

HEALTH CARE INNOVATION SPOTLIGHT SERIES

BAYSTATE MEDICAL CENTER SPRINGFIELD HEALTHY HOMES ASTHMA PROGRAM

An Innovative Model for Addressing the Root Causes of Asthma

MAY 2023**THE PUBLIC HEALTH INSTITUTE OF WESTERN MASSACHUSETTS**

(PHIWM) began working on addressing the disproportionate asthma burden in Springfield, Massachusetts in 2013, employing community health workers (CHWs) to support care management, provide patient education, and connect patients to resources that could reduce asthma triggers. When Springfield was named the asthma capital of the United States by the Asthma and Allergy Foundation of America in 2018, PHIWM knew it had to do more than provide education on proper inhaler use.

*"This work grows out of our Pioneer Valley Asthma Coalition and our work with the community identifying what is needed to **enhance [families'] ability to control asthma flare-ups..** We couldn't just fix it with giving them inhalers. We need to go in and **address root causes** of their asthma outcomes."*

—SARITA HUDSON, Director of Programs and Development at PHIWM

As many individuals with asthma in Springfield worked in low wage jobs and had inconsistent access to primary care, they were likely to seek care in the emergency department (ED). Recognizing that reliance on the ED was a costly and inefficient option for these individuals, PHIWM sought solutions that would reduce trips to the ED. Managing everyday triggers in patients' homes – often the source of exacerbation of asthma symptoms – was a promising avenue for reducing ED visits and addressing the root causes of asthma.

In an interview with the HPC, program staff from PHIWM and its partner organizations described how they used the HPC-funded Baystate Springfield Healthy Homes Asthma Program (SHHAP) to provide preventive interventions for patients with asthma in Springfield.

**SIDEBAR: INEQUITIES
IN ASTHMA BURDEN IN
SPRINGFIELD**

Every year, over 2 million ED visits occur in the U.S. due to asthma.¹ Racial disparities are stark when it comes to asthma-related ED visits, as Black Americans have nearly 5 times the rate as white Americans.²

PHIWM estimates that Springfield has one of the highest asthma-related ED visit rates in the nation at 1,483 ED visits per 10,000 population, which is 3 times the state average. Latino and Black Americans in Springfield disproportionately experience asthma-related ED visits at nearly 3.4 and 1.9 times the rate of white Americans, respectively.³

"[T]he work that we've done and the attention that's been paid to asthma particularly among Black and Brown communities has been impactful... still looming to be addressed are poor and inadequate housing stock, landlord control of quality of housing... that is something that we are looking to address – systems of oppression and racial equity."

—SARITA HUDSON, Director of Programs and Development at PHIWM

PROGRAM AT A GLANCE

In 2019, funding from the health-related social needs track of the HPC's SHIFT-Care Challenge (SHIFT-Care) Investment Program enabled Baystate Medical Center and PHIWM to implement an evidence-based home visit and remediation service that aimed to reduce acute care utilization and out-of-pocket health care costs, and improve the quality of life for people living with asthma.

SHHAP specifically targeted BeHealthy Partnership Accountable Care Organization (ACO) patients with at least one ED visit in the prior year related to asthma or another respiratory-related illness. Baystate Pulmonary Rehabilitation, a division of Baystate Medical Center, hired CHWs to conduct home visits and provide asthma education to patients. The CHWs also worked closely with Revitalize CDC, a local organization that provides home assessment and remediation services. Revitalize CDC dispatched assessors to identify asthma triggers in the home and coordinate repairs such as removal of moldy carpeting and installation of laminate flooring, replacement of ventilation systems in bathrooms, provision of services related to pest control needs, as well as provision of high-efficiency particulate air (HEPA) vacuums to deal with dust particles.

ABOUT BAYSTATE MEDICAL CENTER



Baystate Medical Center

Baystate Medical Center is a 716-bed independent academic medical center, major referral hospital for the greater Springfield area, and teaching site of the UMass Chan Medical School. The Baystate Medical Center includes Baystate Children's Hospital, Wesson Women and Infants' Unit, a Level 1 Trauma Center, and many other specialty clinics.

*"So much of the burden of asthma is the uncertainty of how to deal with asthma and stress... Just having a person that **understands asthma** coming in and having that **human connection** in absence of changing symptoms, changes that uncertainty and stress, **facilitating better health outcomes** in the future."*

– SYLVIA BRANDT, PhD, Professor of Economics, UMass Amherst
discussing the importance of the CHWs in the program

PROGRAM OPERATION BARRIERS AND MITIGATION STRATEGIES

While the program staff carried out home visits, assessments, and remediations, they realized that there would be challenges in trying to intervene in people's everyday lives and building trust with patients.

*"Some of the patients **didn't want to go to the landlord** because...they didn't want the landlord to kick them out [even if] the **living conditions were poor**."*

– COLLEEN LOVELESS, CEO, Revitalize CDC

One immediate challenge was having to secure a landlord's approval to make repairs – a requirement that engendered mistrust for both renters and their landlords. People with limited access to affordable housing were reluctant to approach their landlords with requests for permanent changes to rental properties because of worries about damaging relationships with their landlords and fear of eviction. For their part, landlords were skeptical of Revitalize CDC's motives, fearing that the remediation program was simply focused on trying to enforce housing codes.

