



Illinois State Board of Education

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State Superintendent of Education

June 20, 2016

TO: The Honorable John J. Cullerton, Senate President
The Honorable Christine Radogno, Senate Republican Leader
The Honorable Michael J. Madigan, Speaker of the House
The Honorable Jim Durkin, House Republican Leader

FROM: Tony Smith, Ph.D. 
State Superintendent of Education

SUBJECT: Report of Use of Undesignated Epinephrine School Year 2014-15

On behalf of the Illinois State Board of Education, which is required under Public Act 98-0795, Section 22-30 of the Illinois School Code [105 ILCS 5/22-30] to issue this report, I am pleased to submit the Report of Use of Undesignated Epinephrine School Year 2014-15. This particular report summarizes the characteristics of cases of undesignated epinephrine administrations reported to ISBE during the 2014-2015 school year.

A summary of the major findings is provided:

- The school districts, public schools, and nonpublic schools are allowed to maintain a supply of undesignated epinephrine auto-injectors and have trained personnel to recognize and respond to anaphylaxis of any person that the staff member believes is having an anaphylactic reaction. A report (Form 34-20) is to be provided to ISBE within three days of the incident that required the use of epinephrine from the undesignated supply.
- Seventeen (17) districts representing 59 public schools reported 65 administrations of undesignated epinephrine. The city of Chicago Public School District 299 (comprising 20% of statewide students) reported the greatest number of administrations (63.1%) while Waukegan School District 60 had the second greatest number of administrations (6.1%). Six school districts reported more than 1 undesignated epinephrine administration while six schools reported at least 2 administrations
- Among the students and staff members who received epinephrine, 27 (41.5%) had a previously-known diagnosis of a severe allergy, while 38 (58.5%) were not previously diagnosed with a severe allergy. Out of 65 individuals receiving epinephrine, eight reported having multiple triggers and one reported having two different categories of triggers.
- The most frequent ages of the persons receiving a dose of epinephrine were 15 and 16 (9 cases each, totaling 18 of 65 doses given to person of age 15 or 16).

cc: The Honorable Bruce Rauner, Governor
Tim Mapes, Clerk of the House
Tim Anderson, Secretary of the Senate
Legislative Research Unit

**The Administration of
Undesignated Epinephrine
Report
2014-2015**

**Illinois State Board of Education
Division of Specialized Instruction, Nutrition and Wellness
and
Data Analysis Division**

June 2016

*James T. Meeks, Chairman
State Board of Education*

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State Superintendent of Education*

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Foreword

The administration of epinephrine via auto-injector from a stock supply to persons who may or may not have had a previous diagnosis of anaphylaxis to an allergen is permitted in Illinois schools by Public Act 98-0795, which amended 105 ILCS 5/22-30. The Act requires a report form to be provided to the Illinois State Board of Education (ISBE) by each Illinois public and nonpublic school that administers a dose under this Act. This report is to be provided to ISBE within three days of the incident that necessitated use of the undesignated supply of epinephrine. This report document is a compilation of data on the frequency and circumstances of epinephrine administration during the preceding academic year. The interpretations and conclusions expressed herein are based on the available data and do not necessarily reflect the official position or policy of ISBE. Inquiries regarding this report may be directed to Jessica Gerdes in the Division of Specialized Instruction at (312) 814-5560 or Marjurie Ribeiro, Ph.D., in the Data Analysis Division at (217) 782-3950.

Background

As mandated by Section 22-30 of the Illinois School Code [105 ILCS 5/22-30], all Illinois public or nonpublic schools must permit the self-administration and self-carry of an epinephrine auto-injector by a student whose parents present the school with a prescription for the drug. The school districts, public schools, and nonpublic schools are allowed to maintain a supply of undesignated epinephrine auto-injectors and have trained personnel to recognize and respond to anaphylaxis of any person that the staff member believes is having an anaphylactic reaction. By October 1 every year, the Board shall submit an annual report to the General Assembly and publish the report online on the same day of its submission. This particular report summarizes the characteristics of cases and dosage of undesignated epinephrine administrations reported to ISBE during the 2014-2015 school year.

