

COVID-19 associated with dramatic decline in ED use by pediatric asthma patients

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The number of patients visiting the emergency department (ED) for asthma treatment dropped by 76% in the first month of the COVID-19 pandemic, according to a new study by researchers at Children's Hospital

of Philadelphia (CHOP). The proportion of ED visits that led to a patient being hospitalized also decreased over this period, suggesting the decrease in overall visits was not solely due to patients avoiding the hospital due to the pandemic or delays in care for less serious asthma events.

"We were surprised by the magnitude and extent of the reduced utilization of emergency services for [asthma](#) during the emergence of the COVID-19 [pandemic](#)," said Chén C. Kenyon, MD, MSHP, a pediatrician in CHOP's Division of General Pediatrics and first author of the study, which was published in *JACI in Practice*. "The trend was particularly striking given that the emergence of COVID-19 in the Northeastern United States occurred during the spring, when respiratory viruses and high-pollen counts can converge and exacerbate asthma symptoms."

CHOP sees nearly 6,000 asthma patients in its ED every year, more than 2,000 of whom require hospitalization. To analyze the impact of the pandemic on ED use for asthma treatment, the researchers extracted data on visits to CHOP's ED for asthma care during the first four months of 2020. They compared that data to the average number of ED visits during the same four months of 2016 through 2019. They also compared the mean daily asthma ED visits from January 1 to March 18, 2020, before mandated social distancing measures went into effect, to the mean number of visits from March 19 to April 18, 2020.

The research team found that in the pre-pandemic period, an average of 24 patients visited the ED for [asthma treatment](#) each day, a number that was largely on par with the average daily number of visits for the prior four years. After March 19, when the City of Philadelphia implemented a stay-at-home order that included at-home learning and mandated social distancing, the average number of asthma-related ED visits dropped to less than 6 per day.

The dramatic decline played out across all presentations of the disease, from severe to mild cases. The researchers also found the percentage of children admitted to the hospital decreased from 31% to 22%, indicating the decline was not entirely driven by patients avoiding hospital settings or delaying care due to the stay-at-home order.

Given the dramatic decline in ED utilization during the pandemic period, the researchers suggest several areas for future investigation, including analyzing the impact on asthma symptoms of person-to-person transmission of respiratory viruses, outdoor seasonal vs. indoor allergens, and traffic and industrial pollution. Better understanding the reasons for the pandemic-related reduction in ED use for asthma care will help patients manage their disease once social distancing guidelines are relaxed.

"The COVID-19 pandemic and associated policies have had a dramatic impact on the [number](#) of patients we are seeing in the ED with asthma exacerbations," Dr. Kenyon said. "These results may offer new insights on where to best focus efforts to improve asthma outcomes outside of a pandemic scenario."

More information: Chén C. Kenyon et al, Initial effects of the COVID-19 pandemic on pediatric asthma emergency department utilization, *The Journal of Allergy and Clinical Immunology: In Practice* (2020). [DOI: 10.1016/j.jaip.2020.05.045](https://doi.org/10.1016/j.jaip.2020.05.045)

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