A TRAGEDY OF THE COMMONS

A Review of Our Emergency Medical System

Michael S. Williams

A TRAGEDY OF THE COMMONS

A Review of Our Emergency Medical System

Michael S. Williams Security Systems, Inc.
Santa Barbara, CA

A TRAGEDY OF THE COMMONS
A Review of Our Emergency Medical System

Produced and published by:
Michael S. Williams Security Systems, Inc.
271 Rosario Park Road
Santa Barbara, CA 93105
805-969-9829
805-967-6727 fax
mswssi@verizon.net
mswssi.org

Author: Michael S. Williams
Foreword: Chief Ronny J. Coleman
Editor: Judy R. Craig and Carol Windover

ISBN: 13: 978-0-615-71640-4
First printing, 2013

Printed by request in the United States of America

“Knowing is not enough; we must apply.
Willing is not enough; we must do.”

— Goethe

“*There aren’t any great men. There are just great challenges that ordinary men like you and me are forced by circumstances to meet.*”

— Admiral William Frederick Halsey, Jr.
United States Navy

ACKNOWLEDGMENT

I would like to extend my grateful appreciation to Don Katich and the Santa Barbara News-Press for their support throughout this project. I would also like to thank the many firefighters, paramedics, chief officers, fire chiefs, law enforcement officers, private ambulance executives, public health officials, physicians, nurses, and consultants who were profoundly helpful in my research efforts.

Understandably, most of the people who assisted in this project prefer to remain anonymous. However, without hesitation or reservation they are committed to improving the EMS and pre-hospital care system for the benefit of everyone. The work that these people do every day—and the passion they have for improvement—is worthy of our respect and admiration.

I would also like to thank Judy R. Craig and Carol Windover for their time, assistance and support with editing this publication. The job of editor is challenging and time consuming. I appreciate their efforts on my behalf.

In conclusion I would like to thank Chief Ronny J. Coleman for his guidance, leadership, mentoring and friendship. He is an inspiration to all of us who have a passion for public safety and a heartfelt desire to improve ourselves and our communities.

FOREWORD

Nothing will guarantee that you will be a target of scrutiny or criticism more quickly and effectively than challenging "contemporary wisdom." It is true that over the millennia, those who have raised their hands and questioned, or made objections to the way things are currently being done, have often become targets for that criticism.

However, it is equally true that the world does not make progress unless there are individuals who are willing to challenge the status quo. The reconciliation of these two polar opposites is the foundation of discourse in modern society.

This publication is going to be controversial, and therefore—following my logic—is essential, and must absolutely be regarded seriously. I speak to this issue having observed the evolution of the fire service for over fifty years. I was heavily involved in EMS in the early 60s, and participated in the development of the paramedic program in the 70s and 80s in Orange County, California. I served on the Orange County Emergency Medical Care Committee (EMCC) for many years.

One of the terms you hear discussed today is, "the new normal." What that means to me is that we are undergoing transition, and that everything is subject to a continued assessment of relevancy. Nowhere can this contention be more appropriate than government. It also applies to the private sector. We are facing fiscal crisis of monumental proportions, and simultaneously, we are seeing a society that wants more and more to be done for them. Again, we have to face the issue of reconciling two polar opposites.

From my perspective, after reading Michael Williams' publication, ***A Tragedy of the Commons - A Review of Our Emergency Medical System***, this dialogue is essential. This is not about winning or losing. It is not about superiority or inferiority. It is about survivability and sustainability in society.

In contemporary society, we do not make independent thinkers drink hemlock as a punishment for disagreeing with the rest of society. Instead, we now focus on the creation of public policy and the evaluation of day-to-day operations in the context of budgets to determine if an idea is capable of being implemented.

As you read this document, be prepared to see sections that will go against your sense of status quo. Before you reject any idea, however, analyze it. Think outside the box. Follow up on the clichés we hear about affecting the future by acting on the present. If you follow this advice, after you finish reading this publication you will be better prepared to be a participant and an effective voice in the public and private dialogue that is likely to occur in the future.

Chief Ronny J. Coleman
California State Fire Marshal, *Retired*

INTRODUCTION

"Life is pretty simple: You do some stuff. Most fails. Some works. You do more of what works. If it works big, others quickly copy it. Then you do something else. The trick is the doing something else."

—Leonardo da Vinci

Released in 1976, *Mother, Jugs & Speed* was a comical movie about two Southern California ambulance companies competing with—and tormenting—each other and the public. As we all know, good comedy always contains a grain of truth, and this film provided more truth than most ever appreciated.

Today's pre-hospital care system of hospitals, fire departments, and ambulance providers has experienced a significant growth from the early days of two guys with a gurney. Actually, early ambulance companies were frequently operated by mortuaries! In contrast, today's high-tech ambulances are small emergency rooms on wheels.

Pre-hospital care is the formal term for what is commonly referred to as the Emergency Medical System (EMS). It is a compilation of skills, training, management, and utilization of resources in a coordinated effort to provide maximum efficiency of service to a patient.

One of the most interesting dichotomies of the EMS is that each of us, at one time or another, will depend on it to take care of us—yet, how well do *we* take care of *it?* Can we depend on it? Will it work for us when we need it? Most importantly, can we afford it in its current form?

As communities attempt to address these challenging questions, other questions quickly develop. Who is going to pay? Who is going to do the work? Who decides who and what goes where? Do we need it? The list of questions is seemingly endless, depending on who is doing the asking.

Since the mid-seventies, fire departments in many communities have become the primary provider of emergency medical services. This trend was driven in large part because fire departments were already in the business of providing twenty-four hour emergency service, and fire stations in most communities were centrally located for a rapid response. In short—it made sense.

As the EMS grew, so did the demand. With the introduction of the national 9-1-1 emergency telephone number, calls for service exploded throughout the United States. Today, emergency medical calls account for as much as 98 percent of most fire departments' call load(s). As a result of these changing dynamics, firefighters have become medical technicians' first—firefighters second.

My personal interest in EMS dates back to the mid 1970s when I first entered law enforcement. I watched paramedics in wonderment. As a spectator, I observed what worked—and what didn't. I saw firsthand the realities of EMS; the good, the bad, and the ugly. Nonetheless, I fully appreciate that *watching* and *doing* are two distinctly different things.

Over the years, I have collected my own personal set of questions developed from observations, meetings and seminars I have attended, training materials, media reports, comments from peers, and from just simple thinking.

Looking for solution-based answers to systemic issues and problems, I hit the books, explored information on the Internet, and examined numerous articles and research papers. I talked to professionals throughout the country about the following questions:

1. Who is going to pay?

2. Is the fire service over-responding to EMS calls?

3. EMT's vs Paramedics—which one is "better?"

4. Should the fire service consider expanding the training and the scope of service(s) provided by paramedics?

5. Should the fire service and private providers explore "catch and release" protocols?

6. Would fire stations serving as clinics provide better pre-hospital care for non-emergencies?

    - Would labor be willing to accept a profound change of duties and delivery of service?
    - How difficult would it be to change the traditions and culture of the fire service?

7. Should the fire service embrace more public health-related services such as electronic database checks for service abusers known "repeaters"; individuals who drain resources daily by over-utilizing prevention programs or emergency services?

8. Should ambulances consider transporting to clinics, as may be appropriate, rather than automatically transporting to emergency rooms?

    - What legislation modifications would be required?

9. Should the fire service continue to support private providers on every medical call? If so, how can real costs be recovered?

10. How can the fire service and private providers address paramedic skill degradation?

    - What about sabbatical programs with larger metro agencies?

11. Would fewer paramedics, but with superior skills be a better approach?

12. How can the fire service embrace and promote public education of CPR and AEDs?

13. Can the fire service continue to be all things to all people—responding to everything without question or reservation?

14. Would the fire service benefit by returning to the original intent of pre-hospital care (circa 1970s) – utilization of squads – utilities – EMS assigned staffing only?

15. How is today's fire service going to address the rapidly growing demands for value, accountability, and documentation?

16. Can the fire service develop a convincing and compelling argument for the continuation of publicly funded EMS vs privately funded EMS? (I think they can.)

17. How is pre-hospital care going to address the pending explosion of calls for service when the new health care system is implemented?

18. Should the fire service continue to hire paramedics from the private sector who, based on years of service, may already be "burned out?"

    - Is the fire service hiring their problems?

19. Is the growing trend of hiring non-public safety class EMTs for a limited period (i.e. Huntington Beach model) a good idea?

    - Does the mixing of sworn and non-sworn employees cause problems (i.e.: the former LAFD system or proposed Long Beach option.)?
    - Does this method save money?

20. Can the public fire service prove it is a better option than a private company?

    - What advantage does a public agency have over a private provider?
    - Why is a private provider a poor option (if in fact it is)?

My quest for answers took me far and wide. I interviewed retired and current paramedics, firefighters, chief officers, fire chiefs, nurses, public health administrators, physicians, ambulance executives, law enforcement officials, and former patients.

I quickly discovered that while the medical community has been aggressively looking for answers, and more importantly, evidence to support those answers for decades, I was chagrined to find that in general—the fire service, itself—has not.

We don't know what we don't know, and my pursuit of answers proved it for me. The process of asking questions revealed what I didn't know—and seeking workable solutions changed my thoughts and viewpoints on many things along the way.

While I am not an attorney, that does not mean I do not appreciate a good disclaimer. Not everyone will agree with this publication. While many in public health, fire management, and executive positions may agree, those in the streets of America may take an understandable exception.

Both firefighters and paramedics see each call as its own event, whereupon the outcome is never truly known, and there is merit to this position.

The objective of ***Tragedy of the Commons - A Review of Our Emergency Medical Systems***, is to bring thought to the broader issues of today's emergency medical system by calling into question current practices, procedures, and costs from various perspectives. Indeed, throughout history, a paradigm shift has often been preceded by a paradigm paralysis.

My twenty questions (and many others) need to be asked and answered community by community, starting with: Who is going to pay? Let's take a look at what I found as I took on my quest for answers.

MOTHER, JUGS, and SPEED

"As the fire departments evolved into emergency medical departments, the model for operating the fire departments has not radically changed. The fire departments have simply absorbed the emergency medical response into their departments under their old 'fire response' model."

—Emergency Medical Response in Orange County
Finding/Conclusion 2
2011-2012 Orange County Grand Jury

One day long ago, my younger brother thought it a good idea to put a lamp cord in his mouth. He was perhaps 4 or so at the time. Needless to say, he discovered electricity in a dramatic way. I can still remember watching as my mother urgently carried him up the street to our house where, upon arrival, she then drove him to the doctor herself.

Not long after that medical event, I fell on a large rock, cutting open my chin. At the time, I thought I was going to bleed to death. Again, my mother drove me to the doctor for stitches. The scar lives with me today some 50 years later.

Over the years, my mother would drive us kids to doctors and emergency rooms many times. In fact, she drove herself to the hospital, where she died ten days later of pulmonary fibrosis and pneumonia. I don't know if she ever thought about calling an ambulance for any of us over the years. I know she didn't call one for herself.

The 1976 "inventive comedy," *Mother, Jugs & Speed*, was about a dysfunctional ambulance company and their primary competitor. The film was, in many ways, a good deal closer to the truth than most know. The competiveness of the private ambulance service was real in the 60s and 70s, and in time, gave birth to the emergency medical service we have today.

For decades, ambulances were not much more than a taxi with a red light and siren. In fact, folklore has it that more than once, ambulances were used to hustle business executives about town or to rapidly transport important packages!

In the early 1900s, ambulance services were nothing more than horse-drawn covered wagons operated by police and fire departments. The Los Angeles Receiving Hospital opened in December of 1910. The first ambulance was in operation by 1914, driven by LAPD officers. In time, medical staff would take over ambulance duties.

When one thinks of the history of the private ambulance service in Southern California, the first name that comes to mind is Walter Schaefer; founder of Schaefer Ambulance Service in 1932. There were other large companies such as Southland, Professional, and Seals, but it was Schaefer who founded the California Ambulance Association in 1948 and the American Ambulance Association in 1979. Unlike most private ambulance companies, Schaefer Ambulance is still in business today.

While many think that the fire service did not enter into the emergency medical service business until the early 70s, the Los Angeles Fire Department implemented its first ambulance in 1927. By 1931, the LAFD was dispatching six ambulances. The department even had their own

physician. By 1957, six additional ambulances had been added to the fleet. The afore-mentioned private ambulance service provided much-needed back-up, and also performed non-emergency transports.

The first LAFD paramedic ambulance went into service in 1970. The Central Receiving white and brown ambulances were transferred to the LAFD under then-Chief Engineer Raymond Hill.

By 1973, the LAFD began to phase out private ambulance service agreements as they moved into a comprehensive EMS program. Private ambulance companies continued to provide non-emergency transport services, with some other Southern California cities contracting for emergency services.

The fire service transition into EMS was not as smooth as you may think. At the time, no self-respecting fireman would engage in EMS—the two exceptions likely being life support or extricating an entrapped traffic collision victim. That has very much changed today.

The first LAFD paramedics were civilian; not sworn public safety employees like their firefighter counterparts. This caused a huge rift within the department that was ultimately settled in the early 1980s when the department reclassified the position to a public safety sworn status. Today, firefighters throughout the state are cross-trained, with many firefighters starting out as paramedics.

Locally, the history of the ambulance service is much the same. During the 60s and 70s, there were several private ambulance companies operating within the county. The Santa Barbara County Ambulance Providers Association was formed, with various members joining—and then later going out of business. Over time, cities started to contract with the ambulance companies, providing a subsidy to cover costs in low call volume areas.

The Santa Barbara Ambulance Company was formed in 1970 to provide EMS service to Santa Barbara City. The company later changed their name to 911 Emergency Services, Inc. In 1980 the company became the exclusive contractor to most of the county, except UCSB, Vandenberg Village/Mission Hills, and the Cuyama Valley. In 2012, the county absorbed the UCSB ambulance service.

In 1994, 911 Emergency Services, Inc. merged with American Medical Response—the largest private EMS provider in the United States. Under supervision of the Santa Barbara County Department of Public Health, AMR provides the primary paramedic services in Santa Barbara County today.

The fire service has evolved over the decades to include many more services than simply responding to fires. In fact, according to the 2011-2012 *Orange County Grand Jury, Emergency Medical Response in Orange County* report, only 2 percent of the emergency calls to the Orange County Fire Authority were for fires.

This percentage of fire calls fluctuates throughout the state, but not by much. Yet, the fire service today continues to model itself as if it were still running primarily fire response calls every day.

According to the United States Fire Administration, fires continue to decline nationally every year. Improved building, wiring, and fire codes, better construction, installation of early

detection devices and fire suppression sprinklers, public awareness, and better electrical appliances have all contributed to the reduction of fires. However, medical calls continue to increase.

