

Anaphylactic Events and the Administration of Epinephrine in Schools in Massachusetts 2021-2022 School Year

July 1, 2021- June 30, 2022

These data are compiled from reports of epinephrine administration submitted by public and private schools throughout Massachusetts via an online data collection tool. These data describe intentional epinephrine administrations due to suspected anaphylactic events.

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

Type of person treated for anaphylaxis	Number of Individuals	Percent of Total Administrations
Staff	23	8.0
Student	259	90.6
Visitor	3	1.0
Don't know	1	0.3
TOTAL	286	100.0

Age

5 or under	15	5.2
6	9	3.1
7	14	4.9
8	15	5.2
9	16	5.6
10	12	4.2
11	21	7.3
12	9	3.1
13	30	10.5
14	25	8.7
15	33	11.5
16	36	12.6
17	19	6.6
18 or older	30	10.5
Unknown	2	0.7
TOTAL	286	100.0

Sex

Female	158	55.2
Male	126	44.1
Unknown	2	0.7
TOTAL	286	100.0

Race/Ethnicity^{1,2}	Number of Individuals	Percent of Total Administrations
African American/Black non-Hispanic/non-Latinx	30	10.5
Asian non-Hispanic/non-Latinx	37	12.9
Hispanic/Latinx	38	13.3
White non-Hispanic/non-Latinx	136	47.6
Multi-race non-Hispanic/non-Latinx	6	2.1
Unknown non-Hispanic/non-Latinx	34	11.9
Another race non-Hispanic/non-Latinx ³	5	1.7
TOTAL	286	100.0

1. Race/ethnicity was determined by the school nurse using school records or other available information. Here, we've modified the categories that school nurses chose from. "Spanish/Hispanic/Latino" was modified to "Hispanic/Latinx" and "African American" to "African American/Black" to align with current data standards.

2. Race/ethnicity categories are mutually exclusive, so each person who was administered epinephrine is classified in only one of the rows in the table. If someone is noted as Hispanic/Latinx they are not included in any of the race categories.

3. "Another race" includes those whose race was noted as "other" and may include American Indian/Alaska Native or Native Hawaiian/Other Pacific Islander.

History of any known allergies

Did not have an allergy history	55	19.2
Had an allergy history	230	80.4
Unknown	1	0.3
TOTAL	286	100.0

Existence of an allergy action plan

Did not have an allergy action plan	94	32.9
Had an allergy action plan	165	57.7
Unknown	2	0.7
Not applicable (there was no history of allergy)	25	8.7
TOTAL	286	100.0

History of anaphylaxis

No history of anaphylaxis	113	39.5
Had a history of anaphylaxis	128	44.8
Unknown	45	15.7
TOTAL	286	100.0

Previous epinephrine use

No prior epinephrine use	135	47.2
Prior epinephrine use	97	33.9
Unknown	54	18.9
TOTAL	286	100.0

Previous epinephrine prescription

No prior epinephrine prescription	66	23.1
Prior epinephrine prescription	203	71.0
Unknown	17	5.9
TOTAL	286	100.0

History of asthma

No history of asthma	175	61.2
Had a history of asthma	85	29.7
Unknown	24	8.4
Did not select an answer	2	0.7
TOTAL	286	100.0

2. Characteristics of Anaphylactic Events

Trigger	Number of Individuals	Percent of Total Administrations
Food	188	65.7
Insect sting	16	5.6
Latex	1	0.3
Medication	3	1.0
Other	8	2.8
Unknown	68	23.8
Did not select an answer	2	0.7
TOTAL	286	100.0

Mode of contact with food allergen

Ingested	159	55.6
Inhaled	8	2.8
Touched	9	3.1
Don't know	3	1.0
Other	2	0.7
Not applicable (food was not the trigger)	96	33.6
Did not select an answer	9	3.1
TOTAL	286	100.0

Location where symptoms developed

Bus	5	1.7
Cafeteria	62	21.7
Classroom	128	44.8
Gymnasium	9	3.1
Health office	25	8.7
Playground or sports field	26	9.1
Other	29	10.1
Did not select an answer	2	0.7
TOTAL	286	100.0

Location where epinephrine was administered

Cafeteria	2	0.7
Classroom	4	1.4
Hallway	1	0.3
Health office	267	93.4
Other	9	3.1
Did not select an answer	3	1.0
TOTAL	286	100.0

Location where epinephrine was stored

Health office	257	89.9
Carried by person given epinephrine	48	16.8
Main office or administrative office	6	2.1
Classroom	5	1.7
Other	14	4.9
Did not select an answer	3	1.0
TOTAL	333	†

† Percentages sum to more than 100% since respondents could select more than one answer.

Type of person that administered the epinephrine	Number of Individuals	Percent of Total Administrations
Parent	1	0.3
Principal/Assistant Principal	2	0.7
Registered nurse	254	88.8
Student	1	0.3
Teacher	1	0.3
Other	10	3.5
Did not select an answer	17	5.9
TOTAL	286	100.0

Self-administration

Epinephrine was self-administered	14	4.9
Epinephrine was not self-administered	269	94.1
Did not select an answer	3	1.0
TOTAL	286	100.0

Time elapsed between onset of symptoms and communication of symptoms

Less than or equal to 5 minutes	145	50.7
6 - 10 minutes	81	28.3
11 - 15 minutes	23	8.0
16 - 30 minutes	14	4.9
31 - 60 minutes	6	2.1
Greater than 60 minutes	3	1.0
Unknown	10	3.5
Did not select an answer	4	1.4
TOTAL	286	100.0

Time elapsed between communication of symptoms and administration of epinephrine

Less than or equal to 5 minutes	134	46.9
6 - 10 minutes	77	26.9
11 - 15 minutes	22	7.7
16 - 30 minutes	29	10.1
31 - 60 minutes	14	4.9
Greater than 60 minutes	2	0.7
Unknown	4	1.4
Did not select an answer	4	1.4
TOTAL	286	100.0

Emergency room transfer

Individual was transferred to the ER	267	93.4
Individual was not transferred to the ER	12	4.2
Unknown	3	1.0
Did not select an answer	4	1.4
TOTAL	286	100.0

Presence of a biphasic reaction	Number of Individuals	Percent of Total Administrations
A biphasic reaction occurred	18	6.3
No biphasic reaction occurred	117	40.9
Unknown	145	50.7
Did not select an answer	6	2.1
TOTAL	286	100.0

Second dose of epinephrine		
A second epinephrine dose was required	25	8.7
A second epinephrine dose was not required	146	51.0
Unknown	109	38.1
Did not select an answer	6	2.1
TOTAL	286	100.0

Data Notes:

- 1) Percentages may not sum to 100% due to rounding.
- 2) "Did not select an answer" indicates that the respondent skipped the question or failed to complete the questionnaire, and as a result, nothing can be inferred from the answer. "Unknown" is a response option and indicates that the respondent answered the question by selecting "unknown" or "don't know."