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Case Studies in Healthcare Financing of Healthy Homes Services

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KEY FINDINGS AT A GLANCE

General Themes

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- *Workforce capacity and infrastructure concerns (page 5).*
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About This Report

Reducing exposure to lead and asthma triggers in the home environment can significantly improve health outcomes, reduce healthcare utilization, improve educational outcomes for children, and improve quality of life for people of all ages. These types of services are a recommended component of care for people with asthma or children with lead exposure but are not widely available and often limited in scale. However, recent changes resulting from healthcare reform have increased opportunities for states to consider more sustainable and widespread implementation. Some states have already invested heavily in developing programs, policies, and funding to increase access to these critical public health services. Yet many states may be unsure about how to translate these evidence-based practices into policy.

This report is part of a multiyear project to document and demystify the landscape and opportunities surrounding healthcare financing for healthy homes services.[1] The findings described below are the result of 34 interviews conducted with Medicaid agencies, public health departments, and other stakeholders in 11 states to distill lessons learned about pursuing healthcare financing for healthy homes services at the state level.

Background

Housing-related illness and injury, including asthma and childhood lead poisoning, are significant problems for our healthcare system and society. For instance, over 24 million Americans have asthma, and an estimated 24 million homes have lead-based paint hazards that put children at risk for decreased cognitive function, development delays, behavioral problems, and other outcomes.[2, 3] The economic burden of these and other consequences of housing-related illness and injury in the U.S. is estimated at $53 billion annually.[4] Furthermore, this burden is not equally distributed, and many low-income communities are disproportionately impacted by housing-related illness. In many communities, disparities in health outcomes like asthma or lead poisoning are exacerbated by disparities in housing quality; this places additional strain on already stressed health, educational, and social service systems.

These disparities can be mitigated by a range of programs and services that have demonstrated improvements in health outcomes and provided a positive return on investment (ROI) by improving housing conditions and quality.[5, 6, 7] For example, a large body of evidence suggests that home visiting programs that address indoor environmental triggers (e.g., cockroaches, mice, tobacco smoke, mold) can improve asthma control, reduce asthma-related hospitalizations and emergency department visits, and provide a positive return on investment.[8] Similarly, the Advisory Committee on Childhood Lead Poisoning Prevention for the Centers for Disease Control and Prevention (CDC) recommends follow-up services for children with blood lead levels at or above the current reference value of 5 µg/dL, including continued monitoring of the blood lead level, nutritional intervention, environmental investigation of the home, and lead hazard control based on the results of the environmental investigation.[9] Unfortunately, access to these evidence-based strategies has traditionally been limited in scale, but an increasing number of states are exploring opportunities to scale up existing programs and ensure sustainable financing for healthy homes services. Healthcare financing, including Medicaid coverage, can play a key role in ensuring access to these critical services. A wide range of healthcare payers, including state Medicaid agencies, managed care organizations, nonprofit hospitals, and others, are beginning to recognize that housing interventions are beneficial for improving both health outcomes and their bottom line. While some payers have already established limited coverage of services to identify and reduce or eliminate exposure to asthma triggers or lead hazards in the home environment, many others are actively trying to establish or expand coverage.[10] These investments have the potential to dramatically reduce the burden of preventable housing-related illness, reduce costs and disparities, and improve quality of life, but additional action is needed to pave the way for healthcare financing of preventive services in most states.

This report is part of a multiyear project to document and demystify the landscape and opportunities surrounding healthcare financing for healthy homes services.[1] In 2014, the National Center for Healthy Housing (NCHH) conducted a nationwide survey to identify states where healthcare financing for lead poisoning follow-up or home-based asthma services was already in place or pending.[i,ii;11] In 2015 and 2016, NCHH and a project team led by the Milken Institute School of Public Health conducted a series of interviews in key states identified by the survey. An interview guide was developed to ask key informants in each state questions about the extent and nature of Medicaid-supported services within the state, details of services covered, barriers to implementation, next steps for expanding services and increasing access, and lessons learned. In each state, the project team conducted interviews with at least one representative from the state Medicaid agency, a program contact in the state health department and one to two additional stakeholders (e.g., advocates, local programs, payers, or providers). In total, the team conducted 34 interviews with stakeholders in 11 states. The interviews were used to develop detailed case studies to distill lessons learned in states with Medicaid reimbursement for healthy homes services, and ultimately to better equip other states in seeking reimbursement for these services.

While the states selected for inclusion (summarized in Table 1), are diverse in geography, political climate, size, and Medicaid expansion status and may have significant differences in the infrastructure for administering and delivering services through the state Medicaid program, several key themes emerged.

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[i] The survey and case studies used the Community Guide to Preventive Services definition of home-based, multi-trigger, multicomponent asthma interventions. These interventions typically involve trained personnel making one or more home visits, and include a focus on reducing exposures to a range of asthma triggers (allergens and irritants) through environmental assessment, education, and/or remediation. Lead poisoning follow-up services were defined as services that go beyond blood lead screening to include one or more of the following components: service coordination, education, environmental assessments to identify sources of lead exposure in the home environment or remediation of the home environment to eliminate lead hazards. See Appendix A of the full survey report for a complete definition: www.nchh.org/Portals/0/Contents/Reimbursement%20Landscape_MAIN%20REPORT_FINAL%20%2818%20November%202014%29.pdf.

[ii] All 50 states were invited to participate. Forty-nine states responded to the lead survey and 46 to the asthma survey.

Table 1. Overview of states selected and the status of coverage for either home-based asthma services or lead poisoning follow-up services in each

		Status of coverage for services					
State	Focus of case study	Statewide	Limited coverage	Policy in place but not implemented	Policy or initiative pending	Previously had coverage	No coverage and no policy pending
CA	Home-based asthma services		X				
DE	Home-based asthma services					X	
DC	Home-based asthma services				X		
MO	Home-based asthma services			X			
NY	Home-based asthma services		X				
OH	Lead follow-up services	X					
RI	Lead follow-up services	X					
SC	Home-based asthma services						X
TX*	Lead follow-up services	X					
VT	Home-based asthma services						X
WA	Home-based asthma services				X		

**Completed the same year as the 2014 survey without the formal interview guide or process for identifying informants.*

General Themes

Relationships matter.

Several interviewees highlighted the importance of individual relationships and strategic partnerships in securing coverage for home-based asthma or lead follow-up services. These included both long-term and opportunistic relationships, and interviewees noted that success often comes from knocking on multiple doors. For example, in the state of Missouri, interviewees credited the success of the legislative effort to partnerships developed during a June 2013 regional asthma summit sponsored by the Department of Housing and Urban Development (HUD), in collaboration with the U.S. Department of Health and Human Services (HHS) and the U.S. Environmental Protection Agency (EPA). Missouri's successful efforts show the importance of bringing together stakeholders, the strength of multisector partnerships, and the power of coordinated advocacy and educational efforts. Similarly, interviewees in Ohio emphasized the importance of involving all stakeholders – including local health department staff, state Medicaid staff, the Center for Medicare and Medicaid Services, and interested community groups – in the planning of programs to reimburse for lead poisoning follow-up services. Finally, Medicaid-based interviewees also noted that their agencies and workforce have been strained by the demands of implementing healthcare reform and cautioned that a slow response may be a result of these extra demands and not signify a lack of interest.

There isn't a single solution.

