VPPPA Case Study 101: AEDs & Responder Programs

This case study involves analysis of responder systems for sophisticated plants and facilities that are already established. The client is a large VPPPA manufacturing site. Bill is the EH&S Manager and First Voice is helping to evaluate his responder program and integrate AEDs into the program. The facility is within an urban area and has a 6-8 minute response time by the area 9-1-1 ambulance service. They also have onsite occupational health nurses. The facility contains several hundred thousand feet of coverage with multiple buildings and floors. They have four levels of responders – paid nurses, paramedics, volunteer EMTs, and volunteer basic first aid responders. It is clear that they have a sophisticated system already established and not necessarily broken. However, the implementation of AEDs has brought up many questions including placement and accessibility options. Bill and I start a conversation about potential strategies.

INVESTIGATION OF CURRENT RESPONDER PROGRAM

What do you have currently for responder tools?
We have accessible first aid cabinets on the wall (for use by any staff), locked EMT cabinets for emergencies, and advanced responder bags that the paramedics and on-site occupational health nurses arrive on scene with.

Do you use oxygen?
Yes. We allow the EMTs, paramedics and nurses to use oxygen since it is within their scope of practice. The oxygen is in the advanced responder bags.

What do you do for medical emergency response – what is your emergency protocol?
Our current protocol is that all volunteer staff responders and paid responders have pagers. When there is an emergency the first call goes to security & 9-1-1, if necessary. Security pages all responders in the general area of the accident or medical emergency. All volunteer certified EMT with a key run to grab the responder bag locked & mounted closest to them and they converge onto the scene which has been disclosed by security via the pager. The first aid team and basic EMTs are first on the scene and they make sure the scene is safe and start basic life support procedures. Once paid advanced responders arrive they take over and start administering advanced life support if necessary. 9-1-1 arrives within 5 minutes of the advanced responder being on scene.

Where are you thinking about placing your AEDs?
We are thinking about placing them near the first aid cabinets or existing locked cabinets. Perhaps also putting some with or in the advanced responder bags we already have.

Tell me why you use locked emergency response cabinets, and do they have an alarm?
First of all, no – they do not have an alarm; only a lock. We chose to lock the responder bags in a cabinet for primarily our concern over access by someone who would use the equipment whom was not certified to use it. For example, a first responder grabs the bag and in the panic of the moment, administers supplies they are not certified to. A perfect example is a first responder administering aspirin to a possible cardiac arrest victim, scope of practice prohibits this per our state protocols. We want to protect our responders and company from liability regarding scope of practice. Of course pilferage is a concern too but that is a secondary concern. If it was our primary concern we would have just gone with an alarmed cabinet system.

What do your first aiders respond with?
They typically just rely on grabbing what they can from the nearest first aid cabinet. Cabinets are filled weekly from a local first aid service van company.

One last question – how many and how heavy are the bags that the paramedics and nurses respond with?
Bill tells me he has to check on that but he does reply in an email that the bags they respond with are 30 plus pounds total and currently, it is one bag. The oxygen is included inside this bag. An AED might be added to their carrying items as well.

IDENTIFICATION OF POTENTIAL PROBLEMS

Is it smart to implement AEDs with all of the existing responder equipment already in place?
See this link which verifies OSHA recommendations. Our client falls under the general industry category per OSHA classifications and is located more than 4-6 minutes from advanced care and does not have a hospital or clinic on premises. In this case, OSHA training requirements clearly state that first aid & CPR training plus proper first aid kits must be on the premises and ready for use. AEDs save lives and are most effective if used within minutes of a sudden cardiac arrest (SCA). They NEED TO BE added to the equipment mix. The next step is making sure to put them in the right places and implementing a strong AED program.

A main component of the existing program is the locked responder cabinets. Are locked responder cabinets really the solution for the AEDs and for the existing equipment?
Let's talk about AEDs first. In our litigious society there are more lawsuits from lack of having an AED or lack of using it during an emergency than from improper use of an AED. They definitely *do not want to lock up the AEDs.* The reason is obvious, anyone needs to be able to grab the AED and run with it to allow for those first on the scene to use it right away. The first 5 minutes are crucial in a sudden cardiac arrest (SCA) and any hesitation or delay in providing immediate care by even the first aiders (whom are trained in AED use and CPR) will increase liability exposure to the company. Click on this link to find out more.

