Lessons and Recommendations from Piloting Home-Based Asthma Programs

Green & Healthy Homes Initiative is a leading nonprofit, technical assistance provider for asthma and healthy homes programs across the country. An important component of our technical assistance capacity is designing and implementing home visiting models that include assessment and remediation of home-based asthma triggers. We often help local partners design pilots to test new or improved program models, especially if they include coordination of new service provider agencies.

Although asthma home visiting programs vary from program to program, they usually consist of the following components:

REFERRAL
from health care entity or agency based on patient's uncontrolled asthma; could be due to an asthma exacerbation, medical event, or provider referral.

HOME VISITS
performed by a healthcare professional covering basic asthma education, asthma self-care practices, medication management, and discussion of behaviors that may exacerbate asthma.

ENVIRONMENTAL ASSESSMENT
of the home environment performed by an environmental assessor, consisting of a room-by-room walk-through to identify potential asthma triggers.

ENVIRONMENTAL REMEDIATION
of asthma triggers via home repairs performed by contractors and subcontractors, if resources are available to do so.

FOLLOW-UP
via phone calls and additional home visits reinforce asthma education, collect data for evaluation purposes, and ensure that program services have a sustained impact.

DATA COLLECTION
throughout the program, including outcomes data (e.g., asthma control test scores) and process evaluation (e.g., efficiency of moving client from intake to first home visit).

Through supporting the design and implementation of several asthma-focused pilots, we have learned key lessons and developed recommendations, applicable to both asthma and non-asthma healthy homes pilot projects. These lessons and recommendations are categorized in four areas in the sections below.

- Partnerships
- Governance and Communication
- Operations
- Data Management and Analysis

Partnerships

Create referral pathways with financial sustainability in mind.

A pilot is a trial-run not only for the service providers but for potential payers as well. One grant-funded asthma program served 100 members from a local Medicaid MCO over two years. At the conclusion of the pilot, the MCO identified trends in cost reduction across those members, which led to the creation of a direct payment contract.

Leverage existing program resources and capacities.

Several pilots have successfully coordinated with existing home repair programs for asthma trigger reduction services. This is especially useful if the pilot itself does not include resources for home repair. Partnerships with weatherization, energy efficiency, and lead hazard control providers have been successfully integrated into asthma pilots. It should be noted that establishing these partnerships requires diligence and commitment to building 'muscle memory' for a referral process that is often not straight-forward. For example, there may be a number of eligibility guidelines to confirm prior to sending a referral from a local health clinic to a utility-run weatherization provider. Additionally, tracking pilot-specific clients within a weatherization program may require a level of coordination that is new to a weatherization provider.

Governance & Communication

Establish and maintain inter-team communication channels.

Because pilots are often smaller in scale than mature healthy homes programs, services might be delivered by part-time staff or providers with a broad range of responsibilities. As a result, staff members may be working on the pilot at different times of the day or week, making it difficult to align schedules for communication. For example, one pilot included a part-time community health worker who performed most of his home visits during the evening or weekend, making it difficult to connect with the home assessor who worked weekdays 9 to 5. Establishing expectations regarding email or call frequency – particularly when schedules do not align – can help field staff keep updated about client cases and home visit schedules.

Apply a health equity lens when developing and improving the program model.

Collecting feedback from beneficiaries throughout the asthma pilot is critical to determining how well the program model addresses health inequities that relate to asthma in your community. One pilot team we worked with incorporated focus groups into their design stage; hearing directly from potential clients about the importance of their relationship to primary care providers led the team to include an introductory program letter from those doctors. Hearing from clients after they complete the program also provides valuable information. Another one of our partners hired a third party evaluator to conduct surveys with client families, revealing potential tweaks that could improve the model for future service delivery.

Operations

Keep program management flexible to allow the team to respond to challenges as they arise.

The service provider team will invariably run into unforeseen challenges or obstacles that will require team-wide discussion about how to move forward. While plans for a full program may include a strict set of eligibility, budget, and procedural guidelines, the team may find that those stipulations are not the best way to handle certain situations. The pilot phase is an opportunity for the team to test plans and constantly revisit assumptions made during the planning stage. For example, one pilot project found that owner-occupied home repair costs were far greater than expected in the budgeting process; the team decided to defer the home repairs but began looking into alternatives like relocation for worst-case scenarios.

Create asthma safe havens within the home when budget constrained.

While it would be ideal to retrofit the entire home to address every dust-related trigger, the pilot team is ultimately working with a limited budget. To accommodate this, one team adopted an approach of creating a "safe haven" for pediatric asthma patients. The team's goal was to have at least one room (usually the child's bedroom) free of most triggers – this meant replacing the carpet, reducing the number of stuffed animals, replacing mattress and pillow covers, providing a mobile air filtration unit, etc. as the budget would allow.

Streamline assessment tools for the asthma pilot.

As a grantee of the U.S. Department of Housing and Urban Development (HUD), one service provider was experienced in using the Healthy Homes Rating System (HHRS) as the standard tool for assessing homes for a comprehensive list of health and safety hazards. When assessing apartments specifically for asthma triggers, however, the agency found that the HHRS tool was not always applicable. Instead, the team used a custom-built tool for environmental assessments.

Data Management & Analysis

Establish guidelines for data collection (whether using a data platform or manually) and abide by this process as closely as possible.

One pilot team invested in a data platform to track client information and operational efficiency. However, they lacked a standard process for consistent data entry to enable accurate, automated reporting on a regular basis. Recommitting to a disciplined data entry process allowed the team to realize the added value of their data platform.

Additionally, the small scale of a pilot may not justify an investment in a full-scale data sharing platform between all partners. Referrals, case notes, and communication may occur over secure email, phone call, paper records, spreadsheets, etc. In this scenario, keeping data organized is that much more important for evaluating process and client outcomes.

Analyze the breakdown of service tiers to inform budget assumptions.

Early pilot homes for one project showed that most families only required less intensive Tier 1 services – provision of supplies without need for home repairs. Further, the team analyzed an extensive list of addresses of referred patients through Google street view and found that only 20 to 30 percent of homes were likely to require Tier 2 services – structural home repairs like roof patching and mold remediation. This finding lowered the budget estimate on the average cost per home to $4,000. The team also conservatively revised the Tier assumption to a 50:50 split.

Analyze the proportion of owner-occupied and rental properties.

A key variable related to the identification of Tier 1 and Tier 2 services is whether the home is owner-occupied or tenant-occupied. One pilot team decided that while owner-occupied properties would be eligible for Tier 1 and Tier 2 services, tenant-occupied properties would be eligible for Tier 1 services only. This determination eliminated the need for the Tier 2 provider to negotiate with landlords to perform repairs.

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