MARYLAND FIRE CHIEFS

BACK STEP TALKS

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Evolution of a Safety Culture

In this issue of Back Step Talks, we will take a look back at the fire service safety culture over the last 40-50 years and highlight some of the changes that have occurred to make our job safer. We will also include input from our readers on what they have experienced and how it has improved operational safety.

Over the last 40 years (roughly the mid-1980s to today), the safety culture of the fire service has changed dramatically. The shift can be summarized as a move from a tradition-driven, aggressive culture that accepted risk to a data-driven, risk-managed culture focused on firefighter survival, health, and accountability.

Let's begin by looking back at the fire service culture of the 1980's and before. The culture often emphasized aggressiveness and tradition over safety. The mindset was "get in, get the job done, whatever the cost." Firefighter injuries and deaths were often viewed as unavoidable parts of the profession. The design of our PPE, our apparatus, and our equipment had little focus on safety aspects. As we moved into the 1990's, we began to see changes in attitudes towards safety. Firefighter deaths and injuries were now viewed as preventable, and measures were put in place to avoid them. We saw an expansion in the development of NFPA standards, PPE and apparatus began to include safety considerations.

A major turning point toward safety occurred in the early 2000's. The National Fallen Firefighters Foundation assembled some of America's fire service leaders in Tampa, Florida, in 2004 and created the 16 Firefighter Life Safety Initiatives. These initiatives called for a cultural shift toward safety and accountability. Leadership was now being held accountable for the safety of all persons operating at an incident scene. Risk management plans were being developed to identify risks to firefighters and what training, equipment, and operating practices were needed to reduce injuries and deaths.

As we move towards the present time, we see the fire service looking at a safety culture that expands beyond just the fireground. There is a greater

Evolution of a Safety Culture *cont...*

emphasis on long-term firefighter health to address risks such as cardiac care, proper nutrition, regular fitness training, mental health wellness, and reducing exposure to harmful contaminants that increase the risk of contracting cancer.

Today's fire service understands the risks of our profession. Risk will never go away, but it must be managed through changes in operating practices and equipment. Each firefighter must be responsible for safety. Leadership must be held accountable for implementing safety systems. Training and certification are standardized, and firefighters are encouraged to continue training throughout their careers to be the best at the job.

By changing the culture, we have reduced line of duty deaths from 130-140 in the late 1970's to around 80 in modern times. We still have work ahead, but the fire service now views deaths as unacceptable rather than inevitable, and actions are making a change. What changes have you made, and what changes must continue to be made to ensure that at the end of the call, "Everyone Goes Home?"

