

1 Translating Research into Health Policy: Stock Albuterol Legislation

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43 Abbreviations:

44 ALA American Lung Association

45 ATS American Thoracic Society

46 Members of the American Thoracic Society (ATS) possess the knowledge and experience to
47 solve clinical challenges faced by individuals with pulmonary, critical care and sleep medicine
48 disorders. They are also positioned to solve broader challenges by translating their clinical and
49 research expertise into health policy. To facilitate state-level advocacy, we describe our success
50 amending Arizona law to authorize schools to maintain stock (albuterol) inhalers and indemnify
51 trained personnel who use them. (Table 1)

52 Any student with asthma can experience a sudden, life-threatening exacerbation with little
53 warning.(1) These exacerbations, characterized by cough, shortness-of-breath and rapid
54 breathing are triggered by upper respiratory infections, exercise or allergen exposure. Early
55 albuterol use can reverse bronchoconstriction, disrupt the exacerbation, avert the need for
56 subsequent care and reduce mortality risk. International guidelines recommend that all children
57 with asthma have access to albuterol.(2, 3)

58 While all 50 states permit students with asthma to self-carry personal inhalers, few students
59 actually have one at school. For example, only 14% of students with asthma in 36 elementary
60 schools across 5 Alabama school systems had a personal inhaler at school.(4, 5) For many
61 families, providing a second inhaler for school use is expensive. Poor access to medical care may
62 leave some children without a diagnosis or prescription. Even when an inhaler is provided, it may
63 be lost, forgotten or empty when needed. To address this problem, the Centers for Disease
64 Control and Prevention and the National Heart Lung and Blood Institute recommend
65 comprehensive school-based asthma programs maintain stock inhalers so that multiple students
66 may share a single inhaler via reusable and/or disposable holding chambers.(6, 7) Stock inhalers
67 are administered under the order of a licensed medical provider and allow medication to be
68 administered by licensed and non-licensed school personnel.

69 Ten states permit schools to maintain stock inhalers but outcome data are limited.(8) The
70 Omaha Public School System (Omaha, Nebraska) and the Columbia Public Schools (Columbia,

71 Missouri) report treating 1 per 200 students with asthma annually with a stock inhaler.(9, 10) They
72 also report high levels of parent, student, and nurse satisfaction. The AnnalsATS recently
73 published our pilot implementation results from the Sunnyside Unified School District (Tucson,
74 Arizona) where stock inhalers were used to treat 1 per 27 students with asthma annually.(11)
75 After program implementation, the district made 20% fewer asthma-related 911 calls (2.43 versus
76 1.95 calls per 100 students with asthma, $p=0.38$) and transported 40% fewer students to hospitals
77 (1.21 versus 0.74 transports per 100 students with asthma, $p=0.20$). Fewer than 30% of students
78 had a personal inhaler at school either year. Interviews with the 22 school nurses revealed high
79 levels of program satisfaction but considerable worry that using the stock inhalers exposed them
80 to liability

81 To address this concern, we took action to amend Arizona law to authorize schools to maintain
82 stock inhalers and indemnify trained personnel who used them in good faith. We had 4 policy
83 goals: to allow but not require school participation, establish standardized training and reporting
84 standards, indemnify licensed (e.g., school nurse) and non-licensed (e.g., health assistant)
85 personnel, and permit use in any student with respiratory distress. Enabling legislation would
86 avoid conflict with tax-adverse legislators and under-funded school districts. Establishing
87 reporting standards would permit post-implementation evaluation. Indemnifying licensed and non-
88 licensed personnel would ensure nurses were in compliance with state law and would expand the
89 program's reach to settings without school nurses. Given albuterol's safety,(12, 13) permitting use
90 without an established asthma diagnosis would expand coverage to more students.

91 Lacking prior state-level advocacy experience, we contacted the Vice President for Advocacy
92 for the national American Lung Association (ALA) who referred us to their Regional Director of
93 Public Policy (JS). JS was familiar with our state's legislative processes and knew the legislators
94 on the two committees responsible for health legislation, the House Health Committee and the
95 Senate Health and Human Services Committee. JS contacted Representative Heather Carter (R-

96 Cave Creek), Chairwoman of the House Health Committee, who agreed to sponsor an
97 amendment to existing legislation authorizing schools to administer stock epinephrine to students
98 with serious allergic reactions. Amending an existing statute expedited the process because much
99 of the language was prepared and vetted. Having a committee chairman as our legislative
100 champion to shepherd the bill through the legislative process was critical to our success. While
101 our bill was not co-sponsored by the minority party, bipartisan support may be an important
102 strategic goal depending on the legislation's potential visibility, impact and controversy. Obtaining
103 support from the Governor's office may also be important, particularly if substantial rule-making
104 by executive branch agencies is needed.