Methodology

Data collection instruments and procedures used by schools to report data on the use of undesignated epinephrine were developed by ISBE staff in the special education, data, and rules divisions and incorporated into rules in accordance with the formal rules process (rule 1.540, <http://www.isbe.net/rules/archive/pdfs/oneark.pdf>).

The 2014-2015 data collection was conducted using the form “Undesignated Epinephrine Reporting Form” (ISBE 34-20) (<http://www.isbe.net/spec-ed/pdfs/34-20-undesignated-epinephrine-rptg.pdf>). Schools emailed the forms to epinephrine@isbe.net, which was an email account accessible by Data Analysis, Special Education, and Health Services staff. The first report was received in January 2015 and the last on June 24, 2015. ISBE staff reviewed the forms as received and contacted school staff if additional information was needed. ISBE staff entered the data into an Excel document. Analysts in the Data Analysis division analyzed the reports to create this document. There are plans for creating an online data collection system which would ease data entry and improve data validity; however, key steps are necessary to ensure appropriate systematic measures are taken.

Limitations

Public Act 098-0795 [105 ILCS 5/22-30] took effect on August 1, 2014. The enforcement of the reporting requirement of this act began for the school year 2014-2015.

- The validity of the data reported is subject to the limitations of the first data collection round and aggregate nature.
- Because no school or district is required to have adopted a policy and procedure for the administration of undesignated epinephrine, it is not known how many districts or schools have the policy and procedure in place but did not have an incident requiring the use of undesignated epinephrine.
- Data analyzed from this data collection is limited to the frequency counts provided by schools.
- Detailed items like triggers may include multiple categories of triggers and may not indicate a case by case count.
- The potential trigger for the allergic reaction is not necessarily a medical diagnosis, as information on follow-up medical care was not collected.
- Percentages may not equal 100 for all data tables and figures due to rounding.
- This report does not count any administration by school staff or student from the student's own supply of epinephrine.

