POLICYLAB POLICY BRIEF | SPRING 2019
INFORMING CHILDREN'S HEALTH POLICY THROUGH RESEARCH

REDUCING REPEAT HOSPITAL VISITS FOR CHILDREN WITH ASTHMA

REPEAT HOSPITAL VISITS FOR HIGH-RISK CHILDREN WITH ASTHMA ARE COMMON, YET PREVENTABLE.

Asthma is the most common chronic medical condition in children, affecting nearly seven million children in the U.S. with a disproportionate impact on low-income and minority children and those who live in urban areas.[1,2] Asthma is also a leading cause of childhood hospital admissions, many of which are preventable.[3] Nearly 150,000 children are hospitalized for asthma each year, and 20 percent of them will have a repeat hospitalization that year.

But for some of the highest-risk children—those with multiple yearly hospitalizations—this timeline narrows. As many as one in four of these youth will return to the emergency department (ED) or an inpatient setting within just 30 days.[4] This small proportion of children with multiple asthma hospitalizations make up a relatively large portion of overall hospital admissions, readmissions and costs. Additionally, the cost to children of asthma that is not well-managed can stretch beyond health care, as multiple hospitalizations can impact parental employment and the child's ability to succeed in school.[5,6]

For children who suffer the most from their asthma, it is imperative that providers and health systems address the underlying reasons for their poor health outcomes. These include social determinants of health like poor housing conditions, as well as direct health care drivers like low medication adherence. **Using a multi-faceted approach that addresses the drivers of frequent asthma exacerbations, Children's Hospital of Philadelphia (CHOP) has nearly halved repeat ED visits and hospital readmissions for the highest-risk children in our care.** This brief identifies challenges facing children, families and providers working to control high-risk asthma, and outlines recommendations informed by our successful interventions to support providers and policymakers in reducing asthma hospitalizations in their communities.

1 in 4 *of the highest-risk children return to the hospital within 30 days of discharge.*

KEY TAKEAWAYS

Childhood asthma hospitalizations, although preventable, are major drivers of health costs and can negatively impact parental employment and a child's school success.

Social risk factors for childhood asthma are more prevalent among poor, urban and minority families, putting these already vulnerable children at greater risk for asthma hospitalizations.

Addressing these risk factors requires collaboration among everyone involved in a child's asthma management.

By considering a patient's needs both inside the hospital and in the community, health care providers, systems and payers can help reduce asthma hospitalizations.

SOCIAL RISK FACTORS FOR CHILDHOOD ASTHMA

Childhood asthma impacts different populations in different ways, with asthma morbidity being highest among poor, urban and minority families. Many of the causes and triggers of asthma attacks are more prevalent among these vulnerable communities, putting children with asthma who live in poverty at the greatest risk of hospitalization. Examples include:

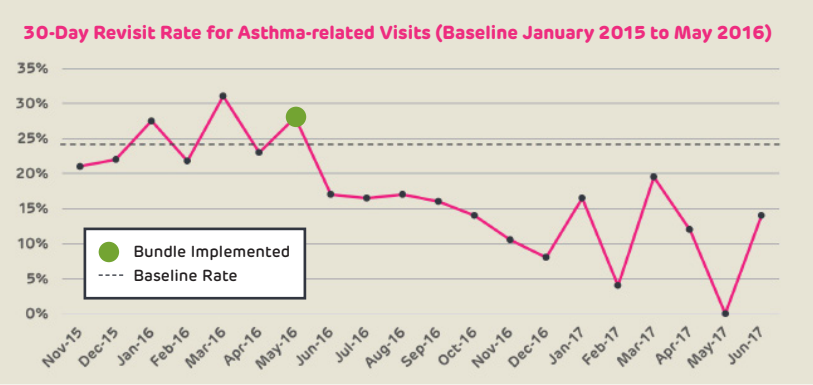
- **Poor housing conditions** lead to increased exposures to asthma triggers such as pests (mice, cockroaches), mold, dust mites and ambient pollutants from the outdoors.
- **Smoking** is more common among adults living below the poverty line, and exposure to secondhand smoke can cause asthma attacks.[7]
- **Exposure to diesel exhaust fumes and other industrial pollutants** from living in the inner city can reduce air quality and trigger or exacerbate asthma symptoms.
- **Exposure to psychological stress,** which is common for children of low socioeconomic status, has been associated with asthma exacerbations, and increasing evidence supports that stress contributes to asthma risk.[8]
- **Challenges accessing medication,** such as insufficient or frequently changing insurance formularies, inability to afford copays or lack of access to pharmacies leads to inconsistent asthma management.[9]
- **Lack of financial resources** to maintain a safe, healthy home and afford medications can lead to poorly controlled asthma and increased hospitalizations.

