

emocha Health and LifeBridge Health Publish Pediatric Asthma Study Demonstrating Rapid Inhaler Improvement

BALTIMORE, September 30, 2021 — Evaluation of a new pediatric asthma pilot program published in the [Journal of Asthma](#) showed that the average frequency of asthma inhaler technique errors among enrolled patients dropped from 80% to less than 20% in four weeks. The study was authored by emocha Health, the nation's leading digital medication adherence program, in partnership with LifeBridge Health, a nonprofit community health system in Maryland.

In assessing the program's ability to improve patient health outcomes, the study showed inadequate breath-holding was the most common technique error and forgetfulness was the most common adherence issue. Immediate improvement in observed inhaler errors occurred in the first week of the program. Researchers also found that 80% of pediatric asthma patients were using their inhalers every day.

The study, conducted in January and February of 2020 at the start of the pandemic, sought to measure the feasibility of supporting pediatric asthma patients in Baltimore through digital instruction and feedback. The median age of study participants was 11 years and 90% of participating children were covered by Medicaid. Eligible patients were enrolled in the program by LifeBridge Health physicians and were asked to submit daily check-in videos of themselves taking their prescribed inhalers via the emocha Health mobile application. emocha's care team members reviewed these videos and then directly engaged with participants to improve inhaler technique and supported patients and their families/caregivers throughout treatment.

Pediatric asthma is a devastating problem in Baltimore, where 20% of children have an asthma diagnosis -- twice the national average.¹ Additionally, 88% of pediatric asthma-related

hospitalizations in Baltimore are of Black children, who are even more disproportionately affected by uncontrolled asthma.²

“Improper inhaler technique often leads to poor asthma control and frequent emergency department visits,” says principal study investigator Scott Krugman, M.D., vice chair of pediatrics at the Herman & Walter Samuelson Children’s Hospital at Sinai, part of the LifeBridge Health system. “Inhaled medications are the cornerstone of asthma management, so we’re delighted that in this study we addressed more than 240 video-observed inhaler technique issues for pediatric asthma patients and efficiently improved medication adherence through direct interaction with care team members while utilizing video-enabled Directly Observed Therapy (DOT).”

The study also illustrates how digital tools, like video-enabled DOT and two-way chat, when paired with human engagement, offer cost-effective, scalable, and engaging resources for healthcare providers to help patients manage chronic illness. Not only were emocha care team members and LifeBridge providers able to intervene and remediate poor medication administration, but they were also able to work directly with participants to help build adherence and self-management skills to further improve patient’s health.

Participants and their caregivers also generally expressed positive sentiment towards the program. The program had an 81% enrollment rate. The app was considered easy to use, and asynchronous videos were seamlessly integrated into regular activities. Children were generally eager to participate and more than 800 videos were sent via emocha’s mobile app during the pilot - the majority of the videos initially displaying at least one technique issue, each of which was addressed by emocha’s clinical adherence team in less than 18 hours.

Patients who engaged in the intervention showed significant improvements in asthma management, demonstrating the efficacy of DOT using a digital adherence program when paired with human intervention. The study also noted the positive impact that could result in using this approach with asthma patients in rural and low-income settings who may lack easy access to healthcare specialists and frequent in-person appointments.

“The status quo for children with uncontrolled asthma in cities like Baltimore is not acceptable, especially when there are available solutions,” says Sebastian Seiguer, CEO of emocha Health. “Using highly-engaging DOT powered by video technology is one such solution. Children showed significant improvement in inhaler technique in a matter of weeks - potentially reducing hospitalizations and ER visits and increasing productivity for patients and their families/caregivers. Therefore, emocha looks forward to expanding this program to other communities with high rates of uncontrolled asthma.”

¹ Asthma. (2019, January 04). Baltimore City Health Department. Retrieved April 15, 2021 from <https://health.baltimorecity.gov/node/454>.

² LaFave, Sarah. (2020, October). The Unequal Burden of Pediatric Asthma: A Call for an Equity-Driven, Multimodal, Public Health Approach to Asthma in Baltimore. Abell Foundation.

[https://abell.org/sites/default/files/les/les/2020_Abell_pediatric%20asthma_FINAL-web%20\(dr\).pdf](https://abell.org/sites/default/files/les/les/2020_Abell_pediatric%20asthma_FINAL-web%20(dr).pdf).

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About emocha Health

emocha is tackling one of the biggest unsolved problems in healthcare: medication non-adherence. [emocha's Digital Medication Adherence Program](#) empowers patients to take every dose of medication properly using video technology and scalable human engagement. emocha partners with health plans, health systems, employers, and health departments across the country to radically improve adherence for patients with diabetes, asthma, tuberculosis, and other chronic and infectious diseases.

About LifeBridge Health

[LifeBridge Health](#) is one of the largest, most comprehensive providers of health services in Maryland. LifeBridge Health includes [Sinai Hospital](#), [Northwest Hospital](#), [Carroll Hospital](#), [Levindale Hebrew Geriatric Center and Hospital](#), [Grace Medical Center](#) and related subsidiaries and affiliates. For more information, visit www.lifebridgehealth.org

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