Home-Based Asthma Interventions: Keys to Success

Setting the Stage

Asthma affects 25 million Americans (one in every 12 people), including six million children. The costs of uncontrolled asthma -- including poor health outcomes, emergency department visits, and increased hospitalizations -- amounts to billions of dollars in medical costs and lost productivity. Asthma has a greater impact on poor and minority communities, and the U.S. Environmental Protection Agency (EPA) is committed to fostering environmental interventions in homes where there are factors that make asthma worse.

As part of their Cooperative Agreement, the EPA and America’s Health Insurance Plans (AHIP) convened a roundtable meeting of health plan representatives on May 10, 2017 to address this important issue. The discussion illuminated some critical success factors for home-based asthma interventions, challenges that still exist to address this chronic condition holistically, and opportunities for health plans to intervene and establish scalable, sustainable programs.

A variety of approaches to asthma management were discussed during the meeting, including: regular outreach to families to build trust and relationships needed to conduct home visits; partnerships with regional asthma networks to augment outreach and coordinate home visits; and collaboration with organizations to conduct home remediation.

The Importance of Asthma Management

- Asthma affects 25 million Americans, including six million children
- Health plans target patients with high emergency department utilization and high rates of hospitalizations to reduce avoidable high-cost health care.
- Some health plans have partnered with third-party organizations to maximize outreach and efficiency in asthma management.

Key Takeaways from the AHIP Asthma Assessments

To review current plan programs and asthma management initiatives, AHIP conducted two assessments, of both commercial and Medicaid plans. Following these assessments, several key themes emerged including the importance of identifying and supporting racially diverse populations, local partnerships to conduct in-home assessments, and the need to establish long-term program stability.

Medicaid plans were more likely to offer home visits as part of their asthma management strategies. Though plans did not necessarily
collect data on race/ethnicity, both the assessments and interviews showed that many plans have processes to help increase access to health care for racially diverse populations, including providing transportation services and offering educational materials in multiple languages.

Most plans responded that partnerships were important. Some of the larger plans do not offer home-based assessments and expressed an interest in securing an outside entity spearhead a program, with the plans in a supportive role. Some plans wanted a program where they could refer members; others were willing to finance an asthma program but not conduct home assessments themselves.

Some plans found they had more successful interventions when they simply employed community health workers rather than work through a third-party entity, such as a visiting nurse association (or similar entity). In interviews, plans noted that this structure was successful as it leverages existing trust and relationships between the health workers and the individuals in the community. The same staff from the plan calls the member, establishes trust, and conducts the home-based assessment.

Overall, the most successful programs arranged both home-based assessments and remediation to treat the member holistically. For example, plans engaged their members directly by addressing in-home triggers and offering asthma-friendly items such as pillowcase covers, air filters, or cleaning supplies.

Establishing a Home-Based Asthma Management Program

A successful approach for integrating care into the home is observed when plans work with provider groups to engage their patients in the program and encourage access. For example, plans send community health workers to accompany asthma case managers on home visits, demonstrating the benefits of a “warm handoff” in building trust to gain access to members’ homes.

Plans also use both in-home visits and telephonic outreach with members to educate them on strategies to better manage their asthma and reduce environmental triggers in the home. In some cases, they found the outcomes of the two different approaches were similar. In making a concerted effort to target the program for patients with high disparities and chronic conditions, plans’ abilities to engage those individuals were heightened; only a very small number completed first visits, even fewer completed the second, and only a handful completed the 45-day visit. Some plans also deployed pharmacists to help members improve medication compliance, working alongside other health workers who may be more comfortable engaging around the social determinants of health. Plans using a team-based approach with a population health model to focus on geographic hot-spots and allocate staff time accordingly, seemed to be effective.

Health plans face challenges in setting up home-based asthma programs. For example, one plan described two key barriers:

- Pediatricians who are reluctant to send nurses to people’s homes, and
- Patients who are reluctant to let health care workers into their homes.

Plans that cannot overcome these challenges are unlikely to sustain their programs. Another challenge can be getting parents of children with asthma to attend educational workshops. Defining the business case and return on investment (ROI) of an asthma management program may also be difficult, particularly for a commercial population.
Successful Strategies for Identifying and Engaging Members

To select participants for the home-based assessment programs, most plans focused on those members who had high use of emergency departments and increased hospitalizations because reducing avoidable high cost health care use drives the ROI.

Health plan collaboration and coordination with members’ providers helped get programmatic buy-in, including establishing the goal of having severe, persistent asthmatics seen by an asthma specialist. Enabling physicians to use the electronic health record to order prescriptions and alert the practice if the prescription is not filled on a timely basis can help improve medication adherence. Additionally, offering members supplies, such as HEPA filters to help control asthma, enhanced member participation in home-based assessments.

Physician practice collaboration has proven successful to improve asthma management and engage patients in a coordinated program, and the model can be used to address other chronic conditions. In some asthma management programs, providers value having access to additional asthma expertise and have included asthma educators during patient visits as expert resources to help complete asthma action plans for patients. The plan meets with the family and patient as soon as possible, to educate the child, parents, extended family and caregivers, as well as school nurses to ensure that everyone involved understands the child’s asthma action plan.