There are concerns that stem from the current lock & key system which need to be summarized.
First aid team concerns:

How many times have you looked in your first aid cabinet and found gloves missing?
If the first aider does not have any in their nearby cabinet, they will be unprotected due to not having any other immediate source for PPE. They can't access the locked cabinets as a backup or primary source either.
How are you protecting your first aiders from exposure for massive bleeding events?
First aid cabinets do not typically contain PPE such as face and eye masks for spurting blood.
What about CPR breathing barriers?
ANSI requirements for first aid kits do not currently require a CPR barrier. If the first aid team member first on the scene is required to perform CPR while waiting, they can't administer breaths.
What are the medical supplies in your first aid cabinet?
Supplies vary but seldom include the following major trauma supplies including blood stopper dressings or ABD pads for major bleeding events, burn dressings or blankets, emergency blanket, glucose, and other major medical emergency basic supplies.

Basic EMT concerns:

Has anyone grabbed the responder equipment & AED already?
Under the current system several people inefficiently run to the locked cabinet and the first one there has no way of alerting others that it has been grabbed and is on its way to the scene. Or, the team could assume that the one person who sits very close by and has access is grabbing it when in fact he has gone home sick [or it is that very person whom is the patient], causing a delayed medical response by the team.

Paramedic and nurse concerns:

How can I make my run bag and equipment easier to carry or lighter?
Carrying a 30 plus pound bag for long distances brings concerns over ergonomics and responder health. The advanced care bags contain numerous duplicate items when compared to the locked responder bags and adding an AED to the mix will only add to the weight of the bag.

PROPOSED SOLUTIONS

How can first aiders, basic EMTs, plus paramedic and nurses benefit from the implementation of AEDs?

Consolidation of responder bags

Taking a look at current scope of practice and levels of response, it is possible to consolidate needs and create a bag that the first aid team, basic EMTs and paramedics and nurses will all find valuable to some extent. Click on this link to see an example. Ergonomic backpack responder bags are becoming more standard due to the organization and ease of carrying. This particular model offers a color-coding system with prepackaged supplies that are broken out by major trauma categories (Red=Bleeding, Blue=Heat/Overexertion, Green=Diabetic/Seizure, etc) and contain all supplies needed for a major trauma in that category. Each pack also contains gloves and all appropriate PPE including CPR barriers or masks. And, the front of the backpack has an expandable pocket that allows for carrying any of the current major AED models. The main compartment contains supplies that can be used by any responder. The zippered side pockets allow for storage of items that are under "tag out" and only EMTs, paramedics, or nurses can use. The client agreed with the solution. The question became – how do they store this solution?

Alarmed cabinets

Notification to any responder in the immediate area that equipment has been already grabbed is a missing component of the existing program. Alarmed cabinets are useful accessories to sell with AEDs. They prevent pilferage and the 120 decibel alarm **adamantly** notifies people in the area that an emergency situation exists. Alarmed cabinets for AEDs are limited in size so the company has to think about if they want to store only AEDs or all equipment in an alarmed cabinet. Large double door clear view alarmed cabinets are available from First Voice as an effective solution for bags and AEDs and oxygen – a standard solution not offered by other vendors or consultants to date. Good alarmed cabinets will have an alarm that turns on or off with a key and allows for viewing of the cabinet contents through a clear window for easy inspection. Alarmed cabinets start in the $200 range and all can be wall mounted. The client agreed with this solution for storage. The question became – where do they put these cabinets?

Placement of the cabinets required insight into operations of the facility and accessibility to areas, where responders are located, staff population concentration & demographic information, and the timeframe for responder care within the facility - minimally. The facility agreed to place the cabinets in not only key areas of highest risk, but in enough locations to ensure less than 2-4 minute response time to any area of the facility. Consideration was given to keycard accessibility limitations as well, ensuring each restricted area had responder access and equipment availability at all times. The question became – were they missing anything?

Ergonomic Needs

The last solution proposed was to make sure that the advanced responders had adequate supplies at all times. Plus, ensure that they did not have a cumbersome load while responding. The consolidation of supplies into one backpack allows for them to trim down the size of their bag. The nurses and paramedics also liked the ergonomic backpack solution and they wanted to stock it to fit their own needs. This backpack allowed for carrying an AED in the front pocket as well. Lastly, we arranged for oxygen, IV, and intubation attachment modules for this ergonomic response bag. The other potential solution proposed was an emergency response cart – a wheeled solution for their advanced responders that have such a large response area. Click here to see this all-in-one solution which allows for carrying oxygen, airway supplies, c-collar, advanced responder supply bag/case and AED minimally. The company decided they did not need this solution at this time due to the consolidation and ergonomic backpack solution.

Summary

The goal of a good responder program is to provide tools that are easily accessed, organized & easy to use, and allow for open communication. Reducing volunteer responder stress is crucial for a healthy responder program. Training is a component that is not even discussed in this case study but plays another important role. The client is a satisfied customer and very pleased with their AED program and responder program updates. They had been uncomfortable with their locked cabinet system and AEDs allowed them to push forward and change systems already in place. For more information on how First Voice can help your organization improve or implement an effective responder program, please call us at 888.473.1777 or go to www.firstvoice.us.