The opportunities to pay for home-based asthma or lead follow-up services vary greatly between states. Depending on the state, Medicaid or other healthcare payers may be the primary path to providing services, offer a complementary set of services, or not provide any services at all.

- In places where coverage exists, interviewees described multiple pathways to securing that coverage, from waivers to use of individual managed care organization (MCO) administrative expenses to contracts with state public health departments and more. Sometimes multiple pathways exist within the same state. For example, in New York, some MCOs currently or previously have covered services through use of administrative funds[iii] and the state is also launching a number of Medicaid-funded initiatives through the Delivery System Reform Incentive Payment Program. In Texas, the state health department relies on both reimbursement for direct services (environmental lead investigations) and Medicaid Administrative Claiming to help cover the costs of providing lead follow-up services to children with elevated blood lead levels.

- Regardless of coverage, interviewees noted that resources outside the healthcare sector are almost always needed to either serve as an alternative to healthcare coverage (where coverage doesn't exist) or as a complement to it so that the full range of services can be provided (e.g., structural remediation). For instance, in California, a wide variety of mechanisms are used to fund home-based asthma services, and in many cases a single program or initiative may rely on multiple funding sources (e.g., the assessment and education may be covered by an MCO, but the cost of supplies like mattress encasements may be funded through another source). Similarly, in New York, state-funded initiatives, ranging from quality incentive payments for MCOs to the state-funded Healthy Neighborhoods Program and regional asthma coalitions, have provided critical resources to spur innovation, provide services in high-risk communities, and generate evaluation data. In Ohio and Rhode Island, there is Medicaid-supported lead screening and follow-up home assessment and while RI also has a limited window replacement program, there are otherwise no dollars for structural remediation. However, when a violation is found and a notice of violation is issued, owners and families are automatically referred to local HUD-funded lead hazard control grant programs that may pay for structural remediation.

State-level changes need to allow for local innovation.

Interviewees in larger states noted that policies need to strike a balance between achieving state-level progress while maintaining flexibility to allow for local innovation. For instance, California is a diverse state with diverse health needs, and what works in one county may not achieve success in other counties across the state. Similarly, in New York, the Delivery System Reform Incentive Payment Program is allowing for simultaneous testing of multiple models that build on local resources.

Workforce capacity and infrastructure concerns.

A key barrier for many healthcare payers interested in providing services may be a lack of turnkey infrastructure. Interviewees noted many challenges related to the infrastructure for delivering services including difficulty sharing information between systems and sectors, lack of mechanisms to bill for nontraditional workers and services, and an inadequate workforce infrastructure. The training, credentialing, and billing of a scalable and cost-effective workforce was noted by interviewees in several states. For instance, in South Carolina, interviewees described the limited workforce currently available to provide effective asthma services in home settings. Furthermore, the cost of becoming trained and certified as an asthma educator or home assessor is often prohibitive and there are few programs in the state that facilitate such training. Given this, interviewees expressed concern that MCOs or health systems that may want to incorporate home-based asthma services into their programs may be dissuaded from doing so given the lack of available workforce.

The fight for sustainability doesn't end with securing coverage.

Interviewees noted that while embedding home-based asthma and lead follow-up services in healthcare coverage is a step towards sustainability, leadership changes or changes in health plan priorities can undermine existing coverage. For instance,Aetna's Delaware Physician's Care, Inc. asthma management program previously partnered with home care agencies and community health workers (CHWs) to provide home environmental assessments, but this program ended in December 2014 when Aetna and Delaware Medicaid were unsuccessful in renegotiating their contract, leading Aetna to cease operation of the MCO in Delaware.

Additionally, provider education about existing services and programs is critical to ensuring that patients get connected to needed services. Interviewees in a few states described challenges that programs delivering home-based asthma services (both MCO-funded and public/private grant funded) currently face in getting physicians, nurses, and other licensed providers to routinely refer high-risk asthma patients to existing community-based programs. This is significant because without support from clinical staff in making referrals, patients remain unconnected to in-home services even if reimbursement is in place. Similarly, although services for lead follow-up services, and potentially even home-based asthma services, could be ordered as a medically necessary service under the Early and Periodic Screening, Diagnostic, and Treatment benefit for children, results from the original 2014 survey indicate that this mechanism remains widely underutilized.[10, 12]

[iii] Medicaid MCO program costs can be classified as a medical service or administrative expense. Medical services are reimbursable by Medicaid and include the various clinical services offered by physicians and other practitioners in health centers, laboratories, and in inpatient/outpatient hospital settings. Administrative expenses cover nonmedical activities important for MCO operations, such as enrollment, advertising, claims processing/billing, and patient grievances/appeals. These types of services are paid for from plan revenue. Administrative expenses also include medical management services and quality improvement activities such as coordinating and monitoring services for Medicaid recipients. Home-based asthma interventions often fit this category of plan spending. An MCO may be motivated to cover certain medical management services and quality improvement activities under its administrative budget (in other words, investing what would otherwise be profit back into patient care) if these services save it significant dollars elsewhere such as by reducing urgent care costs.

There are differences in the challenges and opportunities associated with covering home-based asthma and lead follow-up services.

Despite similarities across the case studies, there were some differences associated with the types of services being provided.

- Interviewees describing opportunities and challenges associated with covering home-based asthma services placed a much greater emphasis on costs and potential for savings. Interviewees describing coverage of lead follow-up services were more likely to point out that the payment for services didn't cover the actual costs of providing services but was still an important factor in helping them sustain access to critical public health services.
- In both the original survey results and case studies, there seemed to be a greater connection to the regulatory infrastructure in providing lead follow-up services but a greater integration with clinical services in places where coverage of home-based asthma services exists. For instance, all three lead case studies involved payments from the state Medicaid program to the state health or public health agency (or an entity certified by them), but none of the asthma case studies reflected this structure. However, there are exceptions to this pattern. For example, according to the Rhode Island Department of Human Services (RIDHS), written Medicaid standards require the lead centers to contact associated healthcare providers when providing lead follow-up services. The lead center identifies a specific case manager for each child or family who is responsible for all communication and coordination with the child's primary care provider or treating physician, all treatment providers and community support agencies and the child's health plan, when appropriate. Additionally, the lead center case manager works with RIDHS and the Department of Health as necessary. This individual serves as the single point of contact for the child, family, and all providers and agencies.
- The services described by the lead case study states have a bigger focus on structural interventions. These differences are also reflected in the workforce used. For instance, while CHWs and nurses can be trained to conduct basic environmental assessments and provide education and connection to resources to reduce exposure to asthma triggers, the nature of assessing and remediating lead hazards often requires the involvement of an environmental or housing professional. However, many important asthma triggers can also be addressed more permanently through structural remediation, and these examples from the lead case studies may be helpful to asthma programs as they grapple with how to handle coverage of or payment for more intense assessment and remediation methods.
- Finally, interviewees for the lead case studies had difficulty identifying funding mechanisms available for providing services other than Medicaid or federal grants, but interviewees for the asthma case studies identified a wide range of other funding sources including grants from the state or private foundations, hospital community benefit initiatives, social impact financing, state-funded programs, state funding from tobacco tax revenues, state funding from settlements, and public-private partnerships.

Home-Based Asthma Services

While Medicaid coverage for asthma services is offered in clinical settings, fee-for-service (FFS) Medicaid coverage does not include home-based asthma services. As a result, while some Medicaid managed care plans use administrative dollars to provide these services, most do not.

