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## Title

Association of early childhood wheeze and asthma development by race/ethnicity/language in community health center patients

# Priority 1 (Research Category)

Health Care Disparities

## Presenters

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## Abstract

Context Many factors can influence asthma outcomes and care, and these can differ by race/ethnicity and patient-preferred language. It is well known that early childhood wheeze is a predictor for the development of asthma later in childhood, yet there is still uncertainty about how this early childhood risk factor differs among race/ethnicity/language groups. US community health centers (CHCs) have been shown to mitigate disparities in care. CHCs are an ideal setting in which to study nuanced differences in care quality, as they provide asthma care to a large number of racially and ethnically diverse children. Objective To determine how clinician-diagnosed wheeze before age four years of age is associated with the subsequent asthma diagnosis documented in the electronic health record (EHR) among Latino (Spanish or English preferring), non-Latino Black, and non-Latino white children. Study Design and Analysis Retrospective observational study. Dataset EHR data from 21 states in the the ADVANCE Clinical Research Network. Population Studied English-preferring Latino, Spanish-preferring Latino, non-Latino Black, and non-Latino white children (<18 years old) who received care at CHCs from 2005-2017 (N=81,921). Outcome Measure Asthma diagnosis after the child's fourth birthday. We used generalized estimating equations logistic regression with interaction terms for wheeze before age four and race/ethnicity/language groups, and adjusted for patient-level covariates. Results Compared to non-Latino white children without wheeze, all groups with wheeze had higher odds of asthma development after age four (English-preferring Latino odds ratio [OR]=2.01, 95% CI=1.55-2.61; Spanish-preferring Latino OR=1.76, 95% CI=1.50-2.06; non-Latino Black OR=2.68, 95% CI=1.93-3.71; non-Latino white OR=2.01, 95% CI=1.55-2.60), as did non-Latino Black children without wheeze (OR=1.92, 95% CI=1.08-1.32). Conclusions In this study, wheeze before age four was associated with asthma diagnosis after age four in all racial/ethnic groups, without major difference between the groups in the odds of diagnosis. This suggests that in CHCs, differences in asthma outcomes between these groups do not stem from differing early life-symptom course or disparate underdiagnosis in this age range between groups.

Further research can explore other features of initial asthma presentation in childhood that may affect overall course and health equity.