

The Impact of Your Philanthropy IMPACT DC

December 2021

Asthma remains one of the biggest health challenges that children in the Washington, D.C., region face. What remains true, too, is the steadfast support of our donors. Through IMPACT DC, families receive world-class care that's informed by research and reinforced with education. They have an ally that will advocate alongside them to build a healthier city that meets children's needs. Together, families, philanthropists and IMPACT DC improve outcomes for our kids.

We are pleased to present an update on IMPACT DC's work at Children's National Hospital during the past year.



Redefining Clinical Care in 2021

A Successful Partnership with Unity Health Care

IMPACT DC increased its care model's availability through a successful clinical care expansion to Unity Health Care (UHC) sites in Northeast and Southeast D.C. With DC Department of Health funding, IMPACT DC began piloting this clinical model at UHC primary care locations in February 2021. We offer the clinic three Fridays each month at three UHC sites: Parkside, Anacostia and Minnesota Avenue.

The pilot's goal was to complete at least 12 IMPACT DC at UHC Asthma Clinic visits in 2021. Within the project's first 6 months, we completed more than 15 appointments. We aim to ensure the partnership's sustainability and expansion. The project team plans to train UHC medical assistants in asthma education. They also plan to hire asthma educators to staff the IMPACT DC at UHC Asthma Clinic.

Telehealth Updates as the Pandemic Continues

IMPACT DC maintains its mission of expanding access to high-quality asthma care at both in-person and virtual clinics. At the onset of the COVID-19 pandemic in March 2020, IMPACT DC pivoted to a telehealth model. The program has provided almost 900 virtual visits since. This effort also has expanded our provider accessibility to more families in Maryland and Virginia seeking asthma care. Families responding to telehealth patient surveys find the virtual visits to be accessible and effective. Clinical data indicates that virtual visit patient show rates remain consistent with inperson visit show rates. IMPACT DC also has increased the availability of virtual visits for Spanish-speaking patients and families.

Asthma Care Beyond COVID-19

Many of the pandemic's societal changes in 2020 led to a dramatic decrease in asthma morbidity. Children's National experienced a significant reduction in asthma-related emergency department (ED) visits and hospitalizations. However, asthma morbidity is now spiking and trends in asthma-related healthcare utilization are consistent with pre-pandemic metrics.





IMPACT DC continues to provide

person and virtually as asthma-

related health care utilization

surges and families return to

pre-pandemic lifestyles.

high-guality asthma care in

IMPACT DC's clinical volume continues to steadily

increase as children return to school and communities return to pre-pandemic lifestyles. In September 2021, Children's National saw a 10% increase in asthmarelated ED visits in comparison to September 2019. IMPACT DC plans to sustain a hybrid model of in-person and virtual visits while increasing overall scheduling capacity and staffing in early 2022 to address the post-pandemic surge in asthma morbidity.

Community Outreach and Education

Virtual Outreach Highlights

Breathing Easy: Asthma Training for Caregivers of Young Children: IMPACT DC continues to lead virtual quarterly professional development trainings for early childhood education staff in partnership with the DC Office of the State Superintendent of Education. The training curriculum focuses on asthma pathophysiology, signs, and symptoms of an asthma flare, and creating an asthma-friendly environment in a daycare setting. Since our transition to virtual clinical care and outreach in March 2020, the Breathing Easy trainings have attracted more than 350 attendees.

- attended. Discussion topics focused on:
 - · Access to asthma health care during the pandemic, especially in hardest-hit communities
 - Asthma management strategies, including preventing respiratory illnesses
 - Decision-making for in-person and stay-at-home learning and work
 - · The role of telehealth in asthma management
- students returning to school in fall 2021.
- patients as they return to in-person school.