105 To craft acceptable legislative language, garner support and minimize opposition, we built a
106 broad stakeholder network led by the Arizona Asthma Coalition. BB, an Arizona Asthma Coalition
107 board member and public health advocate, had relationships with influential stakeholders
108 including the School Nurses Organization of Arizona. We also initiated contact with the Arizona
109 School Administrators Organization. These organizations represented the stakeholders most
110 likely to be affected by the proposed legislation. Engaging them early helped establish a
111 collaborative relationship, allowed us to utilize their practical knowledge and minimized the
112 likelihood they would oppose the legislation.

113 We also engaged the government entities most likely to be affected including the Arizona
114 Department of Health Services, the Arizona State Department of Education, and the Maricopa
115 and Pima County Health Departments. Engaging them helped us better understand the existing
116 regulatory framework, allowed us to avoid conflicts with existing policies, minimized conflicts
117 between the agencies, and ensured any new requirements were clearly delineated and
118 appropriately assigned. The County Health Department directors were particularly helpful in
119 allowing their medical directors to write standardized orders for public schools. Lastly, we enlisted
120 support from Thayer Medical Corporation, an Arizona-based company that manufactures

121 disposable, valved holding chambers. As a local company, Thayer provided technical assistance
122 addressing the sanitary practices related to sharing a single inhaler across multiple students. They
123 also supported our advocacy by conducting background research and providing expert testimony.
124 Engaging these stakeholders helped craft better legislation and minimized potential opposition.

125 When the language was sufficiently vetted, the bill was introduced in the House Health
126 Committee. Prior to the formal committee vote, a public hearing was held where testimony was
127 solicited in support or opposition of the bill. Because Arizona requires speakers to pre-register, it
128 was important to designate a single individual (JS) to actively monitor the committee's the agenda
129 to ensure our speakers were registered. During hearings, the agenda can change with little
130 warning to accommodate other legislative needs thereby delaying or advancing scheduled
131 testimony. Given that speakers may not reside in the state capitol, they must schedule sufficient
132 time to accommodate last minute changes. Designating a single individual to facilitate
133 communication between the legislative sponsor and scheduled speakers can help react to last-
134 minute changes.

135 Testimony is often severely time-limited and speakers are abruptly stopped once the limit is
136 reached. Reading prepared remarks minimizes this risk and allows testimony to be coordinated
137 across multiple stakeholders thereby increasing the effective testimony time. Attending hearings
138 also enables speakers to rebut concerns raised by other speakers and address questions posed
139 by legislators. While having speakers with varying credentials demonstrates broad support,
140 physician testimony carries disproportionate influence and should be considered essential for
141 health-related legislation.

142 After being passed in committee, the bill was evaluated by the Rules Committee to ensure it
143 met administrative requirements and did not conflict with existing law. The bill was then approved
144 by the full House and referred to the Senate Health and Human Services Committee where the
145 process began anew. Once again, we provided expert testimony in support of the bill. After being

146 approved in committee, the bill was passed by the full Senate and signed into law by Governor
147 Doug Ducey (R-AZ) (<https://legiscan.com/AZ/text/HB2208/id/1582158>).

148 The entire process required approximately one year with the timeline dictated by Arizona's
149 January – April legislative cycle. Nine months prior to the January legislative session, we engaged
150 our stakeholders, identified a legislative sponsor and drafted the legislative language. These
151 activities required frequent e-mail exchanges and small group meetings supported by occasional
152 conference calls or in-person meetings. The bill was introduced in the House on January 24th,
153 2017 and passed on February 21st, 2017. The bill was introduced in the Senate on February 27th,
154 2017 and passed on March 22nd, 2017. During the legislative period, the pace of activity was
155 more demanding including 2 half-day hearings at the state capitol. The bill was signed into law on
156 March 24th, 2017 and took effect 180 days later.

157 After the bill's passage, we remained engaged with the various agencies responsible for rule-
158 making, administration and reporting as this process affords another opportunity for opposition to
159 emerge as operationalizing legislation requires a fair amount of decision-making. During this
160 process, old conflicts resurfaced and new ones were revealed. We maintained our stakeholder
161 coalition to ensure that rule-making did not weaken the legislation. Our continued engagement
162 also presented opportunities to improve implementation by helping craft rules, suggesting
163 reporting requirements and addressing administrative questions. Once the rule-making was
164 complete, we conducted outreach to inform schools, pharmacists, physicians, nurses and others
165 about the legislation and its requirements.

166 Because the legislation did not provide funding, financial barriers remained an important
167 obstacle. To address this challenge, we enlisted several organizations in Pima County including
168 Banner University Medical Center-Tucson, Thayer Medical Corporation and the Pima County
169 Health Department to procure the resources to initiate county-wide implementation during the

170 2017-2018 school year. As of this writing, 200 public schools, 24 private and parochial schools,
171 and 14 charter schools are participating thereby covering 68% of the county's 200,000 students.