Despite indication from the 2014 NCHH survey that states might have some Medicaid coverage for home-based asthma services in place, the case study analyses did not reveal any states with a benefit under FFS for home-based asthma interventions. In the states examined, FFS Medicaid covers only interventions for asthma in a clinical setting, with referral to a health department or grant-funded community agency for home assessment.

In general, MCOs are required to cover, at minimum, what is covered under FFS Medicaid. Without any FFS requirement for home-based asthma coverage, MCOs in these states are not obligated to provide such services. No instances were identified where state Medicaid offices required through the managed care contracting process that MCOs address asthma home-based management. While our analysis found isolated instances in which a state Medicaid office included asthma in MCO quality improvement initiatives, Medicaid offices tend to be hands-off, giving managed care plans flexibility to determine what interventions are appropriate for their patient populations above those required in the Medicaid FFS program. Flexibility appears to be a tenet of managed care arrangements, with states giving MCOs latitude to innovate, especially around managing beneficiaries with complicated chronic conditions.

It may seem logical then for advocates to focus attention on pushing state Medicaid offices to broaden FFS benefits or to be more prescriptive with MCOs through contract language around asthma management. However, current advocacy efforts in case study states center less around achieving change within the state Medicaid office and more around convincing MCO plans of the importance

of the business case for implementing comprehensive asthma management programs that include home-based services.

Given increases in Medicaid managed care, enhancing coverage for home-based asthma services through Medicaid MCOs is an important goal for advocates. Advocates are working to define the return on investment of home-based asthma services in ways that are compelling to Medicaid MCOs.

Because states do not cover or reimburse for home-based asthma services, most MCOs available in case study states cover only interventions for asthma in clinical settings. MCOs can, of course, elect to offer benefits beyond state Medicaid requirements. A number of case studies uncovered examples of managed care plans offering a comprehensive asthma management program for beneficiaries (including self-management education and home assessment to identify asthma triggers and discuss mitigation strategies). Unfortunately, these examples were outliers, and coverage was still limited or nonexistent in most states.

To make positive strides in accessing home-based asthma services under Medicaid, stakeholders are embracing the realities of this shift to managed care. Advocates are becoming more sophisticated when approaching individual MCOs to provide home-based asthma services, recognizing that this goal requires a strong emphasis on strategies that document cost-savings and return on investment. The case studies uncovered challenges in making the business case to MCOs.

Home-based asthma services are typically considered an administrative expense.

Where home-based asthma services have been offered by MCOs, these services have been considered an administrative expense, and, therefore, are not covered by the per capita payment an MCO receives from a state Medicaid agency. Per current federal guidelines, administrative expenses cover nonmedical activities important for MCO operations (e.g., enrollment, advertising and billing) and medical management services and quality improvement activities, such as coordinating and monitoring services for Medicaid recipients. Home-based asthma interventions often fit this category of plan spending. An MCO may be motivated to cover certain medical management services or quality improvement activities under their administrative budget (in other words, investing what would otherwise be profit back into patient care) if these services save them significant dollars elsewhere, such as by reducing urgent care costs. Because of this cost allocation, the business case for implementing an in-home asthma program has to be strong to compete against many other priorities for limited administrative budget dollars.[iv]

Published data related to ROI of home-based asthma services may not be compelling enough to MCOs; funding for pilot programs is needed to incentivize MCOs to test in-home asthma interventions in their patient populations.

While studies show that asthma interventions provided in home settings have a strong ROI, the evidence base may not be convincing enough for many MCOs to invest in a comprehensive home-based asthma management program. [8, 13-17] The problem is that some of the ROI associated with these interventions are indirect savings that accrue to the community (e.g., reduced school absenteeism and reduced missed work days by caregivers); these types of savings, while important for communities, do not amount to direct healthcare savings reflected in an MCO's bottom line. In addition, where health savings are possible (e.g., reduced emergency department visits and hospitalizations), these savings are coupled with increased expenditures for program implementation (e.g., training and hiring asthma educators or providing supplies to mitigate asthma triggers) and increased primary care and pharmaceutical costs (when high-risk patients are linked to needed health services). Additionally, MCO's may face "chicken and egg" problems where there are no existing home visiting programs or properly trained staff – this may serve as an insurmountable barrier to initiating a program, especially when there are perceived uncertainties about outcomes.

- Given these considerations, MCOs may want to pilot in-home asthma interventions in their own patient populations to better understand how such services

[iv] A newly proposed Medicaid provision establishing a minimum medical loss ratio (MLR) for Medicaid MCOs of 85% may create incentives for MCOs to support quality improvement activities including in-home asthma services. The MLR is a ratio that has traditionally been used to reflect the percentage of an issuer's healthcare premium dollars spent on medical services. For example, an MCO with $100 million in premium revenue that spends $79 million on medical claims would have an MLR of 79%. The MLR is generally conceived of as a measure of "value" for the policyholder. While it is recognized that insurers must spend some portion of their revenue on administrative costs and profits, the presumption behind setting a minimum MLR is that a large proportion of the premiums that an insurer receives should be spent on enrollee health. The proposed rule re-categorizes certain quality improvement and health promotion activities as medical services, meaning that these types of services will no longer be considered an administrative expense. Should this change be implemented, advocates will still need to convince MCOs to focus on asthma over other priorities, but managed care plans will have more incentive to increase quality improvement activities, ties as a way of meeting the minimum medical loss ratio. See Centers for Medicare and Medicaid Services, "Medicaid and Children's Health Insurance Program (CHIP) Programs; Medicaid Managed Care, CHIP Delivered in Managed Care, Medicaid and CHIP Comprehensive Quality Strategies, and Revisions Related to Third Party Liability" (June 1, 2015).

impact health outcomes and cost-savings for their patient population. As an alternative to pilot testing, asthma programs may be able to provide specific data to convince MCOs to consider introducing in-home asthma services for their enrollees; in the District of Columbia (DC), the availability of DC-specific data from the region's prominent asthma clinic on the efficacy and cost-effectiveness of asthma services was compelling to MCOs.

Community health workers may be particularly valuable in reaching at-risk populations, especially when part of a larger healthcare team.

- While public or private grant funding for pilot testing is not necessary – MCOs can elect to cover and pay for home-based asthma services through their administrative budgets – such support may push MCOs to focus on asthma and give health plan leadership an opportunity to learn whether programs lead to a positive return on investment for their patient populations. In New York, foundation funding has been helpful in spurring MCOs to pilot test home-based asthma services. Managed care plans in other interviewed states have inquired as to whether the state health department can be a partner in funding pilot programs. Finally, as new delivery system reforms, such as accountable care organizations and other population health initiatives, are implemented, Medicaid managed care plans may invest in these initiatives more enthusiastically.

Forums are needed to facilitate information exchange related to best practices on asthma management among MCOs.

The Delaware case study provides a cautionary tale about the lack of information-sharing between MCOs. When Delaware Physicians Care, Inc. (an MCO offering in-home asthma services) closed down in December 2014, beneficiaries were transferred to a new MCO plan, but the award-winning asthma management program was not. Despite the success of this program, other MCOs in the state have not implemented similar initiatives, in part due to the lack of information- and data-sharing between organizations. Interviewees reported that competiveness between MCO plans often prevents the sharing of best practices; this sentiment was echoed in other states.