HEALTH CARE PROVIDER CHALLENGES TO ADDRESSING SOCIAL RISK FACTORS

Children are exposed to risk factors related to asthma in the places they spend most of their time, such as homes, schools and child care centers. Health care providers are limited in their ability to intervene and ensure that children are receiving the proper care they need in these places. A lack of communication and resources to support collaboration among those involved in a child's care, including primary care providers, hospitals, subspecialists, caregivers and school or child care staff, makes it difficult to identify and address the factors driving repeat hospitalizations for an individual child. Additionally, caregivers and children often do not receive consistent, reinforced self-management education to help them reduce the risks of flare-ups and hospitalizations on their own.

CASE STUDY: HOSPITAL AND COMMUNITY COLLABORATION CUTS CHILDHOOD ASTHMA HOSPITAL REVISITS IN HALF

By enhancing the transition from hospital to home for the highest-risk children hospitalized with asthma and bolstering connections to a proven asthma community health worker program, a multidisciplinary team at CHOP was able to cut the 30-day hospital and ED revisit rate in half, from 25 to 12 percent, in the program's first year.[4] Families of children with three or more asthma hospitalizations in the prior year now receive a bundle of services starting during their hospital visit and extending out to their clinics and homes following discharge, including:



- Standardized screening for common drivers of poor asthma control and tailored education from registered nurses or respiratory therapists during a child's hospitalization
- Having prescription medications for asthma filled and in-hand at the time of hospital discharge
- Coordination with allergy and pulmonary departments to expedite necessary specialty follow-up
- Referral to the Community Asthma Prevention Program's (CAPP) Asthma Navigator program (see page 3) for ongoing asthma care coordination and home visits

THE COMMUNITY ASTHMA PREVENTION PROGRAM (CAPP) AT CHOP

CAPP is a community-based program that offers several home visiting services to address the home environment of children with asthma. The Asthma Navigator program leverages specially trained community health workers to perform clinic-based care navigation (including managing appointments, medications and connecting to other resources, such as transportation) and home visits. CAPP has been successful in reducing asthma-related inpatient and emergency visits by reducing environmental triggers and risk factors.

RECOMMENDATIONS

Health care systems and providers can play a key role in addressing the needs of children with asthma and reducing the risk of readmission, both inside and outside the health care setting.

Health care providers should:

- → Screen for key drivers of repeat hospitalizations and provide tailored education to children and families on how to prevent asthma attacks and hospitalizations.
- → Ensure that patients have necessary asthma medications filled and in-hand prior to discharge from hospitals and emergency admissions, as well as timely outpatient follow-up with high-quality asthma care.
- → Connect families to supports such as home visits and other community services that can help address their environmental and social needs.

Health care systems should:

- → Develop quality improvement initiatives that identify the highest-risk children and families and target interventions to reduce their readmissions and improve health outcomes.
- → Support multidisciplinary collaboration of asthma care stakeholders both internally (primary care, specialists, ED and hospital care) and externally (families, schools, community organizations, etc).

Public and private insurance payers should:

- → Finance through provider contracts the necessary integrated team members (e.g., social workers, community health workers) whose engagement with families can be a critical component for improving adherence with treatment plans and preventing ED and hospital visits.
- → Reduce frequency of prescription formulary changes for asthma-related medication to permit more consistency in preventive medication accesss and use and ensure continuity for families in their treatment plans.
- → Reimburse providers for engaging in more holistic assessment of and response to social risk.

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The mission of PolicyLab at Children's Hospital of Philadelphia (CHOP) is to achieve optimal child health and well-being by informing program and policy changes through interdisciplinary research. PolicyLab is a Center of Emphasis within the Children's Hospital of Philadelphia Research Institute, one of the largest pediatric research institutes in the country.

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