BACKGROUND

A growing number of healthcare payers and organizations are interested in increasing their investments in the social determinants of health to prevent disease, reduce costs, eliminate disparities, and improve quality of life. These investments have the potential to dramatically reduce the burden of preventable housing-related illness, including asthma and childhood lead poisoning. While some states have established Medicaid reimbursement for services delivered in the home environment related to asthma and lead exposure, many others are actively trying to establish or expand reimbursement opportunities. To increase understanding of the opportunities of healthcare financing for healthy homes surveys, the National Center for Healthy Housing (NCHH) conducted a nationwide survey to identify states where home-based services for children with lead exposure or patients with asthma are already in place or pending.

NCHH developed two online surveys—one survey focused on Medicaid coverage of home-based asthma services and the other on Medicaid coverage of follow up services for children with lead exposure. Respondents were asked questions about Medicaid reimbursement and other healthcare financing, with an emphasis on services that included environmental assessment, education, or remediation to address either asthma triggers or lead hazards in the home environment. NCHH sent the online surveys to state Medicaid directors and state program contacts in April 2014. NCHH received responses from 46 different states in response to the asthma survey, a response rate of 92%, and from 49 states in response to the lead survey, a response rate of 98%.
KEY FINDINGS

Key findings are highlighted below. For the complete findings and additional detail about the survey methodology, see the report Healthcare Financing of Healthy Homes Services: Findings from a 2014 Nationwide Survey of State Reimbursement Policies.²

- A total of 27 states (54%) reported having some Medicaid reimbursement policy in place for either home-based asthma services or follow-up services for children with lead exposure.
  - Twenty-three states (46%) reported that some Medicaid reimbursement was in place for lead follow-up services. Eighteen states (36%) reported that lead follow-up services were a required service, and seven states (14%) reported that the services were in place as an optional service within the state.
  - Thirteen states (26%) reported that some Medicaid reimbursement was in place for home-based asthma services. Only one state reported that this was a required service.
  - Seven states (14%) reported that one or more private payers in the state provide or reimburse for home-based asthma services, and an additional seven (14%) report that one or more private payers are actively exploring putting these services into place. By contrast, only three states (6%) reported knowledge of private payers who reimburse for or provide lead follow-up services, and none were aware of private payers who were actively pursuing these services.
  - States also reported on other financing mechanisms, including hospital community benefits, social impact bonds, and state-funded programs to provide services. In general, these types of financing mechanisms were less common than Medicaid reimbursement. More states reported knowledge of community benefits, social impact bonds, and Accountable Care Organizations investing in home-based asthma services than in environmental follow-up services for lead-exposed children. However, more states reported state funding in place to provide environmental follow-up services for children exposed to lead.
  - Overall, respondents felt that state Medicaid agencies (56%), federal agencies (55%) and state asthma control or lead and healthy homes programs (47%) were the most influential groups for states seeking to establish reimbursement for healthy homes services.
  - When asked about specific drivers of change, both lead and asthma respondents rated credible information about potential health improvements resulting from interventions and potential cost savings, federal funding for programs, political will/leadership, and relationships or partnerships to get the issue on the table as the most important drivers for states seeking to put reimbursement into place.

DISCUSSION

A growing number of healthcare payers and organizations are interested in increasing their investments in the social determinants of health to prevent disease, reduce costs, eliminate disparities, and improve quality of life. The Affordable Care Act is reshaping the way our nation thinks about health and healthcare by recognizing the critical importance of factors outside the clinical healthcare system in determining our health status. The results of this survey indicate that more than half of U.S. states have some policy in place to support Medicaid reimbursement for either home-based asthma services or follow-up services for children with lead exposure. This number should be encouraging to public health and housing practitioners who have long recognized the potential for investment in housing to improve population health. However, the survey findings also reveal that we are far from meeting the full promise of healthcare financing in reducing the burden of housing-related illness and injury.

In many places, policies may be very limited in scale (in geographic scope, patients eligible for services and/or range of services available). In other cases, policies exist but may not be effectively translated into actual services for patients. More specifically, given that appropriate follow-up for children with lead exposure is a requirement of EPSDT, it is also troubling that so few states report
that the service is a required benefit. Additional follow-up is merited to uncover the infrastructure and drivers behind effective policies and the barriers faced by states whose policies are limited, not effectively translated into services, or not in place at all. Follow-up research being conducted by NCHH and the Milken Institute School of Public Health at the George Washington University will explore this in further detail.

