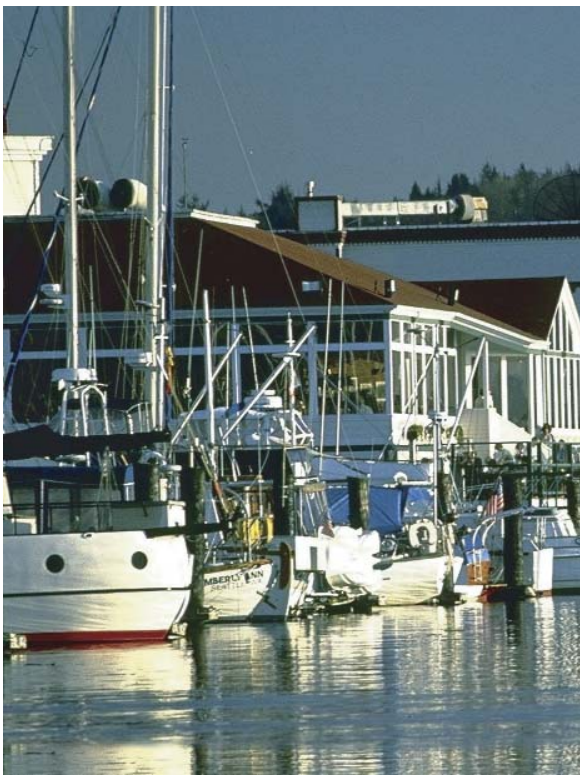
PHILIPS

Everett, WA

Community profile

# Defibrillation where you go and where you are



Sudden cardiac arrest (SCA), one of the leading causes of death in the United States, strikes more than 250,000 victims each year or about 600 people each day. Less than five percent survive. SCA can strike anyone, anywhere, at anytime often without warning. "We started our AED program because of the statistics," said Jack Robinson, Deputy Chief, Medical Services Administrator, Everett Fire Department. "There's no other affliction in our nation that kills so many people and yet there is a way to avoid and stop it. Our view was that the best way to save lives in our community was to create a large-scale defibrillator program that involves the entire community, including our young adults."

Defibrillation, the only treatment that reverses sudden cardiac arrest, is the treatment of irregular, intermittent or absent heart rhythms by delivering an electrical current to the heart. Defibrillation administered within four minutes after collapse is most successful; for every minute a victim is unconscious, the likelihood of resuscitation decreases by approximately ten percent. After ten minutes, very few resuscitation attempts are successful. Thus, the most important element in the treatment of SCA is providing rapid defibrillation therapy.

Everett is home to the world's largest aircraft manufacturer's facility, a community college, a Naval station with an aircraft carrier plus several support ships, and a deep-water port which serves as a freight facility to and from the Pacific Rim countries. Everett is also the county seat for Snohomish County. Historically a lumber and mill town, Everett has a steady population of 95,990. However, a high-tech influx and active local industry has caused the city to experience a transformation in recent years, resulting in a daytime population that swells to 120,000.

HEARTSTART
DEFIBRILLATORS

# "AEDs have given us the opportunity to change the statistics. It's a lot of hard work, but we have the ability to save lives by involving the entire community..."

Everett's aggressive "public access defibrillation" or PAD program makes the city a safer place to be for its residents and daytime visitors in the event of sudden cardiac arrest. Jack Robinson, through his career as Deputy Chief, Medical Services Administrator, Everett Fire Department, learned about automated external defibrillators, or AEDs small, portable, easy-to-use devices for delivering potentially lifesaving therapy to victims of sudden cardiac arrest.

Jack believed that having the ability to save lives with an AED was brilliant and their use and availability should not be confined to fire units and EMS. He realized early on that the life saving potential of AEDs would eventually drive their availability into the public realm. Working closely with supporters from Providence Everett Heart Institute and Medical Center, City Hall, Everett Public Schools and local business leaders, Robinson implemented a public access defibrillation program in Everett to make sure that residents, workers and visitors to the city had the best chance for survival from SCA. This was accomplished by the support and efforts of the board of directors of the Everett Medic One Foundation, a 501(c)(3) non-profit organization, of which Robinson is president.