Facilitating forums for Medicaid MCOs, other insurers, and healthcare providers to share best practices on chronic disease management, including asthma, is important so that innovations are diffused through the entire system, not just for select populations. MCO collaborative forums in the District of Columbia led by the Medicaid office have been important for sharing best practices and data related to asthma management and have proven influential in getting MCOs to explore reimbursement for home-based asthma services formally. Healthcare system redesign efforts spurred by the Affordable Care Act (such as the State Innovation Models [SIM] Initiative) may be an opportunity to engage stakeholders in these types of discussions.

The range of health professionals offering in-home asthma services is diverse and includes nurses, social workers, respiratory therapists, and community health workers, among others. Community health workers may be particularly valuable in reaching at-risk populations, especially when part of a larger healthcare team.

Because MCOs have flexibility to design and provide services for beneficiaries beyond what is required by FFS, where MCO-supported home asthma programs are in place, they are employing a range of providers from nurses to licensed respiratory therapists to certified asthma educators. Often, services are provided under a team approach, where nurses or other licensed professionals either directly supervise or work in tandem with CHWs to deliver home-based asthma services. Other programs in case study states operated via public health departments or community-based organizations and employed an array of nonlicensed professionals, including CHWs, environmental health specialists, sanitarians, health educators, and other public health professionals.

The range of health professionals engaged speaks to the range of professionals that may be appropriate to provide in-home asthma services given appropriate training. We did not uncover efforts in any states to document the relative value of one provider type over another in terms of health outcomes or cost savings achieved. However, case studies did reveal the unique skillset CHWs can bring to programs, as these individuals are often better equipped to help overcome patient distrust. CHWs are trusted members of the community, and/or have an unusually close understanding of the community served, and can overcome the cultural barriers that may inhibit other providers. For example, an MCO in Delaware engaged CHWs in their program, because patients eligible for the program were often mistrustful of the healthy homes inspectors assigned to conduct home environmental assessments, uninformed of the benefit of such inspections, and fearful of consequences that could result after an inspection was completed. CHWs were able to deliver services in a culturally sensitive manner that better engaged patients and their families. Other public health and community-based programs across the case states similarly described the value of CHWs in home-based

asthma programs. CHWs may be particularly important for reaching rural or disenfranchised populations such as tribal communities.

However, one theme that emerged through a few case states was that CHWs, although trained to conduct home assessments or to educate patients on how to self-manage asthma symptoms, may not possess the full skillset required to conduct a comprehensive housing assessment or assist patients in managing complex asthma symptoms. Licensed health professionals (e.g., nurses or respiratory therapists) offer critical skills such as knowledge of medications and therapies to address asthma symptoms, that may be absent in programs that do not have linkages to such professionals. For this reason, many of the MCO-led models highlighted in the case studies rely on CHWs to perform home outreach and assessment but ensure that clinical providers (serving either as direct supervisors or as accepting referrals from CHWs) are available as needed to assist with complex issues. At the same time, linkages to housing and environmental professionals with the technical expertise to fully assess and resolve housing conditions, is also a critical but widely unaddressed need for MCO-led models.

State regulatory changes can enhance and expand the workforce used to provide home-based asthma services, yet there are several steps needed before these changes will impact the availability of home-based asthma services.

All case study states are engaging in discussions about how to adopt and implement a new federal Medicaid rule change that allows state Medicaid FFS to cover and pay for preventive services provided by professionals that may fall outside of a state's clinical licensure system (so long as the services have been initially recommended by a physician or other licensed practitioner). This rule change means that, for the first time, healthy home specialists and other CHWs with training and expertise in providing asthma services may seek FFS Medicaid reimbursement.

While directly applicable to FFS, this rule change is still important for managed care plans. Some interviewees viewed this movement – and the work that states will need to do to develop the State Plan Amendment (SPA) required to implement this rule change – as an integral step in legitimizing and sanctioning nontraditional providers as capable of providing home-based asthma services. Additionally, by allowing CHW-type providers to seek Medicaid reimbursement, this may increase the size of the workforce available to address asthma, especially in rural areas with clinical provider shortages.

ACRONYMS

ACA	Affordable Care Act
SIM	State Innovation Model
ACO	Accountable care organization
ARC	Asthma Regional Council of New England
CDC	Centers for Disease Control and Prevention
CDPH	California Department of Public Health
CHIP	Children's Health Insurance Program
CHW	Community health worker
CMS	Centers for Medicare and Medicaid Services
DHCS	Department of Health Care Services
DHHS	Department of Health and Senior Services
DSRIP	Delivery System Reform Incentive Payment Program
EPA	U.S. Environmental Protection Agency
FFS	Fee-for-service
HHS	U.S. Department of Health and Human Services
HUD	U.S. Department of Housing and Urban Development
MAC	Missouri Asthma Coalition
WAI	Washington Asthma Initiative
MAPCP	Missouri Asthma Prevention and Control Program
MCO	Managed care organization
MLR	Medical loss ratio
NACP	National Asthma Control Program
NCHH	National Center for Healthy Housing
NEAIC	New England Asthma Innovation Collaborative
RIDHS	Rhode Island Department of Human Services
ROI	Return on investment
RWJF	Robert Wood Johnson Foundation
SPA	State plan amendment
THHN	Tribal Healthy Homes Network

However, a number of significant considerations must be addressed as states consider adopting this change and before this change will impact the availability of home-based asthma services in case states:

- *It is not simple to define CHW provider qualifications.*[v] As with other aspects of the Medicaid program, it is for individual states to determine whether and how to offer reimbursement to different provider types and to determine what education/training criteria will be required for providers to become eligible to receive Medicaid reimbursement. As states move forward, they must strike a difficult balance between requirements for education/training to assure competence and quality in the delivery of preventive health

services and the availability of a robust workforce. A number of interviewees from case states expressed concern that costly or time-consuming education/training requirements may prohibit some CHWs from becoming Medicaid-qualified, especially for CHWs that serve rural or hard-to-reach populations that often have less access to training programs. All case states were in the midst of these discussions, without resolution as of the time of this paper.

