

A State Law Permitting Stock Asthma Rescue Medicines in the School Setting

Tammy Rood CPNP-PC, AE-C (University of Missouri-Columbia); Lori Osborne RN, MSN (Coordinator of Health Services, Columbia Public Schools); Joy Krieger RN (Executive Director, AAFA-St. Louis), Peggy Gaddy RRT, MBA (Program Coordinator, Missouri Asthma Prevention and Control Program), Eric Armbricht PhD (Missouri Asthma Prevention and Control Program); Ben Francisco PNP, PhD, AE-C (University of Missouri-Columbia)

We disclose the **absence** of personal financial relationships with commercial interests relevant to this educational activity within the past 12 months.

PURPOSE

The purpose of this poster is to address: 1) variance in the operationalization of the term "life-threatening asthma emergency"; 2) examples of informational and training resources for school administrators, nurses, and staff; 3) one mid-Missouri school district's early experience with a HB1188 implementation, including case reports and lessons learned; 4) a non-profit advocacy organization's (Asthma and Allergy Foundation of America - St. Louis Chapter) support for HB1188 implementation statewide, 5) estimates of asthma rescue medicine use, permitted under HB1188, measured by statewide survey of school nurses and 6) passage of policies for HB1188 compliance by local school boards.

BACKGROUND

Enacted August 2012, House Bill 1188 permits school districts in Missouri to maintain a stock supply of "asthma-related rescue medications" for use in the care of any student who is having a life-threatening asthma episode. Prior to HB1188 Missouri pharmacy laws did not permit dispensing "stock" asthma-related rescue medications to schools. There were no state-approved policies for administration of asthma rescue medications at school without a student's personal supply on hand. HB1188 allows a school nurse or other trained employee to administer asthma-related rescue medication to a student experiencing a life-threatening asthma attack. This poster describes the approved language of HB1188 and data about its implementation during the two years since its enactment.

"LIFE-THREATENING ASTHMA EMERGENCY"

HB1188 contains specific language regarding who can administer asthma related rescue medications (a school nurse or other school employee trained and supervised by the nurse) "on any student the school nurse or trained employee **believes is having a life-threatening asthma episode** based on the training in recognizing an acute asthma episode".

Signs of life-threatening asthma include:



Risk Factors for Death from Asthma	
Asthma history	<ul style="list-style-type: none"> • Previous severe exacerbation (e.g., intubation or ICU admission for asthma). • Two or more hospitalizations for asthma in the past year. • Three or more ED visits for asthma in the past year. • Hospitalization or ED visit for asthma in the past month. • Using >2 canisters of SABA per month. • Difficulty perceiving asthma symptoms or severity of exacerbations. • Other risk factors: lack of a written asthma action plan, sensitivity to Alternaria.
Social history	<ul style="list-style-type: none"> • Low socioeconomic status or inner-city residence. • illicit drug use. • Major psychosocial problems.
Comorbidities	<ul style="list-style-type: none"> • Cardiovascular disease. • Other chronic lung disease. • Chronic psychiatric disease.

Reference: National Institutes of Health, National Heart, Lung and Blood Institute, National Asthma Education and Prevention Program. (August 2011). Management of Asthma Exacerbations: School Treatment: Suggested Emergency Nursing Protocol for Students with Asthma Symptoms Who Don't Have a Personal Asthma Action Plan. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3248448/>

** NAEPP (2011) states: "Consider administering epinephrine if student is unable to use short-acting beta-agonist (SABA) because respiratory distress or agitation prevents adequate inhalation from the SABA inhaler device and nebulized albuterol is not available, and the exacerbation is **life-threatening**. ... Epinephrine is NOT first line treatment for asthma. Albuterol is the treatment of choice. Administration of epinephrine should be **rare** and is intended to prevent a death at school from a severe asthma attack. Most school nurses will never need to administer epinephrine."

FEEDBACK FROM MISSOURI SCHOOL NURSES

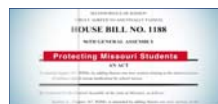
School nurses were asked to complete a survey and provide feedback regarding HB1188:

- ❖ "We have decreased 911 calls this school year with availability of albuterol nebulizer treatments. We face the challenge of families ...supplying albuterol and not bringing to school individual medication."
- ❖ "HB1188 has been a blessing for our district. We are able to treat students at the onset of an asthma attack and many times after treatment the student is able to return to class."
- ❖ "More students have used the emergency medication because a potentially life-threatening situation was being prevented. It is difficult to clearly define life-threatening. ..."
- ❖ "Our nurses ...are very happy to have emergency medication because we are located so far away from the hospital."
- ❖ "There are concerns from the nurses about liability and 'diagnosing' an asthma issue and using the stock medications."
- ❖ "While it allows us to use albuterol for asthma emergencies, it also takes responsibility out of parents/guardians hands to provide asthma medication for those who need it routinely. They fall back on the idea that the school has some so they don't need to provide it."



EXAMPLES OF TRAINING RESOURCES FOR SCHOOL STAFF

In 2013, Asthma Ready Communities® created web-based HB1188 training resources for school staff. These resources include:



For school staff and school administrators: "Protecting Missouri Students from Life-Threatening Asthma".



Nebulizer Training



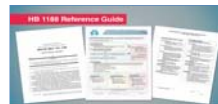
For Pharmacists: Addresses concerns related to filling stock medication to schools.



