SOLANO COUNTY | DEPARTMENT OF HUMAN RESOURCES

DATE: April 20, 2017

TO: County-Wide Safety Health Board

FROM: Bonnie Kolesar, Risk Manager

SUBJECT: Automated External Defirillators

SUMMARY:

The County-Wide Safety/Health Board directed the Risk Management staff to investigate the feasibility of installing Automated External Defibrillators (AEDs) in County buildings. This report provides background information on AED use, and summarizes the current requirements and guidelines that should be considered, if implemented.

BACKGROUND:

In the mid-1980s, a new generation of computerized defibrillators was introduced, called Automated External Defibrillators. AEDs are used in response to Sudden Cardiac Arrest (SCA), and are capable of interpreting a person's heart rhythm and automatically delivering a defibrillation shock with only minimal input from the operator. AEDs began to be placed in "basic life support" ambulances, but over time, law enforcement personnel began to use them, since they were first on-scene in many cases.

The evolution of early defibrillation took another major step forward with the concept of Public Access Defibrillation of "PAD." There are more than 300,000 out-of-hospital sudden cardiac arrests that occur each year. Studies have shown that early defibrillation (within 3 minutes), combined with high quality "compressions only" CPR, can dramatically improve survival rates. According to available research, most SCA's occur in the home, but it often occurs as a singular, isolated event in nonresidential or public places. Predicting high-risk locations is difficult, but based upon the National Center for Early Defibrillation, some studies have shown a higher incidence in these locations:

- Airports
- Community/senior citizen centers
- Dialysis centers
- Ferries/train terminals
- Golf courses
- Health centers/gyms
- Cardiology, internal and family medicine practices, and urgent care centers
- County Jails
- Large industrial sites
- Large shopping malls
- Nursing homes
- Private businesses

- Sports/events complexes

Existing Law

There are currently no legal requirements to have AEDs in publicly-owned facilities. However, when AEDs are installed in public facilities, the State of California has requirements for organizations that voluntarily provide AEDs. (California Health and Safety Code Sections 1797.1107, 1797.190, 1797.196, 1797.5, and Civil Code Section 1714.21; California Code of Regulations Title 22, Division 9, Chapter 1.8, Sections 100031 through 100040)

In fall of 2015, California enacted two new AED laws (Senate Bills 658 and 287). SB 658 amends the requirements placed upon AED owners to qualify for the Good Samaritan protections in the state, as well as eliminating the need to involve a physician (as the Medical Director of the AED Program) in the acquisition and placement of the devices. The Medical Director, however, still oversees the "Program" or the routine maintenance and inspection. Basic requirements include the following:

1. Comply with all regulations governing the placement of an AED
2. Notify the EMS agency of the existence, location and type of AED required (County EMS application is available on the H&SS website), every time an AED is moved to a different location, or replaced with a new model, and every time an AED is used (notification within 24 hours).
3. Ensure the device is maintained and tested in accordance with manufacturer's guidelines.
4. Ensure an inspection is made of all AEDs every 90 days.
5. Ensure that records of the testing and maintenance are maintained.
6. Annually notify the tenants as to the location of the AED units and who can be contacted if they wish to voluntarily take AED or CPR training.
7. Annually, offer a demonstration to at least one person associated with the building so that the person can use it in an emergency (can ask a nonprofit organization to do the training).
8. Post operational instructions in 14-point type next to the AED.

Note: Nothing in this section may be construed to require a building owner or a building manager to acquire or install an AED in any building.

SB 287 requires AEDs in all new construction beginning in January 2017 in the following categories:

1. Assembly buildings with an occupancy of greater than 300
2. Business buildings with an occupancy of 200 or more
3. Educational buildings with an occupancy of 200 or more
4. Factory buildings with an occupancy of 200 or more
5. Institutional buildings with an occupancy of 200 or more
6. Mercantile buildings with an occupancy of 200 or more
7. Residential buildings with an occupancy of 200 or more, excluding single-family and multi-family dwelling units

PAD Programs in California

Programs to site AEDs in public places are becoming increasingly widespread, and a number of communities in California have piloted and then expanded their programs to broaden AED coverage. The last informal survey made available on the internet (http://sfbos.org/automatic-external-defibrillators-aeds) written by a staff analyst for the City and County of San Francisco when it was considering a PAD program in the early 2000's. These California jurisdictions were listed as having placed AEDs in public locations:

Alameda County – 195 (County and community buildings)
Anaheim – 50 (community centers, convention center, golf courses, police stations and various city offices)
State of California – 1200 buildings
Gilroy – 4 (City Hall, maintenance yard, public assembly building, and senior center)
Los Angeles – 600+ (airport, city office buildings, community centers, convention center, golf courses, harbor, swimming pools, and zoo)
Malibu – 6 (unknown locations)
Marin County – 18 (Civic Center, Department of Health and Human Services sites, and performing arts center)
Menlo Park Fire District – 6 (Various public buildings)
Newark – 8 (City Hall, community center, fire admin offices, library, recreation/swim center, and senior center)
Oakland – 9 (City Hall and other city buildings
Redwood City – 21 (City buildings
San Diego County – 550 (various locations throughout the County)
San Jose – 45 (Airport, City Hall, civic center, convention center, performing arts center, senior centers, skating rink, and swim center)
San Rafael – 6 (City Hall, high schools, recreation centers)
San Ramon Valley Fire District – 10 (community centers, high schools, libraries, and senior centers)
Santa Maria – 3 (various buildings)
Sunnyvale – 26 (various buildings)
Temecula – 6 (city hall, maintenance yard, pool, recreation center, and senior center)

The federal government has enacted a number of policies that address the topic: regulating the manufacture of AEDs, requiring federal buildings and commercial airlines to site AEDs, and providing funding to urban and rural communities with limited resources to purchase AEDs and train nonmedical personnel in their use.

