



We must create a national policy to protect and manage food allergic students at school

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In early January 2012, 7-year-old Ammaria Johnson died from peanut-induced anaphylaxis at school.¹ Her death was tragic and preventable. It was also the third such fatality to occur in a US primary/secondary school or university in 13 months.^{2,3} For reasons difficult to fully comprehend, Ammaria's reaction was not treated with self-injectable epinephrine (SIE). In this day of heightened food allergy awareness, how could this happen? Allegedly, Ammaria had an emergency action plan on file, but because she had only reportedly been prescribed 1 SIE unit by her physician, she had been advised to keep this at home. As a result, she had no SIE specifically provided for her at school.¹

It seems hard in retrospect to fathom exactly how this girl was allowed to die. Several SIE units prescribed to other children were available and could have potentially been used to save her life. In fact, many would argue that one of these units should have been used, without any hesitation. Unfortunately, state and federal law (along with little to no legal precedent on point) make it unclear whether a school employee can use another student's SIE to treat a different student's reaction. Furthermore, state law is inconsistent when it comes to allowing schools to keep their own unassigned unit for such situations. This, unfortunately, is exactly where policy failed to protect a vulnerable individual on multiple levels.

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Ammaria's tragedy highlights how a lack of a national school food allergy policy leaves children vulnerable to potentially fatal events from an allergic reaction occurring at school. Maintaining emergency action plans and SIE at school are intended as basic, universal fail-safe measures to prevent a food allergy fatality. However, perhaps we have been naive to the reality that deep health disparities exist in food allergy preparedness among children, leaving some children amply prepared and others unprepared and without access to potential life-saving therapy, as in Ammaria's case.

The effect of food allergy on our schools is becoming clear thanks to several recently published studies that have revealed the following important findings^{4–11}:

- Epinephrine is underused to treat reactions, even when it is available.
- Food allergy reactions occur in multiple areas of the school campus (eg, classroom, lunchroom, and playground).
- Some students with food allergy maintain neither SIE nor an allergy action plan at school.
- Some schools do not require that an action plan or SIE be maintained.
- Some schools do not train key staff members to recognize and treat food allergy reactions.
- Almost 1 in 4 epinephrine administrations in schools involve individuals whose allergy was unknown by the school at the time of the reaction.
- Food allergy prevention and management at school is not only a problem for young children but also a problem that affects children from preschool through college age. On-campus fatalities have been noted to occur at any age across this range. Food allergy fatality data have been available as far back as 1992.

These studies demonstrate crucial gaps in current policy and suggest that neither the students nor the facilities are prepared when crisis strikes. As a result, the time is ripe for a universal, national response so that tragedies such as the one involving these

3 students in the past 2 years can be prevented. If the prevalence of food allergy in children is as high as the 8% reported recently, it is time to realize that this rate approaches that of type 1 diabetes (prevalence of 8.3% across *all* ages) and that food allergy truly is a menacing public health problem.^{12,13}

The present situation regarding school food allergy management is less than ideal. Published guidelines only exist in a few states, and policy can vary from school district to school district, from school to school, and even from grade to grade within a particular school.¹⁴ Parents of children with food allergy therefore often feel as if the onus is on *them* to request protective services from the school, in an exercise of backward logic. Rationally, the onus should be on schools to require all food allergic students to have a current action plan on file and at least 1 unit of epinephrine at school for emergency treatment (preferably 2 units). However, shouldn't a mechanism exist so that schools have a plan and an SIE unit for those who do not (or cannot) maintain one, are unaware of their child's food allergy, or have either poor health literacy or poor knowledge and do not understand the necessity to be an advocate for their child to request protective services? Students are not asked to provide their own fire extinguisher or automatic external defibrillator. Why should the situation be any different with SIE, which arguably is more likely to be used within a school than these other items?

Parents seeking food allergy accommodations at school are often forced to navigate the sea of federal disability law (ie, Section 504 of the Rehabilitation Act and the Americans with Disabilities Act), which was not written with the intent to consider an allergy to a ubiquitous school-lunch staple, such as a peanut butter sandwich, a disability.¹⁵ Parents are often shocked to learn that such accommodations for their child's food allergy are not entitlements and that the legal relationship between food allergy and disability law is not yet fully established.¹⁶ Even though disability status is generally granted to students with food allergy, the laws do not specify what accommodations are necessary, which often can introduce contention between the family and facility in balancing safety with social normalcy.¹⁷ Ideally then, schools should be familiar with creating individualized plans, such as a Section 504 Plan or an Individualized Health Plan, and be able to offer certain uniform accommodations based on past experience with what parents of food allergic and non-food allergic children feel are mutually acceptable.

