

# The Facts About Pediatric Asthma in Boston



**P**ediatric asthma has serious consequences for the children and families it affects – and their communities. Boston has some of the highest rates of pediatric asthma and related health care use and costs in Massachusetts. Pediatric asthma also takes its toll on attendance at school and work. But there are steps we can take to reduce or remove asthma triggers and lessen the impact of asthma on the Commonwealth's children.

## Quick Facts



During the 2011-2012 school year, 7,869 of Boston's elementary and middle school students had asthma – **nearly 15.9% of students!**<sup>1</sup>



From 2008 to 2012, Boston children accounted for more than 12,083 asthma-related hospitalizations and Emergency Department (ED) visits, with health care charges totalling **\$38.7 million.**<sup>2,3</sup>



**Boston's black and Hispanic children had significantly higher rates of asthma-related hospitalization and ED visits than its white children.**<sup>2</sup> Moreover, black and Hispanic children in Boston had higher rates of asthma-related hospitalizations and ED visits than their peers of the same race and ethnicity statewide.<sup>2,3</sup>

## PEDIATRIC ASTHMA PREVALENCE

In 2012, more Massachusetts children reported that they had ever been diagnosed with asthma (15.3%) and that they still had asthma (10.3%) than in the U.S. in general (13.7% and 8.9%, respectively).<sup>4</sup> In fact, in 2012, 210,000 MA children had asthma. Boston is home to a disproportionate number of these children. During the 2011-2012 school year, more than one out of every 16 Boston children (or 15.9 %) in Kindergarten through 8th grade had asthma, a significantly higher prevalence than for K-8 students statewide (11.9%).<sup>1</sup>

## SCHOOL AND WORK ABSENCES

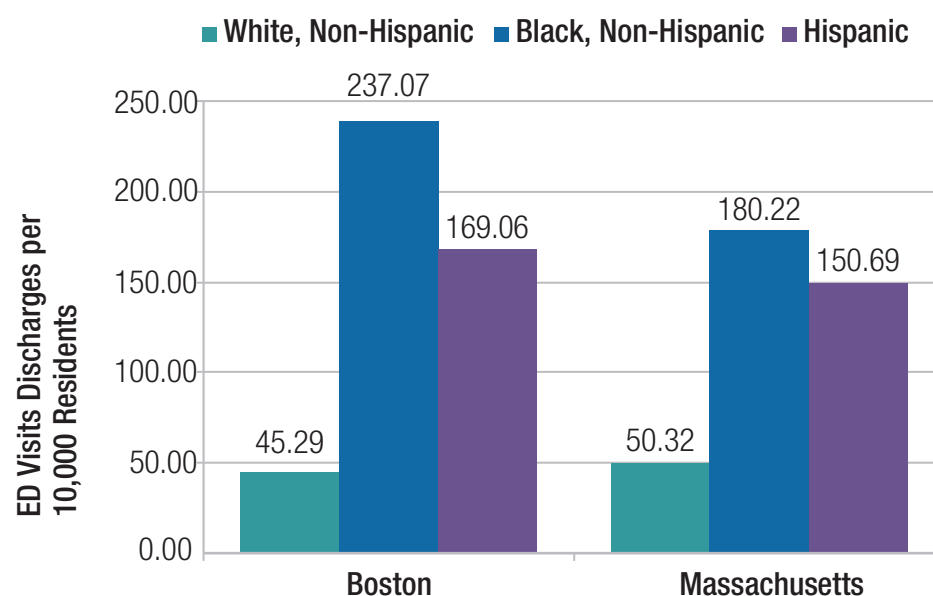
Nationwide, asthma is the leading cause of school days missed due to a chronic illness with nearly 15 million school absences due to asthma annually.<sup>5,6</sup> Between 2006 and 2010, over 40% of MA children aged 18 and younger with asthma missed school or day care due to their asthma in the past 12 months.<sup>7</sup> Working families are especially challenged by pediatric asthma since a missed day of school for a child often means a missed day of work for a parent. Parents' loss of productivity from asthma-related school absences in the U.S. is estimated to be \$719 million annually.<sup>8</sup>

