House Legislative Analysis Section
House Office Building, 9 South
Lansing, Michigan 48909
Phone: 517/373-6466

EMERGENCY USE OF EPINEPHRINE AUTO-INJECTORS

House Bill 4518 (Substitute H-1)
First Analysis (6-5-03)

Sponsor: Rep. Paul Gieleghem
Committee: Health Policy

THE APPARENT PROBLEM:

Some people are so allergic to certain insect bites, foods, substances, or medications that they go into life-threatening anaphylaxis reactions. Anaphylaxis is a severe allergic reaction that can range from mild to life-threatening with symptoms that include itchy hives; swelling of the lips, tongue, or eyes; throat swelling; nausea and vomiting; and wheezing and difficulty breathing. According to information supplied by the Anaphylaxis and Food Allergy Association of Minnesota, more than 84,000 people each year are treated in emergency rooms for anaphylactic shock. About 800 of these die.

When a person goes into an anaphylaxis reaction, minutes matter. Swelling of the airways and other central nervous system reactions can cause death in a short amount of time. The only treatment for anaphylaxis is to administer a drug called epinephrine. Those who know they are allergic to, say, bee stings or peanuts, try to avoid the allergen and often carry a device called an Epi-pen to self-administer a dose of the medicine when needed. However, Epi-pens sometimes get forgotten or don't work properly or a person may need an additional dose. Also, the majority of reactions are first-time occurrences (some hospitals estimate at least 70 percent of anaphylactic shock incidents are first-time events), meaning that the person did not know he or she was so severely allergic to the substance. Obviously, many of the victims are children who suffer a reaction the first time they are exposed to peanut butter, milk, eggs, penicillin, or other substances.

The problem lies in the fact that an ambulance service cannot provide a level of care higher than it is licensed to provide, neither can a medical responder provide a level of patient care higher than his or her training and license allows. Providing a level of patient care outside the scope of one's license and training can be grounds for license sanctions. Though most regions of the state are served by advanced life support ambulance services, not all regions are. Therefore, the medical personnel who respond to a 911 call may not be authorized to administer epinephrine; epinephrine may not even be carried in the medicine kit on board the ambulance. By the time a victim is transported to a hospital or by the time a life support service with the appropriate level of licensing to administer epinephrine arrives, it may be too late to prevent death or lingering injuries.

In 2002, Minnesota passed legislation that required all ambulances to be equipped with epinephrine and all emergency medical technicians (EMTs) to be trained in its use. Many feel that in the interest of saving lives, Michigan should enact a similar law.

THE CONTENT OF THE BILL:

A local medical control authority is required under the Public Health Code to establish written protocols for the practice of life support agencies and licensed emergency medical services personnel within its region. The bill would amend the code to require a protocol to be established, within one year of the bill's effective date, for a medicine used to treat anaphylactic reactions to be carried in certain emergency vehicles and to require that personnel be appropriately trained to administer the medicine.

Specifically, a local medical control authority would have to develop a protocol to ensure that each life support agency (ambulance operation, nontransport prehospital life support operation, aircraft transport operation, or medical first response service) that provided basic life support, limited advanced life support, or advanced life support was equipped with epinephrine or epinephrine auto-injectors (known as Epi-pens). Also, emergency services personnel authorized to provide those services would have to be properly trained to recognize an anaphylactic reaction, to administer the epinephrine, and to dispose of the auto-injector or vial.

The code defines "basic life support" as meaning patient care that an emergency medical technician (EMT) is qualified to perform. "Limited advanced life support" is patient care that includes any care an emergency medical technician specialist is qualified to provide, and "advanced life support" is patient care that includes any care a paramedic is qualified to provide. Therefore, the bill's mandate to train personnel in the use of epinephrine and equip vehicles with the medicine would not apply to medical first responders, who often, as part of a medical first response service, respond to emergencies before the arrival of an ambulance.

However, the bill would allow – under a specific circumstance - a local control authority to require medical first response services and licensed medical first responders within its region to meet additional standards for equipment and personnel to ensure, similarly to the above provision, that each medical first response services was equipped with an epinephrine auto-injector, and that each licensed medical first responder was properly trained to recognize an anaphylactic reaction and to administer and dispose of the injector. This provision would apply if a life support agency providing the higher levels of care as discussed above was not readily available in that location. Further, the protocol would have to be approved by the Department of Consumer and Industry Services prior to adoption and implementation by the medical control authority, as currently prescribed in the code.

FISCAL IMPLICATIONS:

Fiscal information is not available.