- *Because the rule change impacts FFS Medicaid, it does not change MCO provider networks or programs.* Assuming a case state were to develop a SPA to implement this rule change, this would only impact FFS Medicaid. Absent additional regulatory change, MCOs still have the flexibility they have always had to implement asthma programs and select appropriate provider networks. As noted above, a few MCOs across case states already employ or reimburse for the services of CHWs by using administrative dollars, so these provider types are participating in Medicaid to a limited degree already. Stakeholders in several case states are optimistic that such regulatory changes in FFS Medicaid may alleviate concerns held by some MCOs over whether nonlicensed CHWs are qualified providers. Advocacy is likely needed to compel additional MCOs to embrace new provider types and to recognize the value these providers bring to helping beneficiaries manage asthma symptoms.
- *Provider education is needed to enhance referrals to home-based asthma services.* Interviewees in a few states described challenges that programs delivering home-based asthma services (both MCO-funded and public/private grant-funded) currently face in getting physicians, nurses, and other licensed providers to refer high-risk asthma patients to existing community-based programs routinely. This is significant because, without support from clinical staff in making referrals, patients remain unconnected to in-home services even if reimbursement is in place. The new Medicaid reimbursement rule described above is unlikely to alter this scenario as the lack of consistency in referrals described in interviews is not due to Medicaid reimbursement concerns but rather due to (1) providers not appreciating the value of services that can be provided by asthma educators, home assessors, or other CHWs, and (2) overtaxed administrative staff who are unable to take on the additional coordination and time required to link patients with home-based asthma services and/or to receive information back from home providers to coordinate community-based care with clinical services. In many states, there is a significant need to educate healthcare practitioners so that they will make appropriate referrals to home-based asthma services. In the case of lead, blood lead results are delivered directly to state health departments, which have defined standards for intervention. The focus of provider education, therefore, has been on increasing screening rates. Improvements in electronic medical records could facilitate development of reporting, referral, and response systems for in home asthma services.
- *There is an insufficient workforce available to provide effective asthma services in home settings; training/certification programs are needed.* Where home-based asthma programs exist in case states (whether MCO-led or public/private grant-funded), a near universal requirement for providers serving high-risk asthma patients in their homes is some type of certification and/or training. In a few programs, this training happens on the job, but many programs described in our case studies depend on external healthy homes training programs, typically funded with public health or foundation funding. On the whole, there are few programs in case states that offer such training programs, and free training programs are very limited or nonexistent. Interviewees describe the cost of becoming trained and certified as an asthma educator or home assessor as largely prohibitive, and it may be that even where services are covered by the healthcare sector, reimbursement levels are too low to incentivize training. These factors mean that in most case states, there is a limited workforce available to provide effective asthma services in home settings.
- *There is concern among interviewees that an insufficient workforce infrastructure is a chief reason why MCOs in their states are currently unable/unwilling to implement home-based asthma initiatives.* Should states move forward with recognizing this workforce for Medicaid reimbursement, this does not necessarily mean that funding for training a robust workforce will be available. Advocacy is needed to either secure additional public health dollars for training efforts or to convince MCOs to invest resources toward training CHW-type providers internally. In both scenarios, it becomes important to make the business case to decision-makers as to why offering training to CHWs in asthma management (as

[v] Per the American Public Health Association's CHW Section: "A community health worker is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the worker to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. A community health worker also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy."

an asthma educator, home assessor, or both) is a good use of public health or MCO resources.

- *Lack of full-time employment opportunities contributes toward an insufficient workforce.* One hurdle in building the workforce infrastructure is a lack of full-time employment opportunities. Interviewees report that the asthma educators, home assessors, and other CHWs who are potentially eligible to receive reimbursement for providing home-based asthma services under Medicaid may not be able to rely on this as a sole occupation. For many of these providers, this may be a supplementary job given low pay or inconsistent referrals. Interviewees cautioned that this reality may mean that there are fewer dedicated professionals willing to become trained/certified or maintain training/certification. More work is needed to assess how to better integrate these professionals into health teams to provide full-time employment opportunities and career pathways. Alternately, integrating these services into the work of health department or other agency staff might provide sustained capacity to provide home assessments.

ACA-funded initiatives and other broader reforms provide opportunities for engaging multiple stakeholders to help design and innovate programs for patients with asthma.

A number of states and stakeholders are leveraging opportunities that result from the passage of the Affordable Care Act (ACA) and other state reforms. These initiatives are proving to be fertile ground for testing innovations and new delivery system reforms that could enhance the delivery of home-based asthma services. In some instances, these efforts allow for testing and analysis related to care coordination and return on investment. Importantly, these initiatives bring stakeholders together to focus on improving value and care delivery overall and provide opportunities for advocates and policy-makers to routinely exchange ideas in a meaningful manner. Specific examples are included below.

- Delaware: The Center for Medicare and Medicaid Innovation funds the State Innovation Models (SIM) Initiative that provides financial and technical support to states for the development and testing of state-led, multipayer healthcare payment and service delivery models. The Innovation Center awarded the state of Delaware grants to develop and implement its State Health Care Innovation Plan, called Choose Health Delaware.[18] Choose Health Delaware is, itself, multifaceted in its approach to and goals surrounding health but includes several key areas relevant to home-based asthma services including: (1) support for community-based population health programs; (2) development of new payment systems including "pay-for-value" and "total-cost-of-care" models; and (3) assisting integrated, team-based healthcare providers in transitioning to value-based payment systems.[19]

  In 2012, Nemours/Alfred I. DuPont Hospital for Children received a Healthcare Innovation Award from the Innovation Center to "enhance family-centered medical homes by adding services for children with asthma and developing a population health initiative in the neighborhoods surrounding targeted primary care practices." [20] The goal of this intervention was to reduce asthma-related emergency department and hospital visits among Medicaid-eligible children by 50% by 2015.[21] The intervention emphasized creating healthcare linkages to the community and home. The program used CHWs to "serve as patient navigators and provide case management services to families with high needs." [20]

  While Nemours' innovation award ended on June 30, 2015, Nemours has secured funding to continue working with CHWs to test linkages to home-based services moving forward. In all, Nemours' work has advanced the conversation regarding reimbursement for home-based asthma services in Delaware, and the state is now taking this issue into consideration in its SIM, described above.

  Workgroups on healthy neighborhoods, workforce development, clinical outcomes, and payment reform borne out of the Delaware SIM are also taking asthma services into consideration in brainstorming healthcare innovation models. In particular, these workgroups are discussing the role of CHWs in providing home- and community-based services and how CHW services could be reimbursed within value-based payment systems.

- New York: The Delivery System Reform Incentive Payments (DSRIP) initiative is part of the broader Medicaid Section 1115 waiver program and provides states with significant funding that can be used to support hospitals and other providers in changing how they provide care to Medicaid beneficiaries. The purpose of NY's DSRIP initiative is to restructure the healthcare delivery system fundamentally by reinvesting in the Medicaid program with the primary goal of reducing avoidable hospital use by 25% over five years. Up to $6.42 billion dollars are allocated to this program with payouts based upon achieving predefined results in system transformation, clinical management, and population health. In part, New York's current efforts to restructure the healthcare delivery system via the DSRIP initiative engages MCOs and healthcare providers in ensuring that home-based asthma services are available to the patients that need them most.

  Under all DSRIP projects, Performing Provider

Systems (PPS) are expected to coordinate and communicate with MCOs, primary care providers, health home providers, and specialty providers to ensure continuity and coordination of care. PPS are currently forming many different types of payment arrangements with MCOs around chronic care models (bundling, per-member-per-month capitated payments et cetera), and experimentation around various approaches to funding asthma home-based services may lead to a successful payment model that will be of interest to MCOs across the state. In this way, the DSRIP process may yield adoption of home-based asthma initiatives by MCOs without regulatory changes or foundation support.

- New England (including case study state Vermont): The New England Asthma Innovations Collaborative (NEAIC) was a multistate project funded through the Innovation Center from 2012 to 2015.[22] The project was directed by the Asthma Regional Council (ARC) of New England, which combined healthcare providers, payers, and policy-makers in an effort to provide high-quality, cost-effective care for children with severe asthma who were enrolled in Medicaid or CHIP.[22] The collaborative—which also included Connecticut, Massachusetts, and Rhode Island—provided asthma self-management education and home environmental assessments through nonphysician providers such as CHWs and Certified Asthma Educators, who used moderate environmental interventions designed to reduce asthma triggers in the home.