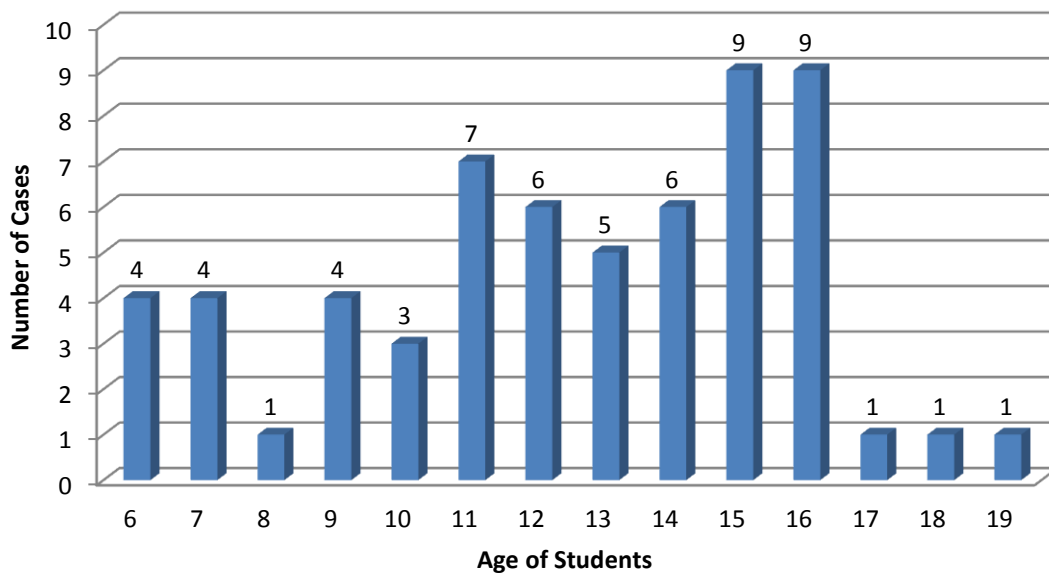
School Year 2015 Results

During the 2014-2015 school year, 59 public schools across 17 districts reported 65 administrations of undesignated epinephrine. The city of Chicago Public School District 299 (comprising 20% of statewide students) reported the greatest number of administrations (63.1%) while Waukegan School District 60 had the second greatest number of administrations (6.1%). Six school districts reported more than 1 undesignated epinephrine administration while six schools reported at least 2 administrations.

Background and age

Among the individuals receiving epinephrine, 63 (96.9%) were students (including two high school students of unknown age who received epinephrine administrations) and two (3.1%) were staff members. Figure 1 presents the distribution of students' age levels.

Figure 1:
Number of epinephrine administrations
among students by age level*



*The age level of two cases from a high school was not reported.

- The age groups most represented in the figure above were 15 (n=9) and 16 (n=9).
- The second most frequent age group was age 11 (n=7).
- Cross referencing with the type of triggers that precipitated the allergic episode, only 2 students indicated they had a drug-related trigger and both were in the highest population groups, one age 15 and one age 16.

Among the students and staff members who received epinephrine, 27 (41.5%) had a previously-known diagnosis of a severe allergy, while 38 (58.5%) were not diagnosed with a severe allergy. Out of 65 individuals receiving epinephrine, eight reported having multiple triggers and one reported having two different categories of triggers.

Triggers by category

Among the 27 cases of persons with a known history of anaphylaxis, 25 (92.6%) of them had a food-related trigger that precipitated the reported allergic episode, and two (7.4%) could not specify the trigger. Among the 38 cases with no previously-known diagnosis of severe allergy, 25 (65.8%) of them had a food-related trigger that precipitated the reported allergic episode, two (5.3%) had a drug-related medication trigger, and ten (26.3%) had an unknown trigger. One case with no previously known diagnosis had either a food or unknown trigger. Overall, there were 50 cases (76.9%) that had food as a trigger, two cases (3.1%) that had a drug as a trigger, and 12 cases (18.5%) that had an unknown trigger. One case (1.5%) had a food or unknown as a trigger.

Besides the broader categories of triggers (food, drug, insect, other), there are specific triggers noted per each case. Table 1 features the breakdown of categories among the noted food triggers, Table 2 with noted drug triggers, and Table 3 with other triggers across all 65 cases. There are some items that one or more cases have indicated as a trigger as noted by a superscript asterisk and there are items repeated below due to the individual cases with multiple categorical triggers.

Table 1. Breakdown of food-related triggers by category

Trigger (provided verbatim by reporting school/district)	Category
1. "G-fuel [energy drink]"	Electrolytes liquid
2. "Granola bar"	Granola
3. "Kale chips made with cashews; allergic to tree nuts"	Kale
4. "Kale chips made with cashews; allergic to tree nuts"	Tree Nuts
5. "PB and jelly"	Peanut
6. "allergic to peanuts; various samples during international day"	Peanut
7. "almonds/cashews"	Nuts
8. "apple crisp; allergic to apples"	Apple
9. "ate granola bar at breakfast"	Granola
10. "beans; ate refried beans in nachos"	Beans
11. "beet; first time"	Beet
12. "brazil nuts"	Nuts
13. "candy containing peanuts offered by classmate"	Peanut
14. "carrot or hamburger"	Carrot
15. "carrot or hamburger"	Meat
16. "cashews in a smoothie"	Nuts
17. "chicken nuggets, baked beans for lunch"	Meat
18. "chicken nuggets, baked beans for lunch"	Beans
19. "chocolate chip cookie"	Chocolate
20. "chocolate in cooking class"	Chocolate

