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## JOURNAL articles

**Isalmovic, F., Silver, E.J., and M. Reznik. Do Urban Minority Parents and Children Agree on Asthma Symptoms with Exercise, Worries, and Confidence in Disease Management? *Academy Pediatrics*. May 2019. doi: [10.1016/j.acap.2019.05.007](https://doi.org/10.1016/j.acap.2019.05.007)**

**OBJECTIVE:** Providers commonly rely on parent report of child's asthma symptoms. However, children as young as 7 years can report on their own health. Our study compared parent and child reports of asthma symptoms with exercise, worry about developing an asthma attack, and confidence in disease management. **METHODS:** Children aged 7-10 years with asthma and their parents were recruited from four Bronx, NY schools. Parents and children completed interview surveys with parallel questions regarding perceived asthma symptoms, asthma-related worries and confidence in disease management. We used McNemar's tests for paired data to compare parent and child responses. **RESULTS:** 105 parent-child pairs' data were analyzed. Mean child age was 8.5 yrs (SD .99); 53% were male, 82% were Hispanic. Children were more likely than their parents to report ever having an exercise-induced asthma attack (85% vs. 48%,  $p < .001$ ) and

that they "worry a lot" about developing an asthma attack during exercise (63% vs. 45%,  $p=.01$ ). Children also felt more confident to use an inhaler correctly (76% children were "very sure" vs. 60% parents,  $p=.009$ ) and to report having an inhaler available in case of an attack (38% children were "very sure" vs. 20% parents,  $p=.003$ ). **CONCLUSIONS:** In this school-based sample of urban children with asthma, we found disagreement in parent and child reports of symptoms with exercise, worry about developing an attack, and confidence in medication use. These findings suggest that including child reports during history taking might help providers identify children in need of enhanced asthma management.

**Nkoy, F.L., et al. Ambulatory Management of Childhood Asthma Using a Novel Self-management Application. *Pediatrics*. May 2019. doi: [10.1542/peds.2018-1711](https://doi.org/10.1542/peds.2018-1711)**

**BACKGROUND AND OBJECTIVES:** Pediatric ambulatory asthma control is suboptimal, reducing quality of life (QoL) and causing emergency department (ED) and hospital admissions. We assessed the impact of the electronic-AsthmaTracker (e-AT), a self-monitoring application for children with asthma. **METHODS:** Prospective cohort study with matched controls. Participants were enrolled January 2014 to December 2015 in 11 pediatric clinics for weekly e-AT use for 1 year. Analyses included: (1) longitudinal changes for the child (QoL, asthma control, and interrupted and missed school days) and parents (interrupted and missed work days and satisfaction), (2) comparing ED and hospital admissions and oral corticosteroid (OCS) use pre- and postintervention, and (3) comparing ED and hospital admissions and OCS use between e-AT users and matched controls. **RESULTS:** A total of 327 children and parents enrolled; e-AT adherence at 12 months was 65%. Compared with baseline, participants had significantly ( $P < .001$ ) increased QoL, asthma control, and reduced interrupted and missed school and work days at all assessment times. Compared with 1 year preintervention, they had reduced ED and hospital admissions (rate ratio [RR]: 0.68; 95% confidence interval [CI]: 0.49-0.95) and OCS use (RR: 0.74; 95% CI: 0.61-0.91). Parent satisfaction remained high. Compared with matched controls, participants had reduced ED and hospital admissions (RR: 0.41; 95% CI: 0.22-0.75) and OCS use (RR: 0.65; 95% CI: 0.46-0.93). **CONCLUSIONS:** e-AT use led to high and sustained participation in self-monitoring and improved asthma outcomes. Dissemination of this care model has potential to broadly improve pediatric ambulatory asthma care.