  The program consisted of four main components: (1) an asthma clinic to provide diagnostic and treatment services, (2) one-on-one educational counseling by a Certified Asthma Educator in a clinical setting, though home and school visits could occur if necessary, (3) promotion of a Universal Asthma Action Plan for all individuals with asthma, and (4) efforts to increase community awareness about asthma and asthma management.[23] For example, the NEAIC worked alongside the Blueprint for Health and the Rutland Regional Medical Center to help fund the initial stages of the In-Home Pediatric Asthma Program, a free program that uses home visits by an asthma nurse educator and a home environmental specialist, to help families identify asthma triggers, reduce contact with triggers, and manage their child's asthma symptoms.[24] After funding ended for the NEAIC, the Vermont Blueprint for Health and the local community health team absorbed the Rutland program.[25] While Innovation Center funding for the NEAIC ended in the spring of 2015, an economic evaluation of the initiative is currently being conducted.[25]

Public health, foundation, and other sources of funding are critical for addressing workforce and coverage gaps related to the delivery of home-based asthma services.

Several interviewees noted the need for programmatic funding to fully support initiatives designed to deliver home-based asthma services. Even in the instances in which MCOs may offer a special program to deliver home-based asthma services, interviewees emphasized the need to find additional funding to support some services such as replacement of carpet or air filters that may not be included in the MCO's program. Public health and foundation funding are also important resources for training providers in a state to conduct asthma health homes assessments. In addition, these sources of funding have supported Medicaid MCOs in offering comprehensive asthma services. Several interviewees explained the important role that these funding sources serve.

- For example, in Delaware, public health funding has been an important resource for training providers in the state to conduct asthma healthy homes assessments. In the past, the Delaware Office of Healthy Environments assisted in training providers in the state to do healthy homes assessments with tobacco settlement funding.[26] While this funding is no longer available, for several years it supported a vibrant healthy homes program, offering yearly training that included education on asthma home assessment. Trainings were offered free of charge to participants. These training programs provided education to the providers working in the Delaware Physicians Care program.
- New York offers another example. Funding from foundations has supported MCOs in the state to offer more comprehensive asthma services. In 2001, the Robert Wood Johnson Foundation (RWJF) supported five MCOs, including three in New York State, with three-year grants to collaborate with local health systems and community-based organizations to spur innovative asthma management practices, including those with healthy homes components.[27] Of the three MCOs funded in New York, two continue to focus on asthma based on lessons learned from these pilot programs.[28]

Some services important to the mitigation of asthma triggers in the home are not covered by Medicaid, absent further legislative or regulatory change.

For example, interviews revealed no instances in which Medicaid has reimbursed for supplies needed to mitigate asthma triggers, such as providing dust-mite proof mattress covers, nor did we find any states that offered reimbursement for environmental mitigation services such as home remodeling. One interviewee noted that their state Medicaid program would not, for example, reimburse

an MCO to replace a carpet in an enrollee's home even when it was necessary to control environmental asthma triggers. While most Medicaid MCOs do not provide coverage for these types of services, if willing, MCOs are able to design plan coverage to provide these types of services by paying for them through their administrative budget line. Lead programs have addressed similar challenges by partnering with lead hazard control, state, foundation, and other grant programs that can provide home remediation. Expanded HUD healthy homes grants could provide similar resources for asthma interventions. Advocates and other stakeholders emphasized the need to continue working with public health or community programs to better assist patients in need.

Social impact financing models (including social impact bonds and Pay for Success contracts) are an emerging mechanism to fund home-based asthma services.

In its most basic form, private investors participating in these initiatives pay the upfront costs for providing social services (such as home visits and remediation to address asthma) and have the opportunity to share in any savings generated to the health sector (typically an insurer or hospital system) as a result of decreased healthcare expenditures.[29] Social impact financing models are underway in two case study states to support home-based asthma interventions. Positive outcomes from these initiatives may spur other private investors to take an interest in home-based asthma services and could serve as more data to enhance the business case to MCOs for why an investment in these services is cost-effective.

CDC's National Asthma Control Program (NACP) provides important funding for implementing evidence-based asthma services.

CDC's NACP funds states, cities, school programs, and nongovernmental organizations to help them improve surveillance of asthma, train health professionals, educate individuals with asthma and their families, and explain asthma to the public.[30] In its newest grant cycle, NACP awardees are asked, among other things, to strengthen and expand asthma control efforts in home settings and to work with healthcare organizations to promote coverage for and utilization of comprehensive asthma control services including home visits. The NACP asks health departments to work on expansion of home-based asthma strategies in the context of health reform and in partnership with health systems, health insurers, and other stakeholders.

A number of interviewees described how this key funding helps stakeholders organize, educate and deliver asthma control services. Interviewees in other states note the barriers that result when a state is not provided with this important funding or when a state loses its existing CDC funding. Specific examples include the following:

Use of NACP funding:

- California: On September 1, 2014, the CDPH entered a five-year cooperative agreement with CDC to receive funding from the National Asthma Control Program (NACP). With NACP funding, the CDPH is embarking on a new effort to (i) better understand how Medi-Cal and MCOs in the state reimburse for asthma-related services generally, (ii) summarize the landscape of asthma reimbursement in California, and (iii) develop and disseminate a business case that would be convincing to MCOs to take on coverage of asthma in-home services. Part of building the business case is to learn from counties that have comprehensive coverage for asthma services under Medicaid managed care plans, such as in Alameda County, and to spread these innovative ideas to other counties in the state. Eventually, if funding permits, the department would like to fund some pilot projects in the state in partnership with MCOs. The effort underway at CDPH has great potential for addressing key barriers to implementation, including helping MCOs in the state to understand the return on investment for home-based asthma services. CDPH's stated goals for disseminating best practices statewide will also equip more MCOs to implement home-based asthma programs for plan enrollees.
- Missouri Asthma Prevention and Control Program (MAPCP): The Missouri Department of Health and Senior Services (DHSS) established the Missouri Asthma Prevention and Control Program (MAPCP) in 2001 with funding from the CDC's National Asthma Control Program.[31] The CDC's $3.4 million investment in MAPCP over the first decade of the program's existence has generated more than $20 million in investments from other stakeholders to improve asthma care.[32] In the latest grant cycle, beginning on September 1, 2014, the MAPCP's "enviro-clinical" approach acknowledges the dual fronts of asthma treatment in both clinical and home settings and informs MAPCP's mission to obtain reimbursement from public and private insurers for asthma education and trigger abatement.[33] The MAPCP has trained more than 1,000 individuals in the delivery of evidence-based asthma services to improve outcomes. Claims data suggest this evidence-based training has effectively reduced asthma-related healthcare costs.[33] Additionally, MAPCP works with the University of Missouri Asthma Ready® Communities Program to train school nurses in evidence-based asthma management through a program called Teaming Up for Asthma Control.[33] The MAPCP also established the Missouri Asthma Coalition (MAC), which partners with

hospital systems, healthcare providers, local health departments, community health centers, and state and local educational administrators to aid in providing comprehensive asthma management services.[34]

Lack of NACP funding:

- Washington: As of September 2014, Washington State's asthma program, which was historically managed by the Department of Health, no longer exists due to the program losing funding from the CDC's NACP.[35] The loss of these federal dollars has meant that several basic asthma-related functions are no longer available in the state such as basic asthma surveillance, updating of educational resources, and training of clinical staff on EPR-3 guidelines. The loss of NACP funding has also resulted in the loss of financial and administrative support for the Washington Asthma Initiative (WAI). The WAI is a coalition of groups, healthcare providers, individuals, and government agencies from across the state working to improve asthma diagnosis, treatment, education, and management. Their efforts have largely centered on advocating for reimbursement for home-based asthma services and other key asthma care-related issues. Since NACP stopped funding asthma efforts in the state, the WAI has continued to exist, but solely on the dedication of volunteer members.
- South Carolina: Despite submitting applications over the years, South Carolina has never been awarded NACP funding. Without the influx in funding from CDC, the state public health department is not able to fund an in-home asthma program and other important initiatives such as workforce training, surveillance, and asthma education efforts. Interviewees suspected that one major reason the state was not selected as an NACP grantee is that the statewide prevalence of asthma is not as high as in other states. However, interviewees reported that there is an extremely high prevalence of asthma in certain regions of the state, but low population density in rural areas may distort the state's overall picture of asthma. The South Carolina Department of Health and Environmental Control has since attempted to demonstrate the prevalence of asthma by ZIP code in order to demonstrate a more accurate picture of asthma in South Carolina.[36]