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## HEALTH CARE COSTS AND UTILIZATION

Asthma is the third-ranking cause of hospitalizations for children under 15 years of age in the US.<sup>6</sup> Nearly 44% of all asthma hospitalizations in this country are for children.<sup>9</sup> Boston children have higher rates of hospitalizations and ED visits due to asthma than children statewide. In 2012, Boston children accounted for 12,083 asthma-related hospitalizations and ED visits, 16.7% of the Commonwealth's 72,442 hospitalizations and ED visits for pediatric asthma during that time. Boston's health care charges associated with pediatric asthma were \$38.7 million. Medicaid was the expected payer for 52.5% of those charges.<sup>2,3</sup>

In MA, asthma-related health care utilization is significantly higher for racial/ethnic minorities (See Figures 1 and 2). The same is true in Boston. Between 2008 and 2012, among children in Boston age 19 and under, the asthma-related ED rate for blacks and Hispanics was higher than for Boston's white children (more than 5 times higher for black children and 3.7 times higher for Hispanic children).<sup>2</sup> Black and Hispanic children also had a significantly higher asthma-related hospitalization rates than white children (5.5 and 4.1 times higher).<sup>3</sup> Moreover, black and Hispanic children in Boston had higher rates of asthma-related hospitalizations and ED visits than their peers of the same race and ethnicity statewide.<sup>2,3</sup>

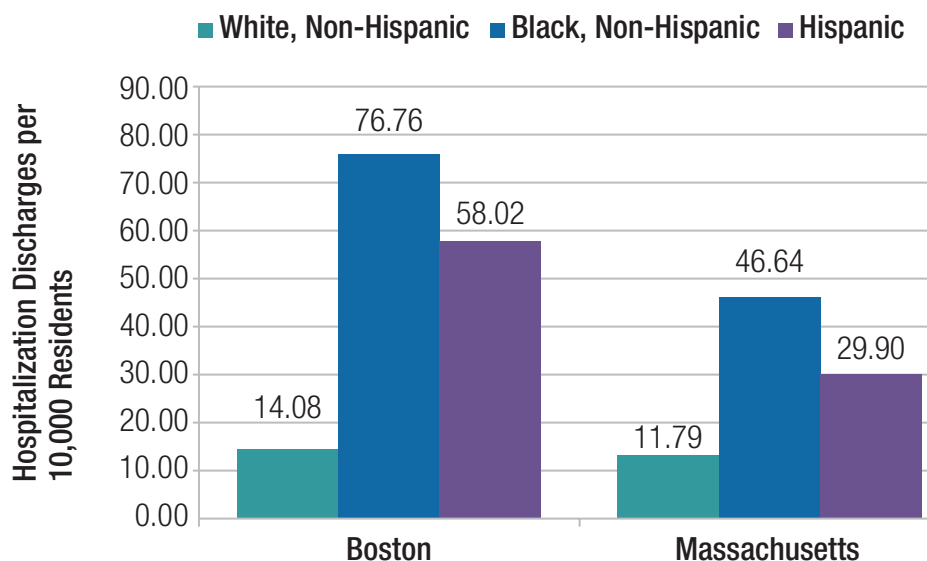


**Figure 1:**  
Age-Specific Rates of ED Visit Discharges due to Asthma Among Children Aged 19 and Younger, CY2008-2012

Data Source: CY2008-2012 Massachusetts Emergency Department Discharge Database, Massachusetts Center for Health Information and Analysis (CHIA)

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**Figure 2**  
Age-Specific Rates of Hospitalization Discharges due to Asthma Among Children Aged 19 and Younger, CY2008-2012



Data Source: CY2008–2012 Massachusetts Emergency Department Discharge Database, Massachusetts Center for Health Information and Analysis (CHIA)

## ASTHMA TRIGGERS

Asthma prevalence is higher in low-income, urban neighborhoods<sup>10-12</sup> due to greater exposure to air pollution and a range of indoor “triggers.” Pets, rodents, cockroaches, mold, tobacco smoke, gas, and dust mites are well-known asthma triggers. Children’s asthma may also be aggravated by exposure to things like air fresheners, cleaning products, pesticides, and perfumes. Reducing exposure to triggers in their homes, schools, and other locations in the community can have a major impact on the well-being of children with asthma. Visit [www.mass.gov/dph/asthma](http://www.mass.gov/dph/asthma) for more information.

