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Patient-Centered Intervention Improved Asthma Outcomes for Black and Latinx Adults

- Black and Latinx patients who took inhaled corticosteroids when they used reliever medications, plus usual care, had fewer severe asthma exacerbations, improved asthma control, improved quality of life, and less days lost from work/school

A new approach to managing moderate-to-severe asthma among Black and Latinx adults shows great promise, according to a new study led by the Brigham and Women’s Hospital in which the DARTNet Institute managed patient data collection. The study found that inhaled corticosteroids (ICS) given as part of rescue therapy, medication taken to relieve acute asthma symptoms, reduced exacerbations, long term asthma symptoms and lost days of school or work among Black and Latinx adults. No previous studies had focused on this treatment approach in African American/Black and Hispanic/Latinx populations that face a large burden of complications from asthma including higher rates of asthma-related emergency department visits, higher rates of hospitalizations and approximately double the asthma death rate compared to white individuals.

In the pragmatic PREPARE (PeRson EmPOWERed Asthma RELief) trial, African American/Black and Hispanic/Latinx patients with asthma received one-time instruction to use ICS when they used an asthma reliever/nebulizer in addition to their usual asthma medications. Study results, presented at the 2022 Annual Meeting of the American Academy of Allergy, Asthma & Immunology and simultaneously published in *The New England Journal of Medicine*, demonstrated that this intervention decreased the risk of severe asthma exacerbations by 15 percent and reduced asthma symptoms and days of impairment in 1,201 adults with moderate-to-severe asthma. PREPARE was conducted from November 2017 to April 2021 at 19 sites in the US and Puerto Rico. Participants were randomized to use ICS as needed (Patient-Activated Reliever-Triggered ICS, or PARTICS) in addition to usual care (UC) or to continue usual care (control). Participants were followed for 15 months.

“A disproportionate burden of asthma on underserved populations in the U.S. persists,” said [Elliot Israel, MD, study leader](#). “Results of the PREPARE trial show us that we can reduce the impact of asthma through the simple, patient-centered intervention of having patients use ICS whenever they use their rescue inhaler or nebulizer. This intervention is effective — easy to implement, easy to use, and comes at a low cost.”



Israel and colleagues designed the PREPARE trial to determine if taking an ICS whenever patients used their reliever inhalers or nebulizers — a patient- and provider-friendly approach that did not involve changing underlying medications — could help improve outcomes in populations who have been underrepresented in research but bear a disproportionate burden of disease. One of the unique aspects of the PREPARE trial was the degree of engagement and involvement of patients in the trial’s design and implementation. Investigators collaborated with African American/Black and Hispanic/Latinx adults with asthma as well as asthma caregivers on all phases of the study.

“What’s unique about this study is that we’ve focused exclusively on patient populations that face significant disparities in asthma outcomes and included them in optimizing the study,” said Juan Carlos Cardet, MD, of University of South Florida and a co-investigator of the study.

“Accurate and effective data collection and management are critical to effective patient engagement in treatment regimens that affect quality of life. In this study, with over 18,000 months of possible patient level data, we were able to collect data for 97+% of the months. This study and the data that underpin it prove once again that engaging patients directly in their health and care improve processes and outcomes,” said Wilson D. Pace, MD, Chief Medical and Technical Officer at the DARTNet Institute.

“I believe patient collaboration contributed to the success of this study,” said Israel. “We need to think about interventions that place the patient at the center of care and design our trials in ways that are inclusive of populations that bear a disproportionate burden of morbidity.”

Over 70 percent of participants reported at least one asthma exacerbation in the previous year and 67 percent used a nebulizer for quick-reliever treatment. The annualized rate of asthma exacerbations in the PARTICS group was 0.69 per patient; the rate was 0.82 for the control group. The PARTICS group also had improved scores for asthma symptoms and missed fewer days of school/work/usual activities at 13.4 days/year versus 16.8 days/year in controls.

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Paper cited: Israel E *et al.* “Reliever-triggered inhaled steroid in Black and Latinx adults with asthma” *New England Journal of Medicine* DOI: 10.1056/NEJMoa2118813.