

**Grocery Stores and Restaurants –
Automated External Defibrillator Program**

**Reports required by
Senate Bill 299, Chapter 305, Sec. (2) (a) (b), 2023
and
House Bill 288, Chapter 304, Sec. (2) (a) (b), 2023**

December 2024



**Maryland Institute for Emergency Medical Services Systems (MIEMSS)
653 West Pratt Street
Baltimore, Maryland 21201
410-706-5074**

Executive Summary

Senate Bill 299 (Ch. 305, 2023) and House Bill 288 (Ch. 305, 2023) “Grocery Stores and Restaurants – Automated External Defibrillator Program (Joe Sheya Act)” requires each owner and operator of certain grocery stores and restaurants to place an Automated External Defibrillator (AED) by January 1, 2025, in a prominent area (accessible to employees and customers), to maintain its functionality, and to register the AED with the Maryland Institute for EMS Systems (MIEMSS). MIEMSS is to report to the Committees in December 2024 on the grocery stores and restaurants that registered AEDs in accordance with the new law, as well as on the number of adverse cardiac events in those locations that registered their AEDs with MIEMSS. MIEMSS, in consultation with the Restaurant Association of Maryland and the Maryland Retailers Association, is also to evaluate the impact of expanding the scope to include more restaurants and grocery stores.

The requirement for AED placement in certain grocery stores and restaurants does not become effective until January 1, 2025, subsequent to the submission of this document. Information available to date, however, provides baseline information for continued implementation efforts.

AED Registration. MIEMSS maintains the Maryland AED Registry which serves as a source of information about AEDs deployed throughout the state, including their locations and owners. (see: www.marylandAEDregistry.com). MIEMSS estimates that approximately 4,300 Maryland restaurants are subject to the AED placement requirement. It is unclear how many of the estimated 1,600 grocery stores in Maryland are subject to the AED requirement. Information available on AED registration through October 31, 2024, indicates the following.

- 66 AEDs are registered to restaurants, compared with 32 registered AEDs in restaurants as of December 31, 2023.
- 67 AEDs are registered to grocery stores, compared with no AEDs registered to grocery stores as of December 31, 2023.

MIEMSS expects AED registrations for restaurants and grocery stores to increase dramatically as 2024 comes to an end.

Cardiac Events in Restaurants and Grocery Stores. MIEMSS monitors and analyzes out-of-hospital cardiac arrest data using EMS patient data from eMEDS® (Maryland’s statewide electronic EMS patient care record) and through the Cardiac Arrest Registry to Enhance Survival (CARES) that helps link EMS-derived data with hospital outcome information. During 2023:

- 19 cardiac arrests occurred in Maryland grocery stores; an AED was not applied in any case.
- 42 cardiac arrests occurred in Maryland restaurants; an AED was applied by a bystander in two (4.8%) cases.

In 2024, through November, there have been more than 7,000 out-of-hospital cardiac arrests:

- 13 out-of-hospital cardiac arrests occurred in Maryland grocery stores. In all but one case, a convenience store, AEDs will be required as of January 1, 2025.
- 30 out-of-hospital cardiac arrests occurred in restaurants. AEDs will be required in 20 of those establishments as of January 1, 2025.

Expansion of AED placement requirements. The issue of expanding the AED placement requirement to include additional grocery stores and restaurants was discussed among representatives from MIEMSS, the Maryland Retailers Alliance, and the Restaurant Association of Maryland. Since the requirement for AED placement in certain grocery stores and restaurants does not become effective until January 1, 2025, and it is not yet possible to assess the effects of the current initiative, there is agreement among the parties that it is too early to make a recommendation regarding expanding the AED placement requirement.

Background

Sudden cardiac arrest occurs when the heart's natural electrical activity is disrupted, resulting in no effective blood flow to vital organs. Sudden cardiac arrest affects approximately 400,000 people in the U.S. each year. Among all victims of out-of-hospital cardiac arrest (OHCA), only 8% survive. Many survivors suffer with permanent neurologic consequences due to the period of time when blood was not being circulated from their hearts to their brains, depriving them of oxygen.

