A large body of evidence suggests that home visiting programs that address indoor environmental triggers (e.g., cockroaches, mice, tobacco smoke, and mold) can improve asthma control, reduce asthma-related hospitalizations and emergency department visits, and provide a positive return on investment. These types of services are recommended as a component of comprehensive asthma care for people with poorly controlled asthma but are not widely available and often limited in scale. However, recent changes resulting from healthcare reform have increased opportunities 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 may be unsure about how to translate these evidence-based practices into policy. This case study summarizes the current healthcare financing landscape in the District of Columbia for home-based asthma services with an emphasis on public financing. The case study is based on interviews with the local Medicaid agency, health department, and other stakeholders (survey findings were not available for the District). It describes the current healthcare landscape, other important funding mechanisms, key barriers, next steps, and lessons learned. This information may be useful to stakeholders across the U.S. that are seeking healthcare financing for home-based asthma or other preventive services, or for stakeholders within the District of Columbia interested in a summary of current and future opportunities.
**Medicaid in the District of Columbia**
The DC Department of Health Care Finance provides Medicaid coverage for approximately 39% of DC residents through its Medicaid and CHIP programs. Sixty-five percent of DC Medicaid beneficiaries are enrolled with one of the District’s four Medicaid managed care organizations (MCOs).

**Medicaid and MCO Coverage for Home-Based Asthma Services**

- **Reimbursement type (page 3):** Historically, Medicaid-supported coverage of home-based asthma interventions in the District of Columbia has not been available. Recent collaborative efforts between MCOs in DC have begun to change this coverage landscape. Today, all MCOs in the District are in the process of contracting with Breathe DC’s Breathe Easy Asthma Home Visiting Program to offer in-home asthma management services to children with high-risk asthma. Upon execution of these contracts, all MCO-enrolled residents who meet eligibility criteria will have access to in-home asthma management services provided by Breathe DC and covered through managed care.

- **Eligibility for services (page 4):** Children and adults who have recently been to the emergency department, were hospitalized for asthma, or who were referred to the IMPACT DC Asthma Clinic by a provider.

- **Types of services covered (page 3-4):** Initial assessment of the home environment for asthma triggers, dust mite covers, pest management, HEPA vacuums, asthma counseling and educational materials, and tobacco cessation services for household members interested in quitting smoking. Typically, families referred to Breathe DC receive two to three home visits.

- **Staffing (page 4):** Master’s-level public health workers trained as healthy homes practitioners.

**Barriers and Next Steps for the District of Columbia (pages 6-7)**
Interviewees described a number of challenges and barriers to improving in-home asthma management, including lack of funding to conduct asthma surveillance due to National Asthma Control Program funding cessation. One solution that the DC Department of Health is pursuing is data-sharing agreements with Medicaid MCOs in the District. Interviewees also reported difficulty linking improvements in healthcare utilization among high-risk asthma patients to home-based asthma services specifically, because patients receive other asthma management services as well. Funding is needed to research and analyze multicomponent asthma interventions to isolate the value of various elements.

**Other Funding Mechanisms in the District of Columbia (page 4-6)**
The District of Columbia Department of Energy and the Environment’s (DOEE) DC Partnership for Healthy Homes is a program aimed at identifying and mitigating environmental health and safety threats for DC residents. Case managers working for DOEE conduct a comprehensive home environmental assessment; identify and document issues (e.g., holes in the walls that allow pests to enter the home); and assist landlords through the process of making necessary home repairs to mitigate asthma triggers.

**Key Insights from the District of Columbia (page 7)**
Interviewees credit the Chronic Condition Collaborative for providing a forum for MCOs, the DC Medicaid office, and other stakeholders to discuss best practices in asthma management. This forum enabled MCOs in DC to look at their data holistically, in order to better understand the problem of asthma among their beneficiaries, and facilitated partnerships between MCOs and community-based organizations to work together on solutions. The availability of DC-specific data on the efficacy and cost-effectiveness of asthma services was also compelling to MCOs. Another lesson learned in DC is the continued importance of public health dollars to launch community-
Medicaid and MCO Coverage for Home-Based Asthma Services

Historically, Medicaid-supported coverage of home-based asthma interventions in the District of Columbia has not been available. Until recent efforts to expand access through managed care, as described in this case study, District residents did not have access to coverage for home-based asthma services under FFS Medicaid or through a Medicaid MCO.