For school nurses and staff training: Asthma management scenarios.



Self-Carry Emergency Medicines at School



Additional resources, such as the HB1188 Reference Guide.

ONE SCHOOL DISTRICT'S EARLY EXPERIENCE WITH HB1188

Columbia Public Schools (CPS) is located in Columbia, Missouri, the heart of the Midwest. Columbia Public Schools serves students in preschool through grade twelve for a total enrollment of 18,100 students. Approximately 1,600 students have asthma noted as a health concern. There are thirty-six sites for education (four high schools, six middle schools, nineteen elementary schools, four preschools, two alternative schools, and a gifted center).

For the 2013-2014 school year, the CPS "Management of Asthma Exacerbation Protocol" was used for seven students. All but one student had a known history of asthma or respiratory difficulties. **Presenting symptoms** included cough, wheezing, shortness of breath, difficulty speaking, retractions/nasal flaring and agitation. **Physical assessment** included pulse > 130, respiratory rate 30 to 60 breaths/minute, oxygen saturation < 90%. All students were unable to perform a peak flow or forced expiratory volume in one second (FEV1) during this time. Duoneb® (albuterol/ipratropium) was administered for all students and was repeated per protocol for one student. All but two students were transported to the local Women's and Children's Hospital (WCH). Two students were admitted for care; one was in the Pediatric Intensive Care Unit for several days. The two students not transported to WCH were released to parent's care by the Emergency Medical Services (EMS).

Lessons Learned

- 1) Start a quick pulmonary exam as soon as the student enters the health room with symptoms;
- 2) Follow the Protocol;
- 3) Call EMS without hesitation; and
- 4) Trust your nursing judgment.

ACKNOWLEDGEMENTS



Asthma Ready® Communities
www.asthmaready.org
University of Missouri-Healthcare
Child Health-Pulmonary Department
404 N. Keene St. Suite 115
Columbia, MO 65201
573-884-8629

A NON-PROFIT ADVOCACY ORGANIZATION'S SUPPORT OF HB1188

The Asthma and Allergy Foundation of America, St. Louis Chapter (AAFA-STL) outreach and education programs have provided support to school nurses in St. Louis, surrounding counties of St. Louis City and County, and across the state through both equipment and training of other school personnel. Specific examples include:

- ❖ AAFA-STL and a community partner (Beverly Hills Pharmacy) were able to supply schools located in Missouri counties of St. Louis City and St. Louis County with their first round of asthma related rescue medication (albuterol solution for nebulizer).
- ❖ For schools without a medical director, AAFA's board president, Dr. H. James Wedner (Chief, Division of Allergy and Immunology Director, the Asthma and Allergy Center of Washington University) agreed to serve as medical director for any school district in Missouri needing a prescription for albuterol.
- ❖ AAFA's RESCUE (Resources for Every School Confronting Unexpected Emergencies) program for school nurses provides asthma equipment to schools in the St. Louis area and statewide who express a need.
- ❖ AAFA provides nebulizers, nebulizer tubing kits, peak flow meters, spacers and educational materials. In return, school nurses 1) keep a log to track how frequently the equipment is used and reason for use; and 2) complete a brief e-mail survey.



STATEWIDE SURVEY RESULTS ON HB1188

In February 2014, the Missouri Asthma Prevention and Control Program completed a statewide survey of school nurses regarding emergency asthma care practices. Approximately 84% (436/521) of Missouri public school districts responded. Responding school districts accounted for 836,564 (or 96.5%) of the total student enrollment in public school districts (866,526). All 115 counties in the state were represented in the sample. Survey results include:

1) **Stock asthma rescue medication is available to approximately 48.3% of Missouri students:**

Availability of Stock Asthma Rescue Medications	District Enrollment	Percent of Total Enrollment
All Schools (n = 146)	2683 ± 4589	46.8%
Some Schools (n = 15)	811 ± 1085	1.5%
No Schools (n = 275)	1573 ± 2875	51.7%

2) **Albuterol was the most common medication stocked among the 161 school districts with all or some schools with rescue medications available (the majority approved for delivery by nebulizer).**

Choice of Approved Rescue Medications	Number of Districts	Percent of Districts
Albuterol		
Inhaler only	33	20.5%
Nebulizer only	78	48.4%
Inhaler or Nebulizer	23	14.3%
Unspecified	3	1.9%
Subtotal	137	85.1%
Epinephrine Only	11	6.8%
Levalbuterol hydrochloride	2	1.2%
Unknown / not reported	11	6.8%
TOTAL	161	100.0%

3) **Direct Benefit to School-Age Children:** Approximately 56% of school nurses reported at least one student in the district had been given stock rescue medication to treat an asthma episode in the 2013-2014 school year. Those surveyed reported a total of 981 students with asthma were assisted by stock medication made available via local school district adoption of HB1188.

4) **School District Policies:** Of the 161 school districts with stock rescue medication available, 48 created a new policy for school board approval, and 58 amended or applied an existing policy. Thus, 65.8% of these school districts have specific or general school board authorization. However, 40/161 (or 24.8%) had not yet sought authorization from the school board or stated authorization was not required. Fourteen (8.7%) did not know if the school board had provided authorization. The status of school board authorization could not be determined for one school.