The District of Columbia Pediatric Asthma Registry

With multi-year funding from the DC Department of Health, IMPACT DC has developed a novel, population-health pediatric Asthma Reaistry. This registry contains data on all pediatric patients diagnosed with asthma who interact with any Children's National inpatient or outpatient resources. This includes our hospital's affiliated and clinically integrated primary care practices. The registry leverages electronic medical records at Children's National to identify more than 16,000 D.C. children with asthma. This one-of-a-kind population health tool enables IMPACT DC to view real-time trends in the demographics, health care utilization and gaps in asthma care for more than 85% of children with asthma in the city.



Ask the Experts: Managing Asthma During the COVID-19 Pandemic: On October 20, 2020, IMPACT DC and the Asthma and Allergy Foundation of America presented a webinar on managing asthma during the pandemic. We promoted this virtual event nationally and more than 300 people

UPO Pediatric Asthma and COVID-19 Training: On June 25, 2021, IMPACT DC staff trained 125 United Planning Organization (UPO) staff on best practices of asthma management. The training reviewed asthma pathophysiology, commonly prescribed medication and the elements of an asthma action plan. IMPACT DC staff also discussed proactive asthma care measures ahead of

Children's National Quality Improvement Grand Rounds: On September 1, 2021, IMPACT DC providers presented to more than 30 Children's National clinicians. Their lecture focused on the functionality of our Asthma Registry. It also covered current clinical quality improvement efforts involving patients with asthma cared for by the Diana L. and Stephen A. Goldberg Center for Community Pediatric Health. The presentation included current recommendations and best practices for



The Asthma Registry displays multiple population-level data visualizations, including asthma prevalence in Washington, D.C. This map displays the number of patients per residential zip code who experienced asthma-related ED visits in

The Asthma Registry has led IMPACT DC to implement three clinical quality improvement initiatives to improve pediatric asthma health outcomes in the region, specifically to address health inequities in asthma:

The High-Risk Asthma Cohort: This initiative targets the top 100 – 300 children within the registry with the highest morbidity to understand the care gaps they experience, provide care coordination and implement a shared mental model of care among the patients' care teams. 56% of patients in this initiative experienced no asthma-related emergency department visits or hospitalizations in the six months after receiving care.

Seasonal Predictive Morbidity Model: This initiative identifies potential future asthma exacerbations for children in a predictive fashion based on prior history of recurrent seasonal asthma exacerbations. 100% of patients in this initiative experienced no asthma-related emergency department visits or hospitalizations in the six months after receiving care.

Persistent Asthma Initiative: This initiative identifies patients with persistent asthma to monitor and improve their inhaled corticosteroid prescription rates. We are still evaluating the post six-month outcomes of this initiative. However, early results indicate a decrease in asthma-related health care utilization for patients in this initiative.

The Asthma Registry is now a validated population health tool. The IMPACT DC team has leveraged its data to publish significant research publications:

- Creation and Validation of a Citywide Pediatric Asthma Registry for the District of Columbia: The Journal of Asthma publication demonstrated that the registry captures more D.C. children and adolescents with asthma than a Behavioral Risk Factor Surveillance Systemderived estimate, thus providing accurate citywide measures of asthma-related utilization. The registry also allows for stratification by primary care practice locations and asthma characteristics. This supports the design, implementation and evaluation of quality improvement projects at the practice, health system and population levels.
- Pediatric Asthma Exacerbations during the COVID-19 Pandemic: Absence of the Typical Fall Seasonal Spike in Washington, DC: The Journal of Allergy and Clinical Immunology: In Practice publication demonstrated that D.C. did not experience its typical "September asthma epidemic" during the 2020 pandemic. This is a small silver lining in an otherwise difficult year in health care. Further, this demonstrated that careful monitoring is necessary to recognize and prepare for when childhood asthma morbidity returns to its pre-pandemic levels.
- Association Between Pediatric Asthma and Positive Tests for SARS-CoV-2 in the District of
 Columbia: The project cross-analyzed data from the Asthma Registry and the Children's
 National COVID-19 registry to understand whether an association exists between a current
 asthma diagnosis and a positive COVID-19 diagnosis. The Journal of Allergy and Clinical
 Immunology: In Practice publication demonstrated no association between current pediatric
 asthma and positive tests in such a population. This data continues to support the notion
 that for urban children and adolescents, little is known regarding whether current asthma is
 associated with an increased or decreased risk of SARS-CoV-2 test positivity.