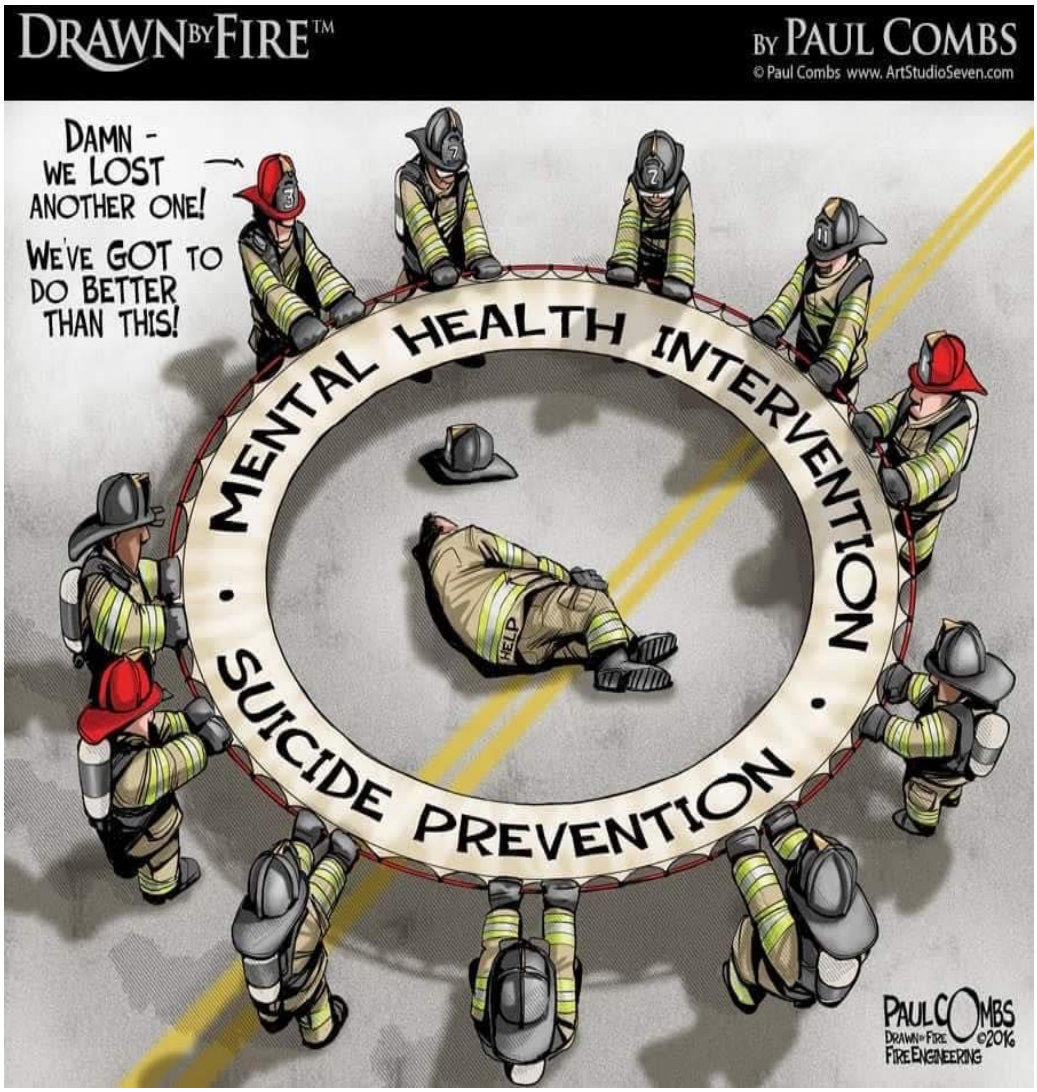
Dave Lewis

Birth of Fire Service Mental Health

I can remember in the mid-seventies, overhearing my father speak about a fire with multiple deaths and casualties in an unlicensed facility in great detail with his crews. Spending a large amount of time at that station the conversations eventually went away. I don't recall any resources offered to assist those firefighters. Take this same incident today and think about what services would be provided.

In 1974 Dr. Jeffrey T. Mitchell, began writing about the need for crisis support for emergency services personnel in 1974 and subsequently developed critical incident stress debriefing (CISD). This was the start of the behavior health for the Fire & EMS service. Yet emotional and psychological trauma were noted but physical safety was the priority until the 1990's.

In the 1990's through the early 2000's statistics were being gathered but, real action was not being taken. September 11, 2001 followed by Hurricane Katrina in 2005 brought to the forefront the need for culturally competent behavioral health professionals within the first responder world. Many of these observations were made by Jeff Dill on the emotional struggles first responders were having. The outcome of these observations was the birth of Firefighter Behavior Health Alliance in 2009.



The Behavior Health Alliance was created to educate First Responders, Family members and Clinicians of these hidden issues impacting the lives if many. The tracking of first responders' who died by suicide was a tireless effort that continues. The efforts of Jeff Dill highlight a trend that needed attention and continues to this day.

As the second decade of the 21st century started the work of Jeff Dill and the tracking of suicides outnumbered line of duty deaths. This triggered national campaigns such as Peer Support Training, data mining of resources by the NFFF and the IAFF to name a few. In, 2015 studies triggered by this data confirmed high rates of PTSD, Anxiety and Depression within the service. NFPA and other behavioral health organizations started publishing reports and paper discussing the behavior health and how to slow down the downward spiral with education and training. Agencies started training at their academies on behavioral health awareness. This circles back

Birth of Fire Service Mental Health *cont...*

to the question I started with about my father's incident and how agencies would assist those who responded. I would hope with the pushing of behavioral health education within the fire service that some of the below actions would be available. A hotwash should be provided talking about how the responders feel. A peer support team should be notified to respond and be available upon return to the station. Peer Support staff should provide contact information for those who may not be ready to talk. Agencies should have a list of local behavioral health specialist who specialize in first responders if needed. If a therapist is on staff make them available and ensure confidentiality. If a further treatment is needed, both career and volunteer centers are available.