Though some landlord-tenant disputes did require referral to legal aid, program staff quickly realized they would need to figure out strategies for addressing asthma triggers that did not require permanent changes to the home. Professional carpet cleaning was one such strategy. In addition, Revitalize CDC staff provided supplies such as HEPA vacuums that could be used to clean surfaces and remove dust without landlord approval. Importantly, these supplies could be taken with patients if they moved.



*"From the repair and remediation point of view... the **number one challenge was landlords**. Rental properties where we had difficulty getting landlord approval... for instance **removing the carpeting in the bedroom and replacing it with laminate flooring**. Any change like that to the unit would have to get landlord approval."*

– COLLEEN LOVELESS, CEO, Revitalize CDC

Recruitment and eligibility issues also presented a challenge in establishing trust with patients in the community. While the program staff hoped to enroll patients who had recently been discharged from the ED, discharge data were often slow to reach the team responsible for identifying eligible patients. As a result of the lag, program staff sometimes found themselves contacting patients whose experience in the ED was so far in the past that they no longer needed or saw value in the services the program provided.

The eligibility restrictions presented challenges for interested patients and program staff. While some patients were skeptical about having CHWs and home assessors come into their homes, others were eager to participate and called the recruitment team, only to be rejected based on ineligibility. Confusion about the program's eligibility criteria among physicians and other providers hampered efficient referral pipelines, as they frequently referred patients who ended up being ineligible. These issues eroded trust in the program among patients and referring providers, and frustrated program staff.

*"We do really see that **the more broadly it's available, the better uptake there is**. And that every time we restrict eligibility, it makes it much harder to do the global outreach and it really hurts the uptake. Once people get the door closed... they say 'I don't trust this organization. They can't help me.'"*

– SARITA HUDSON, Director of Programs and Development at PHIWM

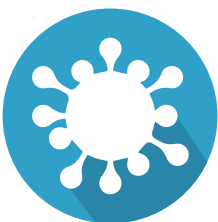
IMPACT OF THE COVID-19 PANDEMIC

In March 2020, 12 months into the implementation period of SHHAP, the COVID stay-at-home order went into effect, disrupting program operations. With participants forced to stay home and reluctant to have in-person home visits from CHWs or Revitalize CDC staff, repairs were halted for three months.

In the meantime, the program staff worked together to identify alternative strategies to meet patient needs. While traditional hospital services shifted to telehealth and virtual appointments, program staff transitioned the home visits to virtual visits, making sure to account for the fact that many patients did not have regular access to video-call-capable devices.

*"[COVID-19] **shut down all the home visiting...** many of the visits turned to being **phone calls**."*

–SARITA HUDSON, Director of Programs and Development at PHIWM



Because patients with asthma stayed at home to avoid COVID-19, they were sometimes exposed to in-home environmental triggers that exacerbated their asthma, which itself is a potential risk factor for COVID-19. Recognizing this risk, Revitalize CDC realized that the provision of supplies that patients needed was more important than repairs to their homes, which were proving difficult to coordinate and complete during the pandemic. As a result, Revitalize CDC provided COVID-19 supplies such as masks and hand

sanitizer, air purifiers, and air conditioners for the heat since cooling centers were closed. They also coordinated with PHIWM Go Fresh Emergency Food Distribution to have fresh produce boxes delivered to patients twice a month.

*"We started **providing COVID-related supplies** like [personal protective equipment], food from the local pantries, personal hygiene products, feminine hygiene products, baby formula, diapers... for families that were shut in. [In] some cases they had 10 people living in a home, so it was really **critical they have these cleaning supplies.**"*

–COLLEEN LOVELESS, CEO, Revitalize CDC

POSITIVE FEEDBACK FROM PATIENTS AND STEPS BEING TAKEN TO CONTINUE TO ADDRESS ASTHMA

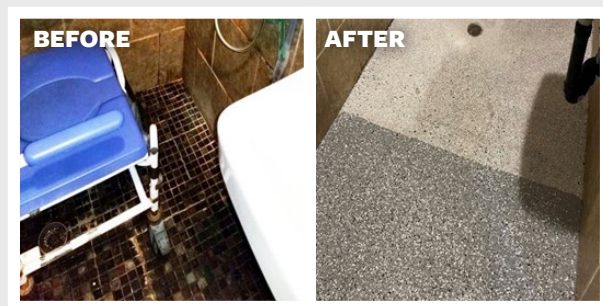
Through the provision of educational material and adjustments to the home environment, the SHIFT-Care-funded Springfield Healthy Homes Assessment Program was able to help patients better manage their asthma symptoms and reduce their reliance on the ED. Patients notably improved on their Asthma Control Test scores, as two-thirds of all participants with poorly controlled asthma at the start of the program were able to bring their symptoms under control by the final visit. SHHAP has continued in the region and has expanded to serve 300 patients with high asthma risk annually with education, supplies, and repairs. According to program staff, this has led to a 30% average improvement in asthma symptoms.

*"We can **breathe much better.**
We can feel the difference."*

–SHHAP Patient

*"I liked it a lot because there were things I did not know with regards to the inhaler and now I manage it better **without the need to go to the ER.** I also know **what to do in case of an emergency** before having to go to the hospital."*

–SHHAP Patient



Typical repairs: Bathroom floors



Ventilation fans

REFERENCES

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3. Green & Healthy Homes Initiative. Pay for Success Financing to Address Asthma in Springfield: Feasibility Study Final Report. 2016. On file with the HPC.