

ReddiNet® Celebrates 25 Years of Providing Essential Emergency Medical Communications

ReddiNet is a flexible emergency medical communications network that links hospitals, EMS agencies, paramedics, dispatch centers, law enforcement, public health departments and other health care system participants within local and regional communities. 2011 marks ReddiNet's 25th anniversary. From its humble beginnings as a voice radio system to its current fifth generation software, ReddiNet has indeed had a strong impact on emergency medical communications over the last quarter century.

The concept of ReddiNet originally took shape during the 1970s as a radio connection between hospitals. HEAR (Hospital Emergency Administrative Radio) was a two-way voice radio system that provided ambulance-to-hospital and hospital-to-hospital communications on VHF. HEAR is still being used today as a valuable component of Southern California's emergency response network.

From the late 1970s to the mid 1980s, Stephen Gamble, former CEO of the Hospital Council of Southern California (which became HASC), set the stage for entering



Over the years, ReddiNet has provided critical emergency communications data to health care providers.

the digital age using available microwave technology and computers to transmit computerized information among health care providers. John Edelston, former vice president of operations and management of professional services for the Hospital Council, recalls the days of developing the earliest version of ReddiNet. The 6.5 earthquake of 1971 hit the San Fernando Valley badly, Edelston said, and it "rendered hospitals unusable, and communications between fire, police and medical alert personnel were all disrupted from the standard established communications system."

Clearly, something more had to be done. "I was given the task of

engaging a consulting firm to work on a new medical communications system that would be operational by the 1984 Olympics," said Edelston, who is currently president of HealthPro Associates.

However, the project almost did not make the deadline, as the original consulting firm hired to perform the task could not complete it. A Northridge-based company, Instrumentation Technology Systems, with a greater understanding of the Hospital

Council's needs, picked up the pieces and indeed, the pilot version of ReddiNet rolled out in early 1984. "We tested it a month prior to the Olympic trials, and it worked," Edelston said. The system indicated the availability of essential services such as medical/surge and ICU capacity and availability of equipment. ReddiNet became fully implemented in 1986.

During the early 1990s, hospitals started using ReddiNet's second generation on a daily basis for diversion. In 1994, ReddiNet was put to the test during the Northridge Earthquake. Peter Bastone, CEO of Mission Hospital and chair of the Orange County Emergency Medical Services

Committee, remembers the two methods he and others at Daniel Freeman Memorial Hospital relied on to get information about the situation: ReddiNet and CNN.

“We couldn’t see anything that was going on outside,” Bastone said. “We were inundated with an emergency situation and we had to make sure patients were being transported outside of the area. There was and is no mechanism except for ReddiNet that allows agencies to communicate with one another about specialties, beds and other critical information.”

With the advent of the Internet in the late 1990s, ReddiNet developed web-based software and took on third generation improvements, utilizing the Internet to create another communication channel to transmit ReddiNet data. After September 11, 2001, in the face of bioterrorism, the federal government allocated money for hospital preparedness, including improved communications. ReddiNet tripled in size.

The fourth generation of the ReddiNet product, application-based ReddiNet Version 4, was a hybrid that launched in 2005. One of the largest upgrades in ReddiNet’s history, this new version combined microwave and Internet technologies into one dedicated, response-ready system. It added a greater fault tolerance to the system. “We stayed true to our beginnings,” said Cathy Winans, HASC senior vice president, Medical Communication Systems.

“The necessity for multiple channels during an earthquake led us to partner our legacy microwave technology with Internet. At that time, we were the only system in the United States to offer microwave radio along with all of the newer communication channels.” The upgrade built a communications layer that handles problems as part of the process rather than as unrecoverable errors. ReddiNet Version 4 wove fault tolerance into the fabric of the communications software.

In May 2009, ReddiNet was able to transition both of its communications channels to web-based software, providing added convenience, flexibility and accessibility for all authorized users. The ReddiNet Version 5 upgrade facilitated the management of all events because multiple users can be connected at once via remote access from a variety of alternate locations if normal operations are impacted, ensuring greater capability to respond and communicate during a disaster.

ReddiNet is currently used in more than 300 emergency response organizations throughout 13 California counties, including Lake, Marin, Kern, Imperial, Los Angeles, Orange, Riverside, San Bernardino, Ventura, Santa Barbara, San Luis Obispo, Alameda and Contra Costa counties.

What is on the horizon for ReddiNet? Most recently, in June 2010, ReddiNet completed its first ReddiNet satellite-enabled

location at Prime Healthcare Services’ Centinela Hospital Medical Center. Upgrading to satellite from microwave removes some of the vulnerabilities associated with a land-based system. This will strengthen the redundancy and recoverability of the entire system. The goal is to convert 150 hospital and critical emergency management locations to satellite technology by late 2011. Enabling ReddiNet on more mobile devices is another long-term goal for the system. Bastone added that he would like to explore how social media might play a role with ReddiNet.

“This technology is at the forefront; it is definitely a best practice and we’re a leader,” Bastone said.

Years after helping to develop the product, Edelston witnessed its value in a personal situation. About five years ago, his son-in-law had atrial fibrillation and was in a critical situation requiring medical transport. The necessary information pertaining to availability of an Orange County hospital that had this specific specialization was available through ReddiNet.

Expanding the information ReddiNet provides across jurisdictional boundaries and getting more metropolitan areas on board with the system are a couple of Edelston’s wishes for ReddiNet’s future. “It was and is a really revolutionary product,” Edelston said. “We were really only bringing it to the starting gate.”