Do not, however, let the decline in numbers fool you. Despite this downward trend in reported fires, the fires we do have today are more intense in buildings without sprinklers because of lightweight construction, flammable furnishings, and an increased fuel loading. Adding to the challenge, the lack of successful wildland fuel management and changes in weather patterns have caused significant changes in wildfire behavior.

Specialized services provided by fire departments today include vehicle extrication, technical/specialized rescues, hazardous materials response, advanced public education, prevention programs, and emergency medical services.

EMS is an important service—but what does an ambulance cost you—the patient? Public and private ambulance charges in Santa Barbara are set at $1,306.17 for a Basic Life Support response; $2,009.58 for an Advanced Life Support response. Mileage is billed at $39 per mile. There are additional charges for oxygen and stand-by time.

What do you suppose a taxi ride costs? Much to my chagrin, according to Yellow Cab, there are over 60 taxi companies in the greater Santa Barbara area. They all have their own rate structure and ways of charging, but they are more less the same. For Yellow Cab, the charge is $2.10 to show up, and $3.20 per mile. (All cost quotes—2012.)

Obviously, no one should call a cab for a real medical emergency, but how many emergency medical calls *are real emergencies?* The yellow cab dispatcher I talked to said that they frequently receive calls for trips to the hospital. What any prospective passenger says makes a big difference in whether a taxi—or an ambulance—will take them to the hospital. And, rightly so; it is common policy for cabs not to transport emergencies.

Once again, “who is going to pay” rears its ugly head when taking on the costs associated with emergency medical services. Insurance will cover most ambulance runs—so why pay for a cab you may ask? Well, consider the costs associated with the infrastructure of supporting the ambulance system. Despite the heavy fees, the true costs of ambulance runs are never recovered.

When the exclusive 9-1-1 telephone number went into service nationally in the mid 1980s, calls for service exploded almost overnight, and these calls for service continue to grow. The question is—do we need everything that the EMS system has become—and if we do, are we willing to pay for it? In these financially challenging times, we must all participate in finding feasible solutions. Overuse and abuse of the EMS system is such a significant problem, that the viability of the current system must be examined. Regardless of *intent*, insolvent equals bankrupt.

THE BIRTH OF EMS

"The dilemma in fire/EMS protection is cultural. Everyone expects an immediate, massive response when they dial 9-1-1– fire trucks, paramedics, ambulances, planes, overhead, bulldozers, etc. The level of service in a community is linked to its financial ability and desire to provide resources."

—Reorganization of the Napa County Fire Department
2011-12 Napa County Grand Jury

One day long ago, I was on morning watch patrol in Westwood just outside the UCLA campus. I turned down the Gayley alley—a location known for all kinds of problems that routinely spilled out from a local disco. Then, right in front of me, a crowd formed—forcing me to stop my car.

Suddenly, and without any visible provocation, one male stabbed another: once from above, twice from under—all three thrusts were dead center to the chest.

I radioed for help, and jumped out of my car as several bystanders subdued the suspect. I handcuffed the suspect and told the guys holding him down to wait for help as I went to the victim. I was holding the victim's head to open his airway as his chest cavity was filling with blood.

LAFD Rescue Ambulance 37 was stationed not even a mile away, but apparently, it was on another call. Fortunately, the UCLA ambulance arrived quickly as back-up.

Back then it was called "scoop and run," and that is what we did. The EMTs packaged the victim as fast as they could, and I drove the ambulance—leaving my car behind with my fellow officers who were arriving in droves.

The UCLA Medical Center was less than two miles away. Despite the good fortune of location and having access to immediate medical help, the victim was pronounced dead on arrival. Follow-up investigation revealed that it was yet another gang-related incident. The suspect was convicted of murder, and life went on. End of story.

Several years ago, my otherwise healthy brother suffered a major stroke. The fire department ambulance was on-scene within minutes of his wife discovering what had happened and calling 9-1-1. It took years for the doctors at UCLA to discover what the underlying problem was—but not before he suffered a second stroke—and the injuries he incurred from the ensuing fall.

These two seemingly unrelated stories have a common theme: both of these incidents involved a rapid response by emergency services. Time matters with strokes and heart attacks. This is the cornerstone by which pre-hospital care has been built upon—a rapid response of trained professionals bringing the *hospital* to the *patient.*

It was Dr. Walter Graf and Dr. John Criley who, in 1969, developed the idea of using the Los Angeles County Fire Department to utilize trained firemen for a "coronary unit on wheels." Two pilot programs were designed and later approved by the Board of Supervisors in January of 1970. Legendary Los Angeles County Supervisor, Kenneth Hahn contacted Senator James Wedworth and Assemblyman Larry Townsend to author the Wedworth-Townsend Paramedic Act of 1970.

The birth of the paramedic program was on July 15, 1970, but not without a hitch in the process. Then-governor, Ronald Reagan, was going to veto the bill. Supervisor Hahn immediately flew to Sacramento and met with the governor.

During their conversation, Governor Reagan stopped Hahn and asked, "Do you mean this program will cross city boundaries?"

Hahn replied, "Yes, it will."

The governor then went on to tell the story of how his own father had died of a heart attack because an ambulance would not cross jurisdictional boundaries, and Reagan signed the bill.

Within the pre-hospital care community, the late Battalion Chief, James Page is regarded by many as the "father of modern EMS." Chief Page was promoted from a firefighter to Battalion Chief on July 15th, 1971, and admitted to the California State Bar just thirteen days later.

It was Chief Page who helped bring the fire service and the medical community together to develop the young paramedic program. To be sure, there was no shortage of people within the medical community who thought it was a bad idea to have firemen playing doctor in the streets. Moreover, not everyone within the fire community endorsed entering into the emergency medical business.

Chief Page also took on the task of educating the public of what paramedics were and how they could save lives. His early work on the mid 1970s television show, ***Emergency!*** helped promote not only the Los Angeles County Fire Department's program, but what pre-hospital care was to become, as well.

Daniel Freeman Hospital took the lead, along with USC County Hospital and UCLA Medical Center, of the early pre-hospital care program with great success. In addition to the paramedic program, the Mobile Intensive Care Nurse program was developed. The MICNs, in many ways, ran the paramedic program.

Starting without much fanfare, the fledgling program was first housed in a small, converted storage room within the lobby of the UCLA Medical Center Emergency Room. At the inaugural gathering sat Baxter "Baxie" Larmon, Gary Nulsen, and Don "Smitty" Smith under the management of Dr. Charles McElroy, Dr. Marshall Morgan, and hospital administrator, Dr. Raymond Schultz.

In time, the UCLA Center for Pre-hospital Care was developed, and in working with Daniel Freeman Hospital, the pilot project and its groundbreakers were considered the "Pioneers of Para-medicine."

Innovative ideas became reality over the years. The office also helped develop the UCLA neonatal ambulance program, where premature babies and newborn infants are transported by specialty ambulances staffed by highly-trained medical staff to UCLA for critical treatment.

The trend of innovative ideas continues today. Locally, Santa Barbara Cottage Hospital and Marian Medical Center signed agreements with the EMS agency to serve as ST Elevation

Myocardial Infarction (STEMI) receiving centers. Goleta, Santa Ynez, and Lompoc Valley Medical Center have signed agreements to be STEMI referral centers.

The ability to confirm a STEMI utilizing 12 lead electrocardiograms in the field allows the patent to be transported directly to the Cath Lab at Cottage or Marian hospitals, saving a considerable amount of time. Without a doubt—there are people reading this today who have benefited from this expedited capability.

Today's EMS system is the result of many people of different backgrounds and skills coming together to solve problems and develop solutions that saves lives. One way or another, patients end up in emergency rooms. What can be done to improve the delivery of emergency medical services, and perhaps reduce the cost at the same time?

D5W TKO

"Nationally, 92% of those who suffer sudden cardiac arrest die before reaching the hospital—a rate that hasn't changed significantly over several decades."

—American Heart Association
Circulation, 2010; 121:e46

In 1958, the television show, ***Rescue 8*** made its debut on American television. The show told the stories of two Los Angeles County firemen responding to various rescues throughout the county. It was about an important, yet simple, basic emergency service.

Jack Webb's, ***Emergency!*** appeared in 1972. It was a more dramatic program of two Los Angeles County paramedics and the crew of Station 51 as they responded to life-threatening medical emergencies and rescues.

Emergency! was designed to depict the wonderment of paramedics and what they could do to help the public. Today, most of what was done on the show is either out of date, against protocol, or just not done. Without question, paramedic scope of practice has changed significantly since the 70s.

In the early years, paramedics were required to establish communications with the base hospital to request authorization to provide patient treatment. It was referred to by many as, "Mother, may I?" Today, paramedics operate under standing orders of treatment, reducing the need to contact a base hospital prior to transporting a patient.

More often than not, the fictitious star of ***Emergency!***—Dr. Bracket—would give the order for the administration of "D5W TKO." In lay terms, he called for an IV of Dextrose, 5 percent in water, with a slow but continuous flow of fluid. The order fits well in describing today's emergency medical service—the steady flow of millions and millions of dollars to prop up the current EMS system.

The original intent of paramedics was to bring the physician to the patient to improve the chances of surviving a sudden cardiac arrest, heart attack, and stroke. Pre-hospital care has become much more than that today. Much of the United States' fire service has built their entire organization and purpose on emergency medical services. The questions become:

- Is it too much?
- Does it work?
- And, do the results support what we are paying?

The ideas that created pre-hospital care were based on the best of intentions of many, very talented and dedicated people interested in improving patient care. Their thoughts and ideas were based on the best knowledge and practices *of the day.*

In the early 70s there was no substantial statistical data to support that the introduction of paramedics into the medical system would save lives. Logic suggested it would, because of the successes of field emergency medicine during the Korean and the Viet Nam conflicts.

Some 40 years later, there is no shortage of data that supports what works and what doesn't—and why.

"Despite significant advances in pre-hospital training and equipment the median survival rate to hospital discharge after EMS treated out-of-hospital cardiac arrest with any first recorded rhythm is 7.9 percent. . ." according to *Heart Disease and Stroke Statistics-2010 Update: A Report from the American Heart Association*.

This survival rate has not appreciably changed in over fifty years.

Like many things in life, simple is best. The combination of basic CPR and rapid transport to the nearest hospital provides the best chance of surviving a sudden cardiac arrest. This is no secret, and it did not take 40-plus years to figure out.

The *Orange County Cardiac Arrest Survival Study*, Orange County Emergency Medical Services, 1991, was one of many comprehensive reports that supported less paramedic intervention, and more use of basics—including CPR and prompt transportation to the hospital.

More recently, the National Heart, Lung and Blood Institute and the American Heart Association co-sponsored a joint study, the results of which indicated that training citizens in CPR and the use of an Automated External Defibrillator (AED) can better than double ones chances of surviving sudden cardiac arrest.

Known as the PAD study, the results were reported at the 76th Annual American Heart Association Scientific Session in Orlando. It documented that *it is not the expansion of the EMS system—but the improvement of public education in the proper use of CPR and AEDs—that is having the profound impact on saving lives.*

Cardiopulmonary Resuscitation (CPR) is not new. It was first demonstrated in 1740 at the Paris Academy of Sciences for drowning victims. The first reported successful use of external chest compressions on a human was done by Dr. George Crile in 1903. Peter Safar and James Elam are credited with inventing mouth-to-mouth resuscitation. In 1960, CPR was formally developed with an American Heart Association program to instruct physicians with the process of closed chest compressions. This was the start of public CPR training.

The American Heart Association reports that, "survival from out-of-hospital cardiac arrest is directly linked to the system of care that exists in the community." The Journal of the American Medical Association's report, *Chest Compression-Only CPR by Lay Rescuers and Survival From Out-of-Hospital Cardiac Arrest*, October 2010, concluded, "Among patients with out-of-hospital cardiac arrest, layperson compression-only CPR was associated with increased survival compared with conventional CPR and no bystander CPR in this setting with public endorsement of chest compression only CPR."

Regrettably, the report goes on to say, "Although bystander CPR is associated with increased survival, the rate of performing this intervention remains unacceptably low." In other words, in a cardiac arrest emergency, your survival is significantly more dependent on the training and quick actions of those around you than the deployment of more personnel into the EMS system.

Santa Barbara County paramedic and ambulance provider, AMR, participates in a national database that tracks sudden cardiac arrest outcomes and compares them with benchmark communities such as Seattle and Boston, both of which have profoundly successful community-based EMS programs. In fact, the sudden cardiac arrest survival rate in Seattle when a bystander intervenes with initiating CPR is 45 percent, and 40 percent in Boston. Waiting for an ambulance to arrive is most often fatal without CPR intervention prior to their arrival.

With a grant from the Medtronic Foundation as a "Heart Rescue" project, the Santa Barbara County Emergency Medical Services Agency has developed the Hands Helping Hearts training program to expand the number of people who can and will perform CPR, and are capable of properly using an available AED.

In conjunction with American Medical Response (AMR) and the Santa Barbara City Fire Department, the program's objective is to train 80 percent of the employees of participating businesses, as well as the general public, in basic CPR and AED use.

Millions of dollars are spent each year to continue the EMS in its current form; however, that is about to change, as more and more medical experts are calling into question the current system. A recent editorial, *Value Generation and Health Reform in Emergency Medical Servcies*, Pre-hospital Disaster Medicine, 2012, ". . . introduces the concept of value [or outcomes to cost ratio] in EMS. . . ." It is just one of several recent articles suggesting a reevaluation of today's EMS system.

Coupled with research, the financial challenges confronting our communities are helping force what appears to be a positive change at improving service, reducing costs, and most importantly—saving lives. Best of all, CPR is free, most anyone can do it, and there is real data to prove it saves lives.

Expecting someone else to arrive in time to save a loved one, a co-worker, or someone you never met is unsound. *You* can make a difference *immediately* with CPR. The success rate of community-based CPR programs saving lives in cities such as Seattle and Boston is indisputable: the measurable outcomes prove that engaging the public in the EMS system has been profound. We can do the same thing here in Santa Barbara.

Undoubtedly, the 9-1-1 campaign is one of the most successful (and over-used) behavior response models ever created. It has permeated society so thoroughly, that even toddlers can chant the "safety mantra"—9-1-1. Curriculum developers "get it" when it comes to public education. Teaching toward societal expectation is so effective because what you learn is what you know—and what you know is what you do.

But if you were to ask folks what to do *besides* dialing 9-1-1in any emergency situation, you may get a blank stare—or the typical response, "I don't want to get involved." We have literally programmed people from childhood that in an emergency, nothing more is required of them than dialing a three-digit number.