Chronic Condition Collaborative.
Recent collaborative efforts between MCOs in DC have begun to change this coverage landscape. In 2008, MCOs operating in DC joined together in a multiyear Chronic Condition Collaborative (Collaborative) with an initial focus on asthma, diabetes, congestive heart failure, and hypertension. The Collaborative was convened by DC’s Medicaid Office, specifically, the DHCF Division of Quality and Health Outcomes. All four Medicaid MCOs in DC participate voluntarily in the Collaborative, along with representatives from DHCF, the DC Department of Health (DOH), and other relevant community stakeholders. Through the Collaborative, MCOs in DC work together to measure chronic disease health outcomes among District residents to help inform decision-making about investments in programs that target chronic conditions.

MCO data reported through the Collaborative found high rates of emergency department (ED) visits among plan members with asthma; because this high rate of asthma-related ED visits did not come with a corresponding high rate of hospitalization, this indicated to the Collaborative that “there is potential to decrease ED visits by focusing on medication compliance, coordination of care, and better access to primary care physicians for members with asthma.” This data compelled the DHCF to propose that MCOs in the Collaborative focus their continued efforts on asthma.

Since 2014, the Collaborative has set a goal “to reduce emergency department utilization and inpatient hospital admissions for children and young adults with asthma,” aged 2-20. Initially, the Collaborative set out to study whether improved medication compliance would result in better asthma control in this population through performance improvement plan (PIP) initiatives conducted within each participating MCO. Over time, the Collaborative has turned its attention to home environmental asthma triggers. Interviewees reported that a March 2015 presentation by IMPACT DC, a pediatric asthma program operated by the Children’s National Health System (see text box for program description), to the Collaborative was particularly impactful in getting MCOs to understand, among other things, (i) the link between asthma management programs and positive outcomes for DC residents and (ii) strategies for coordinating clinic- and community-based asthma management. Interviewees stated that MCOs found IMPACT DC’s detailed data on clinical outcomes and figures on the return on investment for these services to be compelling.

Against this backdrop, Breathe DC’s Breathe Easy Asthma Home Visiting Program (described below) was looking for ways to make their program sustainable in preparation for losing DC Department of Health funding in September 2015. Prior to funding cessation, Breathe DC had been able to offer home-based asthma services to certain children with high-risk asthma free of charge. Interviewees reported that all four MCOs in DC have expressed interest to provide reimbursement to Breathe DC to continue these services; Breathe DC is currently in various stages of contracting with MCOs for providing in-home asthma management services to plan members.

Upon execution of these contracts, all MCO-enrolled residents who meet eligibility criteria will have access to in-home asthma management services provided by Breathe DC and covered through managed care. It should be noted that Medicaid coverage regulations themselves have not changed: Because home-based asthma services are beyond what is required by DC Medicaid under Medicaid FFS, these services are considered an “administrative” expense, and are therefore not covered by the per-capita payment MCOs receive from DC’s Medicaid agency.

What home-based asthma services are provided?
Breathe DC began offering its distinctive home-based asthma services program – Breathe Easy Asthma Home Visiting Program – in the District with funding from the Health Resources and Services Administration’s (HRSA) Maternal and Child Health Program, administered to them by way of the DOH. This funding ran from October 1, 2013 until September 30, 2015. At present, Breathe DC is contracting with

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* 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.
MCOs in DC to receive reimbursement on a per-visit basis for in-home asthma services rendered. Interviewees report that the services that will be available to patients through these MCO contracts will be essentially the same services that Breathe DC has historically provided to District residents, including:

- Initial assessment of the home environment for asthma triggers;
- Dust mite covers;
- Pest management;
- High-efficiency particulate air (HEPA) vacuums;
- Asthma counselling and educational materials; and
- Tobacco cessation services for household members interested in quitting smoking.

