

# Anaphylactic Events and the Administration of Epinephrine in Schools in Massachusetts 2020-2021 School Year

July 1, 2020- June 30, 2021

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.

*Schooling was both in person and remote during the 2020-2021 school year due to the COVID-19 pandemic, which likely impacted the number of epinephrine administrations. Numbers therefore cannot be directly compared to school years when schooling was fully in-person.*

## 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	9	10.5
Student	77	89.5
Visitor	0	0.0
TOTAL	86	100.0

### Age

5 or under	3	3.5
6	3	3.5
7	2	2.3
8	2	2.3
9	3	3.5
10	5	5.8
11	2	2.3
12	9	10.5
13	6	7.0
14	10	11.6
15	9	10.5
16	7	8.1
17	13	15.1
18 or older	12	14.0
TOTAL	86	100.0

### Sex

Female	47	54.7
Male	39	45.3
TOTAL	86	100.0

Race/Ethnicity <sup>1, 2</sup>	Number of Individuals	Percent of Total Administrations
African American/Black non-Hispanic/non-Latinx	3	3.5
Asian non-Hispanic/non-Latinx	9	10.5
Hispanic/Latinx	11	12.8
White non-Hispanic/non-Latinx	47	54.7
Multi-race non-Hispanic/non-Latinx	3	3.5
Unknown non-Hispanic/non-Latinx	12	14.0
Another race non-Hispanic/non-Latinx <sup>3</sup>	1	1.2
TOTAL	86	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 and Native Hawaiian/Other Pacific Islander.

#### History of any known allergies<sup>4</sup>

Did not have an allergy history	25	29.1
Had an allergy history	61	70.9
TOTAL	86	100.0

4. In the 2017-2018 school year and in years prior to that, reports listed "History of life-threatening allergy." The reporting tool was changed to "any known allergies" in order to find out whether the individuals who were administered epinephrine had known allergies that might have put them at risk for an anaphylactic reaction.

#### Existence of an allergy action plan

Did not have an allergy action plan	31	36.0
Had an allergy action plan	44	51.2
Unknown	1	1.2
Not applicable (there was no history of allergy)	10	11.6
TOTAL	86	100.0

#### History of anaphylaxis

No history of anaphylaxis	40	46.5
Had a history of anaphylaxis	36	41.9
Unknown	10	11.6
TOTAL	86	100.0

#### Previous epinephrine use

No prior epinephrine use	40	46.5
Prior epinephrine use	33	38.4
Unknown	13	15.1
TOTAL	86	100.0

#### Previous epinephrine prescription

No prior epinephrine prescription	27	31.4
Prior epinephrine prescription	58	67.4
Unknown	1	1.2
TOTAL	86	100.0

#### History of asthma

No history of asthma	53	61.6
Had a history of asthma	28	32.6
Unknown	5	5.8
TOTAL	86	100.0

## 2. Characteristics of Anaphylactic Events

Trigger	Number of Individuals	Percent of Total Administrations
Food	49	57.0
Insect sting	5	5.8
Latex	0	0.0
Medication	2	2.3
Other	5	5.8
Unknown	25	29.1
TOTAL	86	100.0

### Mode of contact with food allergen

Ingested	44	51.2
Inhaled	2	2.3
Touched	2	2.3
Don't know	0	0.0
Other	0	0.0
Not applicable (food was not the trigger)	37	43.0
Did not select an answer	1	1.2
TOTAL	86	100.0

### Location where symptoms developed

Bus	0	0.0
Cafeteria	16	18.6
Classroom	42	48.8
Gymnasium	1	1.2
Health office	7	8.1
Playground or sports field <sup>5</sup>	12	14.0
Other	8	9.3
TOTAL	86	100.0

5. In the 2017-2018 school year and in years prior to that, "sports fields" were classified as "other," so these data are not directly comparable to data collected in 2017-2018 and before.

### Location where epinephrine was administered

Cafeteria	0	0.0
Classroom	2	2.3
Hallway	0	0.0
Health office	79	91.9
Other	3	3.5
Don't know	1	1.2
Did not select an answer	1	1.2
TOTAL	86	100.0

### Location where epinephrine was stored

Health office	78	90.7
Carried by person given epinephrine	19	22.1
Main office or administrative office	2	2.3
Classroom	3	3.5
Other	7	8.1
Did not select an answer	1	1.2
TOTAL	110	†

†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	0	0.0
Principal/Assistant Principal	0	0.0
Registered nurse	78	90.7
Student	0	0.0
Teacher	0	0.0
Other	1	1.2
Did not select an answer	7	8.1
TOTAL	86	100.0

#### Self-administration

Epinephrine was self-administered	6	7.0
Epinephrine was not self-administered	79	91.9
Did not select an answer	1	1.2
TOTAL	86	100.0

#### Time elapsed between onset of symptoms and communication of symptoms

Less than or equal to 5 minutes	38	44.2
6 - 10 minutes	27	31.4
11 - 15 minutes	8	9.3
16 - 30 minutes	5	5.8
31 - 60 minutes	3	3.5
Greater than 60 minutes	1	1.2
Unknown	3	3.5
Did not select an answer	1	1.2
TOTAL	86	100.0

#### Time elapsed between communication of symptoms and administration of epinephrine

Less than or equal to 5 minutes	34	39.5
6 - 10 minutes	34	39.5
11 - 15 minutes	8	9.3
16 - 30 minutes	7	8.1
31 - 60 minutes	1	1.2
Greater than 60 minutes	1	1.2
Unknown	0	0.0
Did not select an answer	1	1.2
TOTAL	86	100.0

#### Emergency room transfer

Individual was transferred to the ER	80	93.0
Individual was not transferred to the ER	5	5.8
Unknown	0	0.0
Did not select an answer	1	1.2
TOTAL	86	100.0

<b>Presence of a biphasic reaction</b>	<b>Number of Individuals</b>	<b>Percent of Total Administrations</b>
A biphasic reaction occurred	3	3.5
No biphasic reaction occurred	37	43.0
Unknown	45	52.3
Did not select an answer	1	1.2
<b>TOTAL</b>	<b>86</b>	<b>100.0</b>

  

<b>Second dose of epinephrine</b>		
A second epinephrine dose was required	5	5.8
A second epinephrine dose was not required	45	52.3
Unknown	35	40.7
Did not select an answer	1	1.2
<b>TOTAL</b>	<b>86</b>	<b>100.0</b>

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."