Introduction

Nearly six million American children are at risk of anaphylaxis, a systemic allergic reaction that can cause asphyxiation, extremely low blood pressure and, if untreated, even death.\(^1\) Although common triggers include adverse drug reactions and insect venom from stings or bites, food allergies are the leading cause of anaphylaxis outside of the hospital setting\(^2\) and are the most frequent trigger for children, teens and young adults.\(^3\) Each year in the United States, it is estimated that food allergies result in 150 deaths,\(^4\) 2,000 hospitalizations, and 30,000 episodes of anaphylaxis.\(^5\) Anaphylaxis must be treated promptly and the first choice of treatment is an injection of epinephrine.\(^6\) If left untreated, anaphylaxis can lead to death in a matter of minutes.\(^7\)

The Centers for Disease Control and Prevention (CDC) has noted that “food allergies are a particular concern in the school environment,”\(^8\) and has funded the National School Boards Association’s (NSBA) development of policy guidance for school leaders on the essential role of schools in protecting students with life-threatening or serious food allergies.\(^9\) Typically, states and school districts adopt policies regarding how to manage food allergies and anaphylaxis in school, but there are general provisions adopted in each state, as noted in the NSBA guidance document.

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<td>Competent students may carry and self-administer their own epinephrine at school in the event of an emergency if:</td>
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<td>- The student has a prescription</td>
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<td>- The school has obtained written parental consent</td>
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<td>- The student has provided written physician authorization that s/he has been trained in proper administration of the epinephrine</td>
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<td>- The school requires annual renewal of the student authorization</td>
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<td>- The parent or guardian has signed a release of liability to the school should something go wrong during administration</td>
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<td>- Schools may designate trained staff who may administer the epinephrine to the student if necessary</td>
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<td>- Schools should have standing orders for treatment as well as stock epinephrine</td>
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This issue brief describes the problem of food allergies and anaphylaxis in school-aged children, and discusses state and federal legislative reform efforts involving food allergies.

EPIDEMIOLOGY

A food allergy is “an exaggerated immune response triggered by . . . specific food.”\(^10\) The prevalence of food allergy is six to eight percent of children and 3.7 percent of adults\(^11\), meaning as many as 15 million people in the United States may suffer from food allergies.\(^12\) Eight foods – defined by the FDA as “major food allergens” – account for over 90 percent of all food allergy reactions: milk, eggs, fish, crustacean shellfish, tree nuts, peanuts, wheat and soybeans.\(^13\)
Food allergies may cause only minor symptoms, including tingling sensation in the mouth, itchy skin, hives, and drop in blood pressure. But a person with a food allergy is also at risk of anaphylaxis, a severe, life-threatening reaction to an allergen which causes extreme symptoms such as constriction of the airway, trouble breathing, dizziness and fainting.

PREVENTION AND TREATMENT

There is currently no cure for food allergy, and the reasons why people develop an allergy to a specific food are largely unknown. Instead, treatment of a food allergy diagnosis focuses on management of the condition. The primary method of managing food allergies is preventing reactions by strict avoidance of any food known to trigger an allergic reaction. The secondary method of managing food allergies is to create a plan to recognize and treat allergic reactions.

Epinephrine, or adrenaline, is the first-line treatment of severe anaphylaxis resulting from food allergy. Typically, epinephrine is administered with an auto-injector, which contains a pre-measured dose of epinephrine in a spring-loaded syringe that can be activated by the push of a button. Common trade names for these epinephrine auto-injectors include EpiPen, EpiPen Jr., Twinject, Anapen, and most recently, Auvi-Q, the voice-guided audio injector.

Epinephrine is relatively safe. If administered unnecessarily, any resulting side-effects (eg., pallor, tremor, palpitations, headache, anxiety and nausea) are mild and last only a short time. Epinephrine should be administered with caution to patients with heart conditions, but presence of a condition should not prevent administration in a life-threatening situation. Even the use of expired EpiPens is encouraged where no unexpired medication is available, because the potential benefit is greater than the potential risk of a partial dose.

FOOD ALLERGY AND SCHOOLS

Children are particularly vulnerable to food allergy anaphylaxis for three primary reasons:

1. Epidemiologic studies have indicated that the prevalence of food allergy among children has increased significantly over the past few decades. According to the CDC, from 1997 to 2007, the prevalence of reported food allergy increased 18 percent among children under 18, and now affects at least one in 25 school age children. Simply put, children are at a greater risk of food allergy and that risk is increasing.

