
Translating science to community action

Our *Annals* is for the most part devoted to the science of medicine as it applies to delivery of care to patients with allergic disease. This issue of the *Annals* contains a report of a different type. It is a story of how a small group of motivated and concerned individuals can create a large impact on the delivery of health care. Underneath the surface, however, it is still a paradigm for the application of science to the care of the allergic patient. The science was represented by our knowledge of how patients with asthma and anaphylaxis should receive care, which was well known by Murphy and associates. The application was a little unusual in that it was not rendered in the context of individual patient care in an office or in a double-blind, placebo-controlled trial. It was rendered in a public health setting, namely, our schools. The message of the article is that this can be done. In a time where physicians are beset with circumstances often beyond our control that affect the quality of care for our patients, it is refreshing to see an example of how we can alter the delivery of health care in the public health arena. The process involved and the simple knowledge that it worked are almost as important as the results themselves. This process is clearly described in their article entitled "Life-Threatening Asthma and Anaphylaxis in Schools: A Treatment Model for School-Based Programs," which appears in this issue of the *Annals*.¹

Murphy and associates saw a problem, namely, that asthma-related deaths in Nebraska were extremely high, the second highest in the United States during 1990 to 1995. In addition, asthma deaths in Nebraska were rising, whereas mortality rates in the United States were declining. They also noted that in 1998 the emergency department visits were highest among children 5 to 14 years of age in Nebraska. Indeed, for residents in the Omaha area, where they lived, the death rate from asthma was 2 to 4 times higher than the national average.

They also knew how to take care of asthma and anaphylaxis and understood clearly that immediate attention is oftentimes the key to success. With this background knowledge, they instituted the Emergency Response to Life-Threatening Asthma or Systemic Allergic Reactions (Anaphylaxis) Protocol. This protocol is described in detail in their article. Thus, they took the science, in this instance, not to the bedside per se but to the schools. The most impressive feature of this process was the fact that they "got it done." That is, through their efforts they were able to alter the way in which their school system approached the patient with asthma and anaphylaxis. Thus,

their efforts of bench to bedside were as "ripples on a stream." Through the efforts of 6 individuals equipped with the imprimatur of professional degrees and armed with scientific knowledge, 100 students experiencing acute episodes of asthma or anaphylaxis in their school system received appropriate therapy. Their efforts and the model they used represent a paradigm for all of us.

What Murphy and associates may not have realized is that they intuitively designed a model that followed the suggested design for a "community intervention for asthma" as was recently described by Boss et al² in the *International Journal of Hygiene and Environmental Care*, a public health rather than an allergy/immunology journal. In their article, Boss et al recount the model of intervention presented by the Centers for Disease Control and Prevention (CDC). This model states that the first step is "identification of intervention gaps by stakeholders." No doubt Murphy and associates clearly identified the gap that separated the children in their school system from appropriate care of acute asthma and anaphylactic episodes. The next step as stated by the CDC model was "defining needed research," and the third was "intervention research." Actually, the ground had already been laid for Murphy and associates. To their credit, they were aware of the previous research and simply applied the results thereof to the fourth step, which was "identification of successful interventions." The fifth and sixth steps were, and will probably always be, the most difficult. They are "translation" and "widespread community implementation." Here is where Murphy and associates excelled. Their protocol could be readily translated to school nurses and, in their absence, trained school personnel. Their persuasiveness evidently accomplished "widespread community implementation." Thus, probably without knowing it, Murphy and associates had followed the model that the CDC suggested for an effective public health intervention.

Thanks to their efforts, the Omaha school system now has trained personnel, an easily followed scientifically grounded protocol, and the equipment (epinephrine and/or nebulized albuterol) to administer acute care for asthma and anaphylaxis occurring in schoolchildren. Their efforts represent an encouraging model that confirms that individual physicians acting as advocates to institute scientifically grounded principles of care can indeed exert an impact on public health in their own communities. Their efforts coupled with the outstanding efforts of our associated lay organizations, such as the Allergy and Asthma Network, Mothers of Asthmatic Patients, and the Food Allergy and Anaphylaxis Network, in

promulgating the right of students to carry metered-dose albuterol and epinephrine and the institution of the school food allergy program indicate that our allergic children will have far better care in our school system than ever in the past.

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REFERENCES

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2. Boss LP, Evans B, Ramos-Bonoan, et al. Insuring a scientific basis for community interventions for asthma. *Int J Hygiene Environ Health.* 2005;208:21–25.