It is time for a paradigm-shift. Reeducation must take place for the populous to recognize the value of being more *self-reliant*—and less *system-reliant.* If we want to generate a new behavior response, we must empower the masses with a new message: The most valuable and affordable

first responders who dramatically improve the survival rate in a cardiac arrest event are not the EMTs . . . they are the PNTMs—the Person or People Next to Me.

Since maintaining a cost-effective and efficient EMS is everyone's responsibility, it is time to reevaluate the current system, consider the outcomes to cost ratio, and involve the citizenry. At this time, there is no better-known monetary investment with life-saving outcomes than CPR training. The public would be best served . . . by being trained to serve one another.

How many medical aid calls actually require a paramedic level of skill and equipment? Paramedics require extensive and ongoing training to retain current certification status, and their skills require constant use in order to remain proficient. Poor skills can be worse than doing nothing.

Do we need all 161 paramedics currently accredited to practice in Santa Barbara County? I think it wise to consider that more is not always better. The cost-effective solution may require clamping the D5W TKO line to the status quo, and investing more wisely in an EMS that is more streamlined, more efficient, and more effective.

Sudden cardiac arrest can happen to anyone, anyplace, and at anytime. To learn more about Hands Helping Hearts and what you can do to improve our community's EMS system by learning CPR, becoming an instructor, or how to financially support the program, visit the website *handshelpinghearts.org* sponsored by the Santa Barbara County Emergency Medical Services Agency.

PARAMEDICS vs EMT's

"It is curious, then, that despite the rapid pace of change in other fields of medicine, fundamental changes to the traditional model of American EMS care have been slow to emerge. If other fields of medicine serve as harbingers, EMS quality and cost will soon be subject to unprecedented scrutiny by increasingly sophisticated payers and regulators demanding more accountability for their dollar."

—Marc-David Munk, MD, MPH
Value Generation and Health Reform in Emergency Medical Services
Pre-hospital and Disaster Medicine, April 2012

Consider this cluster of simultaneous hypothetical events:

It is late Saturday night when a wealthy man calls 9-1-1 reporting chest pain and requesting help.

In another incident, a citizen walking out of a theater almost trips on an intoxicated person on the sidewalk. The citizen realizes that something is wrong so he calls 9-1-1 for medical assistance.

On the other side of town, a traffic collision occurs resulting in injuries to the occupants, so witnesses call 9-1-1.

Who gets the most emergency service? Who gets assistance first? Which incident is a real emergency?

The first answer is everyone gets the same level of emergency services within the communities in which they live. This can fluctuate during busy times, but the intent is to provide a balanced level of service for everyone.

The second answer is, based on who calls first. Except for significant events, the 9-1-1 system is normally first come—first served.

The third answer is, you don't know. You can think about diverting emergency resources to the traffic collision from the man on the sidewalk, but what if the collision turns out to only be a complaint of pain, and the man on the sidewalk is in a coma?

This is the plight of fire departments and ambulance providers throughout the country. Many dispatch centers attempt to triage calls for service, but this can take valuable time away from the response as a dispatcher talks through a series of medical questions with a caller. Remember: response time matters!

Liability; the fear of litigation, is a significant force behind most of what public safety agencies say, think, and do. They do everything as consistently as possible to avoid conflict, charges of favoritism, or violation of thousands of rules, regulations, internal policies and procedures, statutes, case law, and legal mandates. While this practice clearly dilutes common sense, it does provide continuity, uniformity, and the perception of fairness. In other words—reduced liability.

The oath of office for public safety employees includes the words, "protection of life and property." A vast majority of these dedicated people take this responsibly seriously. However,

has the level of EMS service exceeded the medical requirements of the majority, or the real needs of the community? Are the EMS services provided today supported by sound medical research, practice, and supervision?

The concept of Equity of Access is deeply ingrained in fire service culture. For the fire service, everyone is entitled to the same level of care and service. Associated with Equity of Access is the Veil of Ignorance that addresses issues of, "justice as fairness."

The *Original Position*, first published in 1996 noted, "This veil of ignorance deprives the parties of all knowledge of particular facts about themselves, about one another, and even about their society and its history."

But do these theories work in the real world of public safety? For example, fire departments around the country respond to "frequent flyers"; people who continually call 9-1-1 for a barrage of medical complaints—sometimes just for the attention. These people fill our emergency rooms at the expense of taxpayers—as well as those in real need. Nonetheless, our EMS system responds every time—without question or reservation.

The days of two rescuers arriving in a small truck as we saw depicted in the television shows *Rescue 8* and *Emergency!* have been replaced by a response team consisting of an entire crew of firefighters, EMTs and paramedics in fire apparatus, ambulances, SUV staff cars, and sometimes—even helicopters.

The article, *One Patient Requires 10 Public Safety Workers* recently appeared in the Journal of Emergency Medicine. It asks a key question—how many people does it take to work-up one victim? More importantly, how much does this cost, and does it provide good medical care to the patient?

Sadly, but necessarily, EMS response statistics have become a priority for many fire departments to justify their need and associated costs. Simply stated: No numbers—no money.

The "*Some More Theory*" was well-demonstrated in the 1969 classic film *Butch Cassidy and the Sun Dance Kid*. After detonating an explosion that destroyed a railroad boxcar in an attempt to open a safe, Butch Cassidy was heard to say, "Well, that ought to do it."

Sundance responded as he held onto his hat, "Think ya used enough dynamite there, Butch?" as money and fragments of the boxcar fell to the ground—much like the overkill of our EMS today.

The question of, "what is adequate paramedic staffing" confronts many fire departments, ambulance providers, local governments, and the medical community. Paramedic training is expensive and requires individual dedication to the profession. It demands continuing education and constant practice to remain proficient. Errors and omissions by paramedics can have a profound and often permanent impact on patients and their families. Some things in life you can fake. Pre-hospital care is not one of them.

Emergency Medical Technicians (EMT Basic and EMT Advanced) and Paramedics are the delivery side of EMS—with considerable differences in training. For Basic EMT, the total training is about 240 hours; a paramedic, about 2,210 hours. While obviously better trained, do we need a paramedic for every medical call?

Dr. Marc-David Munk's recent editorial, *Value Generation and Health Reform in Emergency Medical Services*, published in Pre-hospital and Disaster Medicine, hits home on this subject noting, "Indeed, the problem with EMS quality is not consistency of process, but the fact that some services are providing the wrong care consistently. Not enough thought has been paid to outcomes in EMS, and this is the Achilles heel of the profession."

According to American Medical Response's *2011 Annual Report for Santa Barbara County*, the company responded to 41,650 calls for service with 28,636 patients transported. This is an average of 5.6 calls per day, per AMR paramedic, for a population of 407,057.

AMR paramedics responded to a total of 396 calls, or about 1 percent, where the patient would have most likely died without ALS intervention in 2011. About 2,351 patients, or about 8 percent, benefited from having a paramedic attending who provided expanded care that prevented what could have resulted in a poor patient outcome.

Santa Barbara County, Montecito, and Carpinteria/Summerland fire departments also provide paramedic services. Collectively in 2011, these three departments responded to 8,817 calls where they arrived on the scene. This is about 21 percent of the total calls handled by AMR, or less that 1 percent per fire department paramedic. It is important to note that this response load is included in the AMR totals because they are dispatched to the same calls as the fire department.

With some limited exceptions such as UCSB, AMR paramedics and EMTs respond to most all medical aid calls within Santa Barbara County. If the fire department paramedics arrive first, they will generally turn the patient over to AMR paramedics upon their arrival. There are additional exceptions in those cases where a county ambulance or helicopter transports.

No doubt, you may think you cannot have enough paramedics attending to you when you need one! However, how are the skills of the paramedics who work in your area?

Dr. Robert Tober, medical director of Collier County Emergency Services, was recently named a "2009 EMS 10 Innovators" recipient by the Journal of Emergency Medical Services for his development of "a tiered medical care program which promotes basic life support skills for most of the county's first responders and advanced life support only for the most experienced and well-trained paramedics."

In part, Dr. Tober's program addressed the growing problem of deteriorating paramedic skills in those communities with low call volume. Other industry reports stress that paramedics need to utilize their skills everyday to remain proficient; otherwise, the average paramedic is deficient within six months of his formal training.

Mount Weather Fire Department Paramedic Gregory Williams' paper, *Advanced Life Support Skill Deterioration among Paramedics in Low Call Volume Emergency Medical Service Systems*, was just one of many studies done to review the growing problem of deteriorating skills. His conclusion: "This study has shown the author that this topic is one that needs further research. A quantitative study of paramedic skills in low call volume systems needs to be done as well as a quantitative study on how to best maintain these skills."

Dr. Munk's editorial also addresses the problem noting, "First, it seems clear that complex Advanced Life Support interventions are subject to skills degradation, even while some of them have been researched and found to be unhelpful in the pre-hospital arena." The report continues, "Equally concerning, however, is the fact that the time, resources and training needed to promulgate these skills comes at the expense of other, less complex interventions that might generate better outcomes."

Nationally, paramedic skill degradation is a serious problem. While some fire officials and paramedics disagree that this is a serious issue, locally, AMR rotates their crews every two months to ensure they remain proficient and current on all of the required skills.

Perhaps there are other methodologies that could be applied to assist paramedics in maintaining their proficiency, such as: sabbaticals with local hospitals, or cross-training in metropolitan areas such as Los Angeles, Orange County, San Diego, Sacramento, or San Francisco?

Does the local Advanced Life Support call volume in Santa Barbara provide an ample patient load for the 161 certified paramedics practicing within the county? Would fewer paramedics—but with superior skills—provide better service and value to the community than just *more* paramedics?

Moreover, how many medical calls for service are better suited to local clinics, not emergency rooms? Would some communities be better served if paramedics could treat and release for minor medical issues without fear of litigation? What if there was a system where the clinic came to the patient when and where appropriate?

These ideas would require legislation, but would also save money, provide better service and help reduce emergency room overcrowding. It would also address the growing problem of people utilizing (and abusing) the EMS system as their primary medical provider.

How to best address these complex issues is a profound challenge for those who manage the EMS System. New ideas may be controversial, and perhaps unpopular with some. Some ideas may not work. The return to older and simpler delivery systems may be better in some cases. Who knows? But that is how systems and service(s) improve. After all, EMS was new once, too—and was greeted with an onslaught of naysayers. Sometimes, pruning is required for new growth to emerge.

The best of intentions do not trump poor execution. More is not always better. To quote one local EMS official: "It's complicated."

EMS—THE CHAOS THEORY

"Not only in research, but in the everyday world of politics and economics, we would all be better off if more people realized that simple systems do not necessarily possess simple dynamical properties."

—Robert May
Mathematical Ecologist (1976)

The medical and public safety communities are terrific examples of The Chaos Theory. Seemingly innocent little events can have a profound impact on outcome.

One definition of chaos is the apparent lack of order in a system that nevertheless obeys particular laws or rules. The primary components of the theory held by some is complex systems, regardless of size, depend upon underlying order—and small, simple systems and/or events can impact complex behaviors or events.

What has become known as the Emergency Medical System (EMS) is, in fact, various individual systems that operate independently of each another. These individual components function as an integrated community that attempts to meet the expanding needs of EMS consumers, and Managed Care Organizations.

EMS includes hospital staff and contractors, ambulance companies, and fire departments. There are other agencies that participate, such as the Coast Guard, Red Cross, mental health agencies, and Medical Reserve Corps.

Insurance companies, public safety unions, various trade associations, medical equipment and pharmaceutical suppliers, consultants, attorneys, and numerous committees, commissions, and boards add complexity to the process. Additionally, many local, state, and federal government agencies have a part in today's EMS system.

Hospitals are living organizations like none other. The internal dynamics between patients, insurance providers, physician groups, hospital staff, visiting nurses, technicians, private labs, hospital administrators, patient records, and facilities are just some of those who operate under the roof of the same building.

Fire departments and public health agencies providing ambulance services have their own operational guidelines. Most of these organizations operate under a paramilitary structure that is formal; rich in protocol and tradition. This operational methodology is essential when managing emergency events such as traffic collisions, fires, earthquakes, and mass casualty situations. "Taking charge" of an incident is a skill that fire departments are extremely proficient at.

Private ambulance companies frequently operate in a more corporate environment. They, too, have policies and procedures, coupled with contracted requirements and performance expectations with local agencies having jurisdiction. Frequently, companies providing primary EMS response fall under the fire department incident command structure.

Additionally, the Santa Barbara County Emergency Medical Services Agency publishes and enforces the ***BLS, EMT Optional Scope and ALS Treatment Protocols*** utilized by public and

private paramedics and EMTs throughout the county. These protocols are based on local and state mandates, as well as national standards.

Many physicians today do not work for a hospital as an employee, but as a member of physicians group that contract with hospitals. Others are independent, but have admitting rights to selected facilities. These relationships can be complicated and confusing to a patient and family.

Physicians, nurses, and specialists also have a process of protocols. Ideally, all the EMS components work together in the best interest of the patient. However, in the real world, these diverging interests add layers of confusion, complexity, and stress—all too frequently—at the expense of the patient.

EMS has been a growth industry since the early 70s. The overextended use of emergency rooms and the under utilization of medical clinics was well-documented by the National Highway Traffic Safety Administration's 1996 report, *Emergency Medical Services, Agenda for the Future*. Hospital emergency rooms have become the primary medical care for millions of Americans, and as a result, hospitals have become overcrowded, overwhelmed, and under staffed.

The California Emergency Medical Services Agency serves as the coordinator (or referee) of these various participants. This process is a good deal easier in theory than in practice, as converging interests and practices conflict frequently, particularly between the public and private sectors. These complex relationships are driven by internal and external politics, profit margins and cost control, insurance realities and billing practices, as well as the real-world pressures of being grossly over extended.

While pre-hospital care is formal and procedure-driven, luck and fate can play a large part on how an individual event will turn out. Even a simple little thing like a broken telephone, stuck door, lost keys, missing forms, or someone parked in the wrong place at an ER loading dock can have a profound impact on an otherwise simple chain of events.

For emergency responders, factors such as weather, heavy traffic, construction, someone talking on their cell phone failing to yield to an emergency vehicle, a flat tire, a defective two-way radio, a new dispatcher, a broken map light—the list of seemingly insignificant events which can go on forever—can have a monumental impact on any individual outcome. The most important component, as always, is you—the patient.

However, there are many things that can impact how and when help arrives when you need it most. Do you know where you are? Can you give clear and concise directions? Can your home be located by first responders? Can responding emergency services see your address numbers from the street? Is your property well-lit? Can an ambulance access your driveway? Do you have dogs that will prevent access to your property or home? These are just some examples that come to mind that could help—or hinder—emergency response time and/or pre-hospital care.

