

Life-Threatening Allergies, Anaphylactic Events and the Administration of Epinephrine in School

Massachusetts

2013-2014 School Year

Allergy Prevalance and Epinephrine Prescription Rates (Public School Students)

Type of allergy	Number of Students	Percent of Enrollment
Bee Sting	2,799	0.5
Food	33,044	5.8
Latex	1,539	0.3

Students with epinephrine prescriptions	15,598	2.8
---	--------	-----

	Number of Students	% of MA public school enrollment
Student enrollment in districts reporting allergy and prescription data	566,501	59.3
Total MA public school enrollment	955,739	100.0

Characteristics of Individuals Who Experienced an Anaphylactic Event (Public and Private Schools)

Type of person	Number of Individuals	Percent of Total
Staff/Visitor	41	13.9
Student	253	86.1
TOTAL	294	100.0

Age		
5 or under	15	5.1
6	11	3.7
7	18	6.1
8	10	3.4
9	11	3.7
10	15	5.1
11	12	4.1
12	20	6.8
13	24	8.2
14	32	10.9
15	26	8.8
16	27	9.2
17	25	8.5
18 or older	48	16.3
TOTAL	294	100.0

Gender		
Female	162	55.1
Male	131	44.6
Unknown	1	0.3
TOTAL	294	100.0

Race/Ethnicity		
African-American non-Hispanic	32	10.9
Asian non-Hispanic	20	6.8
Hispanic	38	12.9
White non-Hispanic	186	63.3
Other non-Hispanic	12	4.1
Unknown	6	2.0
TOTAL	294	100.0

History of life threatening allergy

Did not have an allergy history	70	23.8
Had an allergy history	216	73.5
Unknown	8	2.7
TOTAL	294	100.0

Existence of an allergy action plan

Did not have an allergy action plan	84	28.6
Had an allergy action plan	173	58.8
Unknown	5	1.7
Not Applicable / There was no history of allergy	32	10.9
TOTAL	294	100.0

History of anaphylaxis

No history of anaphylaxis	120	40.8
Had a history of anaphylaxis	136	46.3
Unknown	38	12.9
TOTAL	294	100.0

Previous epinephrine use

No prior epinephrine use	132	44.9
Prior epinephrine use	113	38.4
Unknown	49	16.7
TOTAL	294	100.0

Previous epinephrine prescription

No prior epinephrine prescription	78	26.5
Prior epinephrine prescription	199	67.7
Unknown	17	5.8
TOTAL	294	100.0

History of asthma

No history of asthma	147	50.0
Had a history of asthma	125	42.5
Unknown	22	7.5
TOTAL	294	100.0

Characteristics of Anaphylactic Events

Trigger

Food	175	59.5
Insect Sting	14	4.8
Other	25	8.5
Unknown	80	27.2
TOTAL	294	100.0

Mode of contact with food allergen

Ingested	161	54.8
Inhaled	8	2.7
Touched	8	2.7
Other	24	8.2
Unknown	31	10.5
Not Applicable / Food was not the trigger	62	21.1
TOTAL	294	100.0

Location where symptoms developed

Bus	8	2.7
Cafeteria	69	23.5
Classroom	127	43.2
Health Office	22	7.5
Playground	14	4.8
Other	54	18.4
TOTAL	294	100.0

Location where epinephrine was administered

Health Office	257	87.4
Other	37	12.6
TOTAL	294	100.0

Location where epinephrine was stored

Health Office	237	80.6
Other	57	19.4
TOTAL	294	100.0

Type of person that administered the epinephrine

Registered Nurse	261	88.8
Student	15	5.1
Other	18	6.1
TOTAL	294	100.0

Self-administration

Epinephrine was self-administered	22	7.5
Epinephrine was not self-administered	269	91.5
Unknown	3	1.0
TOTAL	294	100.0

Time elapsed between onset of symptoms and communication of symptoms

Less than 5 Minutes	152	51.7
6 - 10 Minutes	63	21.4
11 - 15 Minutes	19	6.5
16 - 20 Minutes	13	4.4
21 - 25 Minutes	3	1.0
26 - 30 Minutes	6	2.0
31 - 35 Minutes	1	0.3
Greater Than 60 Minutes (One Hour)	7	2.4
Unknown	30	10.2
TOTAL	294	100.0

Time elapsed between communication of symptoms and administration of epinephrine

Less than 5 Minutes	141	48.0
6 - 10 Minutes	58	19.7
11 - 15 Minutes	38	12.9
16 - 20 Minutes	16	5.4
21 - 25 Minutes	11	3.7
26 - 30 Minutes	10	3.4
31 - 35 Minutes	3	1.0
36 - 40 Minutes	4	1.4
41 - 45 Minutes	4	1.4
46 - 50 Minutes	2	0.7
51 - 55 Minutes	1	0.3
Greater Than 60 Minutes (One Hour)	3	1.0
Unknown	3	1.0
TOTAL	294	100.0

Emergency room transfer

Individual was transferred to the ER	287	97.6
Individual was not transferred to the ER	7	2.4
TOTAL	294	100.0

Presence of a biphasic reaction

A biphasic reaction occurred	16	5.8
No biphasic reaction occurred	160	58.2
Unknown	99	36.0
TOTAL	275	100.0

Not reported: 19

Second dose of epinephrine

A second epinephrine dose was required	17	6.2
A second epinephrine dose was not required	190	69.1
Unknown	68	24.7
TOTAL	275	100.0
<i>Not reported: 19</i>		

Notes: Allergy prevalence and epinephrine prescription data are only presented for districts reporting both of those data categories. Allergy prevalence indicates the student has an allergy but may not necessarily have experienced an anaphylactic reaction in the past. Data source: Annual reports submitted by districts participating in the Essential School Health Services program. "Other" race/ethnicity includes American Indian/Alaskan Native.

Prevalence and epinephrine prescription data are only available for selected public schools. Both public and private schools report epinephrine administrations.

Schools report epinephrine administrations using an online data collection tool. For more information, see www.mass.gov/eohhs/docs/dph/com-health/school/epi-administration-reporting.pdf.