

Addressing School Absenteeism in Worcester through Comprehensive Asthma Services

In the span of one year, six-year-old Jackson Harris missed over 35 days of school due to asthma. His asthma condition was severe, and his mother, Denise, was plagued with fears of a serious asthma exacerbation occurring for Jackson when he was outside of her care. Lacking access to transportation, Denise knew she would be unable to reach Jackson quickly in the event of an emergency. As a result of her fears, on days she thought his asthma may be triggered - such as in the case of cold weather, flu season or heavy pollen days - Denise kept Jackson and his siblings home from school and by her side.

Denise had reason to worry. Not long before, Jackson was rushed to the Emergency Department (ED) of the University of Massachusetts Medical Center (UMMMC) in Worcester where the family lives. This was not his first ED visit or hospitalization due to a serious asthma attack. The Harris family needed help. Through the UMMC and City of Worcester Pediatric Asthma Home Visiting Intervention, they found hope.

Worcester, Massachusetts is the second largest city in New England and contains a significant amount of public and older housing stock. Asthma is prevalent among those living in older housing stock, and particularly among Latino and Black populations. In 2013, at the request of Belmont Street Community School to address high rates of absenteeism among asthmatics, UMass Memorial implemented a home-visiting Pediatric Asthma pilot program in Worcester's Bell Hill/Plumley Village neighborhood, a distressed area containing a significant amount of low-income housing and a large Latino population. This evidence-based, community/clinical linkage program utilizes trained, culturally-competent Community Health Workers (CHWs) incorporated as part of the clinical team, to assess and address asthma triggers in the home. CHWs additionally provide basic education to improve medication understanding and adherence for children with poorly controlled asthma. Worcester Community Legal Aid (CLA) was also a partner in the pilot project. The intervention aims to reduce school absenteeism, hospitalizations, ED use among high risk asthmatic children. UMass Memorial Pediatric Pulmonology works closely with the Worcester Public Schools/Head Start and provides training programs to school nurses and clinical providers.

That small pilot was able to expand to a city-wide intervention in 2014 due to state Prevention and Wellness Trust Fund (PWTF) funding received by the City. The comprehensive intervention includes UMMC's Pediatric Primary Care and Pulmonology Departments, the Edward M. Kennedy Community Health Center (EMK), the Family Health Center of Worcester, Worcester Public Schools (WPS) and Head Start Program, the City's Healthy Homes Office, and Community Legal Aid. While PWTF funding ended in December 2017, UMMC continues to co-chair the Pediatric Asthma Intervention Task Force with EMK. The Task Force remains highly engaged and the committed group continues to meet monthly to report on program outcomes and improve asthma services and policies.

Jackson's case is not an anomaly, as the program was founded in large part due to the high instances of asthma exacerbations in the Worcester schools, which have a total of nearly 4,000 asthmatic students. In addition to the Asthma Program, UMMC's Pedi-Pulmonology also launched and operates AsthmaLink (formerly known as Meds-in-Schools), a medication adherence program enrolling 85-100 students yearly that provides clinical consultation with Pedi-Pulmonology and coordination of controller medications given by school nurses to ensure medication adherence among high-risk asthmatics. AsthmaLink additionally provides a connection to the Home Visiting Intervention. Fortunately, Jackson was eligible for both the Pediatric Asthma services and AsthmaLink.

The Harris' were connected with a UMMC CHW, who provided the family with individualized home-based asthma education to improve medication understanding and adherence and to identify and address home

triggers. During her first visit to the Harris home, the CHW was met by three children playing on the floor in a bare apartment, with a dead mouse lying nearby (due to the mother's fears of picking up the dead rodent). The family resided in a townhouse style public-housing apartment building with three other units, all of which faced issues with bed bugs, pests, and rodents. The Harris family's unit had a serious pest and rodent issue, which Denise described as a "circus [of rats] at night" scurrying around as the family would attempt to sleep. Denise, a young, single mother was stressed and anxious and trying her best to combat this issue. Knowing the pests were not safe for her children, she cleaned ferociously with bleach. Unfortunately, Denise was not aware that bleach is a serious asthma trigger (as are pests). Jackson's home was making him sick.

The CHW immediately took action by removing the dead mouse and connecting the family to the City of Worcester's Healthy Homes Program, which provided integrated pest management for the entire building and blocked all rodent entrances from the outside. The CHW also provided in-depth asthma education on potential triggers (e.g. bleach) and ways to mitigate them. As part of the supplies provided through the intervention, she also educated Denise about asthma-friendly cleaning options such as baking soda and white vinegar, which the household implemented with great results.

While these changes made a huge difference in Jackson's health at home, the CHW knew that without taking his controller medications, he would continue to have exacerbations and miss school. Through conversations with Denise, she uncovered the root cause - as a single mother of three without access to transportation, she was unable to fill his prescriptions. The CHW immediately educated Denise about local pharmacies that deliver and helped her enroll for Jackson's medication. She also enrolled Jackson in the AsthmaLink Program to ensure his school nurse had access to his medications and was connected to his doctors.

The following year, Jackson only missed six days of school. Due to the Integrated Pest Management (IPM) service provided Jackson's housing unit, and the entire multi-family complex he lives in is free of rodent and pest infestation. His eczema also improved. Because of the personalized care and services, Jackson is happier and healthier, his mother is less stressed, and the Harris family lives in a healthier home.