2. Because children have had less exposure to potential allergens, they are at greater risk of a reaction resulting from an undiagnosed food allergy. Data shows that 25 percent of anaphylaxis reactions in schools occur among students without a previous food allergy diagnosis.

3. Partly because children and young adults are less consistent in their efforts to avoid exposure to a known allergen, and less aware of the presence of allergens in particular products, children and young adults are at greater risk of suffering a fatal food allergy reaction than others diagnosed with a food allergy. Between 16 - 18 percent of children with food allergies have had allergic reactions related to accidental ingestion of an allergen while at school.

STATE LEGISLATIVE APPROACHES TO FOOD ALLERGY IN SCHOOLS

Almost every state has taken some legislative action to address the growing public health issue of food allergy management in schools, and the state laws passed can be broadly categorized as one of two approaches.

SELF-ADMINISTRATION OF MEDICATION:

Every state except Alabama and West Virginia allows competent students to carry and self-administer their own epinephrine at school in the event of an emergency. The comprehensiveness and language of each state law or regulation vary, but the majority of states include the following conditions for authorization:

- a prescription
- written parental consent
- written physician authorization
- annual renewal of the student authorization
- student discipline for improperly using the medication
- student seeking authorization must prove capable of administering the auto-injector
Most states address liability of the school for claims arising out of the self-administration of epinephrine in one of three ways:

- an express provision stating that the school will incur no liability
- written acknowledgement by the student’s parent that the parent will indemnify the school and employees from loss or damage resulting from misuse
- generally applicable "Good Samaritan" statutes and state tort claims acts

For more details about a specific state’s law or regulation, see our 50-state survey chart.

**EPINEPHRINE STOCKPILING**

In addition to self-administration, a smaller number of states also manage food allergy reactions by enacting laws authorizing a school to maintain non-student-specific epinephrine. These auto-injectors may be used on any student believed to be experiencing an anaphylactic emergency. School-age children are at greatest risk of anaphylaxis resulting from an unknown food allergy, and as a result those would not have a prescription for epinephrine. These undiagnosed allergies would be unaffected by a law authorizing children to carry and self-administer prescribed epinephrine. These emergency stockpiling laws, in addition to increasing access to prescribed epinephrine auto-injectors, are available and which personnel are able to administer them.

An example of a state law in this emerging trend is Illinois’ Emergency Epinephrine Act, which passed unanimously in 2011 and the model for federal legislation introduced in Congress and recently signed by the President. The Act allows schools to maintain a supply of emergency epinephrine auto-injectors, in a locked and secure location, by authorizing physicians to write epinephrine prescriptions in the name of a school district or private school. Under the Act, school nurses may administer epinephrine auto-injectors to any student who the nurse in good faith believes is experiencing an anaphylactic reaction. The Act also allows any authorized school personnel to administer an epinephrine auto-injector to any student who has their own personal prescription if the staff-person believes that student is experiencing an anaphylactic reaction. Finally, students with authorization to self-administer medication under existing law may also self-administer the emergency medication if their own medication is unavailable.

Once the school district or nonpublic school has a prescription, it may have that prescription filled at any pharmacy. Administration of any emergency epinephrine on students without a personal prescription must be completed under a definitive set of treatment guidelines that include orders for drug dosage and administration called a standing protocol of a physician. A sample standing protocol available to physicians on the Illinois Department of Public Health website includes directions on assessment of a possible reaction, proper administration of epinephrine, reporting and notification of health professionals, and expiration and disposal of unused auto-injectors. Physicians that issue a standing order or issue a standing epinephrine prescription to a school under the Act will not be liable for any injury incurred as a result of the administration of prescribed epinephrine under that protocol. In order to educate schools and encourage partnerships between physicians and schools under the Act, the Illinois Attorney General distributed an educational “Physician’s Toolkit” to schools, physicians, and advocates across the state at the start of the 2012 school year.

Details about each particular state’s laws on stockpiling are available on our 50-state survey chart.

**FEDERAL EFFORTS ON FOOD ALLERGY IN SCHOOLS**

**FOOD SAFETY AND MODERNIZATION ACT**

The Food Safety and Modernization Act (FSMA), which was signed into law in January 2011, directs the Secretary of Health and Human Services, in consultation with the Secretary of Education, to develop voluntary guidelines, that cannot contradict current state laws, for food allergy management and anaphylaxis in schools or early childhood education programs. It also provides for two years of incentive grants to assist local schools and districts in implementing the food allergy management guidelines developed under the law.

