

The Development of Emergency Medical Services in Alameda County - A Historical Perspective

(Based on an interview with Ben Mathews, EMS Director 1973 - 1994)

The Days Before EMS:

Most of us take high quality, timely emergency medical care for granted. Few remember the time before 9-1-1, and fewer still remember what the care was like at that time. In the story below, a former staff member of the EMS Agency recalls the care her mother received in Alameda County when she had a heart attack in 1970.

"She and my father had just finished watching an evening movie on TV. At 11:00 o'clock my mother went upstairs and prepared for bed. She sat down on the edge of the bed, said 'I feel a little dizzy and nauseous,' and fell over. My father went downstairs, dialed "0" and asked for an ambulance. The operator told him he'd have to call his own ambulance. The dispatcher sent an ambulance out; Code 2 because he didn't sound excited enough to warrant a Code 3. When the ambulance crew arrived, they found the patient in cardiac arrest. They started CPR and transported her to the nearest hospital. The hospital's Emergency Department was closed for the night, so the hospital staff tried to resuscitate her. She was pronounced dead at 11:30 p.m.."

While this story sounds horrendous today, that is what emergency care was like in Alameda County at the time. These were the days before 9-1-1; before field personnel were trained as EMTs and paramedics who are able to resuscitate and defibrillate; before emergency medical dispatchers gave CPR instructions to callers over the phone; and before hospital emergency rooms received designations indicating their level of service.

EMS Begins in Alameda County:

The history of a coordinated EMS system in Alameda County began in 1973. President Nixon signed the National Emergency Medical System Act, sponsored by California Senator Alan Cranston. In September, Ben Mathews was appointed to the new position of Coordinator of EMS and Disaster Planning in the county's fledgling Health Care Services Agency.

National attention had just begun focusing on developing EMS systems. Physicians and surgeons had been pushing for EMS based on the successful trauma surgeries in Vietnam and Korea; cardiologists wanted to test the new miniaturized portable electrocardiographs and two-way radios that were now available; and the public, inspired by the TV show Emergency, wanted paramedics. "That TV show actually had a very significant affect on EMS development," Ben recalls. "The first paramedic programs were started in 1969 in Los Angeles and Florida under special legislation, but after Emergency became popular, everyone in the country wanted paramedics."

Planning and implementation grants to establish EMS systems around the country had just been made available through the Department of Health Education and Welfare. "We submitted a grant for \$660,500 and were one of three counties in the Bay Area that received funding. (San Francisco and Santa Clara were the other two counties.) Our task was to begin developing a countywide EMS system."

Alameda County had no role in overseeing EMS at that time, and the system was very fragmented. The cities of Berkeley, Albany and San Leandro had ambulance vehicles in their police departments. These ambulances were driven by the station officer on duty that day. Oakland had contracts with six different competing ambulance companies, and three or four competing companies provided service in the South County.

A state law administered through the Highway Patrol called for inspection of vehicles, similar to the way trucks and busses are inspected. Each city also oversaw the ambulance companies for the safety of their vehicles. No agency was responsible for overseeing the quality of medical care delivered.

There were no paramedics or EMTs on ambulances. The law only required that one person on the ambulance have a first aid certificate. Most ambulance companies were small operations, and drivers stayed in apartments provided for the crew or took vehicles home for the night. The public had to dial a 7-digit phone number for an ambulance. If there was no ambulance available, they were told to hang up and call another company. When hospitals needed an ambulance, they would rotate among the companies.

Many hospitals did not have a department dedicated to emergency care. The Emergency Room (ER) was originally set up for physicians to meet their own patients or to handle any emergency that might arise. Some Emergency Rooms were staffed by local physicians who were working second jobs. There was no requirement that these physicians have any special training in emergency care. Some Emergency Rooms were not staffed round the clock, and staffing patterns varied widely. As late as 1973 ambulance drivers still had to knock on doors or ring a bell at some hospitals to have someone come and open the ER for them.

Basic Life Support:

In 1974 the county received its implementation grant from the Federal Government and planning got underway. "As a novice in EMS, I had been looking at other systems. I came to the conclusion that the most effective EMS system would be one that was based on a medical model rather than a police or fire configuration." Ben's first proposal called for the county to establish and operate the ambulance service with civil service workers.

An EMS committee, led by EMS consultant Steve McDermott, recommended establishing an EMS system which utilized existing services, by giving those organizations an opportunity to upgrade to a higher standard. The committee also recommend that the county begin at the Basic Life Support level (EMT-1) and then upgrade to paramedics. The county was divided into nine BLS zones. Each zone had designated ambulances assigned to it. A Central Medical Dispatch system, run by the county, would dispatch the ambulances and provide backup from one zone to another when necessary.

In 1975 the State of California passed EMT regulations requiring that one person on an ambulance received EMT training. This made it impractical for cities who operated ambulances out of their police departments to continue the service, and the responsibility shifted to those city's fire departments. The fire departments had not had a role in EMS prior to this time.