Improving the survival from OHCA has long been a goal of the emergency medical services (EMS) system. Optimal outcomes depend on a "chain of survival." Each link in the chain is crucial. It begins with a bystander (e.g., a family member, friend, or someone unknown) realizing a person is in distress, and summoning help by calling 9-1-1. Cardiopulmonary resuscitation (CPR) must begin right away. For every moment's delay in starting CPR, the chance for survival declines dramatically.

Often, the hearts of OHCA victims are amenable to an electrical shock to restore their natural rhythms and beats. This represents the next link in the chain of survival, electrical therapy, in the form of defibrillation. Similar to initiation of CPR, the sooner defibrillation is delivered to an ailing heart, the greater the chances are of successful resuscitation and survival. This is the basis for making automated external defibrillators (AED) available in public areas. AEDs are devices designed to be used by people with no medical training. Users follow audio prompts to connect the device to the victim. The AED then automatically analyzes the heart's electrical rhythm, and defibrillates the victim, if appropriate. Its audio instructions continue to guide bystander rescuers until the AED is disconnected, typically when EMS arrives.

In an optimal OHCA scenario, the person's collapse is witnessed. 9-1-1 is called immediately. CPR is begun promptly. An AED is available and is applied. The AED detects a shockable rhythm and delivers a defibrillatory shock. The heart's normal electrical activity is restored, reestablishing blood flow and oxygen delivery to the brain. EMS arrives within minutes to provide stabilizing care, and the patient is transported to a hospital designated as a cardiac intervention center where intensive care is tailored to treat the cause of the cardiac arrest.

The Maryland Experience

MIEMSS monitors the state's OHCA metrics using two primary tools. The first is "eMEDS®," Maryland's statewide electronic EMS patient care record which documents every EMS patient encounter in the same system, providing a resource for data analysis and evaluation. Additionally, Maryland is among 34 states that supplies comprehensive OHCA-related data to the Cardiac Arrest Registry to Enhance Survival (CARES). Our partnership with CARES helps MIEMSS link EMS-derived data with hospital outcome information.

In 2023, Maryland's EMS system responded to 6773 cases of OHCA. The majority (72%) occurred in private residences or homes. Overall survival to hospital discharge was only 8.4%. However, when the OHCA was witnessed by a bystander, and CPR was performed and/or an AED was applied, survival was 37.1%. Thus, the importance of early CPR and defibrillation is evident.

In 2023, 892 OHCA's occurred in public places where there was more likely to be a witness to the event. Locations included, among others, parking lots, recreation facilities, and retail stores. A lay bystander applied an AED in 55 cases (6.2%). Among those, the AED detected a treatable heart rhythm and delivered a shock in 46% of cases. Further, when an AED was applied by a bystander at an OHCA in a public place, overall survival was 46%, reinforcing the importance of bystander action, including application of available AEDs, in particular.

Grocery stores and restaurants are two public places where bystanders are likely to witness an OHCA, and could respond promptly. In 2023, 19 OHCA's occurred in Maryland grocery stores; an AED was not applied in any case. During the same period, 42 OHCA's occurred in Maryland restaurants; an AED was applied by a bystander in two (4.8%) of cases.

AED Placement Requirement for Grocery Stores and Restaurants

During the 2023 Session, Senate Bill 299 (Ch. 305, 2023) and House Bill 288 (Ch. 305, 2023) "Grocery Stores and Restaurants – Automated External Defibrillator Program (Joe Sheya Act)" was passed to require each owner and operator of certain grocery stores and restaurants to place an Automated External Defibrillator (AED) by January 1, 2025, in a prominent area (accessible to employees and customers), to maintain its functionality, and to register the AED with the Maryland Institute for EMS Systems (MIEMSS).