Healthy Housing for Families: A Partnership with Fannie Mae Virtual Home Visits

Over the last two years, IMPACT DC partnered with community-based organizations such as Yachad, the Institute for Public Health Innovation and Local Initiatives Support Corporation to develop and implement a novel Virtual Home Visiting Program. The pilot used smartphones to enable asthma home visits that included a pediatric asthma specialist, health educators and community housing remediation specialists. It allows housing inspectors to conduct an asthma trigger assessment, followed by various evidence-based home remediation measures. This combined visit replaces a follow-up in-person medical appointment.

Healthy Housing Mapping

Data analysis suggests that the Virtual Home Visiting Program led to improved patient health outcomes. However, there continues to be a need for a more cost-efficient and effective approach to improve the quality of multi-family buildings. These are the District's largest source of unhealthy housing.

In August 2021, Fannie Mae awarded continued funding to IMPACT DC to develop an interactive, layered healthy housing map. Over the next year, IMPACT DC and the Children's National Child Health Data Lab will partner with the Children's Law Center to leverage health and housing data. They will develop an interactive map to identify which properties and neighborhoods are most in need of home remediation. The map will demonstrate how remediation could affect future health outcomes of D.C. residents. The project team plans to partner with D.C. public agencies and Fannie Mae to rethink how to proactively inspect properties more effectively. They also will explore how public and private funds can promote the building and maintenance of healthy properties, both in the District and nationally. This effort will ultimately help increase access to healthy housing in the city.

> The White family received a virtual home visit and several home repairs by Yachad. The two oldest children are being treated with daily doses of prescribed asthma medication. With regular IMPACT DC telehealth check-ins, they have experienced no further asthma flare-ups.

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130+ virtual visits to families since 2020

>70% show rates for visits

>90% decrease in patients' post-visit asthma-related health care utilization

Children's National Health Literacy Spotlight Award

IMPACT DC received the Children's National 2020 Health Literacy Spotlight Award. This award recognized IMPACT DC as equitably enabling our patients to find, understand and use information and services to inform health-related decisions and actions for themselves and others.

IMPACT DC now integrates the Virtual Home Visiting Program into its daily clinical workflow. The pilot is currently the sole provider of virtual asthma home visits in the District. Medicaid fee-for-service payments partially fund the program.

The PARK Study

The PARK study is a multicenter study funded by the National Institute for Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH) to learn more about preventing wheezing children from developing asthma. The study's purpose is to see if a medication, omalizumab (Xolair), can prevent children from developing asthma or make their symptoms less severe. The Children's National PARK team is third overall for enrollment out of 14 participating sites.

The ORBEX Study

In November 2020, we completed enrollment for the ORBEX study, a five-year, \$2.8-million NIH grant supporting a multicenter study assessing the efficacy, safety and tolerability of Oral Bacterial Extract for the prevention of wheezing lower respiratory tract illness. The study recently received approval for a two-year observation period extension, allowing researchers to collect additional data on wheezing episodes in these young children. The research team continues to conduct follow-up visits and calls for the participants who remain enrolled.

The Inner City Asthma Consortium (ICAC)

For 16 years, IMPACT DC participated as a clinical site for the Inner City Asthma Consortium (ICAC) funded by NIAID. The ICAC ended in July 2021 having completed the following studies:

- MUPPITS-2 is a multicenter, double-blind randomized trial of mepolizumab in children with asthma and high number of blood eosinophils. The primary aim is to see if mepolizumab can reduce asthma exacerbations in these kids. Children's National was the top enroller out of nine nationwide sites, having randomized 43 participants. In March 2021, we completed the final study visits at Children's National. Data analysis is underway.
- CRITICAL is a multicenter, double-blind randomized trial of German cockroach allergenic extract administered by subcutaneous injection. The trial assesses if this treatment can improve asthma severity in children with well-controlled asthma. The final study visit for Children's National was completed in June 2021.
- RACR2 is a registry study with the primary goal to create a database of potential recruits for current and future ICAC research studies. We successfully used the study to recruit patients for CRITICAL and MUPPITS-2.

