

Santa Barbara County
PUBLIC Health
DEPARTMENT



Emergency Medical Services

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February 4, 2013

The Honorable Das Williams
State Capitol, Room 4005
Sacramento, CA 94249-0037

Dear Assembly Member Williams:

I am an emergency physician, the Emergency Medical Services (EMS) Medical Director for Santa Barbara and Ventura Counties, former Chair of the California Commission on EMS, and past president of the EMS Medical Directors Association of California, and am writing to you to express my serious concern about the state of California's wireless 9-1-1 system.

Our emergency public safety and emergency medical response system is built on the premise that immediate action will save lives and property. For medical emergencies (e.g., strokes, heart attacks, cardiac arrest, drowning, choking, burns, trauma), research has clearly shown that a more rapid response improves outcomes, saves lives and reduces the cost of medical care. There are mountains of medical evidence that demonstrate that quicker treatment of heart attacks, strokes, sepsis, choking, and trauma patients (among others) is essential for good medical care.

9-1-1 calls are answered by Public Safety Answering Points (PSAPs), that dispatch law enforcement, fire, and ambulance services. For callers with medical emergencies PSAPs can also offer emergency medical first aid and CPR instructions. When a 9-1-1 call is answered by a PSAP that is not responsible for that local area, an unnecessary and potentially lethal delay is introduced. Unfortunately, the California wireless 9-1-1 system today regularly routes calls to PSAPs that do not have dispatching responsibility, a process that causes a substantial number of unanswered calls and significant delays in others.

This is particularly important to the residents and visitors in Santa Barbara and Ventura County – who, when they call 9-1-1 with a medical emergency, are my patients. Our two counties are aggressively working to improve our response and treatment of patients whose heart suddenly stops beating (cardiac arrest). About 1000 individuals suffer a cardiac arrest in Santa Barbara and Ventura Counties every year, and their likelihood of survival decreases by 10% for every minute delay in treatment. We are part of a Federal Centers for Disease Control and Prevention (CDC) and Emory University registry that looks at cardiac arrest outcomes in select communities nationwide.

We have made substantial progress toward our goal of being one of the top 10% of communities. Our dispatch centers have improved their telephone CPR instructions, law enforcement is looking to adopt a new

CPR training program, fire department and ambulance company EMTs and paramedics are training together in our new Cardiac Arrest Management project, and hospitals are using specialized equipment to induce hypothermia (body cooling) to reduce brain damage.

All of these actions are designed to save precious seconds in treating cardiac arrest victims. But the efforts are all worthless if we are not made aware of a cardiac arrest case until it's too late. In fact, every link in the Chain of Survival has been strengthened in our system except one – the routing of wireless 9-1-1 calls to the correct PSAP. This link remains disorganized, inconsistent, and dangerously slow, and my patients are dying at an unacceptable rate as a result.

A particularly absurd example is in the city of Santa Barbara. Depending on the carrier, if one dials 9-1-1 from the front steps of the Santa Barbara City Police Department on East Figueroa Street (4 blocks from your district office), which houses the dispatch center for Santa Barbara City Police and Fire, the call may be routed to the Ventura CHP center, 30 miles to the south. This results in an average delay of over a minute; with frequent busy signals, long hold times, and dropped and unanswered calls. A landline call from the same area will go directly to the Santa Barbara PD without delay. Our wireless 9-1-1 system must work better than this.

The public safety, EMS, and lay community throughout California are having increasing doubts over whether it is safe to call 9-1-1 from a wireless phone. Many jurisdictions are advising local residents to program their phones to dial the local 7-digit PSAP emergency line. The intent of the 9-1-1 system, to have one number for anyone to call at any time, to get the right emergency response quickly, is being destroyed by its inability to perform. This will further confuse the public and worsen outcomes.

A system to analyze the routing of calls and to correct misrouting errors was put in place in 2008. The Routing by Empirical Data (RED) Project started in Santa Barbara and Ventura County. It was highly effective in getting 9-1-1 calls to our local PSAPs, who could then accurately determine the caller's location, dispatch the appropriate emergency responders, and give telephone medical care instructions. Unfortunately this program was terminated after a brief but effective time, and we again have no way to evaluate or improve this critical link in the chain of survival.