Solano County's Current Inventory of AEDs and Placement:

Currently, the County has 48 AEDs located in the Sheriff's Department and Health and Social Services. They are located in the following buildings:

Department	Location	Number of AEDs
Sheriff	Courts-Fairfield	5
Sheriff	Courts- Vallejo	1
Sheriff	Claybank Detention Facility	2
Sheriff	Justice Court Detention Facility	5
Sheriff	Stanton Detention Facility	3
Sheriff	Marine Patrol	1
Sheriff	New- Unassigned	3
Sheriff	Office of Emergency Services	2
Sheriff	Patrol Vehicles	18
Sheriff	Sheriff's Office	1
Sheriff	SWAT	1
H&SS	2101 Courage Drive	3
H&SS	1119 East Monte Vista	1
H&SS	Medical Primary Care Van	1
H&SS	Dental Primary Care Van	1

All Sheriff's patrol and detention and Health and Social Services staff are trained to use AEDs with medical direction provided by the CFMG physicians and by H&SS clinic physicians, respectively. The AEDs are reportedly 3-6 years old, and replaced per the manufacturer's recommendations. In Health and Social Services, staff inspects and maintain the AEDs monthly; Tom Norris in the Sheriff's Office inspects and maintains the AEDs twice a year concurrently with the time change in Daylight Savings Time. AED Response Plans are in place for both departments, but training, drills and communication requirements have not been verified.

Incident Tracking:

The law requires that if an AED is used, the incident must be reported to the County's EMS. At the time of this review, that information was not available. The departments that have AEDs, however, reportedly do not have an internal tracking system that can provide historical data about the number of times the devices have been used. Anecdotally, Risk Management was made aware of one incident at the H&SS clinic setting in the past year.

Criteria to consider in Deciding Upon AED's in Publicly-owned Buildings:

According to the National Center for Early Defibrillations*, AEDs should strongly be considered at a site if one or more of the following statements is "yes."

- ☐ It is unlikely that the existing EMS system would be able to reliably achieve a "call-to-shock" interval of five minutes or less at this site.

- ☐ An SCA incident occurred at this site in the past five years, and the demographics of the population served by this site has remained relatively constant.
- ☐ 10,000 or more persons regularly gather at this location
- ☐ The site has a large concentration of persons over 50 years of age
- ☐ There is a high probability of SCA at this site based on the following formula:
    - Take the number of individuals at the location and multiply this by the percentage of people age 50 or over.
    - Multiply this number by the average number of hours spent at the location each day
    - Multiply this number by 250 for non-residential locations (This equals the number of exposure hours. Locations with 1.4 million exposure hours may experience.48 SCA per year.)
    - If your answer is 600,000 or higher, this location has a high probability of SCA (likelihood of one case every five years).

*Source: National Center for Early Defibrillation

Placement of AEDs:

1) AEDs should be placed in easily accessible, well-marked locations, ideally near front lobbies, exits, elevators or fire extinguishers.
2) The response interval should be no more than three minutes and the call-to-shock interval should be no more than five minutes. The components of the call-to-shock interval include the time it takes a designated responder to be notified, access the device, reach the victim's side, and apply the electrodes to deliver the first shock.

Cost of AEDs:

Pricing on the California Government Services Agency website indicates that AED's costs begin at $950, with an average of $1500 per single unit.

Other Considerations:

1) Identify a medical director (May be contracted)
2) Develop an on-site AED response plan and policy
3) Provide initial and ongoing training of assigned personnel
4) Assign maintenance and program administration responsibilities
5) Conduct periodic AED response drills
6) Identify funding source(s) for startup costs and repair or replacement of AEDs
7) Assign responsibility for annual communication to staff

RECOMMENDATION:

It is recommended that the County-Wide Safety/Health Board authorize Risk Management to convene a workgroup to further study the matter of broader placement of AEDs in County buildings. Ideally, the

work group (ideally 4-5 people) would benefit from the diverse perspectives of departments, including for example, H&SS (Public Health or Clinic), General Services, Probation, Library, and Risk Management. The work group would be charged with providing a recommendation to the County Administrator for a limited placement pilot (including projected costs) and potential funding sources in select County locations where AEDs are not currently installed.

Timeline for this workgroup: Provide the recommendation to the CAO by August 30, 2017.
ACTION REQUIRED BY COUNTY-WIDE SAFETY/HEALTH BOARD:

A motion is needed to approve the Recommendation stated above.

REFERENCES

OHS (Occupational Health & Safety) On-Line, https://ohsonline.com/Articles/2016/02/01/New-California-AED-Laws.aspx?Page=1
JOEM Volume 54, Number 9, September 2012 Automated External Defibrillation in the Occupational Setting - https://www.osha.gov/SLTC/aed/aeds_workplace.html
https://ohsonline.com/Articles/2016/10/01/A-Standardized-Process.aspx?admgarea=ht.AEDsCPR&Page=4
https://ohsonline.com/articles/2016/06/01/working-against-time.aspx?admgarea=ht.AEDsCPR

National Center for Early Defibrillation, http//www.early-defib.org/