**SCHOOL ACCESS TO EMERGENCY EPINEPHRINE ACT**

The School Access to Emergency Epinephrine Act was first introduced in the Senate on November 17, 2011 to encourage states to require elementary schools and secondary schools to maintain, and permit school personnel to administer epinephrine at schools. The Act amends the Public Health Service Act, and requires the Secretary of Health and Human Services, in awarding grants to states under the children’s asthma treatment grants program, to favor states that require permit authorized personnel to administer epinephrine to any student believed to be having an anaphylactic reaction and permit authorized personnel to administer epinephrine to any student believed to be having an anaphylactic reaction. Despite extensive bipartisan support in Congress and support from advocacy organizations nationwide, the Act did not pass in 2011. On May 22, 2013, Representative David Roe of Tennessee
introduced the bill in the House as H.R. 2094. On July 30, 2013, the bill was approved by the House of Representatives and in September, Senators Dick Durbin (D-IL) and Mark Kirk (R-IL) introduced the Act as S. 1503 in the Senate. The bill passed the Senate on October 31, 2013 and was signed by President Obama on November 13, 2013. The federal legislation is modeled on state emergency stockpiling laws in Illinois, discussed above, and Georgia.

**FOOD ALLERGY AS A DISABILITY**

The Americans with Disabilities Act (ADA) requires equal opportunities in public accommodations and state and local government services for disabled individuals. Under the ADA, an individual is disabled if that individual has “(A) a physical or mental impairment that substantially limits one or more major life activities of such individual; (B) a record of such impairment; [or](C) [is] being regarded as having such impairment.” To establish discrimination under the ADA, an individual must be able to show “(1) that she is a qualified individual with a disability; (2) that she was either excluded from participation in or denied the benefits of some public entities services, programs or activities, or was otherwise discriminated against by the public entity; and (3) that such exclusion, denial of benefits, or discrimination was by reason of the plaintiff's disability.” If the individual is able to prove those elements, a public entity must make reasonable accommodations for that individual. Modifications are not mandated only where the public entity can show that the modifications necessary to prevent the discrimination would fundamentally alter the nature of the service.

Courts have stated that a child with food allergies that limit her major life activities might be considered disabled under the ADA and “could potentially require accommodations” by schools for children with severe food allergies. When making accommodations for children with severe allergies, though, school officials must be sensitive to the possibility of bullying of children with food allergies. According to a 2010 study in the Annals of Allergy, Asthma & Immunology, around 35 percent of children over five years old with food allergies have experienced bullying, teasing or harassment because of those allergies. Although none of the bullying incidents reported in the study resulted in an allergic reaction, the study authors believe the danger of them resulting in a reaction is “self-evident.”

**CONCLUSION**

Children are already extremely vulnerable to food allergy anaphylaxis, and the prevalence of food allergies among children is on the rise. Students with allergies are particularly susceptible to anaphylaxis in the school setting, where other children or even staff may unintentionally expose an affected student to an allergen. States have largely done an admirable job addressing the needs of children with diagnosed allergies by allowing students to carry and self-administer medication, which comports with the accepted medical focus on management and planning for an allergic reaction. But states need to accomplish more in order to address the needs and vulnerability of students with undiagnosed allergies. Laws allowing schools to maintain a supply of emergency epinephrine auto-injectors will help to save lives of children with undiagnosed food allergies and children who simply forgot their own life-saving medication at home. It is encouraging to see federal legislation garnering bipartisan support and advocacy organizations nationwide are hoping that the President will support and sign the School Access to Emergency Epinephrine Act into law this year. As access to epinephrine increases, research suggests that available epinephrine will be most effective when coupled with education and training about anaphylaxis and food allergy reactions.

**SUPPORTERS**

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This document was developed by Brett Baulsir, J.D. and Blair Inniss, J.D., Class of 2013, University of Maryland Francis King Carey School of Law with assistance from Mathew Swinburne, staff attorney, and Cristina Meneses, senior staff attorney with the Network for Public Health Law – Eastern Region. The Network for Public Health Law provides information and technical assistance on issues related to public health. The legal information and assistance provided in this document does not constitute legal advice or legal representation. For legal advice, please consult specific legal counsel. Document published November 2013.


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13 U.S. Food and Drug Administration, supra n. 4
14 U.S. Food and Drug Administration, supra n. 4
15 National School Boards Association, supra n. 7
16 U.S. Food and Drug Administration, supra n. 4
18 Centers for Disease Control and Prevention, supra n. 8
19 Food Allergy & Anaphylaxis Network, supra n. 12
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