**Bryant-Stephens, T., et al. Creating a Community Based Comprehensive Intervention to Improve Asthma Control in a Low-Income, Low-Resourced Community. *Journal of Asthma*. May 2019; 1-13. doi: [10.1080/02770903.2019.1619083](https://doi.org/10.1080/02770903.2019.1619083)**

Asthma evidence-based interventions (EBI) are implemented in the home, school, community or primary care setting. Although families are engaged in one setting, they often have to navigate challenges in another setting. Our objective is to design and implement a comprehensive plan which integrates EBI's and connects the four sectors in underserved communities such as Philadelphia. September 2015-April 2016 we implemented a three-pronged strategy to understand needs and resources of the community including 1) focus groups and key informant interviews, 2) secondary data analysis and 3) pilot testing for implementation to determine gaps in care, and opportunities to overcome those gaps. Analysis of the focus group and key informant responses showed themes: diagnosis fear, clinician time, home and school asthma trigger

exposures, school personnel training and communication gaps across all four sectors. EBI's were evaluated and selected to address identified themes. Pilot testing of a community health worker (CHW) intervention to connect home, primary care and school resulted in an efficient transfer of asthma medications and medication administration forms to the school nurse office for students with uncontrolled asthma addressing a common delay leading to poor asthma management in school. Thus far there has been limited success in reducing asthma disparities for low-income minority children. This study offers hope that strategically positioning CHWs may work synergistically to close gaps in care and result in improved asthma control and reduced asthma disparities.

**Ballardini, N., et al. Associations of atopic dermatitis and asthma with child behavior: results from the PROBIT cohort. *Clinical and Experimental Allergy*. May 2019. doi: [10.1111/cea.13417](https://doi.org/10.1111/cea.13417)**

**BACKGROUND:** Conflicting findings from studies evaluating associations of allergic disease with child behaviour require longitudinal studies to resolve. **OBJECTIVE:** To estimate the magnitude of associations of atopic dermatitis (AD) in infancy, and symptoms of asthma and AD at 6.5 years, with child behaviour at 6.5 years. **METHODS:** Secondary cohort analysis of the PROMotion of Breastfeeding Intervention Trial (PROBIT). PROBIT enrolled 17,046 infants at birth and followed them up at 6.5 years (n=13,889). Study paediatricians collected data on infantile AD at repeated follow-up examinations during the first year of life. At 6.5 years paediatricians performed skin prick tests and parents reported asthma and AD symptoms during the prior year. In addition, parents and teachers completed the Strength and Difficulties Questionnaire, which includes scales on hyperactivity/inattention, emotional problems, conduct problems, peer problems and prosocial behaviours. **RESULTS:** Physician-diagnosed AD in the first year of life was not associated with increased risk for behavioural problems at 6.5 years. Emotional problems at 6.5 years were more common among children with AD symptoms (OR: 2.24, 95% CI 1.62-3.12) and asthma symptoms (OR: 1.45; 95% CI, 1.07-1.96) during the past year at 6.5 years and ORs for children with symptoms of more severe AD and asthma were also higher. AD in the past year was also associated with probable hyperactivity/inattention disorder at 6.5 years (OR: 2.05; 95% CI, 1.09-3.84). Other subscales of the SDQ were not related to asthma or AD symptoms during the past year. **CONCLUSIONS AND CLINICAL RELEVANCE:** Children with AD symptoms were at higher risk for concomitant hyperactivity/inattention and emotional disorder and children with asthma symptoms were at higher risk of having concomitant emotional problems. However, AD during infancy did not predict childhood behaviours.

**Dreborg, S., Tsai, G., and H. Kim. Implications of variation of epinephrine auto-injector needle length. *Annals of Allergy, Asthma & Immunology*. May 2019. <https://doi.org/10.1016/j.anai.2019.04.027>**

[From the Introduction]... In this communication, we investigate the influence of the variation of the needle length as reported by the manufacturers of the four presently most commonly used EAIs. In all production processes there is some variation in needle lengths of the EAIs. Thus, the length of the EAI needle penetrating the skin will vary depending on the variations in

manufacturing of the needle and the assembly and the EAIs. Both of these issues have some inherited variation. Therefore, it would be optimal to assess the upper and lower limits of the “exposed” needle lengths accepted by the manufacturers as an important criterion with the release of new batches of EAIs. Using these minimal and maximal limits, the risks of subcutaneous or periosteal injections was estimated using the recommended weight groupings of subjects for EAIs used in our initial publications.

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