Trigger (provided verbatim by reporting school/district)	Category
21. "citrus fruits"	Fruit
22. "egg"	Egg
23. "egg in lunch pasta"	Egg
24. "fish"*	Seafood
25. "fish and nuts; had tacos, jalapenos and orange for lunch"	Seafood
26. "fish and nuts; had tacos, jalapenos and orange for lunch"	Nuts
27. "fish and nuts; had tacos, jalapenos and orange for lunch"	Jalapenos
28. "fish and nuts; had tacos, jalapenos and orange for lunch"	Fruit
29. "granola bar"	Granola
30. "inhaled peanut"	Peanut
31. "kiwi fruit at home"	Fruit
32. "marshmallow, cheese stick, lollipop, spray cleaner for computer"	Marshmallow
33. "marshmallow, cheese stick, lollipop, spray cleaner for computer"	Dairy
34. "marshmallow, cheese stick, lollipop, spray cleaner for computer"	Candy
35. "milk at home was 'different' than usual"	Dairy
36. "nuts"*	Nuts
37. "nuts- peanuts or cashews"	Peanuts / Nuts
38. "nutty buddy candy bar"	Nuts
39. "peanut"*	Peanut
40. "peanut butter"	Peanut
41. "peanut butter & jelly at lunch"	Peanut
42. "peanuts, shellfish, possibly beef"	Peanut
43. "peanuts, shellfish, possibly beef"	Seafood
44. "peanuts, shellfish, possibly beef"	Meat
45. "peanuts; not ingested, inhalation/dermal contact"	Peanut
46. "pizza"	Pizza
47. "pizza or milk"	Pizza
48. "pizza or milk"	Dairy
49. "plum"	Fruit
50. "shrimp"	Seafood
51. "some type of nut"	Nuts
52. "sun butter suspected"	Sunflower
53. "tomatoes on pizza"	Fruit
54. "turkey sandwich, milk for lunch"	Meat
55. "turkey sandwich, milk for lunch"	Dairy
56. "Unknown"*	Unknown

*Frequency is greater than 1.

Table 2. Breakdown of drug-related triggers by category

Trigger (provided verbatim by reporting school/district)	Category
1. "amoxicillin possibly"	Prescription drug
2. "either ASA or ibuprofen taken by the student"	Over the counter drug

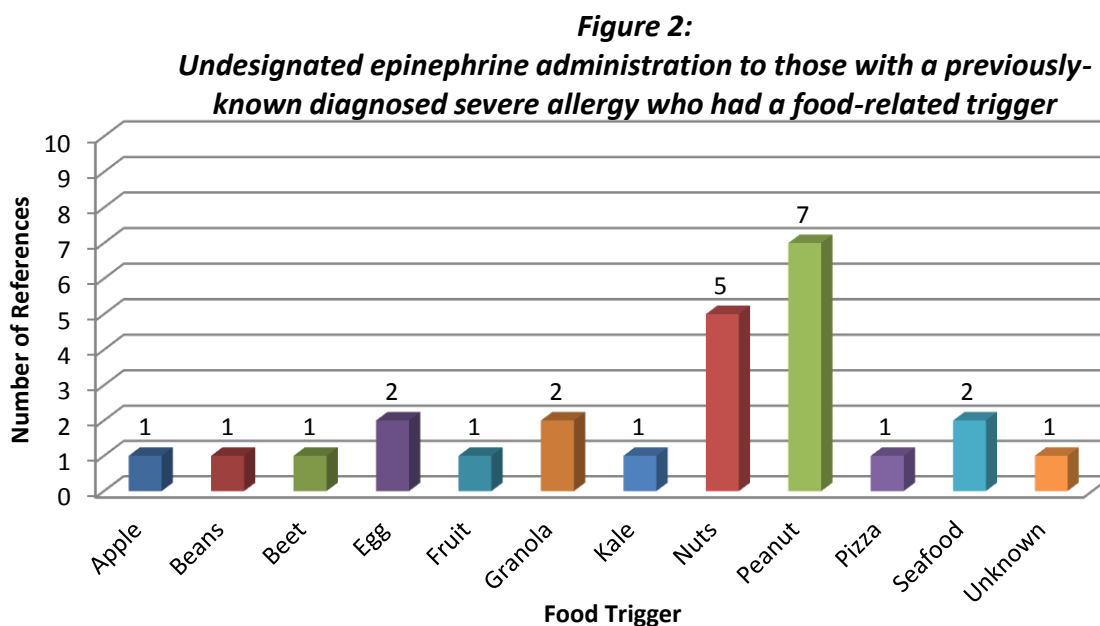
Table 3. Breakdown of other triggers by category

