

## THE ADDITION OF SPIROMETRY TESTING IN A PEDIATRIC PRIMARY CARE OFFICE INCREASES ASTHMA SEVERITY AND CONTROL CLASSIFICATION FROM CLINICAL HISTORY ALONE

Lucy Holmes MD, MPH<sup>1,2</sup>, Stacie Lampkin PharmD<sup>2,3</sup>, BCPPS, BCACP, AE-C, Leena Mamily MD<sup>1,2</sup>, Heather Lehman MD<sup>1,2</sup>

<sup>1</sup>University at Buffalo School of Medicine, Buffalo, New York, <sup>2</sup>John R. Oishei Children's Hospital, Buffalo, New York, <sup>3</sup>D'Youville College School of Pharmacy, Buffalo, New York

**Background:** Asthma management is based on severity or control classifications as defined by national guidelines. These classifications are determined from clinical history and spirometry testing. In previous studies, clinical history alone under-classified asthma severity in 15-28% of patients. While national guidelines recommend spirometry testing in primary care offices, no previous studies have evaluated how often patients in this setting would have a higher asthma classification with the addition of spirometry.

**Objective:** To determine how often asthma severity and control classification increases when patients in a pediatric primary care office are evaluated based on clinical history plus spirometry versus clinical history alone.

**Methods:** Patients ages 6 to 16 years with asthma were recruited from an urban pediatric primary care site that mostly cares for children from low socioeconomic communities. Patients with physician-diagnosed asthma for least the previous 12 months, and active asthma were eligible for the study. We determined patients' asthma classification using national guidelines, first using clinical history, and immediately followed by adding spirometry testing. Descriptive statistics were used for analysis.

**Results:** We enrolled 79 patients. Among all patients classified using the severity table (n=53), 60% received a higher severity classification when spirometry was added to their clinical history. Spirometry increased the severity classification in patients with a clinical history of intermittent, mild, or moderate asthma in 77%, 55%, and 30%, respectively. Among patients classified using the control table (n=26), 8% had a poorer control classification when spirometry was added to clinical history.

**Conclusions:** In a primary care setting, over half of the patients received a higher asthma severity classification when spirometry was added to their clinical history assessments. Since national guidelines recommend asthma management decisions are based on severity or control classifications, the use of spirometry in a pediatric primary care office can prevent the under-treatment of asthma.