ARGUMENTS:

For:

Though the majority of the state is served by ambulance services operating at the highest level of care, some areas are served by basic life support and limited advanced life support services. These services may not be equipped with epinephrine or with the staff qualified to administer it. In addition, the transport time to a hospital in some rural areas or congested traffic areas can take half an hour or more. Since an anaphylaxis reaction can result in airways swelling shut, serious injury or death can occur before a patient can reach the hospital.

Under the bill, all three levels of ambulance services would be equipped with epinephrine or epinephrine auto-injectors (currently, only advanced life support services carry epinephrine), and all paramedics, emergency medical technicians (EMTs) and EMT specialists would be trained to recognize the symptoms of anaphylaxis and be trained in the administration of epinephrine (currently, only paramedics would automatically have this training and authorization to provide treatment, though in some regions, the local medical control authority may have given EMTs or EMT specialists the training and authorization to administer epinephrine).

Therefore, under the bill, a person experiencing a potentially life-threatening reaction to a bee sting, peanut, tree nut, shellfish, latex, milk, penicillin, egg, or other substance will be assured that the ambulance service and medical response personnel responding to the emergency call will be able to administer the appropriate treatment. This will reduce the number of deaths and injuries due to these severe allergic reactions.

Response:

Some ambulance response times can exceed 20 minutes. Therefore, it is not unusual for medical first responders to be dispatched to the scene to begin first aide prior to the ambulance's arrival. Medical first responders, who are typically fire fighters and in some instances, law enforcement officers, would not be mandated to be trained to recognize an anaphylactic reaction or to administer epinephrine. Since epinephrine auto-injectors are so easy to use, and since many first responders can arrive at the scene within just a few minutes, the bill should be amended to include them, also.

Rebuttal:

This was considered, but the decision was made not to include medical first responders at this time as a "mandate". However, the bill would allow the local medical control authority to require the medical first responders in their jurisdiction to receive the training necessary to administer epinephrine, as well as to carry some form of the drug in their vehicles. The hope is that many will do so.

One reason that the mandate would not include medical first responders at this time is that there can be serious problems if epinephrine is given when not medically necessary or appropriate. Since medical first responders have far less training in providing medical assistance, allowing, but not requiring, the inclusion of these emergency medical responders gives some additional time for reflection on how best to train and equip them. Also, lawmakers are hesitant to mandate training that the state can't afford to pay for. This will also give time for locals to seek funding for training purposes. In addition, hospitals

supply ambulance services with medications; however, they may be unable to supply epinephrine to medical first responders (which are not ambulance services).

Against:

The provision pertaining to medical first responders is unclear. The provision could be read as pertaining only to those medical first responders who are based in a geographic region where the response time for the more advanced emergency medical services is considered to be such that the advanced medical service is considered to not be readily available. This would then primarily apply to rural areas, where a single ambulance may serve an extremely large area and response times can be quite long (some report response times of 20 minutes or longer).

The bill could also be read as requiring all medical first responders to be trained in the epinephrine protocol and to be equipped with the medicine, but would limit these personnel from administering the medicine to those instances in which the more advanced teams were not readily available.

If the bill were intended to have this latter interpretation, deadly mistakes could result. The bill does not define "readily available". Unless it was defined in the protocol or in the bill, a medical first responder could be put in the position of having to make a judgment call – while in the midst of a life and death emergency – whether or not the expected arrival time of the ambulance constituted "readily available". How could such a judgment be made when some in anaphylactic shock die within minutes and others could live for 20, 30, or 40 minutes until the ambulance arrived? Add to this the pressure put on the responder by frightened and desperate parents or other loved ones, and it is clear to see that the intent of the bill should be clarified. However, even in urban areas served by multiple ambulance or fire department paramedic crews where response times may be four to ten minutes, delays caused by a traffic accident, road construction, or multiple emergencies occurring simultaneously could result in the need for medical first responders in those areas being equipped as well.

POSITIONS:

The Food Allergy & Anaphylaxis Network supports the bill. (6-3-03)

Pinckney Community Schools supports the bill. (6-2-03)

Food Anaphylaxis Education (F.A.E.), an educational organization dedicated to increasing awareness of food induced anaphylaxis, supports the bill. (6-2-03)

The Michigan Association of Ambulance Services supports the bill. (6-4-03)

The Michigan Health and Hospital Association supports the bill. (6-4-03)

The Michigan Association of Emergency Medical Technicians supports the bill. (6-3-03)

The Department of Consumer and Industry Services supports the bill. (6-3-03)

The Michigan State Medical Society (MSMS) supports the bill. (6-3-03)

Analyst: S. Stutzky

■This analysis was prepared by nonpartisan House staff for use by House members in their deliberations, and does not constitute an official statement of legislative intent.