The United States General Accounting Office, Human Resources Division, responded to a Congressional request in September of 1996 with the report: *Health Care, States Assume Leadership Role in Providing Emergency Medical Services*. EMS systems were growing, but were still fragmented, with no universal skills or services provided. This report, in addition to the 1965 National Research Council's report, *Accidental Death and Disability: The Neglected*

Disease of Modern Society, was the first of many documents that established national goals and objectives for a new EMS system.

One area of concern in many reports to this day is local dispatch systems. Despite advances in technology, including the advent of 9-1-1 and cell phone technology, the issue of how to establish efficient communications remains a perplexing problem in many communities. Where you are, time of day, and what agency has jurisdiction, can all have a big impact on how quickly help arrives.

The challenge of processing telephone calls for emergency service dates back to the first days of the telephone. Community party lines were controlled by local operators who would forward requests for help. Who to call in large metropolitan areas became a serious problem that was ultimately resolved by automatic aid agreements that provided for the closest resource to respond, regardless of jurisdictional boundaries. This is a common practice here in Santa Barbara.

Cell phones with automated Global Position System are terrific, because the phone's location is displayed on the dispatchers screen. However, if your phone does not have GPS, or the system is not working correctly, you may have a delay. You cannot assume the dispatcher can find you, or that the location indicated is exactly where you are.

Locally, the Santa Barbara County Sheriff's Department operates a centralized 9-1-1 dispatch center for ambulance services including AMR. This reduces dispatch time, and expedites information exchange between fire, law enforcement, and allied agencies.

Many reports and studies have been commissioned in the continuing quest for improvement, including the National Highway Traffic Safety Administration's report, *Emergency Medical Services; Agenda for the Future*. This report provides three primary themes: developing partnerships; creating tools and resources; and building infrastructure. This, and other reports and studies are pointing to the same recommendations of altering the business of EMS. Without question, changes are coming, and soon.

While local, state, and federal agencies, the medical community, fire departments, public health agencies, and private ambulance companies strive for improvement, there are notable facts worthy of consideration.

For example, Doctor Michael Callaham wrote in 1995 for the *Journal of Emergency Medicine News*, "We have known for years that the vast majority of our EMS patients will do fine no matter what we do or don't do to them." He continues with his comments referring to the EMS system as, "convenience care."

Doctor Callaham is not alone in his observations. Many physicians and first responders feel that a vast majority of EMS calls for service and visits to emergency rooms are minor—or simply not necessary. The continued abuse of the EMS system impacts those who are in real need of help, and has a dramatic impact on costs. As a community, this is something we have the ability to improve through education and better utilization of clinics.

The question is not *if* we can improve the EMS system, because we can. No, the hard question is: Do the providers, including hospitals, fire departments, ambulance companies, and the public

health agencies have the will, passion, and drive to improve themselves, their agencies, and the system?

Regrettably, self interest and egos are profound obstacles to any substantive change to the current EMS system. However, the growing lack of funding has brought significant focus to EMS, and is forcing pending changes.

Change includes the desire to look at other ways of doing business—trying something new, such as additional use of clinics, and accepting the fact that some things within the EMS protocols do not work, and may, in fact, may be harmful.

For effective change, we must ask questions. Are we, as a community, willing to accept that some EMS costs cannot be supported by statistical data alone?

For example, if we accept the costs of EMTs and paramedics, can money be saved by not responding or engaging in otherwise unnecessary activities simply for data to support something that we already know cannot be supported statistically?

This would be a bold step towards advancement in reducing costs associated with pre-hospital care. Indeed, we can bring order out of chaos.

Albert Schweitzer wrote “We must all die. But that I can save a person from days of torture that is what I feel is my great and ever-new privilege. Pain is the more terrible lord of mankind than even death itself.”

The truth is the EMS system attempts to hold back the ultimate reality that confronts all of us.

THE DENIAL OF DEATH

"No one gets out alive."

—Jim Morrison
The Doors

The most defining place on earth is a morgue. If we, as a society, are looking for fairness, the only "even playing field" I know of is a morgue. For those in the morgue, it does not matter who someone was or could have been, what they owned, their once-held position, or their social status, political beliefs, how they looked and dressed, or what their faults may have been. In the morgue, everything is permanently equal—thus, fair.

A morgue is a great place for a true reality check—a calibration of what is important in life. For those who think they are special, have power over others, and are too good for the common folks, whatever; a morgue will set them straight.

No one cares here. And, they will not care—forever.

So, what does any of this have to do with the Emergency Medical System, you may ask? I submit, *everything.* Any serious discussion regarding EMS must address our own inevitable mortality.

According to the latest report from the US Department of Health and Human Services, Center for Disease Control, 2,436,682 people died in the United States in 2009. This is a crude death rate of 793.7 per 100,000. The 2009 death rate is less than 2008, and supports a continued decline in the national death rate. Put another way: we are living longer.

The top five leading causes of death continue to be: heart disease, various cancers, chronic lower respiratory disease, cerebrovascular disease (stroke), and accidents. Some would suggest that for the most part, these are also preventable diseases, so why do they remain the leading causes of death?

Diet, exercise, not smoking, and not over-consuming alcohol and other intoxicants will significantly improve the longevity of most people—absent heredity and outside factors such as working environment, stress, and contamination from outside sources. If humans are so afraid of dying, why do we abuse ourselves so much?

CBS news recently reported that Medicare provided $55 billion in payments for physician and hospital expenses during the last two months of patients' lives. For perspective, this is more than the Departments of Homeland Security and Education—*combined!* Moreover, it is reported that 20 to 30 percent of these expenses may have no positive impact on patient care.

The 2001 report, *Medicare Beneficiaries' Cost of Care in the Last Year of Life*, is one of many reports exploring the costs of end-of-life care and the personal importance it places on each of us.

The report concludes: "The data suggests that most of us will pass through a period of substantial illness burden, functional impairment, or cognitive impairment prior to death. In our own self-

interest, we should judge a proposed future Medicare system, at least in part, on the likelihood that it will provide good care to persons at the end of life."

Despite all of our best efforts and billions of dollars spent, sooner or later, we still all die. Mercury News reporter Lisa Krieger's recent article regarding her own "poignant tale" about her father's death, "poses a modern dilemma: Just because it's possible to prolong a life, should we?"

I clearly recall the first fatal traffic collision I responded to as if it were yesterday. It was 1977, in the northbound lanes of Santa Ana Freeway, just north of the Riverside freeway, in Orange County. A southbound station wagon driven by an intoxicated driver hit the center divider and was catapulted into the northbound lanes hitting a VW while still airborne.

The driver of the VW was killed instantly, as her unrestrained infant was ejected onto the right-shoulder, landing next to the station wagon that hit them. Both drivers and their passengers were killed in this afternoon rush hour collision.

To add to this tragic event, the husband of the young mother was returning home from work, and was stuck in traffic. He noticed his wife's bright yellow VW stopped in the lane of traffic with the yellow blanket draped over the windshield. He stopped, hopped the center divider, and approached the vehicle—but not in time for the CHP to stop him. His life was changed forever.

So was everyone's who responded, including mine.

The Encyclopedia of Death and Dying article, *Emergency Medical Technicians*, points out, "The struggle between life and death is the fundamental responsibility of the Emergency Medical Servcies professional; EMS systems provide [a] medical safety net for the public."

The report continues, "The primary goal of the EMS system is to provide acute care; additional roles are accident and injury prevention, treatment of chronic conditions, and assisting in improvements in the overall health of the community."

Understandably, the public expects EMTs, paramedics, and firefighters to save lives, to reduce pain, rescue the trapped, and transport the sick and injured to the hospital. To the public, our "heroes" are "lifesavers" and "robbers of death." We have elevated mere mortals to superhero status, and yoked them with superhuman expectations.

While we would like to believe EMS professionals are superheroes, this is simply not true. Perhaps the fantasy of EMTs and paramedics as "miracle workers" who are powerful enough to override fate and pull our loved ones from the jaws of death in a single bound helps ease our own anxiety regarding death, and feeds our own desire to feel immortal.

But, alas, they are people—just like us. Real people. With all the strengths, weaknesses, and characteristics that make us uniquely human.

So who helps the people within the EMS system—the EMTs, paramedics, nurses, physicians, and lab technicians to name a few? Who do they turn to in time of need and comfort? How do they deal with their own perceptions of death and dying?

How do they deal with what they are exposed to every day? What do these people do when they are subjected to life-impacting situations in their own lives?

How do they "debrief" from a work shift so horrific, the mental images will live with for the rest of their lives?

Working around death and the terminally ill has a serious impact on those who do it. It forces an individual to face their own issues regarding the reality of death. This is particularly challenging for EMS professionals, because they are all-too-frequently caught in the moment of reality where, despite all their best efforts, nothing can be done.

For example, despite what many people think, most cardiac arrest patients die either at the scene, or after arrival at an emergency room. These events are particularly difficult for EMS personnel because they are generally in public view, or in the victim's home with the family watching. People demand something to be done, and they do not like it when sworn life-savers fall short.

Next to Dr. Elisabeth Kübler-Ross's books, *On Death and Dying* and *Answers on Death and Dying*, Ernest Becker's Pulitzer Prize award winning book, *The Denial of Death*, is considered by many to be the definitive work on the "why" of human existence. The first paragraph of the second chapter reads: "The first thing we have to do with heroism is to lay bare its underside, show what gives human heroics it specific nature and impetus. Here we introduce directly one of the great rediscoveries of modern thought: that of all things that move man, one of the principal ones is his terror of death."

In his book, *The Individual: A Study of Life and Death*, N. S. Shaler wrote, "Heroism is the first and foremost a reflex of the terror of death."

So, what is this enormous burden that we place on those working in our EMS system to overcome the fear and terror of death? Patrick Shen's 2003 documentary, *Flight from Death*, explores this and other social issues that confront all of us every day. The film suggests "Death anxiety as a possible root cause of many human behaviors on a psychological, spiritual, and cultural level."

This is a big chunk of analysis for a young EMT, paramedic, or police officer to digest as they respond from one medical emergency to the next—day after day—week after week. Try as they may to adjust to the stress, first responders must deal with these hard realities, which are often compounded by: politics; egos; funding issues; insurance gamesmanship; staffing limitations; legal, moral, religious and ethical challenges; and their own personal lives and beliefs. None of these realities can be found in any job description.

Nonetheless, no matter what, no matter when, and no matter where, help responds when someone calls 9-1-1, be it law enforcement, fire, or medical. This response is without reservation as to whom, why, or who is going to pay. I return once again to the comment by one local EMS official: "It's complicated." Indeed it is.

EMS—A REVIEW

"Life is not fair, get used to it."

—Bill Gates

"If a resource is held in commons for use by all, then ultimately that resource will be destroyed. "'Freedom in a common brings ruin to all.'" To avoid the ultimate destruction, we must change our human values and ideas of morality."

—Robert Stewart
—Dr. Garrett Hardin

Sometimes, I think that to understand life and the world we live in, all one has to do is read Peanuts and Dilbert. Peanuts captures our human nature, and Dilbert demonstrates the absurdity, self-promotion, and dysfunction of our crippling bureaucratic systems. As Charlie Brown and Dilbert know all too well, life is not fair.

This is the final segment of my publication reviewing the different perspectives of the Emergency Medical System. To be sure, not everyone will agree with one aspect or another of this provocative publication. It was intended to be thought-provoking. The dynamic opinions of what our EMS system should be and who should provide it; who is in charge—public and/or private emergency providers; who is going to pay; and who is going to ensure quality controls are all legitimate issues for discussion.

Philip Howard's book, *The Death of Common Sense-How Law is Suffocating America*, points out that "Rationalism, the bright dream of figuring out everything in advance and setting it forth precisely in a centralized regulatory system, has made us blind. Obsessed with certainty, we see almost nothing."

Howard continues, "How things are done has become far more important than what is done" adding, "Not taking responsibility is now institutionalized in layers of forms and meetings." To further quote Howard, "Precision, the experts say, ensures fairness."

While lawyers may call this, "due diligence," others would suggest that this is the process that protects us and attempts to keep everything fair. Yet others would say it stalls change and promotes the status quo.

Our quest for *fairness* creates an expectation of public safety that becomes profoundly out-of-sync with what can be done and what is affordable. Try as we may, not all communities are going to have the same level of emergency services, and not all outcomes are going to be favorable.

The American fire service evolved into EMS primarily because it was the only public-based emergency service that was already deployed year-around, 24 hours a day, with facilities located throughout the community.

However, the early days of this evolution were not without resistance from within the fire service and the medical community. Today, powerful and conflicting forces are returning, driven by the medical community, private medical and ambulance providers, as well as the public—with changes in public health expectations.

The September 2010 federally funded study, *Fire Fighter Safety and Deployment Study Report on EMS Field Experiments* reported, "In recent years, the provision of emergency medical services has progressed from an amenity to a citizen-required service." This is because the fire service is an agency that no matter what, no matter when, and no matter where, responds without reservation—you call, they come.

Nonetheless, does the current fire service model serve us well? Holding onto decades of tradition and resistance to change is becoming problematic, primarily because of skyrocketing costs for services, and maintaining the system of delivery.

For example, the *Final Report Fire Operations, City of Grand Rapids*, written by the distinguished International City/County Management Association, challenges the status quo with innovative ideas on reducing costs, and improving response times and service. Needless to say, the reports' 23 recommendations are controversial within the fire service.

University of Oklahoma's *Emergency Medical Services Evidence-Based System Design White Paper for EMSA* executive summary said, "While many in the EMS profession speak of adopting 'best practices,' the stark reality is political, fiscal, and labor-related restraints most often curtail successful pursuit and incorporation of medical science's sage instruction."

The report goes on to say, "The widely espoused beliefs of 'more is better' and 'faster makes a difference' applied to all EMS system clinical encounters are historically enabled and must be addressed with precision."

So, now we have a moral dilemma. The fire service must be prepared to respond to unknown and worst case possibilities. Simple calls can quickly become profoundly complex incidents. In the words of one local fire chief, we must be ready for any, "what if scenario."

This discussion is further complicated by those who work in offices, medical facilities, and universities versus those who work inside crashed cars, smoke filled buildings, and other hazardous environments—under a variety of generally unpleasant and stressful circumstances.

Clearly, there is a profound difference, but one cannot ignore that an overwhelming number of EMS calls for service are not emergencies—but minor events requiring only minimal resources.

Remember that the original intent of the paramedic program from the 1970s was to bring the physician to the patient in an effort to help improve the survival rate of sudden cardiac arrest, heart attack, and stroke victims.

Some 40 years later, we have learned that without intervention by bystanders, the out-of-hospital survival rate has not significantly improved.