Typically, families referred to Breathe DC receive two to three home visits. The first visit consists of a home assessment where a provider conducts an interview with the family, completes a walkthrough of the child’s home, identifies any asthma triggers, and assigns a provider for a follow-up visit. The number of additional visits varies depending on each family’s identified needs. Breathe DC has not previously tracked costs per visit for these services.

**What patient populations are eligible to receive home-based asthma services through Medicaid?**

Historically, Breathe DC’s program offered services to children with high-risk asthma who were referred to the program by the IMPACT DC Asthma Clinic (see text box for program description). These patients include children who have recently been to the emergency department, were hospitalized for asthma, or who were referred to IMPACT DC by a provider. While patients are occasionally referred to Breathe DC through other mechanisms, the partnership between Breathe DC and IMPACT DC has been the primary mechanism for identifying children in need of Breathe DC services.

As Breathe DC enters into contracts with MCOs, the program will continue to focus services on such high-risk pediatric populations. However, Breathe DC is also contracting with an MCO in the District that serves an adult population, so the program is working to adjust its services to meet the needs of adults with high-risk asthma.

**What types of providers are eligible to provide home-based asthma services? How are these professionals trained to address asthma triggers in the home?**

Breathe DC employs master’s-level public health workers to provide home-based asthma services. Employees receive training as healthy homes practitioners through a course offered by the National Center for Healthy Housing and approved by the Environmental Protection Agency (EPA) and Department of Housing and Urban Development (HUD). Breathe DC personnel have also received smoking cessation training through the Certified Tobacco Treatment Specialist training program offered by Rutgers University. Additionally, one MCO contracting with Breathe DC is offering to provide potential home-based asthma service recipients with an initial home assessment before referring them to Breathe DC. Breathe DC has trained case managers employed by this MCO to provide this initial assessment.

The trained public health workers working for Breathe DC do not have official asthma education certification or clinical licensure. Since Breathe DC’s emphasis is on mitigation of home environmental triggers and general asthma education and self-management, not on medication and medical device usage, the organization has determined that its public health workers can provide safe and effective services without official certification or medical licensure. Furthermore, Breathe DC’s relationship with organizations that do have a workforce with this expertise (e.g., IMPACT DC, discussed in the text box below) provides a safety net for any patients who need additional medical intervention or instruction. Nevertheless, Breathe DC is exploring a relationship with an asthma educator certifying organization and may gain certification for its workforce in the near future.

**Other Important Initiatives Related to In-Home Asthma Management**

The DC Asthma Coalition. The DC Asthma Coalition is comprised of over eighty organizations and agencies dedicated to improving the system of care and outcomes for children and adults with asthma. The Coalition is focused on education and raising awareness about asthma in the District. For example, the coalition is engaged in a strategic planning exercise that is making recommendations for asthma programs in many domains, including home-based asthma services. The Coalition also conducted an asthma training program for managed care personnel in May 2015 that utilized a trainer provided by the National Center for Healthy Housing and a curriculum approved by the EPA and HUD.

DC Partnership for Healthy Homes. The District of Columbia Department of Energy and the Environment’s (DOEE) Lead and Healthy Housing Division spearheads the DC Partnership for Healthy Homes, a program aimed at identifying and mitigating environmental health and safety threats for DC residents. This program has served as an important resource for children with asthma who access services from Breathe DC. Where Breathe DC
providers discover code violations when conducting a home environmental assessment, they report these violations to DOEE. Subsequently, DOEE conducts a comprehensive home environmental assessment, identifies and documents issues (e.g., holes in the walls that allow pests to enter the home), and creates a detailed technical assistance report that serves as a time-sensitive action plan for the correction of identified hazards. DOEE submits this report to the DC Department of Consumer and Regulatory Affairs (DCRA), the family, and the landlord if applicable. The formality of the report is usually enough to compel landlords to make the necessary changes to address unsafe housing conditions.

Case managers working for DOEE assist landlords through the process of making necessary home repairs to mitigate asthma triggers. For families who own their own home, case managers provide free consultation on how to remediate asthma triggers and connect income-qualified families to programs that assist in home repairs (however, significant gaps in funding for these types of programs have been reported). Case managers at DOEE are public health analysts with backgrounds in nursing, public health, social work, communications, and clinical care. They are trained experts in healthy homes interventions and credentialed as Healthy Homes Specialists by the National Environmental Health Association. Some are also board-certified Asthma Educators.