## FOR MORE INFORMATION

The Asthma Prevention and Control Program (APCP) at the Massachusetts Department of Public Health works to improve the quality of life for all Massachusetts residents with asthma, and to reduce disparities in asthma outcomes. APCP also works to reduce exposure to asthma triggers and irritants in homes, licensed child-care centers, schools, workplaces, and senior centers. We support the use of community health worker-led asthma home visits to improve asthma outcomes through the provision of resources and technical assistance around these interventions. The APCP provides Asthma Action Plans for children and adults in seven languages. For more information about the APCP and the work that we do, please call 617-624-5070, email us at [prevention.wellness@state.ma.us](mailto:prevention.wellness@state.ma.us) or visit [www.mass.gov/dph/asthma](http://www.mass.gov/dph/asthma)

## Working toward solutions in Boston

The Boston Public Health Commission is funded by the Massachusetts Department of Public Health’s Prevention and Wellness Trust Fund to advance their pediatric asthma efforts in the community. They have partnered with Boston Public Health Services, Boston Public Schools, ABCD Head Start and HRiA/PALs.

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## SOURCES:

- <sup>1</sup> Pediatric Asthma Surveillance, Bureau of Environmental Health, MA Department of Public Health
- <sup>2</sup> CY2008-2012 MA Emergency Department Discharge Database, MA Center for Health Information and Analysis (CHIA).
- <sup>3</sup> CY2008-2012 MA Hospitalization Discharge Database, MA Center for Health Information and Analysis (CHIA).
- <sup>4</sup> CY2012 MA Behavioral Risk Factor Surveillance System, MA Department of Public Health
- <sup>5</sup> Wirt, J., Choy, S. & Gerald D, Provasnik, S., Rooney, P., Watanabe, S., Tobin, R. & Glander, M. (2001). Condition of Education: 2001. Washington: National Center for Education Statistics, U.S. Department of Education.
- <sup>6</sup> CDC (2005). Asthma's Impact on Children and Adolescents. Atlanta: National Center for Environmental Health, Centers for Disease Control and Prevention. June 8, 2005.
- <sup>7</sup> CY2006-2010 Behavior Risk Factor Surveillance Survey Children Asthma Call-Back Survey.
- <sup>8</sup> Wang, L.Y., Zhong, Y. & Wheeler, L. (2005). Direct and Indirect Costs of Asthma in School-Age Children. *Preventing Chronic Disease*, 2(1): [serial online], January.
- <sup>9</sup> National Hospital Discharge Survey. Hyattsville, MD: National Center for Health Statistics, 2000.
- <sup>10</sup> Weiss, K.B. & Wagener, D.K. (1990). Asthma surveillance in the United States. A review of current trends and knowledge gaps. *Chest* 98(5 Suppl), 179S-184S.
- <sup>11</sup> Matsui, E.C., Hansel, N.N., McCormack, M.C., Rusher, R., Breyse, P.N. & Diette, G.B. (2008). Asthma in the Inner City and the Indoor Environment. *Journal of Immunology and Allergy Clinics North America* 28, 665–686.
- <sup>12</sup> O'Connor, G.T., Neas, L., Vaughn, B., Kattan, M., Mitchell, H., Crain, E.F., Evans, R., Gruchalla, R., Morgan, W., Stout, J., Adams, G.K. & Lippmann, M. (2008). Acute respiratory health effects of air pollution on children with asthma in US inner cities. *Journal of Allergy and Clinical Immunology*, 121(5) online.



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