Public access defibrillation joins EMS, public agencies, government leaders, private companies and the community's citizens in one common goal: to improve sudden cardiac arrest survival rates within a community. Everett has taken the public access defibrillation concept to new levels by implementing one of the nation's most aggressive programs. In partnership with the Everett Public Schools and Providence Everett Heart Institute, AEDs were placed in the city's junior high and high school buildings and students were trained to use them.

Today, there are 160+ Philips AEDs in strategic locations throughout Snohomish County. The city has 40 public schools. Eight schools offer AED training to students. The ultimate goal is to train every junior high and high school student and all staff members from grades 1-12 in the Everett Public School District to use AEDs. All city buildings and facilities are equipped, and the city's seven fire stations, six fire engines, two ladder trucks, three ALS (Advanced Life Support) paramedic units and one BLS (Basic Life Support) unit have AEDs on

Everett, Washington, one of the fastest growing areas in the U.S., enjoys a strong economy and natural beauty.

## Statistics

**Population:**
95,990 Residents

**Program Implementation:**
1998

**Trained Responders:**
EMS, Fire & Rescue, Students and citizen responders

**Number of AEDs:**
140

**AED Locations:**
City and County Buildings and Facilities, Water Supply Facility, Fire Vehicles, ALS Paramedic Units, BLS Units, Wastewater Treatment Facilities, Public Swim Center, Senior Center, Golf Courses, Parks Facilities, County Sheriff Vehicles, City Police Department, Churches, and Malls

board. There are also AEDs found at the local YMCA, all golf courses in and around Everett, the city's public swim center, senior center, library, park facilities, churches and malls, among other locations.

### Learners become lifesavers

After a long history of teaching CPR to the citizens of Everett, the Everett Medic One Foundation, with a true commitment to the safety of its community, extended their program to the students attending the city's public schools. Providing student CPR classes for the past ten years, Robinson and the Everett Medic One Foundation integrated the AED training infrastructure into Everett's public school system curriculum and continued the efforts to deploy AEDs throughout the community.

After the Everett Medic One Foundation successfully established the CPR training course, Robinson began researching the issues surrounding sudden cardiac arrest and the pressing need to apply defibrillation therapy within minutes of a cardiac event. He was particularly struck by sudden cardiac arrest among children. He found that although children sometimes present risk factors for SCA, they often experience their first symptoms during the initial arrest. There is also a cardiac event called commido cortis that causes children's hearts to arrest if they are struck in the chest. What Robinson learned compelled him to take action.

### Inspiration along the way

The Everett early defibrillation team was well on the way in the deployment of the public access AED program when, just 30 miles away in Sammamish, WA, an unexpected tragedy struck. On November 2, 2000, 14 year-old Sean Shipler was running track during his physical education class at Inglewood Junior High School when he collapsed from sudden cardiac arrest.

Even though the nearest EMS station was only one and a half miles away, it took ten minutes and 18 seconds for the medics to arrive. They applied three defibrillator shocks to convert Shipler's heart rhythm back to normal.

Shipler survived. He was in a coma for six months and suffered brain trauma and paralysis due to lack of oxygen and the time it took to restore normal heart activity. Starved of oxygen, the brain starts to die in four to five minutes. Nearly two years later, Shipler communicates with his family from a wheelchair with only his eyes. Too much time had passed-10 minutes, 18 seconds-to save him from brain damage.

It became clear to Everett's leaders, through Sean Shipler's case, that the danger of this tragedy happening in their own community was real. Sean Shipler's story, along with the five other SCAs experienced by children in that same school year in the Puget Sound area, helped convince people to rally together and protect the kids in their own community.