**DC Department of Health’s Bureau of Cancer and Chronic Disease Prevention.** This bureau exists within the Department’s Community Health Administration and focuses on addressing cancer and chronic disease, including asthma, across the whole disease...
life cycle. Among other initiatives, the bureau is currently working to identify existing home visitation programs in the District that could potentially provide linkages to asthma care. For example, would it be appropriate and feasible for providers who offer home visits through maternal and child visitation programs to assess asthma triggers in addition to the other services they provide (given that they may be encountering children with high-risk asthma)? The bureau is considering co-training opportunities where providers who currently offer home-based services in other focus areas can learn about asthma triggers so that they have the knowledge to refer families to appropriate support services, such as Breathe DC. The bureau is in the discovery phase of identifying appropriate home visiting organizations.

In the past, the Bureau received funding from the CDC’s National Asthma Control Program to undertake prevention activities related to asthma, including partnership building, strategic planning, intervention, evaluation, and surveillance epidemiology. Much of this work has involved helping community members make connections with other stakeholders, drawing attention to areas of concern in chronic disease healthcare, facilitating partnerships among community partners, and providing recommendations as to where the city should allocate resources to address asthma. As of September 2014, the CDC no longer funds the bureau’s asthma control activities. Consequently, the scope and nature of its asthma prevention programs have had to change. Nevertheless, the bureau has been able to maintain some asthma surveillance activities related to the Behavioral Risk Factor Surveillance System (BRFSS). These surveillance activities have been useful to track trends in asthma in the District, and have been used to bolster some of the data used by MCOs to become interested in reimbursing for in-home asthma services.

**Barriers to Implementing Home-Based Asthma Services within Medicaid**

**Lack of funding to conduct asthma surveillance.**
As described above, because the DC Department of Health (DOH) no longer receives funding from CDC’s National Asthma Control Program, they have had to reduce asthma surveillance activities. While the department has been able to maintain some BRFSS data collection, interviewees caution that funding levels may not enable the District to continue tracking this data. One solution that the DOH is pursuing is data-sharing agreements with Medicaid MCOs in the District. Currently, Medicaid MCOs provide DOH with some level of data on services like emergency department visits, hospitalizations, pharmacy records, and medical equipment records, but data collection is cumbersome because data are collected and disseminated differently across the four MCOs. The proposed data sharing agreement would make data collection more comprehensive and consistent. This proposal impacts all Medicaid MCO data and is not specific to asthma surveillance, however interviewees hope that this arrangement will help make up for current gaps in data collection as a result of reduced CDC funding. In the meantime, data collected through the Chronic Condition Collaborative has substituted for gaps in public health data related to asthma.

**Difficulty differentiating the impact of home-based asthma services from other asthma services.**
Interviewees report that it is often difficult to link improvements in healthcare utilization among high-risk asthma patients to the home-based asthma services they receive because so many of these patients receive other asthma services as well. For example, in addition to receiving services in the home from Breathe DC, many high-risk patients also access the IMPACT DC Asthma Clinic or are enrolled in an MCO with a clinical asthma management program. It can be hard to isolate the impact of Breathe DC apart from these other services. In addition, the Breathe DC intervention itself has several components, from asthma self-management education to environmental assessment to the provision of asthma supplies. Breathe DC has not had the capacity to validate individual components of its approach. This can be problematic because providers and payers, in an effort to understand where to spend limited resources, often want to know which asthma interventions (or combination of interventions) are the most cost-effective or yield the best patient outcomes. Funding is needed to research and analyze multicomponent asthma interventions to isolate the value of various elements.

**Difficulty addressing substandard housing conditions.**
Interviewees describe the challenge of addressing asthma triggers in individual apartments that are located in substandard multiunit buildings. For example, spraying for pests in one unit of a pest-infested building may be fruitless if structural deficiencies will continue to allow pests entry to the home. There are a multitude of systemic problems in low-income, multiunit residences that need to be
addressed comprehensively before the District can really get a handle on asthma in these populations. Interviewees describe stakeholder efforts to work with the DC city council on solutions to substandard housing and its impact on asthma.