I know some of these issues are not easy to understand. Some may believe that the act of delivering a 9-1-1 call to a PSAP, regardless of delays, and eventually getting a dispatcher on the line and sending an EMS responder is good enough. Or that certain areas are too small or too rural to matter. Those arguments are ill informed and emphatically incorrect. Seconds and minutes count for a large number of critical medical emergencies for patients everywhere in our state. If it would help for me to meet with 9-1-1 program officials or other policy makers to explain this further please let me know.

But in the meantime, resuming the existing tested, and effective empirical data routing program is an essential first step. This is a serious and urgent medical concern and I ask that you help protect the health and safety of these patients.

Sincerely,



Angelo Salvucci, MD, FACEP
Medical Director



Angelo Salvucci <asalvucci@salvucci.com>

Re: Wireless 911 Meeting - Thank you

1 message

Angelo Salvucci <salvucci@silcom.com>

Fri, Sep 26, 2014 at 2:55 PM

To: "Holland, Tatum" <Tatum.Holland@asm.ca.gov>, Jana.Sanford@caloes.ca.gov, Karen.Wong@caloes.ca.gov, william.anderson@state.ca.gov

Dear Ms. Wong,

I attended by phone the meeting in the office of Assemblymember Das Williams on April 1, 2014 (see below). Mr. Williams had been in touch with you previously regarding our concerns with wireless 9-1-1 call routing. He shared with you my letter of February 4, 2013, in which I warned him that my patients were "dying at an unacceptable rate" due to dangerously slow wireless 9-1-1 call processing, and the incident earlier this year when one of my patients did in fact die after a delayed and inaccurate EMS dispatch. At the meeting you agreed that the Wireless Optimization Service was a good and immediate solution to this problem and that the only challenge was to secure funding.

I have sent you and your team emails on April 4 and May 9 offering to help support your efforts, but have not received a reply.

My colleagues in public safety and emergency medical services are continuing our efforts to insure that inefficiencies in California's wireless 9-1-1 system are addressed. We will do so as long as it takes to fix the problem.

Please refer to <http://www.emdac.org/> to see our letter to the Governor, Mr. Ghilarducci, and key legislators. Also included are supporting materials explaining this important issue and how efforts and resources from your department could positively impact the lives of thousands of Californians.

We are anxious to see this move forward. I would appreciate a reply at your earliest convenience.

Thank you;
Angelo Salvucci, MD
Medical Director
Santa Barbara County Emergency Medical Services

On Fri, May 9, 2014 at 7:18 AM, Angelo Salvucci <salvucci@silcom.com> wrote:

Mr. Anderson,

I heard from Don Reich that you, he and Kurt Warner met yesterday. Thank you for your efforts. I am very interested in helping secure funding for this life-saving program and am in the process of working with the emergency response community for their support. Would you please let me know who you have spoken to who would be able to help - and to whom these letters should be sent? I want them to have the maximum impact so we can get this moving forward as soon as possible.

Individuals die every day in California from the delay introduced from a misrouted wireless 9-1-1 call. In fact, by using the study cited in the March 28, 2014 Federal Communications Commission Proposed Rule (Federal Register 79:60), increasing ambulance response times by one minute increases mortality from 5% to 6%. So, one person dies for every 100 EMS responses that are delayed a minute. There are many multiples of EMS responses every day in the State. And that does not even take into account the less common but tragic errors that resulted in the long response delay and death of the young woman (who was my patient) in Santa Barbara.

This is all greatly troubling and none of us want it to continue any longer than absolutely necessary.

Thanks again,
Angelo Salvucci, MD

On Fri, Apr 4, 2014 at 12:50 PM, Angelo Salvucci <salvucci@silcom.com> wrote:

I wanted to thank Assemblymember Williams and all of you who attended for meeting and inviting me to participate. This is a critically important issue for me, my patients (those who call 9-1-1 with a medical emergency) and my County EMS Medical Director colleagues throughout the State.

It is essential that we make every effort to route wireless 9-1-1 calls to the PSAP that can dispatch the needed emergency resources. In some areas that will be the CHP and in others it will be the local law enforcement PSAP. Unnecessary delays incurred by the routing of wireless calls to a PSAP that can only transfer the caller introduces a delay that can make the difference between life and death. We presented one recent tragic case. But even more worrisome are all that are responded to after a minute-longer call processing interval. As an example, victims of a cardiac arrest are 10% less likely to survive with each minute's delay in response, so for every 10 patients that wait one minute longer for CPR, 1 more will die. With thousands of calls daily requiring an additional transfer this sad outcome occurs daily.