"Sean Shipler's situation confirmed for us that the need for AEDs in the public is not only for adults," said Karst Brandsma, Everett's associate superintendent. "Since SCA crosses all age barriers, the ready availability of AEDs is critical for people of all ages. Even though we have not had to use an AED in the schools yet, we are prepared to do so."

"Everett is definitely a successful public access defibrillation program," said Chris Shipler, Sean's father who has lobbied statewide for more comprehensive community PAD programs, especially in schools. "The program is expanding and alive. Jack, with his background in EMS, understands the complications of implementing AEDs. Everett probably knows better than any city how to best educate the community and take the fear away."

Robinson followed the training model he employed when he began teaching citizens and students CPR. However, this time, his team of certified EMS instructors from the Everett Fire Department did AED training using the American Heart Association guidelines.

Brandsma says, "Jack took his lifesaving training further with the AED, and this year alone, more than 3,000 students in our system will be trained on the operation of AEDs. We've gone so far as to making AED training part of the students' health curriculum to help eliminate the risk of death from SCA."

Initially tenth graders were chosen to learn how to use AEDs because Robinson felt that they would be the next generation of young adults out in the community at work. Said Robinson, "Our hope is that wherever they are, they will recognize the device and put it to use rapidly."

The Foundation later expanded the training to eighth grade students, recognizing that this was an age at which students do not fear technology and are developed to the point where they have the strength and discipline for CPR, which allowed him to expand on those skills to introduce them to AEDs. Robinson thought that an AED looks and feels like some of the electronic devices that eighth graders are used to playing or interacting with on a daily basis. With that in mind, these young adults would likely act if they witnessed someone experiencing SCA. The students are enthusiastic about the training and the possibility of saving a life. "Through the training of high school and junior high students, we are essentially training many communities. As these kids grow, they will ultimately work and reside in our community and others," said Robinson.

Although Everett's AED program began four years ago, it progressed methodically, carefully building the program to ensure that community enthusiasm matched the program's progression. Activity has heated up in the last three years as acceptance throughout the community has grown.

Building support by engaging the fire department and emergency personnel began back in 1997. These groups were initially skeptical of allowing citizens to use AEDs. To ease their fears, Robinson assembled research that proved that the device could be used safely and effectively by non-medical responders.

Said Robinson: "The fact that the units have proven to be so successful and widely accepted throughout the emergency medical field has done a lot to change initial concerns about a public access program. Demonstrating how simple the units are to use made an impressive case."

"Our goal is to provide the best care possible, but recognize much of the time this depends on how well a patient is treated in the community..."

Tom Brennan, Executive Director
Providence Everett Heart Institute

Once the support of emergency first responders was secured, they also sought the acceptance and support of the entire community. As a local board member for the American Heart Association, Robinson worked closely with their leadership to build partnerships and support, as well as work with other community leaders. The Everett Medic One Foundation began with the city council and the mayor's office, with a presentation conducted by local Everett High School students, staging a mock cardiac arrest, with the students responding to the mock emergency. The Everett City Council was impressed. Over time, the concept was accepted, and several community leaders joined the board of the Foundation, eager to move the program forward. Teresa Rose, a new board member and the wife of a local cardiologist, said that she and her husband had desired an aggressive PAD program for the community.

Even a good idea can fail without support at every level of an organization. Everett took a holistic approach to gain initial acceptance and ongoing support for the program both conceptually and financially. Robinson and the board of Everett Medic One Foundation worked with a multitude of people, from the county executive, the mayor, the city council, the fire chief, the firefighters association and local union, the upper echelon of school leadership, and hospital leadership to private citizens of the community. Buy-in was essential not only from the leaders of those organizations, but also from those who would work on the implementation of a program on a day-to-day basis.

The Foundation presented its message to the service clubs in Everett, including the Rotary and Kiwanis Clubs, on the issue of SCA and the value of a public access defibrillation program, gaining momentum and support for the community program. Additionally, the Medic One Foundation is working with the Chamber of Commerce to educate local businesses on the importance of having AEDs available throughout the workplace.