The current process for improving housing is fairly informal. For example, as described above, Breathe DC has formed a relationship with DOEE to report code violations documented during in-home visits. While reporting on code violations does lead many landlords to address deficiencies, this informal process does nothing to actively prevent asthma exacerbations in other populations living in substandard housing. More could be done to institute a formal process to improve housing in the District. Interviewees report that discussions with the DC city council have been promising, but they are unsure if these discussions will continue to move forward. Aggressively addressing substandard housing will require coordination between several different government agencies, not all of which are on the same page or have sufficient resources to institute change.

**Future of Medicaid Reimbursement for Home-Based Asthma Services: How Is the District Working to Expand Coverage and Reimbursement?**

As described throughout this case study, stakeholders in DC are working hard to ensure that all MCO-enrolled residents who meet eligibility criteria will have access to in-home asthma management services provided by Breathe DC and covered through managed care.

As Breathe DC looks to expand its reach to meet demand, the District is working on developing a State Plan Amendment (SPA) to submit to the Centers for Medicare and Medicaid Services (CMS) that would permit direct billing of DC Medicaid for services by non-licensed providers, such as community health workers. Whether this mechanism will be applicable to the lay public health workers employed by Breathe DC’s program remains to be seen. The preliminary SPA has defined community health workers in a manner would include Breathe DC’s personnel, but this definition is subject to change before submission and approval by CMS. Additionally, each CHW eligible for Medicaid reimbursement would likely need to have a formal relationship with a licensed medical professional who could bill Medicaid on his or her behalf; Breathe DC’s providers currently lack this formal relationship.

**Lessons Learned**

The Chronic Condition Collaborative has provided an invaluable forum for MCOs, the DC Medicaid office, and other stakeholders to discuss best practices in asthma management and learn from clinical and community providers. This forum enabled MCOs in the District to look at their data holistically to better understand the problem of asthma among their beneficiaries, and facilitated partnerships between MCOs and community-based organizations to work together on solutions. Without this inclusive effort, it is likely that DC would find itself in a position similar to other states where community organizations that work on asthma management struggle to reach decision-makers at MCOs. Interviewees note that DC’s smaller size is a factor in making collaboration possible, so this type of model may be most appropriate for cities or regions rather than for large states.

The availability of DC-specific data from IMPACT DC on the efficacy and cost-effectiveness of asthma services has also been important. This data was compelling to MCOs because it was based on the very population they serve, as opposed to data coming from pilot programs in other states. Interviewees report that having such comprehensive data available made all the difference in convincing MCOs in the District to consider introducing in-home asthma services for their enrollees.

Another lesson learned in DC is the continued importance of public health dollars to launch community-based initiatives that might eventually attract the attention of payers. In other states, health plans that might be interested to work with community-based organizations on asthma management have been deterred by a lack of available programs that provide a sufficient workforce and turnkey infrastructure to bring MCO-supported asthma management programs to fruition. In DC, HRSA dollars issued to both Breathe DC and IMPACT DC via the DC Department of Health helped implement and expand impressive programs that can now collaborate with MCOs and continue to grow to reach populations in need.
### ACRONYMS

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<tr>
<td>ACA</td>
<td>Affordable Care Act</td>
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<td>BRFSS</td>
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<td>Health Services for Children with Special Needs</td>
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<td>Performance improvement plan</td>
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### DEFINITION OF SERVICES

**Home-based asthma services**

The original survey that formed the basis for these follow-up case studies used the *Community Guide to Preventive Services* definition of home-based, multitrigger, 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. See Appendix A of *Healthcare Financing of Healthy Homes: Findings from a 2014 Nationwide Survey of State Reimbursement Policies* for the full definition.

### About the Project

This multiyear project is working to document and demystify the landscape and opportunities surrounding healthcare financing for healthy homes services. In year one of the project, 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. In years two and three of the project, 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). 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.

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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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