Over the decades, EMS functions have expanded. Anaphylactic shock, serious trauma, and diabetic episodes are some of the medical events where paramedics may make a measurable

difference. Moreover, many of these events occur on highways, construction sites, agricultural areas, back country, manufacturing facilities, or on the water—all of which require more than just two EMTs with a gurney.

The New York State Emergency Medical Services Council, *Quality Improvement for Pre-hospital Providers*, 2010, report said, "Emergency Medical Services (EMS) lies at the crossroads of public health, public safety, and emergency medicine. The mission of EMS is to provide timely and appropriate emergency medical care and transportation of the ill and injured, thereby reducing death and disability."

The report continues, "To achieve this end, EMS agencies should embrace the following fundamental principles, typically memorialized in an agency level mission statement or vision statement:…that EMS agencies can and must be improved; that it is the responsibility of every provider to participate in the effort to improve EMS that the foundation of EMS quality improvement begins at the agency level; and that there must be a commitment to quality care by the governing body of each EMS agency."

As previously discussed, Equity of Access is a significant goal of local government. However, does it cause a moral hazard when internal conflicts of interest collide with the interest of the public? Doing things just because it seems like the right thing to do ignores the fact that it may not be the right thing to do.

From the fire department perspective, what about the one call where responding as they do *does* make a difference? Who is to know which call may matter most? How can a dispatcher trust what is being reported is an accurate assessment of any given situation? Statistical data is great and vitally important, but in the real world, the fear of litigation trumps once again.

The Tragedy of the Commons impacts many public and private aspects of EMS. How can an effective EMS system be supported if it is free to all who use it? In time, the system will collapse under the weight of over utilization. Who is going to pay also becomes an annoying and perplexing question. For ambulance providers, how to get paid is an ever-growing challenge.

The recent US Supreme Court 5-4 decision regarding The Patient Protection and Affordable Care Act will have a significant impact on the future of EMS. Profound changes and challenges in pre-hospital care practices and procedures are quickly approaching.

A prior segment discussed the Chaos Theory, which is alive and well within many aspects of EMS. Seemingly insignificant events can have a huge impact on results. Try as we all may to avoid surprises, they are going to occur—and frequently—when they are most unappreciated.

Within the real world of public safety, first responders must be ready to take on these challenges as they occur.

Fortunately, as a community, we can take charge and have a positive impact on our EMS system. As a community, we can dramatically improve sudden cardiac arrest and heart attack survival rates by learning CPR and how to utilize an AED. We should support and promote businesses and organizations that are willing to purchase AEDs for the community, and train their employees on their proper use. These simple actions will save lives.

Equally important, is educating the public about not abusing the EMS system. People need to consider other options of transportation, and the perceived need to go to an emergency room. Local clinics may well meet individual immediate needs, freeing up ambulances and emergency rooms for those in real need.

EMS is profoundly complicated, political, and emotional. For those who work within the system, passions can run high—often ignoring or conflicting with the passions of others. Interestingly, the taming of these passions may be found in a growing common denominator—cost control.

Can we afford the ever-growing demands for EMS services? Is it reasonable that we, as a society, continue to expect on-demand emergency services at little or no cost? Is it practical or wise to promote system reliance at the expense of promoting cost effective preventive care and self reliance?

Is it smart to convince the public that they have a "right" to quality emergency medical services—but no responsibility for maintaining it? Does the quest for fairness trump common sense? Is a hospital on wheels required every time to transport a patient to the hospital?

In the final analysis, it is important that we appreciate that at any moment we, ourselves, are potential EMS consumers. Consequently, we owe it to ourselves to understand the EMS system, question—even challenge—the status quo to ensure its survivability, and do our part to support our emergency services.

THE MANHATTAN PROJECT

"Truth, not a pet, is man's best friend"

– Dr. Julius Robert Oppenheimer
Director of the Manhattan Project

This work is a culmination of research and personal interviews in an effort to find answers to what I thought were 20 reasonably simple questions. In the end, I found that there are no simple answers and my questions are not simple.

Regrettably, EMS politics are profoundly complicated. Time Magazine's Steven Brill in his February 2013 article *Bitter Pill: Why Medical Bills Are Killing Us* takes on the entire medical community calling it "the American health care ecosystem" with EMS just one small component of a huge corporate machine.

According to Brill, "the health-care-industrial complex spends more than three times what the military-industrial complex spends in Washington." It would seem that something so expensive would have some answers but alas, my attempt to answer my own questions just created more questions. In fact, in some cases there are clearly no answers – not yet anyway. It is both frustrating and baffling.

My first question of who is going to pay was quickly dwarfed by where is all the money going? It is not in the EMS system with collection rates frequently below 40 percent. However, that is changing as private-equity firms are moving into what they consider to be a high-margin business. This move is creating yet further challenges for public EMS agencies to find ways to be competitive with the private sector, if not just stay in business.

My research involved meeting with professionals in various fields, many of whom have been working in the EMS system since its modern day inception in the early 1970's. The more I learned, the more I found out how much I did not know. I share this as a word of caution to those who think they know everything there is to know about EMS, pre-hospital care and public safety. Moreover, I will freely admit I changed some of my own thinking and came to appreciate the complexity of any attempt to discover simple solutions.

To be clear, this series is not an attack on anyone or any institution, quite the contrary. This is a broad look at the medical community, fire departments, private ambulance companies as well as those who work within the EMS system.

I also looked at the question of who we are as a society, our views of death and what happens within the commons of our community. In summary, it is a review of what was, what is, and what is to become in the world of EMS and pre-hospital care.

To be sure not everyone, particularly within the fire service, appreciates my research, or worse, my writing about it. However, progressive thinkers and strategic planners within the public health and fire service communities took a significantly more positive attitude and in many cases contributed to my research. For these progressive administrators and managers they know all too well that profound change is not just on the way – it is already here.

One fire department Division Chief called this work "The Manhattan Project". At first I laughed and went about our conversation. However, the term stuck with me and perhaps it is a good metaphor to provoke thought, questions, intellectual review, and potential improvements where appropriate regarding changes within the EMS and pre-hospital care from the initial dispatch to release from the hospital.

In many cases the California fire service is comfortably sleeping as the medical and public health community is about to revolutionize pre-hospital care, indeed the entire health care system. Like it or not the fire service must either get fully engaged with the changes that are already here, as well as those quickly approaching, or return to fundamentally basic fire service. In military jargon, "you are either moving up or you are moving out."

The opportunity for a new fire service is here *now!* However, in order to succeed in the future leaders must have the willingness to rebuild decades of bureaucracy, standards and past practices. History and tradition are obviously important but it must not and cannot inhibit improvement and growth into the future.

Nationally recognized Fire Chiefs Kurt Latipow and Peter Bryan (Emergency Servcies Consulting International) promote their progressive leadership program "*Managing the New Reality*." They boldly and directly confront their peers with the question: "What happened out there?"

Their program points out significant financial and political impacts the fire service has suffered over the last several years. Needless to say, this is not just unique to the fire service. In large part, business addressed the new world ten to twenty years ago. Behind the curve, public agencies today are facing the same issues with a long and painful future.

Make no mistake, today's EMS system for the fire service is going to be significantly different in the near future. This does not have to be a bad thing. However, fear has a way of working its way into any discussion regarding change. Tradition and culture within the fire service as well as the medical community creates an environment where change can be profoundly difficult. Those who are willing to reinvent themselves will be successful. However, I fear that those who insist on maintaining the norm are doomed to slow and painful failure.

Today, many communities are suffering reductions in fire and EMS services, the closing or browning out of fire stations and increased response times. These changes have caused a reduction of fire service workforce, furloughs, benefit reductions and growing safety concerns.

Uncomfortably for the fire service the public is starting to pay attention and ask prudent questions about their government services, associated costs, deliver and accountability. In general, the public views government as inefficient with no financial accountability. The news is full of reports of public officials caught up in various scandals. Regrettably, the fire service has not escaped these unfortunate events.

Unfortunately and perhaps not entirely deserved many government agencies are not seen as transparent but with a sustained culture of entitlement and exemptions to the rule of law. Perhaps public perception would not be so negative if governments didn't also suffer from poor

communication both internally and towards the public. The appearance of evil and incompetence is driven in large part by the failure to communicate effectively, not by real failures.

The program *Managing the New Reality* accurately points out that public perception of government is viewed in many cases as non-responsive to the community it serves. This dilemma is further complicated by what the community wants versus what the community can afford. For the fire service the same holds true - what the fire service wants versus what the public is willing to pay for.

It would appear that public perception and reality is severely out of sync. Fire department traditions and practices are being called into question as are the costs. Television, the Internet, blogs and movies are presenting an image of public safety capabilities and resources that are not based on fact. On the other side of the issue, public safety is doing a poor job of getting the correct message out. The result is the perception of arrogance and too little too late.

Steve Jobs once remarked "Innovation distinguishes between a leader and a follower." Indeed, the pre-hospital and EMS community is at an exciting time for those leaders who grasp the reality of the "New Reality" that we live in today. The ability to adapt to new financial realities while embracing technology, engaging all stakeholders and rethinking the status quo is essential for survival.

The great fear within public services is the idea of privatization, but it is already here and there is a profound reluctance in accepting it. Without question there is a place for government services; however, the discussion of what should and shouldn't be privatized is as much a social issue as it is administrative. Nonetheless, one thing is blindingly clear: In many cases public services are quickly pricing themselves out of business.

In an effort to find ways to address change and to meet new demands of the future, the Federal Interagency Committee on Emergency Medical Services *2011 National EMS Assessment* expert panel developed findings and observations on the following topics:

- EMS Organizational Definitions
- EMS Volunteerism
- EMS Dispatch Centers
- EMS Vehicle Crashes and Workforce Safety
- State EMS Office Resources and Funding
- Regional Systems of Care
- EMS Professional Recruitment and Retention
- EMS Educational Standards and Levels
- State EMS Medical Direction
- Local EMS Medical Direction
- EMS Professionals Degree versus Certificate
- National EMS Information Systems (NEMSIS) Version 3 Implementation
- Linkage of EMS to Other Healthcare Date and Performance Improvement
- Involvement in State and Federal Disaster Preparedness Programs
- Statewide EMS Protocols, Triage and Destination Plans
- Community Paramedicine

The Emergency Management Expert committee's findings included the following topics:

- Involvement in Federal Preparedness Programs
- Medical Surge Capacity Integration
- EMS Surge Capacity
- EMS Funding for Disaster Preparedness
- Disaster Planning
- Resources and Equipment
- Staffing and Training
- Interoperable Communications
- Decontamination
- Patient Tracking and Surveillance
- Patient Transportation
- Specialty Service Capability
- Medical Oversight
- Children and Vulnerable Populations
- Mass Casualty Events and Exercises

I point out these observations and findings to show the complicated nature and complexity of issues confronting pre-hospital care and EMS system today and into the future. Costs are but one factor. You can clearly see why there are no simple answers.

As the public sector forms committees, commissions and contracts consultants in pursuit of what Philip Howard calls "the process" in his book *The Death of Common Sense, How law is suffocating America* the private sector has moved aggressively forward by not ignoring the trends and changes within society, EMS or the pre-hospital care community.

American Medical Response (AMR) is but one major private EMS provider who is actively engaging the "New Reality." They correctly point out that "In the evolving world of healthcare reform, the provision of acute & chronic healthcare is undergoing significant change from the current practice." Without question the private sector is very much ahead of their public counterparts.

AMR's parent, Emergency Medical Services Corporation (EMSC), touts their Community Paramedic Specialist Program saying they are "uniquely positioned to become the leader in this new environment. Our strengths include our national footprint, our focus on medicine, our call center management expertise, a national educational delivery system, an extensive database of patient encounters and access to partners eager to explore improved delivery models. In addition, the recent launch of Evolution Health, the new arena of EMSC, provides an opportunity to integrate into a mobile physician centered house call practice using our well-developed skill set."

The future of healthcare, particularly in the areas of access, accountability and extended delivery is going to change. Regardless of the issue of public, private or a combination of both, one question that we must all ask is what and how much should government become involved in the healthcare delivery system?

The Patient Protection and Affordable Care Act (PPACA) is a gigantic leap forward into new

territory. For some the Act is revolutionary, to others it is a deep step into socialism with the potential of failure (Remember the Tragedy of the Commons?).

In September of 2012, the California Ambulance Association presented, *Impact of Health Care Reform on California's EMS System*. In the section Healthcare Reform Highlights the Association states "Near universal coverage causes sustained charity care." The presentation continues with what they call "$300 Million Charity Care" noting:

- 18% of patients are uninsured
- Estimated *$300 million* annually in charity care delivered by statewide 9-1-1 providers
- ACA (Affordable Care Act) and Medi-Cal expansion reduces but does not eliminate uninsured
- Counties retain responsibility for indigent care (Lomita decision)

The Association did not make this up. The statement "Near universal coverage of the uninsured" is from a California Joint Hearing on Federal Health Care, Senate and Assembly Health Committee.

How the PPACA will impact EMS delivery is not yet entirely clear. Needless to say we are all going to find out together. Obviously, there will be future modifications and changes as the Act moves forward. However, there are some issues and answers to my initial questions that are clear:

- We are all going to pay more and receive less.
- The day of the traditional fire service and how they engaged the EMS system is going to change for most agencies. They can embrace it and engage it or fall victim to it.
- Community partnerships between the medical community, public health, fire departments and ambulance providers are going to become the norm for continuity and consistency of service and financial survival.
- The public demands for better service at less cost will continue. All EMS providers are going to have to justify their costs and way of doing business.
- Public agencies will be forced to be more transparent, downsize and rebuild their business model. Twenty-four hour shifts may well become something of the past.
- Training demands will continue to grow and further dictate staffing and delivery protocols.
- Community based CPR and AED programs will expand and become the norm in many communities.
- Not all fire agencies are going to continue to provide EMS services because of costs, training demands, liability, and inability to meet administrative requirements as well as inability to control labor costs.
- Legislative changes are required to provide for the expansion of Paramedicine within the public and private sector.
- Local clinics, some within fire stations and/or public health facilities will expand considerably.

At this point you may be wondering why things are the way they are with so much information pointing to doing things better, quicker, safer and less expensive or if fire departments are currently in position to take on the complexities of the growing EMS system. If so, you are not alone. The 2010 – 2011 Santa Clara County Civil Grand Jury report, *Fighting Fire or Fighting*

Change? Rethinking Fire Department Response Protocol and Consolidation Opportunities takes the issues on with great vigor noting "if considered at all, changes had not been implemented."

