michigan used HSI funds for case management for children who screened positive for lead levels as well as for direct services, lead screening, outreach, and education.³⁴

How Health Services Initiatives (HSI) address lead poisoning: HSI give states the option under CHIP to develop programs to improve the health of low-income children, including lead exposure. In addition to educating the public about the dangers of lead and providing case management, states can use funds to support lead abatement activities. If they do, states must develop a plan for coordinating work with other federal agencies and funding sources.³⁵

Lead Inspection and Removal

Following a positive lead screen result, a child's home should be examined for potential sources of lead exposure. Medicaid may reimburse the cost of these environmental lead inspections, which include analysis of paint, dust, water, and soil in and around the child's home.³⁶ Once lead is detected, lead abatement is required to remove lead in the home, primarily by removing the lead-based paint and replacing tainted components (e.g., doors and windows) by trained and certified individuals or firms.³⁷ Indiana recently received federal authority to use \$15 million in CHIP HSI funding over the next five years to specifically focus on abatement and removal of lead hazards in homes.³⁸ Michigan covers environmental inspections for children in Medicaid and CHIP using HSI funding.³⁹ In Georgia, environmental inspectors from local health departments receive Medicaid reimbursement for lead inspections.⁴⁰ Rhode Island offers window replacements as part of its comprehensive lead follow-up services for children under age six who have a blood lead level over 15 µg/dL.⁴¹ Though seldom used by Rhode Island to

support lead abatement, this limited structural remediation is made available through a Section 1115 Medicaid demonstration waiver.

Conclusion

Lead toxicity impacts children in a number of harmful ways, hindering development and creating short- and long-term physical and mental health issues. Given the continued risk for many children, state Medicaid and CHIP programs provide many opportunities and proven strategies to improve identification and treatment of children at risk for lead toxicity. States can examine their data and develop targeted screening strategies, seek additional federal funding, or collaborate with local agencies and health plans to fund case management, environmental inspections, and lead abatement services.

Additional Resources

- [CMS Lead Screening Webpage](#)
- [CMCS Information Bulletin: Coverage of Blood Lead Testing for Children Enrolled in Medicaid and the Children’s Health Insurance Program, November 2016](#)
- [CMCS Informational Bulletin: Targeted Lead Screening Plans, June 2012](#)
- [CMS Guide for States Interested in Transitioning to Targeted Blood Lead Screening for Medicaid Eligible Children, May 2012](#)
- [CDC Lead Webpage](#)
- [CDC Policy Guide – Preventing Lead Poisoning in Children](#)
- [EPA Webpage - Basic Information about Lead Drinking Water](#)

Notes

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