

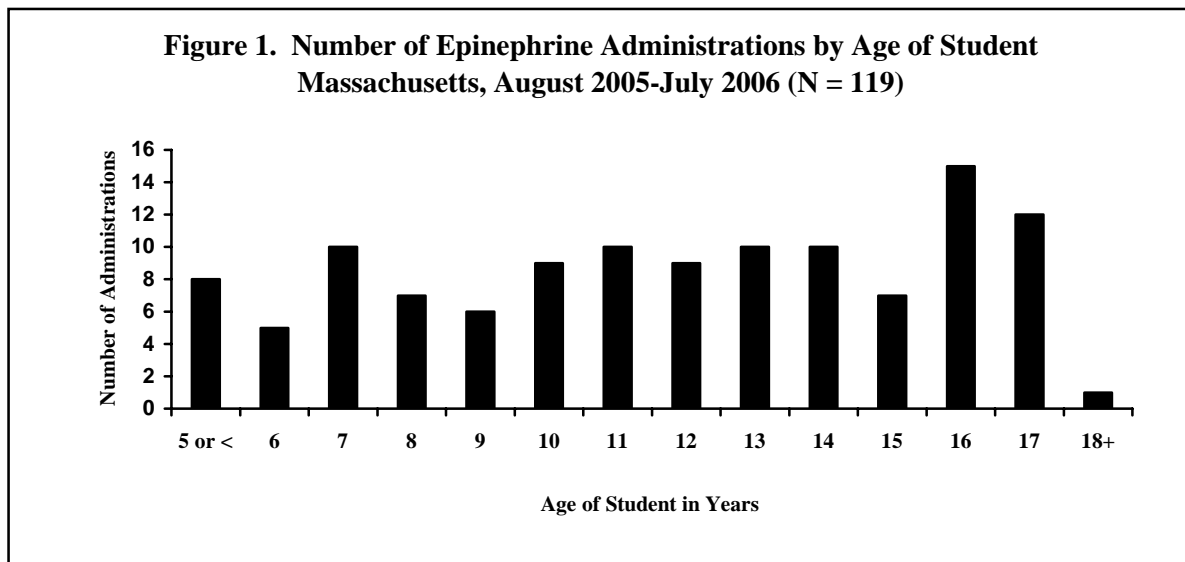
DATA HEALTH BRIEF: EPINEPHRINE ADMINISTRATION IN SCHOOLS
Massachusetts Department of Public Health
Center for Community Health
Division of Primary Care and Health Access
School Health Unit
August 1, 2005 – July 31, 2006 (School Year 2005 – 2006)

This annual data health brief documents the epidemiology of epinephrine administration for the treatment of allergic reactions in Massachusetts schools. Data were reported to the Massachusetts Department of Public Health (MDPH), School Health Unit, during the 2005 – 2006 school year. During this period of time, 75 school districts and two vocational-technical schools reported 132 administrations of epinephrine for the treatment of allergic reactions in schools. Data on epinephrine administration in schools is submitted to the MDPH on a standardized form, Report of EpiPen[®] Administration, by the school district at the time of the occurrence. *

- All regions of the state reported epinephrine administration. The Metrowest region reported the greatest number of administrations (34%), whereas the Western region reported the fewest (8%).
- While most school districts reported only one administration of epinephrine, 24 school districts reported more than one and six school districts reported five or more epinephrine administrations during the school year.
- More than half of the epinephrine administrations (54%) occurred during the months of September, October, March and May.