As support grows for public access defibrillation throughout the community, the private sector is adopting the concept of AEDs in the workplace. Several leading companies in Everett have implemented AED programs throughout their facilities. In Everett, the Boeing Corporation has deployed AEDs throughout the entire campus. Boeing has its own medical crew and fire department on site, all trained to use Philips Medical Systems' AEDs. Kimberly-Clark, the leading global manufacturer of tissue, personal care and health care products, also has AEDs in place on the work site with employees trained to use them, if necessary. The multi-national electronic test tools and software manufacturer based in Everett, has implemented its own AED program as well.

To gain the support of the community for every facet of this program, Robinson states: "You have to simply spread the word to the public, which requires a lot of time and effort to make the necessary connections within the

"The single best technology to save your life is an AED."

Dr. Jeffrey Wadja, PEMC
Emergency Department Director

Everett High School students are taught CPR and the use of an automated external defibrillator (AED) by an Everett paramedic. Photo by Michael O'Leary, courtesy *The Everett Herald*.

"There's no way you can put a price tag on a life. We feel over the years, this program will save many lives."

Former Mayor, Ed Hansen

community. Build a strong network to get the word out, and bang on every door you can."

### State legislation eases liability concerns

When Robinson and the Everett Medic One Foundation set out to convince community leaders and school administrators that a city-wide AED program was necessary to increase the chance of survival from SCA, he cited liability as one of the biggest challenges to face when working to gain support for the program throughout the city.

Washington State's Good Samaritan legislation solved the problem. The legislation, providing blanket immunity for well-intentioned citizens using an AED to save a life, has helped most when trying to convince the school district and corporations that they should implement AEDs throughout their facility and have students and employees trained in their use.

Today in the state of Washington and most other states, there is immunity from lawsuits for organizations with an AED program, provided that the proper guidelines specified in the law are followed.

### City uses phased-in approach to absorb cost

Once the city officials and community leaders were on board and the liability issue was solved, the biggest challenge was funding. Even those people in the community who really wanted the program to get off the ground had to take a second look at the cost of implementing such an in-depth program. The cost of an AED, mounting equipment, supporting equipment and training can range from $5,000 to $8,000 per unit. Businesses and government agencies had to reconsider their budgets to include a city-wide program for AEDs, a difficult task, especially when revenues are shrinking.

The initial source of funding and primary benefactor of the school program was the Everett Medic One Foundation. Citizens had become accustomed to and supported the organization's programs, since its inception in 1983. Their programs had focused on training and support for the public in injury and illness prevention and death, first aid training, CPR and Medics on Bikes.

The board of directors of the Everett Medic One Foundation held a kick-off fundraiser to build awareness and raise funds for the program. To expand the public access defibrillation program, it is the intention of the Everett Medic One Foundation to hold an annual fundraising breakfast on Valentine's Day. Money raised at these events goes toward AEDs in schools and training students on their use.

Jack Robinson, Deputy Chief, Medical Services Administrator, Everett Fire Department

Continued funding would depend on continually building awareness of the need for the program. To help educate the community and its leaders on the need for publicly accessible AEDs, Everett looked to local King County for ideas. King County had published a study that showed where SCA occurred most frequently in the public. The study was shared with community leaders in Everett and followed the recommended deployment model. Everett first implemented AEDs in places where SCA was most

## "This program is a gift to the entire community."

Cheryl Drewel,
Health Curriculum Specialist

common. They started with high risk places like golf courses and senior centers. Next, AEDs were placed where large groups of people gather on a regular basis, such as government buildings and facilities. Local businesses came on board next, and finally, the program made its way into junior high and high school curriculums. Following a proven deployment model helped to engender support along the way.