I am delighted that the Public Safety Communications Office has agreed to reinstate the Wireless 9-1-1 Optimization Program and is looking for sources of additional funding. I would like to offer any assistance the EMS community can provide. The Santa Barbara County Board of Supervisors will be advocating for this through a letter to Mr. Williams and direction to our legislative advocates. The EMS Medical Directors Association of California (EMDAC) and EMS Administrators Association of California (EMSAAC) are writing a letter to the State EMS Authority to indicate support of this program. I will ask them to send a copy to Mr. Williams and Ms. Wong as well. In addition the California EMS Commission has directed the EMS Authority to contact the Public Safety Communications Office on this and report back at the next meeting.

Please let me know how any or all of these efforts can be best directed to assist you in securing sufficient funding to support this essential Wireless 9-1-1 Optimization Program.

Thanks again,
Angelo Salvucci
Medical Director, EMS
Santa Barbara County
Ventura County



August 27, 2014

The Honorable Jerry Brown
Office of the Governor
c/o State Capitol, Suite 1173
Sacramento, CA 95814

Re: California State 9-1-1 System Dysfunction

Dear Governor Brown:

The Emergency Medical Services (EMS) Medical Directors Association of California is the professional association of physician medical directors of California Local EMS Agencies and EMS provider agencies throughout the state. Our members are responsible for oversight of the emergency medical care of 9-1-1/EMS patients.

We want to bring to your attention a serious problem we see with the 9-1-1 system in California. This problem may, according to estimates from published medical studies, be causing the deaths of hundreds and perhaps thousands of persons each year.

Today 80% of 9-1-1 calls are made via wireless devices, and in most cases the exact location of the caller is not immediately known. These calls are typically routed to a California Highway Patrol Public Safety Answering Point (PSAP). The caller is queried, the location determined, and the caller is transferred to a local dispatch center.

This multiple-step process to meet the needs of wireless 9-1-1 callers results in delays in both the arrival of EMS responders and in the provision of important medical care instructions delivered by dispatchers. Call delays and transfers also increase stress and confusion, and may result in disconnected calls or hang-ups, depriving dispatchers and responders of essential information. Minutes count in EMS, and these 9-1-1 inefficiencies can easily make the difference between life and death, or between functional and vegetative outcomes, in our most critical patients.

There is a readily available solution that would reduce these delays and significantly improve our 9-1-1 system. The Wireless Optimization Service uses the technology and procedures of the Routing by Empirical Data (RED) project. The service examines individual cell sectors, maps the historical

location of wireless 9-1-1 calls, and determines the most appropriate PSAP for future calls. For a projected cost of \$3.5 million per year for three years, every wireless sector in the state can be optimized.

Californians are suffering and dying daily from delays in EMS responses. It is essential that our 9-1-1 system be given every chance to do what the public should and does expect – to save lives by responding to emergencies as quickly and efficiently as possible. That will require the accurate and efficient routing of wireless 9-1-1 calls. We strongly encourage the immediate deployment of available technology to make that happen.

Sincerely,



Gregory H. Gilbert, M.D., FAAEM

President

Fact Sheet:

- In cardiac arrest, the likelihood of survival decreases by 7-10% for every minute delay to defibrillation (electrical shock)
- Dispatchers can instruct callers to perform life-saving procedures. Dispatcher-directed CPR doubles the survival rate of cardiac arrest victims, and the Heimlich Maneuver can provide relief from choking.
- In a study in an urban area, mortality for the most seriously ill or injured patients was shown to increase linearly - from 5% with a 4-5 minute EMS response interval to nearly 10% with an 8-9 minute response.
- In another study of over 70,000 patients, a 1-minute shorter EMS response interval was associated with a 17% reduction (6% to 5%) in patient mortality.

More detailed information is available at www.emdac.org/911dysfunction.

cc: Senate Public Safety Committee
Assembly Sub 5 Public Safety Committee
Assembly Committee on Public Safety
Assembly Select Committee on Local Emergency Preparedness
Joint Legislative Committee on Emergency Management
Mark Ghilarducci, Director, OES