Grocery stores subject to the AED requirement are those that have all major food departments, or at least one major food department; 12,000 square feet of floor space; and an annual gross income of over \$10 million. Exempt from the AED requirement are grocery stores with an annual gross income of less than \$10 million or less. Also exempt are restaurants with an annual gross income of \$1 million or less (exclusive of sales for off-premises consumption) or a seating capacity of less than 100 individuals.

Restaurants. The Restaurant Association of Maryland estimates there to be approximately 11,000 restaurants in the state. Based on 2017 US Economic Census data, the National Restaurant Association estimates that 39% of restaurants have an annual gross income of more than \$1,000,000. Thus, we estimate that there are approximately 4,300 Maryland restaurants that are subject to the AED placement requirement. As of December 31, 2023, there were 32 registered AEDs in restaurants. As of October 31, 2024 there are 66 AEDs in restaurants.

Grocery Stores. There are estimated to be more than 1,600 grocery stores in Maryland (<https://www.ibisworld.com/us/industry/maryland/supermarkets-grocery-stores/14253/>). It is unclear how many of them meet the requirements and are subject to the AED placement requirement. As of December 31, 2023, there were no AEDs registered to grocery stores. As of October 31, 2024 there are 67 AED's registered in grocery stores.

MIEMSS expects AED registrations for restaurants and grocery stores to increase dramatically as 2024 comes to an end.

Analysis of eMEDS reports revealed that there have been 13 OHCA's in Maryland grocery stores in 2024, through November. In all but one case, a convenience store, AEDs will be required as of

January 1, 2025. Thirty (30) OHCA's occurred in restaurants during the same period. AEDs will be required in 20 of those establishments. The other 10 are "fast food" restaurants or bars. In several of those cases, it's not clear that an AED would have been helpful given the clinical scenario (e.g., cardiac arrest due to an overdose).

AED Registry

As part of Maryland Public Access Defibrillation program, MIEMSS maintains the Maryland AED Registry (www.marylandAEDregistry.com). The Registry serves as a source of information about AEDs deployed throughout the state in non-health care and non-public safety facilities, including information on AED locations and owners. The AED Registry also provides owners with opportunities to receive maintenance reminders and other notices about their AEDs. Further, AED location information is provided to 9-1-1 centers, enabling them to advise a caller during an emergency about AED availability on premises at their locations in appropriate cases. As of October 31, 2024, there were 16,309 registered AED's in Maryland.

MIEMSS contracts with Zoll Medical Corporation to manage the AED Registry database which contains information on the type of facility where the AED is located, e.g., airport, theater, restaurant. However, in June 2024, Zoll advised MIEMSS of its plan to discontinue the service. Since then, MIEMSS has been working to develop and deploy an in-house AED Registry solution. Once completed, it will enhance ease of use, improve data clarity, provide better communications with 9-1-1 centers, and be more accessible for querying.

MIEMSS anticipates initiating the new registry during late December 2024, and will then work to migrate existing data to the new platform.

Coordination. MIEMSS, the Maryland Department of Health (MDH), the Restaurant Association of Maryland, and Maryland Retailers Alliance are working to implement the law and to ensure appropriate planning and accurate communications with constituents.

Compliance. The Maryland Department of Health has taken the lead in developing the regulatory framework for AED placement in restaurants and grocery stores. Local health Departments routinely inspect restaurants and grocery stores to ensure ongoing attention to food safety, in accordance with COMAR 10.15.03. These inspections provide opportunities to verify the availability of an AED on premises. Because registration results in issuance of a certificate, compliance with the registration requirement will be able to be easily assessed. Thus, compliance with the AED placement requirements will be assured as routine inspections are carried out.

Expansion. The issue of expanding the scope of required AED placement to include additional grocery stores and restaurants has been discussed among representatives from MIEMSS, the Maryland Retailers Alliance, and the Maryland Restaurant Association. There is agreement that it is too soon to make such a recommendation. The date by which AED placement is required has yet occurred, and it is not yet possible to assess the effects of the current initiative.