The report continues, "CM's (town and city managers) and fire chiefs generally agreed that fire department operations, as currently configured, are unsustainable. All agree, in principle, that fire departments should rethink their response protocols – which are based on a historically fire-oriented model that does not match today's overwhelming medical-based demand for emergency services." This finding is well supported by the California Department of Forestry and Fire Protection, Office of the State Fire Marshal's California Incident Reporting System. For FY 2011, 497 agencies reported a total of 2,084,934 calls for service. Only 7% were for fires with 64% for EMS and 29% for other incidents and non emergencies.

Regarding their own question entitled "Real or Imagined Public Fear Against Fire Department Change" the report states, "all those interviewed agreed that current economic conditions demand rethinking fire response protocols, more effectively managing resources and finding opportunities for fire department consolidation."

You may be asking yourself as did the Grand Jury, "Why have fire departments remained fire-based as opposed to evolving into emergency response departments? No truly defensible answers emerged." I would submit that the collective failure to adapt to changing times resulted in the ultimate creation of the emergency management field. Today in most areas of the country the fire service has become subordinate to emergency managers. Frustrating to the fire service many of these emergency managers are civilian or from law enforcement.

In the real world it is not what you know but what you can prove. This is where the fire service is profoundly challenged. Clearly, the fire service needs to take charge and prove its value and accept change where appropriate if it is to be competitive with the private sector. Perhaps if change was considered improvement it would be an easier process and more acceptable.

The Sunnyvale Department of Public Safety did attempt to "alter response practices…"Unfortunately, the effort at reform was killed by the Sunnyvale firefighters union, which argued that contract ambulance personnel did not have the same training as firefighters. More unfortunately, firefighters themselves resisted integration with ambulance crews." The attitude towards private ambulance staff was intriguing because Sunnyvale cross trains police officers as firefighters. Interestingly, for Santa Clara County in FY 2011, only 3% of the calls for service were for fires with 69% of EMS. For FY 2012, the fire calls remained at 3% as EMS calls dropped to 68%.

Boldly, the Grand Jury took on the obstacles to change directly. "Interviewees consistently commented that efforts to think outside the box have been stymied by the firefighter unions. Union leadership is doing a good job at what they are tasked to do: get as membership as they can. But unions must see that firefighter reputation is tarnished by a public perception of union greed, particularly in an economic environment where such greed – manifested by negotiations intractability – is forcing other necessary and popular city services, such as parks, libraries, and recreation to be cut. The result is a clear impression of firefighters as self-serving rather than community serving." This seems a bit harsh, but then in today's world, perception trumps reality.

The report concludes "that in fire departments across SCC (Santa Clara County), an outmoded service delivery model does not match today's emergency response needs." The political will to

effect change is indeed challenging and much easier to talk about than to implement. However, the report calls attention to the responsibility of elected and appointed officials saying "In spite of union barriers to change, it is the responsibility of city leadership to demonstrate a willingness to rethink consolidation and response protocols." Indeed, this finding is not unique to Santa Clara County.

These public perceptions have not gone unnoticed within the national fire service. The International Association of Fire Chiefs, Fire and Emergency Service Image Task Force recently released *Taking Responsibility for a Positive Public Perception*. The executive summary reports "The increasing public scrutiny of our budgets, operations and behavior has led to growing number of negative perceptions that is slowly tarnishing our image."

The report continues, "While it's easier to point fingers at the media, elected officials and the public, the first and hardest step in this process is taking a good look in the mirror. How has our own arrogance or unwillingness to keep pace with our changing environment contributed to this decline in public perception? How did we become out of step with those around us?"

So what does this battle between public and private sector services, union's versus management, public versus government, government versus government, health care provider's versus government as well as the financial and political realities mean? Clearly, bringing everyone together to find common ground is essential. After all, each and every one of us is a potential patient of the EMS system.

Today the world travels at 186,000 miles per second. Those who cannot, or will not keep up are doomed. The "New Normal" or "New Reality" is challenging to define because our world is changing so quickly. Any resistance to change is going to be difficult to maintain. As Star Trek's Borg would say: "Resistance is futile."

This is not to say giving up and walking away is an appropriate answer either. I suggest that we must start with defining goals and setting objectives necessary to meet those goals. From my perspective, it is by far superior to take charge of the future than to have the future take charge of you.

Any attempt to address the current and future of pre-hospital care, EMS or public safety must also take on many social, moral, religious and political issues that are far more complicated than can be addressed here. Each of us must evaluate these issues and come to our own conclusions. But take note, we can no longer afford to pretend that all is well in our society and nothing matters because it does.

We must look at where we are as a society. What demands is society putting on government and private health care and EMS services? Is it reasonable? For example ,whatever happened to personal responsibility, self help or helping your neighbor? What level of personal accountability should people be held to? And the big question: Who is going to pay?

These are questions that will continue to confront public safety, public health, pre-hospital care, medicine, private ambulance service providers and social service agencies into the future. As we are learning there are no single answers, nor are there any easy ones. Nonetheless, ignoring these questions and hoping that they will go away is at best foolish.

Margaret Wheatley's comments in her book *So Far From Home*, "Hope is such a dangerous source of motivation, it's an ambush, because what lies in what is hope's ever-present companion, fear: the fear of failing, the despair of disappointment, the bitterness and exhaustion that can overtake us when our best, most promising efforts are rebuked, undone, ignored, destroyed. As someone commented, expectation is premeditated disappointment." In other words, hope is not a plan.

Buddhist meditation master Chögyam Trungpa challenges us in his book *Shambhala: The Sacred Path of the Warrior* saying "We cannot change the world as it is, but by opening ourselves to the world as it is, we may find that gentleness, decency and bravery are available – not only to us but to all human beings."

Those of us who ask questions, confront "the system" or look for answers in the real world we live can frequently find ourselves quickly labeled as "outcasts", "troublemakers", "rabble rousers", "not team players" or worse. Those of you who fail to "go with the flow" know of what I speak. Fortunately, history is full of those who dared to take a position and make things happen. Benjamin Franklin is a name that comes to mind as a perfect example. Benjamin Franklin is credited as the founder of the American Fire service in Boston as cofounder of the Union Fire Company in 1736.

I would suggest that those who dare take on the status quo are "change agents," as people who look to improve themselves, their employers and society. To not engage and ask questions about issues confronting everyone is intellectual laziness.

Regardless of your position on these issues it is important that you stop and consider where we are today, personally, professionally and as a society. What right does anyone have to complain if they do not engage the process?

The future does not need to be instilled with fear of the unknown. We can take charge and be proactive starting with real and substantive communication, public education, awareness and involvement.

United States National Fire Academy Superintendent Dr. Denis Onieal recently pointed out to me that the United States is the only country on earth that does what we do in emergency management. Indeed, it is the United States that is frequently called upon to help nations throughout the world when disaster strikes. It is the United States that has taken the leadership role. Surly we can overcome our differences within the EMS community and meet the challenges that confront us in the highest of tradition and honor.

Scott Clough is Assistant Chief, Director of EMS for Sacramento Metropolitan Fire District and Chair of the California State Firefighters' Association EMS Committee. In his September 2013 *The California Fire Service* editorial, Chief Clough sums it up best by saying "We cannot face the future without new and inspired changes in the healthcare system. There is no better group of people to begin that change than today's fire service. He adds, "To think that our system should continue to operate in the same manner it is now flies in the face of everything for which we in the fire service stand. Continuing what we are doing now in EMS would be like choosing an axe over a chain saw for roof ventilation."

My final assessment: It's complicated.

***

What follows is the most important part of **A Tragedy of the Commons**, the citations. This is a list of 244 supporting documents, reports, publications, websites, radio interviews and videos used to support this work. Anyone interested in the history of EMS to what EMS will be in the future is encouraged to research these materials. With only minor exceptions, this information is readily available on the Internet and book vendors such as Amazon.com and Barnes & Noble. Interestingly, for as extensive as the list is, it is remarkable small compared to the totality of available information on EMS, prehospital care and the future of health care.

Citation for
A TRAGEDY OF THE COMMONS
A Review of Our Emergency Medical System

— ARTICLES —

1. *200th Graduation, J. Michael Criley Paramedic Training Institute*, (March 29, 2007), El Camino Community College

2. Dr. Greg Mears, et al, *2011 National EMS Assessment*, (2011), U.S. Department of Transportation, National Highway Traffic Safety Administration, Federal Interagency Committee on EMS, DTNH22-09-C-0128

3. *2011 Report to the Community*, (2011), American Medical Response, Santa Barbara

4. Jackie K. Reinhardt, *A System to Save Lives, A story about the evolution of a mobile emergency medical system and the Long Beach community that made it happen*, (1974), California Committee on Regional Programs

5. Committee on Trauma and Committee on Shock, Division of Medical Sciences, National Academy of Sciences, National Research Council, *Accidental Death and Disability: The Neglected Disease of Modern Society*, (September 1966), National Academy of Sciences, National Research Council

6. Gregory W. Williams, *Advanced Life Support Skill Deterioration Among Paramedics in Low Call Volume Emergency Medical Service Systems*, (October 2009), Mount Weather Fire Department

7. John C. Gerard, *Agreement For Exchange of Fire Protection and Rescue Servcies – Automatic Aid/Initial Action*, (March 19, 1979), Los Angeles Fire Department

8. *Ambulance Crew Configuration: Associations with Pre-hospital Management and Clinical Parameters in a Multi-system*, (n.d.), American Medical Response and University of Arizona,

9. *AMR Insight*, (May 25, 2012), American Medical Response

10. *Analysis of Out-of-Hospital Cardiac Arrest*, (n.d.), American Medical Response and University of Arizona

11. *Annual Response Statistics, 2011*, (2011), Huntington Beach Fire Department

12. *Association Between Ambulance Diversion and Survival Among Patients With Acute Myocardial Infarction*, (June 15, 2011), 2440 JAMA – Vol. 305, No. 23

13. William T. Fujioka, *Automatic Aid Agreements Between the Los Angeles County Fire Department and other Agencies (Item 23-A, Agenda of October 23, 2012)*, (November 8, 2012), County of Los Angeles, Chief Executive Office

14. Nancy Churnin, *Avoid the ER with advice from the pros.*, (March 29, 2012), The Dallas Morning News

15. Steven Brill, *Bitter Pill: Why Medical Bills Are Killing Us*, (March 4, 2013), Time, Vol. 8, No 8, 2013

16. Angelo Salvucci, M.D., *BLS, EMT Optional Scope and ALS Treatment Protocols*, (May 2012), Santa Barbara County, Department of Public Health, Emergency Medical Services Agency

17. Aaron C. Harp, Esq., Letter to: *California EMS Authority, Tom McGinnis, Transportation Coordinator*, (August 27, 2010), City of Anaheim, Office of the City Attorney

18. *California Emergency Medical Services Personnel Programs*, EMSA #131 4th Revision, (November 2011), Emergency Medical Services Authority, California Health and Human Services Agency.

19. *California Public Health and Medical Emergency Operations Manual*, (July 2011), California Department of Public Health, Emergency Medical Services Authority

20. *Chest Compression-Only CPR by Lay Rescuers and Survival Form Out-of-Hospital Cardiac Arrest*, (October 6, 2010), 1448 JAMA – Vol. 304, No. 13

21. *City of San Jose Operations Efficiency Diagnostic*, (2012) Public Sector IBM Global Business Services

22. Robert M. Cowan and Stephen Trzeciak, *Clinical review: Emergency department overcrowding and the potential impact on the critically ill*, (October 14, 2004), Biomed Central, Ltd.

23. Fire Service-Based EMS Advocates, *Coalition Stresses Importance of Fire Service Based EMS*, (2010)

24. Maria O'Brien Hylton, Esq., *Combating Moral Hazard: The Case for Rationalizing Public Employee Benefits*, (August 4, 2011, revised September 6, 2011), Boston University School of Law Working Paper No. 11-36

25. Gary Ludwig, *Community Paramedicine – The Next Step in EMS*, (June 1, 2012), Firehouse

26. EMS Personnel Standards Unit, *Compendium of Statutes and Regulations Related to EMT and Paramedic Scope of Practice During Mutual Aid in California*, (December 2011), California Emergency Medical Services Authority

27. E. David Bailey, MD and Thomas Sweeney, MD, *Considerations in Establishing Emergency Medical Services Response Time Goals*, (March 14, 2003), Position Paper, National Association of EMS Physicians, p.397 - 399

28. David M. Lemonick, MD, *Controversies in Pre-hospital Care*, (2009), American Journal of Clinical Medicine, Volume 6, No. 1

29. Paul Rousseau, *Death Denial*, December 1, 2000 vol. 18 no. 23 3998-3999, Journal of Clinical Oncology

30. *Delivery of Fire, Emergency Medical First Response, and Related Emergency Services*, (April 1, 2011), WSI (A proposal submitted to the City of San Carlos)

31. Chief John Sinclair, *EMS from a Fire Chief's Perspective*, (May 1, 2010), International Association of Fire Chiefs

32. *EMS Health Care Reform Think Tank: Opportunities and Challenges for California's EMS System*, (April 16, 2012), California Ambulance Association

33. Salvucci, et al, *EMS Systems and Manage Care Integration*, January/March 1998 issue Pre-hospital Emergency Care, Vol. 2, No. 1

34. *Emergency Medical Response in Orange County – Where did all the "fires" go? Long time passing*, (2011 – 2012), Orange County Grand Jury

35. *Emergency Medical Service*, (2000 - 2001), Santa Barbara County Grand Jury

36. U.S. Department of Transportation, National Traffic Safety Administration, *Emergency Medical Servcies, Agenda for the Future*, (August 1996), Health Resources & Services Administration, Maternal & Child Health Bureau, DOT HS 808 411, NTS-42

37. U.S. Department of Transportation, National Traffic Safety Administration, *Emergency Medical Services, Agenda for the Future*, (August 1996), National Highway Traffic Safety Administration, DOT HS 808 441, NTS-42

38. U.S. Department of Transportation, National Traffic Safety Administration, *Emergency Medical Servcies, Implementation Guide*, (n.d.), National Highway Traffic Safety Administration, DOT HS 808 711

39. *Emergency Medical Servcies at the Crossroads*, (June 12, 2006), Institute of Medicine of National Academies

40. *Equity of Access*, (n.d.), American Library Association

41. Nancy Kranich, *Equity and Equity of Access: What's the Difference*? (n.d.), American Library Association

42. Adam Oliver and Elias Mossiatos, *Equity of access to health care: outlining the foundations for action*, Journal of Epidemiology & Community Health, 2004: 58:655-658 doi: 10.1136/jech.2003.017731

43. Medtronic Corporation, *Every Second Counts. Every Action Matters. A Community Response Planning Guide for Sudden Cardiac Arrest*, (2011), Heart Rescue Project
44. *Fewer paramedics means more lives saved*, (May 21, 2006), USA Today

45. *Fighting Fire or Fighting Change? Rethinking Fire Department Response Protocol and Consolidation Opportunities*, 2010 – 2011 Santa Clara County Civil Grand Jury

46. *Final Report Fire Operations, City of Grand Rapids, Michigan*, (August 2012), International City/County Management Association, Center for Public Safety Management

47. *Fire Based Emergency Medical Services*, (May 7, 2009), International Fire Chiefs Association Position Statement

48. Chad A. Deardorff, *Fire Based EMS Made Easier*, (July 2012), Fire Chief

49. Scott Clough, *Fire EMS future will bring changes, but high performance is key*, (September 2012), The California Fire Service Magazine

50. *Fire Protection Services in Los Angeles County*, (June 1972), Report of Fire Services Sub-Committee Los Angeles County Citizens Economy and Efficiency Committee

51. *Fire Services Deployment and Departmental Performance Audit for the County of Santa Barbara*, (February 2, 2012), Citygate Associates, LLC

52. Patti Epler, *Fire Truculence*, November 13, 1997, Phoenix New Times News

53. *Fireline Emergency Medical Technician-Paramedic (FEMP)*, (July 20 2009), V. 1.4, FIRESCOPE California

54. Aaron Hale, *Florida officials honor EMS director for award*, (2010), Naples Daily News

55. U.S. Fire Administration, *Funding Alternatives for Emergency Medical Fire Servcies*, (April 2012, FA-331, Federal Emergency Management Agency

56. A. J. Heightman, *Future Forecast, Forces beyond your control are destined to affect your agency*, (January 2013), Journal of Emergency Medical Services

57. Teresa McCallion, *Healthcare Reform Seen as Unparalleled Opportunity for EMS, What EMS managers can do to prepare for changes*, (August 17, 2012), Journal of Emergency Medical Servcies, jems.com.