  South Carolina is a state that has worked hard to bring asthma stakeholders together despite very limited state and federal resources. Although the state has never been a recipient of NACP funding, interviewees reported that the collaborative process of drafting and submitting applications to NACP over the years has helped build statewide consensus around the burden of asthma. For example, the South Carolina Asthma Alliance was created as a statewide resource for the advancement of asthma care after stakeholders identified the need for such an organization during the NACP application process. Interviewees stated that future opportunities to apply for CDC funding through the NACP would serve to reinvigorate partnerships and collaborations, especially with Medicaid partners.

Advocates impact the availability of evidence-based asthma services through education and advocacy efforts.

Summits to focus on the delivery of home based asthma services served as important opportunities to build consensus and plan for future, coordinated activities to advance home based asthma services. Interviewees noted that coalition building was a particularly important strategy for coordinating activities. Examples include the following:

- Washington: Despite challenges posed by severe funding cuts, the Washington Asthma Initiative (WAI) has continued to attract a number of highly committed volunteers who continue to work towards establishing reimbursement for home-based asthma services. In September 2014, upon the loss of NACP funding, the WAI organized a day-long summit. The primary purpose of the summit was to invite attendees to join a newly established reimbursement task force. According to interviewees, summit attendees showed a lot of energy around keeping an asthma initiative in place to advocate around asthma in general, and specifically improving access to and Medicaid reimbursement for home-based asthma services. Task force members work on a volunteer basis and have focused recent efforts on making the business case for Medicaid reimbursement for asthma services in home settings to the governor and state legislature. The task force has also worked to push forward home-based asthma interventions within the Accountable Communities for Health projects underway in the state.

  The Tribal Healthy Homes Network also held a summit in the fall of 2014, organizing asthma stakeholders on similar issues. Currently, WAI and the THHN are working together to advocate for better home-based asthma services in the state. Working collaboratively on these issues is important: Ultimately, if reimbursement for home-based asthma services is established, the mechanisms will look very similar in both tribal and nontribal areas, although the implementation issues may differ.
- Missouri: While unrelated legal challenges have recently stymied efforts to bring home-based asthma

services to Medicaid beneficiaries, Missouri's passage of a budget to specifically fund home-based asthma services is promising. Interviewees credited the success of this legislative effort to partnerships developed during a June 2013 regional asthma summit sponsored by HUD, HHS, and EPA.[37] This summit was designed to promote the value of home-based interventions in the homes of children with poorly controlled asthma and to accelerate the creation of reimbursement mechanisms by local/regional health insurance providers. Post-summit, a group of stakeholders led by the Asthma and Allergy Foundation, St. Louis chapter developed a plan to influence funding bills through the state's annual appropriations process, leading to the recent appropriation.

Missouri's successful budget advocacy efforts show the importance of bringing together stakeholders, the strength of multisector partnerships, the power of coordinated advocacy and educational efforts, and the compelling evidence-base showing the ROI of home-based asthma services. However, the recent setbacks toward accessing Medicaid funds appropriated for home-based asthma services is a reminder of the uncertainty of the budgetary process and the need for continued advocacy to push strong policy to advance reimbursement for home-based asthma services.

Lead Poisoning Follow-Up Services

As the project supported fewer lead case studies, themes for lead follow-up services are harder to identify. However, some emerging themes are described below.

Where Medicaid coverage for lead follow-up services exists, state and local health departments are often the vehicle for delivering services.

In both Texas and Ohio, the state Medicaid agency contracted directly with the state health department to provide payment for services. In Texas, this included reimbursement for direct services provided to children with elevated blood lead levels and Medicaid Administrative Claiming to support the Department of State Health Services's administrative activities related to providing lead follow-up services. In Ohio, the lump-sum annual payment is negotiated as part of an interagency agreement. In Rhode Island, lead follow-up services are provided through four "lead centers" that are certified through the state health department. Through these lead centers, lead follow-up services are offered to all children identified in Rhode Island with elevated blood lead levels, regardless of where they live or what type of health insurance they have. The lead centers bill Medicaid for each service provided to Medicaid recipients and are reimbursed at different amounts for varying services.

Healthcare reform's emphasis on reducing avoidable hospitalizations and other healthcare utilization is not as relevant for lead poisoning prevention efforts.

The bulk of the savings associated with lead poisoning prevention efforts accrue to other nonhealthcare sectors and are often time-delayed. For instance, of the $181-$269 billion in projected net savings associated with lead hazard control programs, only $11-$53 billion is related to healthcare costs with the remainder attributed to lifetime earnings, tax revenue, special education, direct costs of crime, and other nonhealth outcomes.[38] Because lead poisoning prevention efforts do not yield near-term healthcare cost savings, development of lead initiatives under ACA reforms has been less successful than asthma and this probably also accounts for the finding from the original survey that a much greater proportion of states were actively exploring expanding services or putting new services in place for asthma compared to lead.

Medicaid funding or payments for lead follow-up services often do not cover the entire cost of providing services. However, even partial payment or coverage can still be an important factor in sustaining critical public health services.

Interviewees in Texas advised that programs evaluating partial payment or coverage of services should take a critical look at whether the level of reimbursement will be meaningful. For instance, the extra administrative work to process claims and appeals should be considered in assessing whether reimbursement will provide needed resources for a program. They also noted that reimbursement mechanisms that involve federal matching can make a proposal more attractive to a state Medicaid agency. Similarly, according to interviewees in Ohio, actual services provided to children enrolled in Medicaid during a contract period usually exceeds the amount of funding available through the interagency agreement with the state Medicaid agency; excess costs are covered by other sources of funding within the Lead Poisoning Prevention Program such as other state funding and CDC grants.

Because lead poisoning prevention efforts do not yield near-term healthcare cost savings, development of lead initiatives under ACA reforms has been less successful than those addressing asthma.

Eligibility criteria for receiving services varies according to state and in many cases is not in line with the current

reference value of 5 µg/dL.

Efforts are underway in some states to explore lowering the level at which children are eligible for follow-up services. For instance, at the time of the interviews, the Rhode Island Department of Health was partnering with lead centers in the state to pilot a limited environmental investigation (soil testing only) for children with lower blood lead elevations (BLLs over 10 µg/dL).

There may be a need for more sustained efforts to evaluate the impact of providing lead follow-up services in partnership with the healthcare sector.

In both Rhode Island and Ohio, interviewees noted a lack of effort to systematically evaluate the impact of Medicaid funding on health outcomes and access to services. Interviewees in Ohio noted that the lack of compatibility between databases housed in different agencies complicated evaluation efforts. All interviewees noted the importance of data in making the case for services, both initially, to secure coverage and set payment amounts, but also over the long run, to ensure the sustainability of payments.