Characteristics of Individuals Receiving Epinephrine

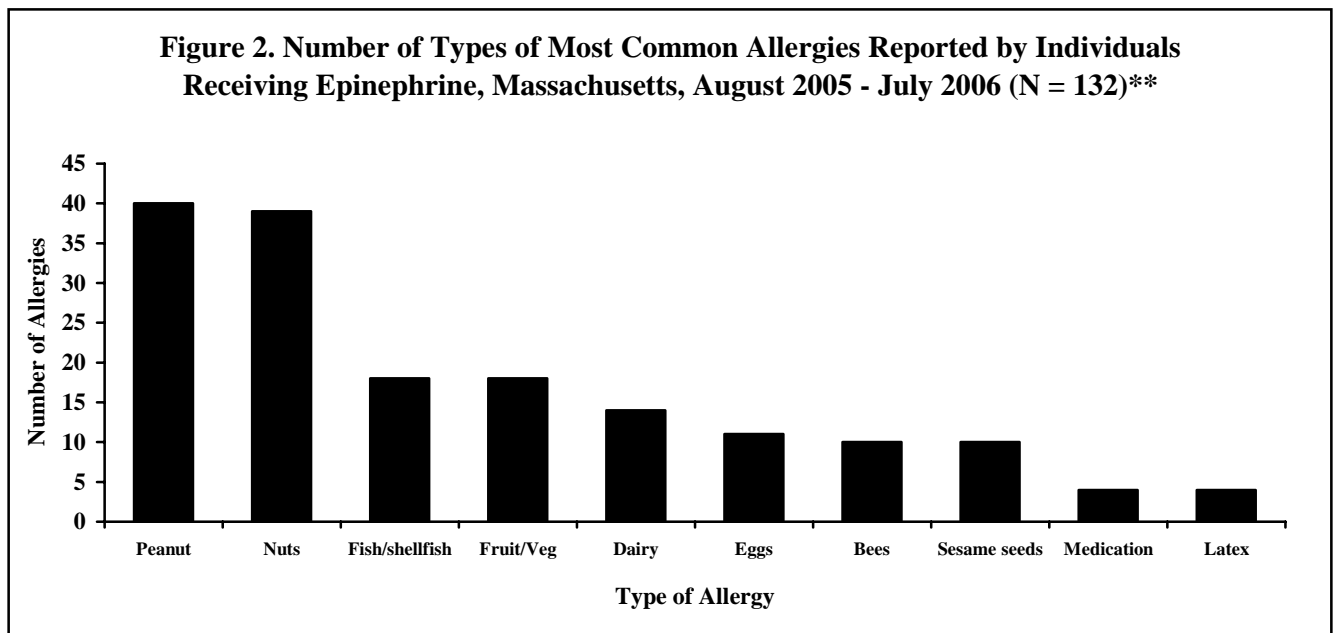
- Eleven of the administrations were to adult staff members; the remaining administrations were to students ranging in age from 4 – 18 years (Figure 1).



Data Source: Report of EpiPen Administration forms.

*Reporting of epinephrine administration in schools became mandatory under 105 CMR 210 for all public and nonpublic schools in November 2003.

- 57% of the epinephrine administrations were to females.
- The most frequently reported allergens were tree nuts and peanuts (Figure 2).
- Forty-one individuals receiving epinephrine (31%) reported having multiple allergies. Among these individuals, several different combinations of allergens were reported, including allergies to peanuts, tree nuts, dairy, egg, fish/shellfish, soy, sesame seeds, chocolate, certain fruits and vegetables, poultry, wheat, latex, insect venom, and others. The most common allergens reported by those with multiple allergies were peanuts and tree nuts.
- In 36 cases (27%), the individual was not known to have an allergic condition at the time of the anaphylactic event.

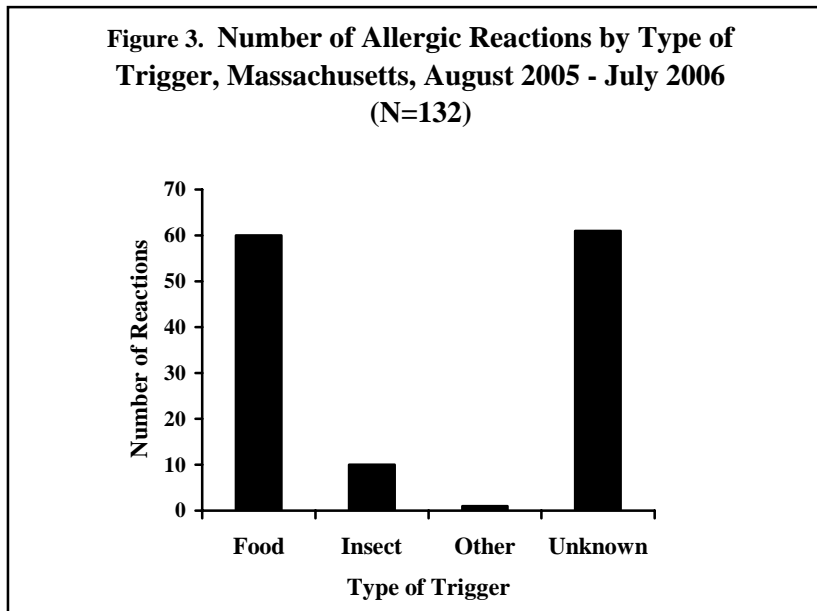


Data Source: Report of EpiPen Administration forms.