58. U.S. General Accounting Office, *Health Care, States Assume Leadership Role in Providing Emergency Medical Services*, (September 1986), GAO/HRD-86-132I

59. Morgan Green, *Healthy Choice, Ambulance service declared fit*, (December 18, 1994), Santa Barbara News Press

60. *Heart Disease and Stroke Statistics – 2010 Update: A Report From the American Heart Association*, (2010), American Heart Association

61. *Impact of Health Care Reform on California's EMS System*, September 2012, California Ambulance Association (Power Point presentation)

62. *Incident Command System Position Manual, Fireline Emergency Medical Technician, ICS-223-10*, (July 12, 2000), FIRESCOPE California [Template Policy included]

63. *Incident Command System Position Manual, Fireline Emergency Medical Technician-Paramedic*, (May 16, 2011), FEMP ICS 223-11, FIRESCOPE California

64. Joe Schoenmann, *In trying to prevent takeover, firefighters unions may have violated privacy laws*, (Aug. 13, 2012), Las Vegas Sun

65. Roy Branson, *Is Acceptance a Denial of Death? Another Look at Kubler-Ross*, May 7, 1975, pp. 464-468, The Christian Century, Joseph and Rose Kennedy Institute for the Study of Human Reproduction an Bioethics at Georgetown University, Washington, D.C.

66. Brian L. Cummings, *Letter to Kate Linthieum, Staff Writter, Los Angeles Times*, (September 28, 2012), Los Angeles Fire Department

67. Robert J. Lopex, et al, *LAFD dispatchers waste time getting 911 callers to start CPR*, September 13, 2012, Los Angeles Times

68. Eric Bradley, *Long Beach Fire Department considers single paramedic response system.*, (Aug. 8, 2012), Pasadena News Press

69. Michael Callaham, MD, *Managed Care and Pre-hospital EMS: Wake-up Call or Taps*? (November 1995), Emergency Medicine News: Volume 25(1) January, 2003, p.40

70. Kurt Latipow, et al, *Managing the New Reality*, (2012), Emergency Servcies Consulting International, Power Point presentation

71. Orange County Fire Chief's Association, *Master Plan, Emergency Medical Services Element*, (March 12, 1984)

72. Goodloe and Thomas, Emergency, *Medical Services Evidence-Based System Design White Paper for EMSA*, (July 2011), Emergency Medicine, University of Oklahoma

73. Christopher Hogan, et al, *Medicare Beneficiaries' Cost of Care in the Last Year of Life*, (July 2001), Agency for Healthcare Research and Quality, Grant No.: R01-HC10561-01

74. Peter Zweifel, et al, *Moral Hazard and Consumer Incentives in Health Care*, (2000), Handbook of Health Economics, Volume 1, Chapter 8, Elsevier Science B.V.

75. Kevin Dowd, *Moral Hazard and the Financial Crisis*, (2009), Cato Journal, Vol. 29, No. 1

76. *Multi Casualty Incident Plan*, (September 2009), Santa Barbara County, Public Health Department, Emergency Medical Services Agency

77. *National EMS Scope of Practice Model*, (December 2006), U.S. Department of Transportation, National Highway Traffic Safety Administration, DOT HS 810 657

78. Kenneth D. Kochanek, et al, *National Vital Statistics Reports, Deaths: Preliminary Data for 2009*, (March 16, 2011), Volume 59, No. 4, U.S. Department of Health and Human Services Centers for Disease Control and Prevention

79. *NFPA 1710 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2010 Edition*, (2010), National Fire Protection Association

80. Office of the State Fire Marshal, *National Fire Incident Reporting System, 01/01/2011 – 12/31/2011*, California Department of Forestry and Fire Protection.

81. Tom Baker, *On the Genealogy of Moral Hazard*, (December 1996), Texas Law Review, Volume 75, No. 2, p. 237 - 292

82. *Ongoing Funding for Santa Barbara County Fire Protection District Operations*, March 13, 2012 Power Point presentation to the Santa Barbara County Board of Supervisors

83. *Orange County Cardiac Arrest Survival Study*, (1991), Orange County Emergency Medical Services

84. *Original Position*, (February 27, 1996), Stanford Encyclopedia of Philosophy

85. 1797.201 Stakeholders Work Group, *Outcome Paper*, Draft, (March 16, 2012)

86. Gennady Sheyner, *Palo Alto seeks medical skills in new firefighters, City's Fire Department expands staffing, profile of its ambulance operation*, October 23, 2012, Palo Alto Online News

87. Jack Gruber, *Paramedics not always the saviors of cardiac-arrest patients*, (March 1, 2005), USA Today

88. *Policy & Procedures*, (Current), Santa Barbara County, Public Health Department, Emergency Medical Services Agency

89. Franklin D. Pratt, et al., *Pre-hospital 9-1-1 Emergency Medical Response: The Role of the United States Fire Service in Delivery and Coordination*, (2007), Fire Service-Based EMS

90. *Privatization Issues in County Government*, (1995-1996), Santa Barbara County Grand Jury

91. Medtronic Foundation, *Q&A with Heart Rescue Project Manager Joan Mellor*, (2012), EMS State of Science issue, Journal of Emergency Medical Services, jems.com

92. Robert Delagi, et al, *Quality Improvement for Pre-hospital Providers, Version 1*, (March 2007), New York State Emergency Medical Services Council, New York State Department of Health, Bureau of Emergency Medical Servcies

93. Moore-Merrell, et al, *Report on EMS Field Experiments*, (September 2010), Firefighter Safety and Deployment Study, DHS/FEMA Grant EMW-2008-FP-01603

94. David Page, et al, *The Paramedic*, (2012), McGraw-Hill Higher Education, ISBN: 078-0-07-756388-2

95. *The Relationships Between Ambulance Crew Configuration, EMS On-Scene Interval, Procedural Performance, and the Rapid Acute Physiology Score (RAPS) in Adult EMS Patients*, (n.d.), American Medical Response and University of Arizona

96. *The Relationship between EMS Response Interval, ALS Interventions, and the Rapid Acute Physiology Score (RAPS) in Adult EMS Patients*, (n.d.), American Medical Response and University of Arizona

97. *The Relationship between the Rapid Acute Physiology Score (RAPS) and Pre-hospital Patient Acuity*, (n.d.), American Medical Response and University of Arizona

98. Mike Shrout, *There is more to EMS than sudden cardiac arrest – much more*, (September 2012) The California Fire Service Magazine

99. *Reorganization of the Napa County Fire Department*, (April 26, 2012), 2011 – 2012 Napa County Grand Jury

100. U.S. Department of Health and Human Services, *Rural and Frontier Emergency Medical Servcies Agenda for the Future: A Service Chief's Guide to Create Community Support of Excellence in EMS*, (2004), Health Resources and Services Administration, Office of Rural Health Policy, HRSA # 250-03-0022

101. County Executive Office, *Santa Barbara County Operating Budget, Proposed Budget 2011-2012 Fiscal Year*, (2012), County of Santa Barbara

102. Commission on Emergency Medical Servcies, *Shaping the Future of EMS in California, Vision Conference Summary: Continuing the Vision Process*, (June 1, 1999), State of California, Emergency Medical Servcies Authority

103. Todd Harms, *Significantly Improving a Fire Service Based EMS Deployment and Response System-an Innovative Model*, (2010), Phoenix Fire Department

104. Robert Davis, *Six Minutes to live or die – Only strong leaders can overhaul EMS*, (May 20, 2005), USA Today

105. Fire and Emergency Service Image Task Force, *Taking Responsibility for a Positive Public Perception*, (February 2013), International Association of Fire Chiefs

106. *The AMR Community Paramedic Specialist, The innovative solution to integrated out-of-hospital care*, (2012), American Medical Response

107. Garrett Hardin, *The Tragedy of the Commons*, (December 13 , 1968), Science, Vol. 162, No. 3859, pp 1243 - 1248

108. *Third Needs Assessment of the U.S. Fire Service – California*, (October 2011), National Fire Protection Association

109. Garrett Hardin, *Tragedy of the Commons*, (n.d.), The Concise Encyclopedia of Economics, Library of Economics and Liberty

110. Norm N. Levy, *Trauma in the ER: Who covers the uninsured?* (June 18, 2012), Los Angeles Times

111. Corey Slovis, MD, et al, *Trends & Changes in Cardiac Care, The state-of-the science in cardiac care & resuscitation*, (2012), EMS State of Science Issue, Journal of Emergency Medical Services, jems.com

112. *Santa Barbara County 2012 Paramedic Ambulance Rates*, (2012), County of Santa Barbara

113. Greg Godfrey, *State of California – Emergency Medical Services Authority*, (August 27, 2010), Comments Regarding Revisions to EMSA Policy #141, City of Glendale Fire Division, Office of Emergency Medical Servcies

114. Donald Cook, *Study of Emergency Medical Services Agency of Orange County*, (October 17, 1984), Donald Cook Associates

115. John R. Richards, Misty L. Navarro and Robert W. Derlet, *Survey of directors of emergency departments in California on overcrowding*, 2000 June: 172(6) 385-388 Western Journal of Medicine

116. Ronny J. Coleman, *The Evolution of California Fire Service Training and Education*, (May 1994), A Thesis, Presented to the Department of Occupational Studies, California State University, Long Beach

117. *The Helicopter in Public Service*, (Rev. 6, July 1999), Bell Helicopter Textron, Inc.

118. *The National EMS Scope of Practice Model*, (2005), U.S. Department of Transportation, National Traffic Safety Administration, (DOT Draft 4.0)

119. Dr. Samuel Stratton, *Triage by Emergency Medical Dispatchers*, July – September 1992; Vol. 7, No. 3, Pre-hospital and Disaster Medicine (Long Beach FD Study)

120. Marc-David Munk, MD, MPH, *Value Generation and Health Reform in Emergency Medical Services*, (April 2012), Pre-hospital and Disaster Medicine

121. Michael E. Porter, Ph.D., *What Is Value in Health Care?* The New England Journal of Medicine, December 23, 2010. 363-2477-2481

122. United Sates Fire Administration/National Fire Data Center, *Fire in the United States 2003 – 2007, Fifteenth Edition*, (October 2009), Federal Emergency Management Agency

123. Angelo Salvucci, M.D., *Where Has V Fib Gone: Why today's EMS crews see less ventricular fibrillation in the field*, (December 2010), Journal of Emergency Medical Services

124. Vincent Robbins, *White Paper on the New Jersey Emergency Medical Services System*, (July 1, 2000), New Jersey's Hospital Service Corporation

— BOOKS —

1. Jack Snook, et al, *A Leadership Guide for Volunteer Fire Departments, 4th Edition*, (2011), Jones and Bartlett Publishing, International Association of Fire Chief, ISBN-13: 978-0-7637-4207-2

2. Dr. Elisabeth Kübler-Ross, *Questions and Answers on Death and Dying*, (1974), Touchstone, ISBN 0-684-83937-7*

3. John M. Buckmann, III, et al, *Chief Fire Officer's Desk Reference*, (2006), Jones and Bartlett Publishers, International Association of Fire Chiefs, ISBN-13: 978-0-7637-2935-6

4. *CPR/AED for the Professional Rescuer, 3rd Edition*, (2006), American Red Cross, ISBN: 1-58480-304-5

5. *CPR and First Aid – A Rescuer's Complete Guide to Emergency Response*, (2006, 2007), EMS Safety Services, Inc., ISBN: 978-0-9796966-3-3

6. Daniel Limmer and Michael F. O'Keefe, *Emergency Care, 11th Edition*, (2009), Brady-Pearson Education, Inc., ISBN 13: 978-0-13-500523-1

7. Department of Emergency Medical Servcies, *Emergency Medical Services, EMS and Manage Care, Monograph 5*, (1997), International Association of Firefighters, AFL-CIO, CLC, ISBN 0-94920-26-0

8. *Emergency Response*, (2001), American Red Cross, ISBN: 0-8151-1260-2

9. Randy R. Bruegman, *Fire Administration I*, (2009), Pearson Education, Inc., ISBN 13: 978-0-13-172084-8

10. Marsha P. Giesler, *Fire and Life Educator*, (2011), Delmar, Cengage Learning, ISBN 13: 978-1-4283-0541-0

11. Sandy Clark, et al, *Firefighter's Handbook, Essentials of Firefighting and Emergency Response*, (2000), Delmar Publishers, ISBN 0-7668-0581-6

12. Lloyd and Richardson, *Fundamentals of Fire and Emergency Services*, (2010), Pearson Education, Inc., ISBN 13: 978-0-13-171835-7

13. Institute of Medicine of National Academies, *Future of Emergency Care, Emergency Medical Servcies at the Crossroads*, (2007) Committee on the Future of Emergency Care in the United States Health System, Board on Health Care Services, The National Academies Press, ISBN: 13 978-0-0-309-10174-5

14. Institute of Medicine of National Academies, *Future of Emergency Care, Hospital-Based Emergency Care at the Breaking Point*, (2007) Committee on the Future of Emergency Care in the United States Health System, Board on Health Care Services, The National Academies Press, ISBN: 13 978-0-0-309-10173-8