There were also important differences between the survey findings for asthma and lead. Generally speaking, fewer overall states have existing policies covering Medicaid reimbursement of home-based asthma services. This is to be expected since coverage of lead services is a federal requirement. Yet the survey suggests that a greater proportion of states are actively pursuing putting asthma home-based services into place or expanding existing services. Fewer states reported that such plans were in process for lead. This could be because CDC has required for over a decade that its grantees pursue Medicaid reimbursement as part of their Childhood Lead Poisoning Prevention grant programs. States may have long ago explored this opportunity and confronted obstacles discouraging continued effort.

Where home-based asthma services were in place, they seem to be embedded in or integrated with a clinical framework (e.g., in terms of the criteria used to determine eligibility, reliance on clinical staff to provide services, types of entities that typically bill for services). By contrast, lead follow-up services appear to be less connected to clinical services but more robustly integrated into the environmental public health infrastructure of government agencies. This contrasting picture of integration with clinical services for asthma and integration with environmental public health was also apparent in the prevalence of other types of financing in place to cover services, with a greater number of state programs funding lead follow-up services, but a greater number of private payers, hospital community benefits, and ACOs investing in home-based asthma services.

These differences may highlight opportunities for practitioners in asthma control and lead poisoning prevention to share lessons learned with each other (e.g., for asthma practitioners to find opportunities to increase integration with the public health system and for lead practitioners to increase integration with the clinical healthcare system). An increased investment in housing has the potential to dramatically reduce the burden of preventable housing-related illness, including asthma and childhood lead poisoning. The actions listed below can help to galvanize that investment and subsequently prevent illness, improve care, and reduce disparities and healthcare costs.

## RECOMMENDATIONS

### Follow-up for Children with Lead Exposure

- CDC and CMS should ensure that clinicians are aware that lead exposure remains a significant childhood issue and that lower blood lead levels than previously thought are deleterious to child health and development. Specific recommendations include the following:
  - CMS should take steps to ensure state compliance with the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit through clarifying guidance and/or by updating the State Medicaid Manual. The revision should include information about the new CDC reference value of 5 μg/dL as a change from the former “level of concern” of 10 μg/dL. Appropriate follow-up services should be defined to include all the services needed to identify lead hazards in the home environment, including the laboratory tests of water, dust, and paint, which are essential to the determination of risk.
  - CMS should continue to monitor state compliance with this policy and work with CDC to ensure that Childhood Lead Poisoning Prevention program staff are aware of Medicaid coverages in their states.
  - The Preventative Services Task Force Recommendations and the Bright Futures Guidelines should be revised to include the updated scientific information about childhood lead poisoning and appropriate follow-up services.
  - CMS should consider expanding the EPSDT benefit to cover environmental investigation.

For the complete survey findings and methodology, visit: [www.nchh.org/Resources/HealthcareFinancing/Snapshot.aspx](http://www.nchh.org/Resources/HealthcareFinancing/Snapshot.aspx)
of the home environment as a preventative service. Such a benefit could be triggered by a positive response to the environmental health screening questions already used in clinical settings to determine whether a blood lead test is needed. A preventative investigation would enable a caregiver to take corrective action before a child becomes exposed.

- The Government Accounting Office should update its report regarding the extent to which federal healthcare programs are reaching at-risk children.²
- State lead poisoning prevention programs should collaborate with housing agencies, visiting nursing associations, community health centers, and other entities that might already be set up for Medicaid reimbursement for other services to determine if they might provide lead follow-up services for children with lead exposure. The engagement of a broader array of partners in the service provision will provide additional capacity and perhaps offer an easier administrative pathway for reimbursement.