Trigger (provided verbatim by reporting school/district)	Category
1. "has asthma; no inhaler at school"	Asthma
2. "itching began at home this morning"	Skin reaction
3. "stated had reaction to shellfish as a young child but no history of eating shellfish recently"	Unknown
4. "unknown"*	Unknown
5. "walking on track, sitting on the grass"	Grass
6. "walking on track, sitting on the grass"	Exercise
7. "marshmallow, cheese stick, lollipop, spray cleaner for computer"	Aerosol

*Frequency is greater than 1.

Characteristics of cases with a previously-known severe allergy

Figure 2 presents the distribution of students and staff members who were previously diagnosed with a severe allergy (n=25) and their cited food triggers. For those that had indicated "Other" as a trigger, two cases were unknown and not shown below.

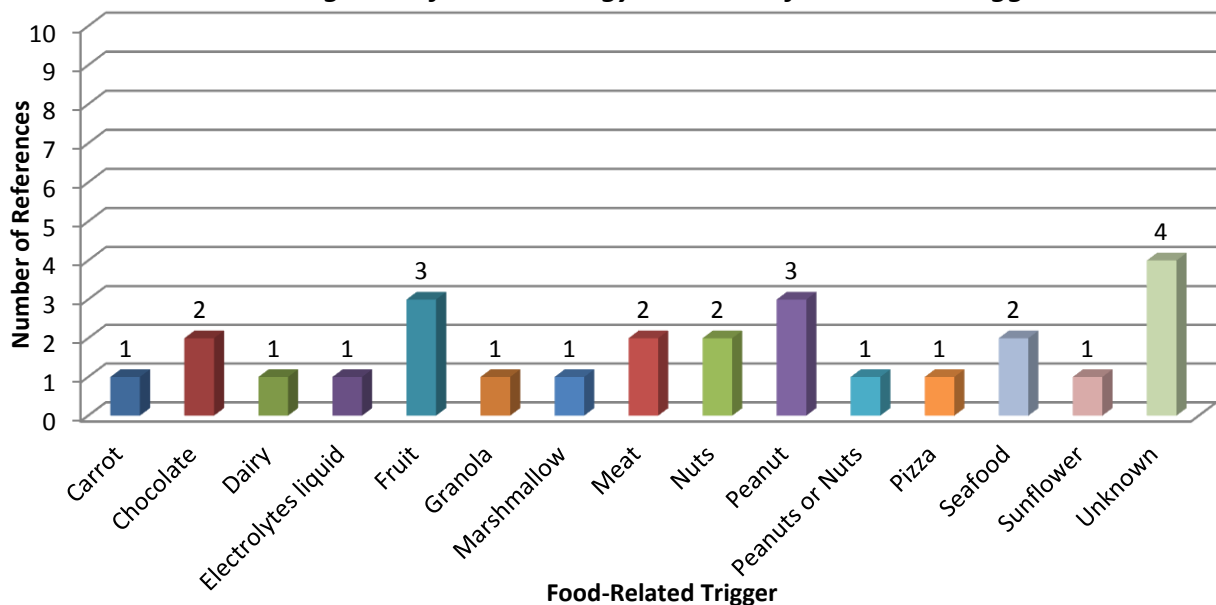


- After categorizing all specified triggers, peanut and peanut-related foods have the highest percentage (28%) among all students and staff that had an allergic episode.
- One case involved a person with a known diagnosed severe allergy with no specified food allergy (unknown).