Childhood Asthma in Urban Settings (CAUSE) Clinical Research Network

Most recently, the NIAID awarded \$10 million to IMPACT DC in first-year funding to establish the Childhood Asthma in Urban Settings (CAUSE) clinical research network. Children's National will serve as the D.C. site for this nationwide network that will conduct observational studies and clinical trials to improve understanding of asthma. It also will develop treatment and prevention approaches tailored to children in low-income families living in urban communities. NIAID intends to provide approximately \$70 million over seven years to support the CAUSE network.

This new initiative extends and expands on IMPACT DC's participation in NIAID's long-standing efforts to better understand and reduce the disproportionate burden of asthma among children living in lowincome urban environments. CAUSE investigators will work together to improve understanding of the mechanisms that contribute to asthma development and severity. They will develop new strategies to mitigate the impact of the disease in populations of children and adolescents with fewer resources. In addition to this collaborative work, CAUSE clinical research centers located across the country will conduct locally relevant clinical and translational studies.

The Airways Research Institute

IMPACT DC is proud to support the development and launch of the new Children's National Airways Research Institute. With more than \$15 million in current research funding, the Airways Research Institute will advance collaborative and interdisciplinary basic, translational, clinical, community and health services research broadly focused on the pediatric airway. This research will inform improvements in clinical care, patient and family-centered advocacy, and trainee education.

The institute will have a special focus on addressing the issue of health equity, specifically the welldocumented inequities present in the care and outcomes for asthma, the most common airway disease of children and adolescents. It will grow collaborations with existing community-based partners while identifying new ones. We will measure metrics of success by assessing: collaborative research grants and manuscripts; recruitment and retention of academic faculty members; improvements in guidelines-based asthma therapy with concomitant reductions in unscheduled health care utilization (ED visits and hospitalizations); advocacy efforts that improve asthma-friendly homes and schools; training grants; and engagement of trainees at all levels.

Managing Zoey's Asthma So She Can Dance

Zoey, 8, loves to dance hip hop in front of her mirror, usually wearing sunglasses, nail polish and a stylish purse. "But when her chest hurts and she can't breathe," her mom, Tequila, says, "she has to lie down for the rest of the day."

Zoey missed a lot of school – and Tequila missed work – as Zoey's asthma attacks became more difficult to control. Dr. Sahira Long, her primary care doctor in the Goldberg Center for Community Pediatric Health at Children's National, recommended they visit our IMPACT DC Asthma Clinic for help. "Dr. Long has seen Zoey since she was a newborn and knows her like the back of her hand," says Tequila, also Dr. Long's patient as a child.

Dr. Candice Dawes, associate medical director at Children's National Anacostia, collaborated with Zoey's school nurse to make sure she got her medications on time. She also talked to Tequila about potential asthma triggers in their apartment, which had an old carpet and a mouse infestation. The hospital's pro-bono legal partner helped Tequila convince her landlord to make changes.

⁶⁶ The effort Children's National put in helped me so much. Zoey's asthma is much more controlled now and my baby can dance. She can go to school and be with the teachers and friends that she loves. She's able to be a kid again. ⁹⁹

> **Tequila** Zoey's mom



*Values reflect data collected from January 1, 2021, to November 23, 2021.

Our Gratitude

Every year, you help Children's National support the families who turn to us for asthma care. You fortify IMPACT DC's efforts to expand care access, further discovery, strengthen education and challenge our city to do more for our kids. For all you do to make sure every D.C. child with asthma receives the best care possible, thank you.