**Since those with multiple allergies reported more than one allergen, the total number of allergies reported will be greater than the number of cases

Characteristics of Allergic Reactions

- Some type of food was believed to be the cause of 46% of the reactions (Figure 3).
- In 46% of the cases, the allergen that triggered the reaction was unknown (Figure 3).
- In the majority of cases (76%), the symptoms reported involved the respiratory tract such as tightness of the throat, coughing, wheezing, shortness of breath, or difficulty swallowing.
- Symptoms most frequently developed in the classroom (46%). Other locations included the cafeteria (17%), health office (11%), playground/sports field (10%) and various locations both within and outside the school building.



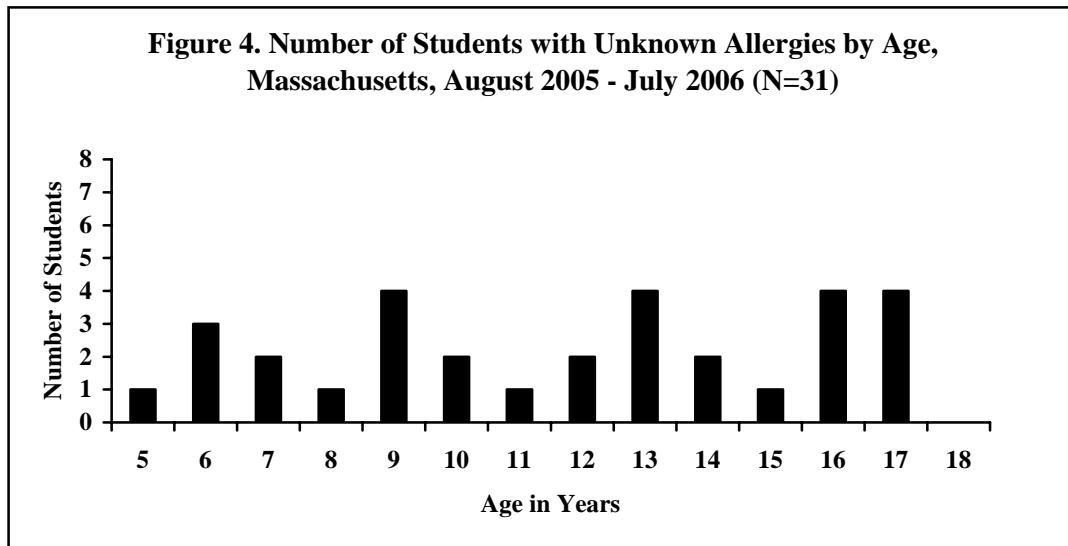
Data Source: Report of EpiPen Administration forms.

- Most (92%) of the epinephrine administrations occurred in the health office. Other locations included the classroom, gym, playground, and various other locations both within and outside the school building.
- The majority of epinephrine administrations were performed by registered nurses (92%). In seven cases, epinephrine was administered by other types of personnel such as an LPN, coach, teacher, school administrator, and parent. All but one unlicensed personnel had been appropriately trained in the administration of epinephrine.
- Four students, ranging in age from 7 years to 16 years, self-administered the epinephrine.
- The average time between development of symptoms and the administration of epinephrine for all individuals (with both known and unknown allergic conditions) was 17 minutes, with a range of 0 – 300 minutes. In 86% of the cases with reported response times (n = 125), the epinephrine was administered within 30 minutes or less.
- Of those students with known allergies, 86% had an individualized health care plan (IHCP) in place.
- Five students were not transported to a medical facility via the Emergency Medical System. In all cases, the decision not to transport was made by a parent or physician.

Characteristics of Cases Involving Individuals with Unknown Allergic Conditions

- Thirty-six cases involved individuals with unknown allergic conditions (31 students and 5 adults).
- The average age of students with unknown allergic conditions was 12 years, with a range of 5 – 17 years (Figure 4).

- The average amount of time between onset of symptoms and administrations of epinephrine in those individuals with unknown allergic conditions was 19 minutes, with a range of 1 – 60 minutes (compared to an average response time of 17 minutes, with a range of 0-300 minutes for individuals with known allergies).



Data Source: Report of EpiPen Administration forms.