

## Why Every School Should Have a Stock Inhaler: One Nurse's Experience

"I saved a student's life but lost my job!"

Elaine, a contract nurse employed by the Baltimore Health Department in Maryland and working in the Baltimore City public schools, lost her job when she treated a student's severe asthma attack with another student's inhaler. It does not have to be this way. A small but growing number of states have adopted stock inhaler laws that allow schools to maintain a single albuterol inhaler for emergency use and indemnify school personnel who use it in good faith.<sup>1</sup> We share this nurse's experience, a common fear among school nurses, alongside expert commentary in the following sections.

In October 2018, two students reported another was having difficulty breathing. When I arrived, I found a student in severe distress, gasping for breath. I was told that 9-1-1 had been called, and an ambulance was coming. Someone asked the student, who was known to have asthma, "Where is your inhaler?" It was locked in the gym office, and the coach was unavailable.

Approximately 20% of Baltimore City schoolchildren have asthma.<sup>2</sup> Each year, half will experience an asthma attack (e.g., shortness of breath, cough, chest tightness, and wheezing) severe enough to warrant an emergency department visit. Because asthma attacks occur without warning,

having access to a quick-acting bronchodilator (albuterol) is vital to reverse symptoms and abort the attack.<sup>3</sup> Most students with asthma lack a personal inhaler at school when needed because inhalers are unaffordable, forgotten, misplaced, locked away, or expired.<sup>4</sup> Without inhalers, schools have few options, because parents may be inaccessible, slow to respond, or too distant. Calling 911 may result in a costly ambulance transport and an even more expensive emergency department visit. Either action risks delay, during which the attack can worsen.

The student's condition rapidly deteriorated. Her respirations became increasingly labored. She lost consciousness. Gasping at 60 respirations a minute, her pulse increased to 124 beats a minute. I then learned that an ambulance hadn't been called. Sensing an impending disaster, I ordered, "Call one, now!!"

Stock albuterol laws have their greatest effect when students present before their symptoms become life-threatening. We recently evaluated stock inhaler implementation in Tucson, Arizona, where we observed a nonsignificant, but potentially meaningful, reduction in 911 calls and emergency medical service transports.<sup>4</sup> Instead of calling 911, school health personnel managed asthma attacks in the school health office, with most students returning to class

after using either their personal inhaler or the school's stock inhaler.

The student's condition deteriorated. Not knowing when help would arrive, I asked someone to find another student's inhaler, knowing it would contain the needed medication. When one was found, I administered two puffs, waited, then gave two more. Within minutes, the student's respirations became less labored.

School medication administration rules exist to protect student safety, respect parental autonomy, and indemnify school personnel. Before students can be administered medication or be allowed to self-carry, they must have a signed order from their physician, written permission from their parent, and clearly labeled medication. Sharing medication is strictly prohibited for well-founded safety reasons. When physicians, parents, or students fail to comply, students go without needed medication.

Although well intended, these rules inadvertently imperil the health of students with asthma when sudden, unexpected attacks occur.

Despite repeated attempts to contact parents at the beginning of the school year, even going so far as to fill out many forms myself, no one had returned them. Given 400 students in my school, I should have had 60–80.

Elaine used one student's inhaler to treat another student, knowing that she might lose her job because such action was prohibited. Unfortunately, Elaine worked in a state that did not have a stock albuterol law. If she had, any trained personnel, not just a school nurse, could have used the school's inhaler to treat the student. Allowing nonlicensed health personnel to administer albuterol is important because many schools lack school nurses. Some laws also allow stock inhalers to be administered to any student experiencing respiratory distress, not just those with an asthma diagnosis.<sup>5</sup> This is important because many students lack a formal diagnosis or fail to disclose it.

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Because albuterol has a wide therapeutic index and favorable safety profile, the benefits of using it, even without a diagnosis, outweigh the risks.<sup>6</sup> Stock inhalers are used under the guidance of a standing medical order authorized by the school's medical director or the county's chief public health (medical) officer. The number of actions given is directed by the school's asthma action plan. Stock inhalers are sharable via disposable or washable holding chambers that provide a physical barrier between the inhaler and the user to prevent cross-contamination. Albuterol's most common side effects are sore throat and jitteriness, but it can increase heart rate and blood pressure. These latter effects are dose dependent and transient,

and typically do not have serious consequences.<sup>3</sup>

When the student's mother arrived, she was grateful that I had given her daughter another student's inhaler. When the ambulance arrived shortly thereafter, the student had mostly recovered. While I was relieved to have a good outcome, I lost my job weeks later in direct response to my actions that violated official policy. Only then did I realize that a stock inhaler law could have prevented this outcome. I am speaking out now to prevent it from happening to someone else.

All states should adopt stock inhaler legislation as they have already done for stock epinephrine pens for food allergies. Because asthma is more common than severe allergies, many more students lack access to lifesaving

albuterol than to epinephrine. As clinicians, academicians, and public health practitioners, we urge you to advocate for stock inhaler laws in your state by following the recommendations outlined elsewhere.<sup>5</sup> **AJPH**

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#### CONFLICTS OF INTEREST

L. B. Gerald has received product donations of valved holding chambers from Thayer Medical Corporation. No other

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## Opposing Family Separation Policies for the Welfare of Children

The current administration's widely criticized policy of separating immigrant families at the border has called attention to the detrimental long-term effects of separating children from their parents. Physicians, psychologists, and public health experts have expressed profound moral outrage while also explicitly warning of the medical and psychological dangers of needlessly separating children from their families of origin. Additional information currently coming to light about the squalid conditions in which children are kept highlight the downstream risks of this harmful practice: detaining and confining children is morally abhorrent and dehumanizing. Calling attention to the long-lasting medical harm of family separation, in addition to the moral outrage these acts

sparked, has helped frame public conversations on protecting the well-being of migrant children as a public health imperative.

Separating children from their parents, as both supporters and detractors of this policy have noted, is neither new nor unique to immigrating families. Media outlets published historical accounts of child separation, from slavery through forced separations of Native American families. This renewed focus on family separation presents an opportunity to question common child welfare interventions, which may result in both temporary and long-term child separation.

Child welfare interventions that result in the separation of children from their families are often accepted as necessary for the

benefit and safety of the child. Annually, more than a quarter of a million children are removed from their parents by state governments. Yet 75% of substantiated child protection cases involve neglect, an amorphous category correlated and unfortunately too often confused with poverty. Most children involved in child welfare investigations and interventions are not victims of sexual and physical abuse.<sup>1</sup> Studies indicate that apart from extreme cases of imminent physical

harm to children, the family unit is the preferable place for children to grow and thrive. Suboptimal families are better for children than removal.<sup>2</sup> Beyond a focus on outcomes for children, there is a moral imperative to keep families together and respect parents' affirmative right to raise their children.

### A HAPHAZARD PROCESS

Unfortunately, child removal is a haphazard process that is often overutilized rather than used as a tool of last resort, and the policies that safeguard this intervention vary by state and even among

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