Provision of Asthma Services in the Home Environment

- State Medicaid agencies should explore reimbursement for in-home education for asthma as part of the EPSDT benefit.
- CMS should clarify that the provision of low-cost supplies for asthma trigger reduction is an allowable expense for reimbursement. Five respondents reported reimbursement for low-cost supplies for asthma trigger reduction and two for structural remediation, but it may be that these supplies and services are being delivered in a Medicaid managed care framework (and not reimbursed directly) and/or through leveraging other nonclinical funding streams. It is worth noting that the majority of the studies that provide the evidence base for home-based asthma programs include the provision of at least low-cost supplies as a component of the home visit. Since the clinical guidelines call for the provision of these supplies, it is logical that their provision be a covered healthcare benefit.
- States should explore increasing the role of health home providers in providing home-based asthma services. Since asthma is one of the qualifying chronic conditions for a health home under the ACA, more needs to be done to include health home providers in the reimbursement scheme for asthma.

General Recommendations

- CMS and CDC also should disseminate information about alternative pathways to reimbursement for services traditionally not considered “medical services” by Medicaid, so that other states can explore their adoption (e.g., through Medicaid waivers or managed care organization (MCO) contracts).
  - Under their contractual agreements, states can specify that MCOs must cover additional services related to lead environmental investigations or home-based asthma services.
  - State programs should explore waivers to test the provision of services not presently covered by Medicaid. Lead programs should look to this model as a method for accomplishing the same for lead poisoning prevention activities. For example, Rhode Island has a Section 1115 waiver in place to cover the cost of replacing windows in the homes of children diagnosed with lead poisoning.³ A Section 1115 waiver in MA to provide environmental assessment, education, and low-cost trigger management supplies is pending final CMS approval.⁴
- CMS should continue to use its waiver and demonstration authorities as vehicles for testing innovative community-based asthma and lead prevention programs for Medicaid beneficiaries. If programs are cost-effective and improve care, CMS should bring them into practice.
  - The Centers for Medicare and Medicaid Innovation (Innovation Center), created under the Affordable Care Act (ACA), is currently funding several projects focused on reducing asthma morbidity. One such project, the New England Asthma Innovations Collaborative (NEAIC), specifically targets patient self-management education and environmental interventions in the homes of Medicaid-enrolled children with poorly controlled asthma. Under the ACA, Innovation Center funded projects that improve quality and reduce the rate of cost growth can automatically be expanded throughout Medicaid.
  - “Delivery System Reform Incentive Payment”,

4 Recommendations for increasing the number of states with Medicaid coverage of lead follow-up and home-based asthma services
or DSRIP, programs are part of broader Section 1115 Waiver programs and provide states with significant funding that can be used to support payment and delivery system reforms within Medicaid. For example, New York is focusing part of its DSRIP funding on expansion of asthma home-based self-management, environmental assessment, and remediation. If they are successful, policymakers may want to see how DSRIP initiatives can be scaled and replicated across a larger number of states.

- State lead poisoning prevention and asthma control programs should explore other sources of financing for lead hazard control, including social impact bonds and hospital community benefit funds. Because the benefits of lead poisoning prevention and early detection and follow-up accrue to sectors other than healthcare (e.g., the education and juvenile justice system), social impact bonds may be an appropriate and important financing mechanism to explore. Some cities have successfully leveraged hospital community benefit funds for lead hazard control.

- State and local health departments should provide lead exposure data and asthma morbidity data (ideally at the ZIP code or census tract level) to their nonprofit hospital partners so that these data can be included in the hospital's required community health needs assessment.

- In the case of both lead and asthma, additional research is needed to understand client uptake of services in states where the benefits are in place.

- In terms of staffing, states are reimbursing for asthma/lead services provided by nurses more readily than those services provided by other professionals. A greater proportion of lead respondents reported that nonclinical staff were used to provide services, and more work may be needed to understand the role of workforce infrastructure and credentialing in reimbursing nonclinical providers. Importantly, recent Medicaid rule changes provide an opportunity to reimburse a broader range of professionals. State lead and asthma programs wishing to take advantage of this opportunity will need to be at the table when states adopt these rule changes.

- Across lead and asthma programs, more detailed information is needed about how states put policies into place (e.g., through waivers, state plan amendments, Medicaid Managed Care contracts, EPSDT, or other mechanisms) and how benefits are structured (what types of entities are being reimbursed, number of visits, reimbursement amounts). Additional follow-up is also needed to understand more about the services provided, including the scope of environmental assessments. This may yield important information for states that have not yet adopted these benefits.

**REFERENCES**


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