Conclusion

Housing provides a unique platform for improving the health and economic well-being of our nation. The costs associated with housing-related illness and injury can be reduced by closing critical gaps in the delivery of recommended services and ensuring that once policies are in place, they are translated into actual services for people who need them.

A wide range of healthcare payers, including state Medicaid agencies, managed care organizations, nonprofit hospitals, and others, are beginning to recognize that housing interventions are beneficial for improving both health outcomes and their bottom line. While some payers have already established limited coverage of services to identify and reduce or eliminate exposure to asthma triggers or lead hazards in the home environment, many others are actively trying to establish or expand coverage.

The case studies described here highlight that persistent barriers remain but, equally importantly, that there are real opportunities to overcome those barriers and either put new services in place or expand or improve existing services and policies.

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APPENDIX A
Interview Guide

ASTHMA/LEAD SURVEY FOLLOW-UP: DRAFT INTERVIEW GUIDE

Brief Project Overview: To increase understanding of the opportunities of healthcare financing for healthy homes services, the National Center for Healthy Housing (NCHH) conducted a nationwide survey in 2014 to identify states where home-based services for children with lead exposure or for patients with asthma are already in place or pending. Survey 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. Researchers at the George Washington University Department of Health Policy (GWU) helped NCHH interpret survey results and issue two reports published in October 2014.

The 2014 survey provided the NCHH/GWU team with a detailed snapshot of current state reimbursement policies for lead and asthma. The second phase of this work is to further investigate policies in specific states where asthma and/or lead reimbursement is already in place. Through a series of interviews with state Medicaid officials, state health departments, and other key informants, the NCHH/GWU team is seeking to increase our understanding of the opportunities for healthcare financing of healthy homes interventions. We intend to use information gained in these interviews to develop detailed case studies of state experiences in implementing healthcare financing of home-based lead poisoning and asthma services. We hope that these case studies will be informative for other states considering implementing reimbursement for home-based asthma and/or childhood lead services.

Interview Roadmap: In today's interview, we will ask you to describe in detail the home-based asthma and/or childhood lead services covered by Medicaid in your state. Then we will ask you to describe the process of implementing these services in your state, followed by a discussion of how these policies on paper are being translated into services on the ground. Finally, we will ask you about lessons learned in implementing these policies.

I. **Please describe how home-based asthma and/or childhood lead services are covered by Medicaid in your state.** *(Note: Each question will be asked separately for lead and for asthma if an interviewee is knowledgeable about both.)*
   (1) Are home-based asthma/childhood lead services required/optional in your state?
      - Statewide or in specific jurisdictions? Within FFS Medicaid, CHIP, Medicaid MCOs?
      - If only in specific locations, what is the justification/criteria for selection? (e.g., availability of services? Higher-risk areas? Lack of workforce/infrastructure?)

   (2) What services are covered and reimbursed?
      - Examples include assessment of the primary residence for asthma triggers/lead hazards; assessment of a second residence, daycare, or school; in-home education about how to eliminate or avoid exposure; phone-based education; low-cost supplies or services for asthma trigger reduction; structural remediation; lead hazard control activities; enforcement activities; education about asthma self-management; clinical or nursing case management; and service coordination.

   (3) What qualifying criteria are considered in determining who is eligible for these services?
      - For asthma: Children/adults? Medicaid, CHIP, health homes? Age, allergen testing, recent hospitalizations/emergency visits, referral, age, housing characteristics (location [ZIP code? City?], et cetera), et cetera.
      - For lead: Medicaid, CHIP, health homes? Blood lead level, referral, age, housing characteristics (location [ZIP code? City?]), et cetera.

   (4) Which kinds of providers are able to provide these services under Medicaid/CHIP?
      - Licensed/certified healthcare professionals? (e.g., nurses, asthma educators, respiratory therapists)
      - Nontraditional healthcare workers? (e.g., CHWs, social workers)
      - Nonhealthcare professionals? (e.g., lead inspectors, housing professionals, sanitarians, environmental health professionals, et cetera)

   (5) Describe which types of agencies/organizations are able to seek Medicaid reimbursement for home-based asthma and childhood lead services in your state (e.g., hospitals, clinics, state or local health department, housing agencies, health home providers, et cetera).
      - Which request or have requested reimbursement?

- Can you characterize the extent/amount of this?
- Have you seen any changes/trends over time?
- If not all who are eligible seek reimbursement, what do you think limits/prevents them from doing so?

(6) Is information about the home visit and the patient's home environment shared with the patient's clinical care team (e.g., primary care physician, specialist, case manager)? If so, describe the process/mechanism for transferring this information between providers (e.g., EHR or other)?

(7) Are there other ways (i.e. non-Medicaid) that these types of services are financed in your state?
- ACOs, hospital community benefit, social impact bonds, private/commercial plans, et cetera
- Local/state health department?
- Please describe (how prevalent, where, why, et cetera)

II. **Describe how your state began reimbursement for home-based asthma and/or childhood lead services.**

(1) How long has this policy/these policies been in place?

(2) What was the process of development?

(3) Who initiated this process and why (policy goals)?
- Regulatory change? Legislative change? Both?

(4) What were the major events leading up to the state enacting this policy?

(5) What contributed to this policy change in your state?
- What were the important drivers to the process? (Primary proponents/opponents? Concerns?)
- What types of groups/key stakeholders were influential in securing reimbursement or healthcare financing for home-based asthma and/or childhood lead services?

(6) What barriers/obstacles did your state face in getting this policy passed?

(7) Describe the interactions, if any, between your state Medicaid office and CMS in implementing these policies.
- Was CMS guidance helpful to this process? (e.g., State Medicaid Director Letter from CMS on lead – did that make a difference in getting state Medicaid office on board?)
- Was anything at CMS level hindering this process?
- If you didn't have any interaction with CMS, why not? Would it have been helpful?

III. **How are home-based asthma and/or childhood lead services reimbursement policies being translated into services on the ground?**

(1) Overall, how successful do you think this policy has been?

(2) Is there any information on how much reimbursement is happening in your state? (And of what type? Number of clients? Cost? Trends over time?)

(3) What barriers has your state faced in implementation?
- Have patients struggled to receive coverage for these services?
- Have providers struggled to seek reimbursement? What are their challenges?
    i. Are specific types of providers struggling to get reimbursement (e.g., WIC providers? CHWs?)

(4) Is there a process for monitoring the success of this policy?
- How do you define success?
- Is any data collected/analyzed on the implementation of this policy (i.e., amount of reimbursements?)
- Is your state engaging in any formal evaluation? Or measuring return on investment?
- Has your state made subsequent policy changes to improve home-based asthma and/or childhood lead services based on evaluation data?

IV. **Lessons learned/next steps**

(1) Is your state planning to expand home-based asthma and childhood lead services?
- For example, is your state considering expanding components covered (including other healthy homes services), eligibility criteria, and/or healthcare providers/organizations that can seek Medicaid reimbursement?
- What would be useful in helping your state expand reimbursement for home-based asthma and/or childhood lead services?

(2) Are you engaged in getting your state to adopt a State Plan Amendment to incorporate CHWs in Medicaid reimbursement?

(3) What lessons learned do you have for other states considering implementing reimbursement for home-based asthma and/or childhood lead services?

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For additional resources, including many of the sources cited in this document, visit
www.nchh.org/resources/healthcarefinancing.aspx

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