172 Physicians, nurses, researchers, and other health care providers are well-positioned to solve
173 public health challenges by shaping health policy. Numerous resources exist to support advocacy
174 efforts. Large organizations, like universities and hospitals, often have full-time government
175 relations staff who coordinate the organization's larger advocacy efforts. These staff may be able
176 to support individual efforts that align with the organization's mission and can help employees
177 navigate their employer's advocacy policies.

178 National and local non-profit organizations also employ lobbyists who understand the state
179 legislative process, know legislators and their key staff, and have relationships with other relevant
180 stakeholders. Working with non-profit organizations can substantially increase the probability of
181 success. The ALA and the ATS are two organizations available to support advocacy on behalf of
182 patients with respiratory disease. While the ATS primarily supports federal advocacy, their 3
183 government relations staff and 20 state chapters can provide advice on local and state policy.
184 Similarly, the ALA has experienced regional legislative liaisons who work on state-level initiatives
185 like smoke free laws, tobacco tax policy and clean air standards.

186 Successful advocacy requires communicating a clear and compelling story about problems
187 and their solutions. While evidence-based recommendations are important, communicating
188 personal stories have disproportionate impact. To support our effort, we highlighted the story of
189 two brothers – one who experienced an asthma exacerbation prior to and the other after a stock
190 inhaler policy was implemented. The first brother, lacking a personal inhaler, was transported to
191 the emergency department. The second brother, having access to a stock inhaler, was treated in
192 school and subsequently returned to class.

193 Using the media and other forms of outreach is important. During the legislative process, the
194 Arizona Asthma Coalition distributed frequent announcements, kept members updated on the
195 bill's progress and encouraged members to register public comments supporting the legislation.
196 Their newsletter reaches 500+ individuals including healthcare providers, public health agencies,
197 school nurses, patients and families, and members of the Arizona Thoracic Society and the
198 Academy of Pediatrics. We also relied on our University's media relations staff to craft public
199 announcements and engage our local print, radio, and television outlets.

200 Health professionals are well-positioned to identify important public health problems and their
201 solutions. Their ability to plan, organize, communicate and collaborate readily transfer to the
202 advocacy process. Advocating for changes in health policy is another important way that health
203 professionals can improve the lives of their patients with respiratory disorders. Hopefully, our
204 successful effort and hard-learned lessons will embolden others to undertake similar action.

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241 Table 1. Timeline and Associated Activities for the Conduct of State-Level Health Policy Advocacy

Timeline	Activity
6 – 18 months prior	<p>Identify and Assemble Stakeholders</p> <ul style="list-style-type: none"> • Government affairs staff of employers, universities and non-profit organizations • Executive board of national professional societies and their local affiliates • Executive board of national non-profit organizations and their local affiliates • State and/or local government officials <p>Identify and Obtain Congressional and/or Senatorial Co-Sponsors</p> <ul style="list-style-type: none"> • Obtain bipartisan (majority and minority party) and/or bicameral support (same bill in House and Senate), if possible • Obtain co-sponsorship from relevant Committee Chair(s), if possible. <p>Anticipate Opposition and Plan Strategic Response</p>
3 – 12 months prior	<p>Identify and Engage Impacted Government and Non-Governmental Entities</p> <ul style="list-style-type: none"> • Governor’s office via key staffers as well as state, county, and city agencies • Professional organizations, non-profit organizations, advocacy groups, business or trade-groups, and other impacted groups <p>Develop and Vet Materials</p> <ul style="list-style-type: none"> • Obtain bill examples from National Council of State Legislatures • Draft and vet the bill’s language • Assemble evidence-based documents to support policy goal and objectives • Prepare testimony, policy briefs, and one-page fact-sheets for legislators, executive branch agencies, and other affected groups • Work with sponsor, their staff, and legal counsel to finalize draft <p>Craft a Media and Outreach Campaign</p> <ul style="list-style-type: none"> • Contact local TV and radio stations to air public service announcements • Write letters-to-editor and op-ed pieces for local print media outlets • Utilize stakeholders’ e-mail and list-serve to distribute information • Offer to speak to interested groups at scheduled meetings • Use Facebook, Twitter and other social media platforms
Legislative Session	<p>Coordinate with Legislative Sponsor</p> <ul style="list-style-type: none"> • Identify important dates and timelines during the legislative cycle • Maintain frequent contact with legislative sponsor or their designated health assistant to identify changes in timeline or opposition • Attend legislative hearings and provide expert testimony
Post-Passage	<p>Surveil Rulemaking Process</p> <ul style="list-style-type: none"> • Remain engaged with government entities responsible for rule-making • Inform stakeholders and affected parties of legislative success, timeline for implementation, and potential impact on their organization