Although there are states and school districts with formal school guidelines, a state-by-state or district-by-district approach predisposes inconsistencies and forces states and/or districts to "opt in" and create guidelines.¹⁴ This approach will lead to inequities in areas of the country already struggling with other health disparities, areas with limited resources, or areas with little community support to initiate such legislation. The current push for states to ratify legislation that allows the option for schools to maintain unassigned SIE is equally as problematic for all the same reasons. Although federal legislation (S.1884/HR. 3627) encourages states to require unassigned SIE, the state laws being enacted tend to make this optional as opposed to a mandate.^{18,19} A more effective policy would be to maintain individualized and localized plans, yet at the same time adopt a universal, national school-level policy to protect food allergic children. A national policy would afford standardized protection to all students, mandate universal staff training and a facility-wide emergency plan, and help reduce the risk of allergic reactions occurring in the first place.

The national policy could have 4 focal points:

1. Create a facility-based action plan: Allergy action plans are *standardized* forms that illustrate a simple, symptom-based algorithm that triggers administration of either antihistamine or epinephrine and antihistamine. The action plan template pro-

vided by the Food Allergy & Anaphylaxis Network, the most commonly used template, does not allow for individual tailoring of treatment, and thus there is little variation in treatment instruction among students.²⁰ Therefore, a facility-based plan would suffice, allowing for a rapid and ingrained response identical to what an individual plan would direct, without losing time trying to first locate the particular individual's plan, if one has even been provided. This approach would not necessarily prevent parents from still providing individual plans but rather would ensure that no student is without a plan. Situational training of school staff could be standardized based on a school-level plan, which would likely facilitate a more rapid response in providing the student potentially life-saving treatment.

2. Provide nonstudent specific epinephrine: A standing order for the use of specific epinephrine by trained school personnel and a "Good Samaritan" provision that would protect school personnel who administer the medication in good faith are necessary. A policy of unassigned epinephrine creates a stopgap protection for both those unaware of their diagnosis and those who do not maintain a device at school. Ammaria may have survived had unassigned epinephrine been available. Her situation is not unique in that she had only a single SIE unit prescribed (which was allegedly kept at home), and there are likely thousands of students just as vulnerable.
3. Provide full-time nursing in schools with food allergic students: Having a person with medical training present will help facilitate treatment of a reaction. Nursing has been subject to budget cuts in many schools, forcing untrained persons to provide nursing care. Restoring nursing to the budget may prompt other cuts, but it is potentially life-saving and not just in the case of food allergy. At minimum, as was suggested in point 1, key personnel, such as teachers, coaches, and administrators, must have training so that they can facilitate treatment as a stopgap. However, with a high potential prevalence of food allergy and risk of fatal reaction at school, this underscores the necessity of having a trained health care professional, such as a nurse, in a full-time capacity.
4. Reduce the presence of food items in the classroom: Whether food items are used as academic rewards or are part of classroom celebrations or curricular activities, the use of food should be decreased in the classroom. Research shows that the most common location for allergic reactions at school is the classroom, so decreasing the use of food items would in turn decrease the risk of an allergic reaction.⁸ Schools would have to emphasize use of nonfood treats (eg, stickers or small trinket toys) or create designated celebration spaces away from learning areas, where selected safe treats could be consumed.

Implementing risk-reduction strategies (eg, special seating arrangements in the lunchroom, hand-washing, or cleaning surfaces) are important precautions, but these practices fall short of ensuring basic emergency needs are met, and there is limited evidence of their efficacy and/or efficaciousness. Access to emergency SIE and having personnel trained to treat a reaction must be essential provisions. Establishing a national policy guaranteeing these needs should be the renewed focus of the food allergy community. Implementing such a policy could be achieved for a relatively low cost and in a short amount of time. There are ample free or low-cost training materials available to help quickly teach those unfamiliar with how to assess and/or treat a child having an allergic reaction. SIE units are relatively low-cost items (<\$200 for a twin pack at retail price), and health care professionals would still encourage parents to provide their child with their own multiple units. Thus, there would continue to be several units of SIE available for community use. Everyday, parents of children with newly diagnosed food allergy are taught these skills during their health care visit,

highlighting the speed and ease that training can be accomplished to persons with no medical background. A lack of such policy places food allergic children at risk of morbidity or mortality. Making such changes needs to be a multifaceted effort, with collaboration among the advocacy groups, the allergy and pediatric professional societies, the US Department of Education, the Centers for Disease Control and Prevention, and the US Congress to provide the legal basis to initiate these policies. Ammaria died a victim of circumstance, where policy could not protect her. It is time for a change before more stories such as Ammaria's become commonplace.

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