Characteristics of cases without a previously-known severe allergy

Figure 3 presents the distribution of students and staff members who did not have a previous diagnosis of severe allergy (n=26) and their cited food triggers. The figure below includes the single case that had either a food or unknown trigger.

Figure 3:
Undesignated epinephrine administration to those without a previously-known diagnosis of severe allergy who had a food-related trigger



- While unknown food-related triggers have the highest percentage (15%), peanut, peanut-related, and fruit triggers have the highest percentage (26.9%), compared to all specified, categorized triggers.
- There are four cases that involve no history of severe allergy with unknown food related triggers.

Among those with a drug trigger (n=2), one case had a trigger for amoxicillin/prescription (50%), and the other case had a trigger for over the counter ibuprofen or aspirin (50%).

For those that had indicated “Other” as a trigger (n=10), one case was said to be caused by asthma (10%) and one other was an unspecified skin reaction (10%). Two other triggers that were environmental included exercise and grass in one case (10%). One case may have had a history of an allergic reaction to shellfish (10%). There were 6 unknown triggers (60%) that were not food, drug, or insect.

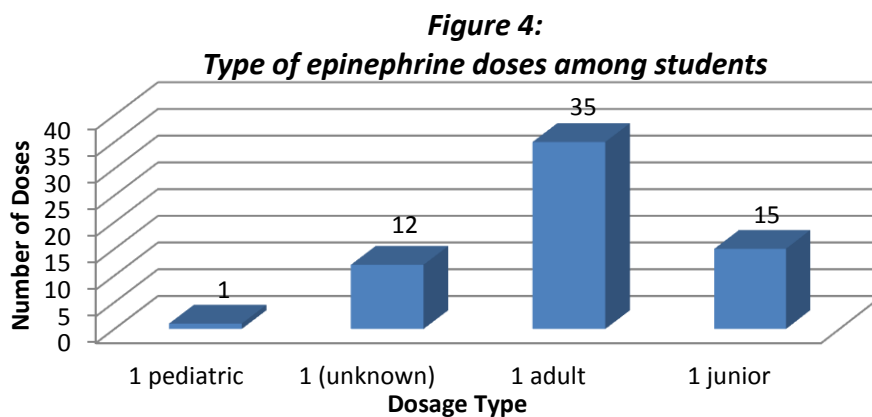
Triggers by location and time

Triggers took place within a school building in 90.6% (n=58) of 64 cited cases. Fewer than 5% (n=3) of the cases took place on school grounds (4.7%), and two particular epinephrine administrations took place on the way to school and on the bus. There was one cited unknown location where the epinephrine administration took place and one case with no location cited. The volume of incidents took place in the afternoon (n=34) with 52.3% of the cases. Morning incidents accounted for 33.8% (n=22). There were nine cases when time was not indicated (13.8%).

Dosage Administration and Type

Registered nurses (RNs) administered the undesignated epinephrine in the majority of cases (83.1%). Out of all the cases where RNs administered the undesignated epinephrine, two students (one age 7 and the other age 15) had their own auto-injectors, but the devices were not immediately accessible at the time of the incidents, based on additional comments provided. Trained personnel (non-RN) were involved in 10.8% of all cases of administered undesignated epinephrine; one among the trained personnel was a licensed practical nurse (LPN) under the delegation of a registered nurse (RN). Some of the trained personnel included one principal, three administrators, and one case manager; other persons who were not trained but administered epinephrine in three incidents included two principals and one counselor/case manager. One student (age 16) self-administered epinephrine.

Across all doses of epinephrine, the majority of doses administered were one dose of adult epinephrine (56.9%). Figure 4 presents the distribution of students' doses administered.



- The most prevalent age of those receiving one dose of adult epinephrine is age 15 (n=7). The second most frequent age group is age 16 (n=6).
- The age of the student who received one dose of pediatric epinephrine was 16.