Hospital Emergency Departments (ED) had begun receiving designations that indicated their level of readiness. To gain a designation as a Basic Emergency Department, a hospital's ED had to be staffed with an emergency physician and remain open 24 hours a day, 365 days a year. Now ambulance drivers had to take patients to the nearest ED that had at least a Basic Designation and, for the first time, they could bypass a closer, but less equipped hospital.

During those same years, a medical specialty in Emergency Medicine was beginning to develop. Paul R. Perchonock, MD, was among the first physicians in the area to take up the new specialty. Once the new specialty got established, hospitals began contracting with companies who would provide an emergency medicine physician. In 1973 Dr. Perchonock and colleague David Nelson, MD, opened an ED at Alta Bates Hospital, as one of the first departments with emergency medical specialists who were part of the staff.

9-1-1 and Advanced Life Support:

After three years of planning, the 9-1-1 system was implemented countywide in 1978. This gave the public a universally recognized number which they could call to summons emergency help. The county had received a grant that allowed each local jurisdiction to receive its own emergency calls. Sixteen 9-1-1 answering locations, called Public Safety Answering Points (PSAPs), were established.

The county's original timetable called for an upgrade from EMT-I to paramedic in 1978. "Proposition 13 passed that year, however, so it looked like funding to implement the program was not going to be available," Ben recalls. "Supervisor Fred Cooper put forth the idea to form a special assessment district to pay for training and upgrade prehospital care from EMT to paramedic."

Paramedic level service in Alameda County was started in 1982 as a small pilot program. Later that year, the county went to the voters to ask if they would be willing to support an assessment of not more than \$10 to establish this service countywide. Public support for paramedics was high by this time, and the measure was approved by more than 80% of the voters.

Following the vote, cities slowly began adding paramedic service. The Alameda County EMS District was created in 1984 to oversee and coordinate the EMS system. By 1986 paramedic level service had gone countywide, and four Base Hospitals were designated to provide online medical control of paramedics in the field. The first Base Hospitals were Eden, Highland, Kaiser, Hayward and Providence.

The Trauma System:

Planning for a countywide Trauma System also began in 1984, following a study by Donald Trunkey, MD on preventable trauma deaths. The Trauma System began operating in January of 1987. This brought many enhancements to the system and provided an organized approach to treating seriously injured individuals. Specialists, including a trauma surgeon, who used to have to be called in to the hospital were now onsite 24 hours a day.

Following a rigorous proposal and review process, the Board of Supervisors designated Eden Hospital and Highland General Hospital as adult trauma centers, and Children's Hospital, Oakland as the pediatric trauma center. (See the EMS News Trauma Issue, November, 1996.)

The System Continues to Grow:

It was at this time that the Board of Supervisors determined that the county should evaluate its EMS system. Fitch and Associates was brought in to conduct the evaluation. Their report was presented to the Board in 1987. The EMS District Office then developed an implementation plan based on the report's recommendations, which included that the county seek a single transport provider and lower the response time from 10 minutes to eight minutes. In 1989 a Request for Proposal was issued to locate a single ambulance provider.

In 1990 Regional Ambulance (now AMR-West) was awarded the contract as the county's sole ambulance provider. Emergency Medical Dispatch (EMD) also started that year. Now dispatchers in many parts of the county could provide callers with prearrival instructions while they waited for help to arrive. These instructions included such lifesaving techniques as the Heimlich maneuver and CPR for adults and children.

The First Responder Defibrillator Program also started in 1990. Following a proposal process, the County purchased 80 defibrillators from First Medic at a volume discount

rate of nearly 50%. Working in partnership with the fire departments, the county supplied the defibrillators and maintained them. The fire departments provided personnel and training. The Union City and Newark Fire Departments were the first to participate, and within three years all the fire departments in the county provided this service. Several hospitals volunteered to help provide the training and perform retrospective call review.

Planning For The Future:

The county has the responsibility to provide emergency medical care to all those in need, whether or not they have the ability to pay. As the system developed, paying patients and their insurers covered the costs for those patients who were unable to pay. As managed care grew in the 80s and 90s Health Maintenance Organizations began providing other services for patients with less than life threatening emergencies such as nurse-advice telephone service, same day urgent care appointments or alternate transportation. This left the EMS system with a much higher percentage of nonpaying patients and threatened the system's integrity.

In 1994 the Board of Supervisors appointed a task force of EMS policy makers to start planning for the future. This group's recommendations are summarized in the "Task Force Report on the Future of EMS" which was accepted by the Board of Supervisors in January 1995. The Board then authorized the Health Care Services Agency and EMS to develop a structured process to determine the medical appropriateness, cost effectiveness and operational feasibility of implementing the 44 recommendations in the report. (For more information on the EMS system redesign process see EMS News March & November, 1995, July, 1996 and March, 1997).

A lot has changed in prehospital care since 1973, thanks to some innovative thinking on the part of the Board of Supervisors, numerous individuals and the more than 70 agencies that have a roll in providing prehospital care in Alameda County. Many of these changes were only possible because of the coordinated systems approach provided by the county. "The role of the county has been very important in this accomplishment," Ben concludes. "And with every system upgrade many lives have been saved. We are all very proud of our EMS system and are committed to continuing its standards of excellence in caring for the people of Alameda County."