15. Mark Wallace, et al, *Fire Department Strategic Planning, Creating Future Excellence, 2nd Edition*, (2006) PennWell Corporation, ISBN-13: 978-1-59370-003-4

16. *First Aid/CPR/AED for the Workplace*, (2006), American Red Cross, ISBN: 1-58480-341-X

17. *Heartsaver CPR A Comprehensive Course for the Lay Responder*, (2000), American Heart Association, ISBN: 0-87493-317-X

18. Ronny J. Coleman, et al, *Managing Fire Services, 2nd Edition*, (1988), International City Management Association, ISBN: 0-87326-078-3

19. Dr. Elisabeth Kübler-Ross, *On Death and Dying*, (1969), Scribner, ISBN 0-684-84223-8*

20. Chögyam Trungpa, *Shambhala: Sacred Path of the Warrior*, (2003), Shambhala Publications, Inc., ISBN 13: 9781590300411

21. Margaret J. Wheatley, *So Far From Home, lost and found in our brave new world*, (2012), Barrett-Koehler Publishing, Inc., ISBN: 978-1-60994-536-7

22. Philip K. Howard, *The Death of Common Sense*, (1994, 2011), Random House, ISBN: 978-0-8129-8274-9

23. Ernest Becker, *The Denial of Death*, (1973), The Free Press, ISBN: 13: 978-0-684-83240-1

24. Ronny J. Coleman, et al, *The Fire Chief's Handbook, 6th Edition*, (2003), Penwell Corporation, ISBN 0-87814-830-2

25. Kenneth Perkins and John Benoit, *The Future of Volunteer Fire and Rescue Services, Taming the Dragons of Change*, (1996), Fire Protection Publications, Oklahoma State University, ISBN: 0-87939-131-6

26. Nathaniel Southgate Shaler, *The Individual a Study of Life and Death*, (2007), Kessinger Publishing, LLC, ISBN 13: 978-0548021194*

— WEBSITES —

1. AB 210 (Solorio), leginfo.ca.gov

2. *A Guide to the Seattle-King County Community Responder CPR-AED Program*, kingcounty.gov/healthservices/health/ems/community/aed

3. Allan Hancock College, hancockcollege.edu

4. Tom Barnidge, *Why calling for an ambulance means you'll also get a fire truck*, (February 26, 2013), contracostatimes.com

5. John Becknell, *Best Practices In Emergency Services*, (November 2011), emergencybestpractices.com

6. California Department of Forestry and Fire Protection, Office of the State Fire Marshal, osfm.fire.ca.gov/cairs/cairs_nfirsreports.php

7. California Emergency Medical Services Authority, emsa.ca.gov

8. Maureen McKinney, *California seeks ER overcrowding solutions*, (August 23, 2010), ModernPhysician.com

9. *Cardiac arrest survival rates triple in Northwest Fire District*, (December 10, 2012), The Explorer News, explorernews.com/news/article_bad23014-42e9-11e2-a300-001a4bcf887a.html

10. Central Valleys EMS Agency, Sonoma County Mendocino County, coastalvalleysems.org

11. *Chaos Theory*, marxist.com/science-old/chaostheory

12. *Chaos Theory*, wikipedia.org/wiki/Chaos_theory

13. Margaret Rouse, *Chaos Theory*, (March 2009), http://whatis.techtarget.com/definition/chaos-theory

14. *City of Boston-Emergency Medical Services*, www.cityofboston.gov/EMS

15. Citygateassociates.com

16. Craig Aman, *Company Officer Leadership: Advancing Fire Based EMS*, (May 1, 2012) International Association of Fire Chiefs, iafc.org

17. County Health Services, http://ems.dhs.lacounty.gov/PTI/PTIHistory

18. Lee Romney, *Cross-training of public safety workers attracting more interest*, (January 1, 2013), Los Angeles Times, latimes.com/news/local/la-me-sunnyvale-20130101,0,6172947.story

19. Barry Greenwald, Ph.D., *Death and Dying*, (n.d.), ulc.edu/orgs/convening/deathdyi.htm

20. Robert Lopez, et al, *Delayed 911 response a matter of geography and jurisdiction*, (December 22, 2012), Los Angeles Times, latimes.com/news/local/lafddata/la-me-lafd-aid-20121021,0,5762610,full.story

21. Jeffery A. Johnson, *Denial: The American Way of Death*, (November 16, 2004), orthodoxytoday.org

22. Rick Lemyre, *District to consider volunteer firefighters*, (June 27, 2012), thepress.net

23. Annie Lowrey and Robert Pear, *Doctor Shortage Likely to Worsen with Health Law*, The New York Times, (July 28, 2012), nytimes.com

24. Laurence M. Vance, *Don't Call for an Ambulance*, (August 21, 2012), fff.org

25. *The EMS White Paper that started it all*, (n.d.), www.emt-resources.com/ems-white-paper

26. *Encyclopedia of Death and Dying*, deathreference.com

27. Ben Welsh, et al, *Flawed data stall California's 911 upgrades*, (December 7, 2012), Los Angeles Times, latimes.com/news/local/lafddata/la-me-ems-data-problems-20121222,0,6217…

28. *Fire Service Based EMS Advocates*, (n.d.), fireserviceems.com

29. *Health care reform in the United States*, Wikipedia.org

30. Mercury News Editorial, *Health care spending on end-of-life treatment is irrational*, (February 7, 2012), mercurynews.com

31. *History of CPR*, (n.d.), heart.org

32. heart.org/HEARTORG/CPRAndECC/WhatisCPR/CPRFactandStatus/History

33. Mevish Jaffer, *Health Insurance: Adverse Selection vs Moral Hazard*, (n.d.), secureinsurancequotes.com

34. *History of the Dr. J. Michael Criley Paramedic Training Institute*, (n.d.), Los Angeles

35. Garden Grove Fire Department, ci.garden-grove.ca.us

36. Hospice Foundation of America, hospicefoundation.org

37. Guinevere Nell, *How Success of Private Fire Departments Undermines Obamacare*, (August 2009), hritage.org

38. Huntington Beach Fire Department, huntingtonbeachca.gov

39. Scott Tomek, *Is Community Paramedicine the Next Step for EMS?*, (October 27, 2011), EMS World, http://www.emsworld.com/article/10442940/is-community-paramedicine-the-next-step-for-ems

40. Robert Lopez, et al, *L.A. County, LAFD fire chiefs discuss regional dispatch network*, (December 22, 2012), Los Angeles Times, latimes.com/news/local/lafddata/la-me-1221-lafd-dispatch-20121221,0,75188…

41. Robert J. Lopez, et al, *LAFD dispatchers waste time getting 911 callers to start CPR*, (September 13, 2012), Los Angeles Times, latimes.com/news/local/lafddata/la-me-fire-report-20120914,0,5129089.story

42. Ben Welsh, et al., *LAFD EMS Dispatch Times Lag*, (May 21, 2012), Los Angeles Times, firefighterclosecalls.com

43. Long Beach Fire Department, longbeach.gov

44. Plerrette J. Shields, *Longmont public safety chief leads charge to reorganize health care*, (June 23, 2012), Longmont times, dailycamera.com

45. Los Angeles City Fire Department, lafd.org/

46. Los Angeles County Fire Department, fire.lacounty.gov/EMS/EMS.asp

47. Jeff Levin-Scherz, *Managing Healthcare Costs*, (August 1, 2010), managinghealthcarecosts.blogspot.com

48. Montecito Fire Protection District, montecitofire.com

49. *Moral Hazard*, Wikipedia.org

50. Shaila Dewan, *Moral Hazard: A Tempest-Tosed Idea*, (February 25, 2012), The New York Times, nytimes.com

51. *One Patient Requires 10 Public Safety Workers*, (n.d.), jems.com

52. Orange County Fire Authority, ocfd.org

53. Orange County Medical Servcies, Health Care Agency, ochealthinfo.com/ems/

54. *Our Center's History*, (n.d.), UCLA Pre-hospital Care, cpc.mednet.ucla.edu/about/history

55. Kate Linthicum, *Politics lights fire under LAFD*, (December 22, 2012), Los Angeles Times, latimes.com/news/local/lafddata/la-me-beutner-fire-20120310,0,1977604.story

56. Rural/Metro Corporation, ruralmetro.com

57. San Francisco Fire Department, sf-fire.org

58. Sacramento Metropolitan Fire District (SACMETRO), metrofire.ca.gov

59. Santa Barbara County Emergency Medical Services Agency, countyofsb.org/phd/ems

60. Santa Barbara County Public Health Department, countyofsb.org/phd

61. *Santa Barbara County Quick Facts, US Census Bureau,* quickfacts.census.gov/qfd/states/06/06083

62. *SBFD EMS*, (2012), iaff525.org

63. *Study Shows AED's Deployed in Public Places Doubles Survival of Cardiac Arrest Victims*, emsvillage.com/articles/article.cfm?id=1412

64. *The Cost of Dying: End-of-Life Care*, (August 6, 2010), cbsnews.com

65. Glenn Hughes, *The Denial of Death and the Practice of Dying*, (February 5, 1998), ernestbecker.org

66. Malcolm Gladwell, *The Moral Hazard Myth*, (August 29, 2005), New Yorker, gladwell.com

67. Glenn Gaines, *The Roles of Fire and EMS Personnel in Armed Attacks*, (January 3, 2013), Chief's Corner, U.S. Fire Administration, Department of Homeland Security, Federal Emergency Management Agency, usfa.fema.gov/about/chiefs-orner/010313.shtm

68. John M. Grohol, *The Tragedy of the Commons*, (July 29, 2009), psychcentral.com

69. Robert Stewart, *Tragedy of the Commons*, (n.d.), oceanworld.tamu.edu

70. Raymond De Young, *Tragedy of the Commons, Adaptive Muddling and Durable Behavior: Bringing out the best in people faced with difficult environmental circumstances*, (1999), Encyclopedia of Environmental Science, Kluwer Academic Publishers

71. UCLA Center for Pre-hospital Care, cpc.mednet.ucla.edu

72. UCSB Environmental Health and Safety, ehs.ucsb.edu

73. *Union president wants 'refund' on study that recommends cutting Grand Rapids Fire Department by 25 percent*, (August 28, 2012), mlive.com

74. University of New Mexico-Emergency Medical Services Academy, http://hsc.unm.edu

75. U.S. Department of Health and Human Services, Center for Disease Control, cdc.gov

76. U.S. Fire Administration, Department of Homeland Security, Federal Emergency Management Agency, usfs.fema.gov

77. *Veil of Ignorance*, (n.d.), wikipedia.org/wiki,Veil_of_ignorance

78. *Why CoCOTAX Board Opposes the Parcel Tax in for ECCFPD*, (2012), Contra Costa Taxpayers Association, cocotax.org/Default.aspx?pageId=1294271

79. Keith Ablow, MD *Why Denying Death Means Denying Life*, (October 11, 2011), Foxnews.com

80. Ben Welsh, et al, *Years after ill-fated call, L.A. Fire Department's 911 flaws remain*, (December 22, 2012), Los Angeles Times, latimes.com/news/local/lafddata/la-me-1006-lafd-dispatch-problems-2012100…

— VIDEO —

1. Patrick Shen and Greg Bennick, *Flight From Death, The Quest For Immortality*, (2003), Transcendental Media

2. Peter Yates and Tom Mankiewicz, *Mother, Jugs & Speed*, (1976), Twentieth Century Fox

— COMMUNITY ALERT RADIO INTERVIEWS—

1. *Santa Barbara County Public Health Dr. Wadda and Deputy Director Susan Rothschild-Kline*, (July 10, 2012), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

2. *Office of Quality and Patient Safety, University of New Mexico Hospitals and Department of Emergency Medicine and the University of New Mexico School of Medicine Dr. Marc-David Munk*, (August 7, 2012), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

3. *Santa Barbara County Emergency Medical Services Agency Medical Director Dr. Angelo Salvucci, Contracts & Compliance Coordinator John Eaglesham and Santa Barbara County Public Health Deputy Director Susan Rothschild-Kline*, (August 14, 2012), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

4. *Carpinteria-Summerland Fire Protection District Fire Chief Mike Mingee*, (August 21, 2012), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

5. *California State Assembly Member Das Williams*, (September 4, 2012), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

6. *Santa Barbara County Department of Public Health Dr. Toman and Assistant Deputy Director Susan Kline-Rothschild*, (November 13, 2012), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

7. *Santa Barbara County Department of Public Health Dr. Polly Baldwin and Deputy Director Susan Rothschild-Kline*, (December 18, 2012), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

8. *Santa Barbara County Department of Public Health Medical Reserve Corps. Coordinator Richard Hovsepian*, (January 15, 2013), Wildland Residents Association – San Marcos Pass VFD, Community Alert, Ampersand Broadcasting KZSB – AM 1290**

— CASE LAW —

1. *National Federation of Independent Businesses, et al. vs Sebelius, Secretary of Health and Human Servcies, et al.*, No. 11-393, United States Supreme Court, Argued March 26, 27, 28, 2012-Decided June 28, 2012.***

2. *Department of Health and Human Services, et al, vs Florida, et al*, 11-398, United States Supreme Court. (On certiorari to the same court)***

3. *Florida, et al, vs Department of Health and Human Services, et al.*, 11-400, United States Supreme Court. (On certiorari to the same court)***

4. *Jim Maxwell, et al vs County of San Diego, et al,*10-56671, United States Court of Appeals for the Ninth Circuit, On Appeal from US District Court For The Southern District of California, No. 3:07-cv-02385-JAH-WMC***

* Not in my EMS library. Outside sources were used.
** All indicated *Community Alert* programs are available at no charge at wildlandresidents.org/community-alert/
*** All federal cases are available on PACER.

Ordo ab Chao

About the Author

Michael S. Williams is a retired police officer with over 12 years of law enforcement experience. For over 28 years he has worked as a private investigator and security consultant specializing in fraud, embezzlement, workplace violence and fatal traffic investigations. He has served 21 years as a volunteer wildland fire fighter, currently serving as president-executive director of the department. He is co-host of the radio show *Community Alert* on KZSB – AM 1290 as well as a regular *Santa Barbara News-Press* columnist and frequent contributor to *The California Fire Service Magazine*. He is active in the public information community serving as chair of the Santa Barbara County Operational Area Emergency Public Information Communicators PIO association. Williams is President-Executive Director of the Fire Services Training Institute and a long time member of the California State Firefighters' Association, International Emergency Managers Association, and International Association of Fire Chief's, among others. He is on the Board of Directors of the Santa Barbara Firefighters Alliance and a member of the California State Board of Fire Services.