Some plans with successful asthma management programs became indispensable to the community by engaging not only with providers, but also by participating in school programs and attending community fairs. This type of comprehensive community-based approach can increase awareness about potential environmental triggers and how to handle flare ups. Additionally, this approach can enable health workers to more effectively address basic needs pertaining to social influencers of health that must be resolved before someone can focus on asthma management.

As part of their efforts to engage members during a crisis, some plans may redirect patients to urgent care centers located close to emergency rooms, expediting their care in the urgent care setting rather than waiting to be admitted to the hospital. The success of this approach depends on physician practice collaboration and efforts to build trust with members, including consistent telephonic outreach and even video calls.

Partnerships and Collaborations

Successful asthma management programs often entail collaboration between health plans and community-based organizations. For example, one plan operates its program in partnership with a chapter of a national asthma organization. The plan’s role is to provide communications, data, and resources while the asthma network partner brings in certified asthma educators and other experts to educate and engage providers and patients to improve asthma care. The plan’s data and analytics capabilities are leveraged to identify which patients will benefit the most and who their providers are, to direct the asthma partner’s outreach.

Leadership buy-in and patience are critical to success because it takes time to launch a program, select the right partner, engage
patients and their providers, build trust, conduct home visits, adjust the program, and achieve results – potentially three to four years.

The right partnerships can enable plans to create a community-based team to address asthma, and work with community partners and providers to help members find needed services, even if unrelated to asthma, such as finding help replacing a window. Plan employees and community partners visit members in-person and by phone to identify members’ issues, stabilize them, and provide support through telephonic outreach on a periodic basis.

Another example of a community-based program for home-based assessments and remediation started as a public health campaign by a state Medicaid plan. The pilot program identified high-risk children in targeted geographic areas to conduct home-based assessments as well as home-based remediation.

Some health plans are part of fully integrated systems with providers as part of the organization, with an accountable care organization or other type of collaborative care delivery model. In this type of model, incentives are aligned to use analytics and dashboards to target members, work with providers and community partners to bridge gaps in care coordination, and plan across the full continuum of care to improve patient outcomes.

**Measuring Progress**

Plans target patients by looking for high utilization of the emergency department for asthma-related symptoms. Thus, a key measure of success is reducing visits to the emergency department. However, plans found that the people who are targeted for home-based assessments have far more immediate concerns than asthma. Plans recognized the importance of building relationships and trust with members, to ensure there was a comfort level with visits to their home. However, some are hesitant to let “authority figures” into their homes and many are transient, making it difficult to track patient progress or ROI.

Health plans are committed to supporting those suffering from chronic conditions by addressing both the individual, environmental factors, and social determinants of health. And these efforts not only help members, but also reduce overall health care costs. For example, one plan with a successful asthma management program demonstrated an ROI of $2.40 for each $1.00 invested. The ROI is calculated for members who are in the program for three years, including one year prior to the intervention, one year in the asthma management program, and one year after. The plan saw a 50 percent reduction in emergency department and hospital visits among patients in their asthma program. However, some patients still visit the emergency department and hospital for asthma care, so the plan expanded its program to include home visits. Asthma experts now conduct an average of three home visits per targeted individual. On the first visit, the health worker conducts an assessment, on the second they bring products, and the third serves as a check-up. The plan has conducted 150 home assessments in the last 18 months.

Another plan uses the following measures of success:

- The number of completed asthma action plans
- Fewer missed school days as reported by parents
- Reduced exposure to smoking
- A COPD control test

Given this program’s success in improving quality-of-life scores, the community partners have replicated it throughout the state. Another plan noted that they are committed to the program even though they have not yet
seen ROI. This plan measures success by looking at:

- Reduced emergency room visits
- Improved quality metrics
- Process metrics (e.g., improved patient experience)

This plan acknowledges that, while difficult to measure, it is working on ways to measure whether the program has successfully engaged with patients and the community.

**Conclusions**

Asthma affects 25 million people, including six million children. Uncontrolled asthma results in poor health outcomes, as well as costly and avoidable ED visits and hospitalizations. Health plans have successful asthma programs that may include home-based asthma interventions. There are many success stories as well as some challenges associated with these programs.

Challenges include designing effective programs, building trust with members to be able to access homes to conduct home visits, measuring the impact, and achieving an ROI. Key learnings from success stories include leadership buy-in and patience, targeting the members who are likely to benefit the most from the intervention, collaborating with community-based organizations that bring credibility and expertise, engaging effectively with providers and patients, addressing social influencers that may preclude improving asthma control, measuring the impact of the program and ROI, and adjusting the program as lessons are learned.

Health plans and other stakeholders can leverage and apply these success stories, along with the challenges and opportunities, to their own innovative programs to improve asthma care and increase access for those who need it most. These best practices for asthma care can also be refined and replicated for other chronic conditions.