### Citizen training accomplished with ease

The Everett Medic One Foundation, with its charter to train and support training to the public in injury and illness prevention and death, has been certifying citizens on CPR in conjunction with the AHA's HeartSaver program for more than ten years. With a mission to reach out to the public on how they can control their own health care, adding an AED component to the training already in place was an easy task.

The majority of people who perform the training for the Everett Medic One Foundation are firefighters and paramedics, the people who provide emergency care in a community and the typical first responders to an incident. Traditional first responders are the ones who are invested in making sure the units are in place, usable, and that people are trained properly. "We know that if we institute a program and just put an AED up on the wall, walk away and forget about it, it's useless," stated Robinson. "The emergency care workers are the ones with experience in working on patients in need of critical care. We have world-class trainers here in Everett, and I'm proud of our organization and what it accomplishes on a daily basis."

Funding for the training comes primarily through donations to the Medic One Foundation. Businesses implementing AEDs pay for the training of their employees. The city pays the training costs for government workers. Donated funds from the Everett Medic One Foundation exclusively pay for Everett's eighth and tenth grade training program. The Everett Medic One Foundation and the AHA also offer recertification programs.

The Foundation hopes to broaden Everett's public access defibrillation program to train more citizen responders and students. His ultimate goal is to have AEDs on the wall next to every fire extinguisher and have people trained to use them in the event of a cardiac emergency.

This year, AEDs will be placed in all Everett high schools and central school district offices. Next year, the goal is to have all middle schools fully-equipped with the devices, and the following year in all elementary schools.

Additionally, Robinson and the Everett Medic One Foundation are encouraging other public organizations to become equipped with and trained on AEDs. They are working with medical clinics throughout the city and county to make AEDs available on site. Also, efforts are being made to have Everett's public bus system outfitted with AEDs. Robinson also hopes to encourage local hotels, restaurants and hospitals to deploy AEDs.

### Program expands beyond Everett into Snohomish County

Through the success of the Everett public access defibrillation program, the concept is spreading like wildfire throughout Snohomish County. Currently, 28 fire departments in Snohomish County are equipped with AEDs, as are many county facilities and buildings. The County Sheriff's vehicles, which patrol mainly rural areas throughout the county, carry AEDs on board. Also, the local county golf courses, malls and YMCAs already have AEDs in place.

In addition, public access defibrillation has been adopted by corporations throughout the county. In total, 16 businesses have implemented AED programs for their workers. The Tulalip Casino in Marysville, WA, north of Everett, has also deployed AEDs.

## Everett's success can be duplicated

Jack Robinson considers himself fortunate to have received the support of Everett's community and school leaders to implement such a comprehensive and progressive public access defibrillation program. He also knows that having the groundwork already in place through his work with the Everett Medic One Foundation and the Everett Fire Department, EMS Division helped the process immensely. The initial support of the EMS community and the city's leaders was a key factor in Everett's successful program. Unlike Everett, many communities have not put the infrastructure in place for such a program through a foundation like Everett Medic One, but it can be done.

Robinson notes that there has to be a driver, and then the program has a base to begin. Another key component for success is to recruit dynamic people early on who have the time, energy and public presentation skills to win the support of community leaders and average citizens. Then, build a network of people throughout the community to raise awareness and build strength for the program.

Currently, Everett's survival rates in ventricular fibrillation SCA cases are 36 percent. "We'd love to make this the most survivable county from SCA in the world," says Robinson. "If others match our goal, that's great." Eventually, the program will reach the county's 500,000 people. Looking into the future, Robinson would like to accomplish the three-year goal of topping a 75 percent SCA survival rate.

"AEDs have given us the opportunity to change the statistics," said Robinson. "It's a lot of hard work, but we have the ability to save lives by involving the entire community. We give people the capability to provide the necessary therapy in an appropriate amount of time to prevent death. It's not just that we can save lives that's important, it's the individual who's life we save. That is where my heart is."

For more information on HeartStart defibrillators or program implementation, contact Philips Medical Systems at 1-800-453-6860 or Philips your local regional sales office.

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