Even with all of these resources a member must have trust in the system if they come forward that leadership cares. Your partner and shift mates know you better than sometimes your own family. Listen and talk to these people they can see through the cracks in your armor.

Dave Black

Changes In Apparatus Design

Safety is referenced as a culture. A transition from years ago, where safety was not in the forefront, specifically in the design of fire and EMS apparatus. The focus has always been, getting to the scene of the incident. However, on numerous occasions, the crew did not arrive due to vehicle crashes. These included vehicle crashes travelling to or while returning from the incident.

Apparatus and Positions:

Over the last 50 years, we have seen the following transitions in the design of fire apparatus.

Open Cab, driver and officer within, with the crew members riding on the side of the engine or truck.

Open Cab, driver and officer within, with the crew members riding on the side and on the back step of the engine.

Open Cab, driver and officer within, adding crew seats; immediately behind the driver and officer, eliminating the crew members from riding on the side of the engine or truck. Crew members rode on the back step of the engine.

Closed Cab, driver and officer within, with crew seats; immediately behind the driver and officer partially open to exit with separate open air jump seats. Crew members still rode on the back step of the engine.

Closed Cab, driver and officer within, with crew seats; immediately behind the driver and officer partially open to exit with separate open air jump seats, including dropdown cross bars or crew gates to exit the seating area. Crew members still rode on the back step of the engine.

Closed Cab, with the driver, officer and crew within; immediately behind the driver and officer, fully enclosed. Crew members still rode on the back step of the engine.

Closed Cab, with the driver, officer and crew within; immediately behind the driver and officer, fully enclosed. **No crew members** on the back step of the engine.

The progression from open cab to fully enclosed resulted from members falling off the side or back step of the apparatus. Also, members falling out of/from the side jump seat areas with members being run over by following apparatus; or in one incident, run over by the

Changes In Apparatus Design *cont...*

Above: The apparatus of the Odenton Volunteer Fire Company display over 50 years of fire apparatus safety innovations. Left is a 1950 FWD and right is a 2004 Seagrave.

apparatus the member was riding upon, while responding out of the station.

Responses:

Speed has been and is currently a primary contributing factor for vehicle crashes. Today's apparatus design may include speed governors, officer's side speedometers to monitor speed relative to the unit's response. Traffic signal preemption devices have been installed in some apparatus to change the traffic signals to allow safe passage for emergency apparatus. With respect to rolling over, apparatus may include automated rollover steering prevention controls/correction systems. The cabs may also include structural support, similar to a roll cage in a race car. Seat belts also have evolved from only lap belts to include lap-shoulder straps or a harness, to ensure the riding member's survival of the potential accident.

Backing Up:

Many instances have been reported of responders being injured or killed after being run over by apparatus backing up. This can be avoided by requiring a backup person and including a backup alarm on the apparatus. Driver awareness of obstacles in the backup path can be increased with the use of backup cameras. Stations designed with drive-through bays can reduce backup accidents by requiring apparatus to pull through rather than backing in.

So, with all the above noted progressions in apparatus design and corresponding operations, why are we still injuring and/or killing fire and EMS personnel?

We offer the overwhelming common denominator ….. human error.

Consider:

- A suitable driver's training program for each class of vehicle.
- A program with classroom and on-road driver's training.
- Annual refresher driver's training.
- Daily self-review of the day's events with comment, as applicable.
- Praise in public and highlight any overall concerns in public.
- Individual corrections in private, with NO delay.

Pete Mellits

Rising Emphasis on Health and Nutrition for First Responders

The history of the fire service is rooted in culture and traditions. Perhaps the most distinguishable tradition in the fire house is the kitchen table, a place where stories are told, problems are solved, and meals are shared. While mealtime fosters camaraderie and a place to showcase culinary skills, it also encouraged unhealthy eating habits historically. I remember the days when $5.00 provided 2 cheeseburgers and a side of tater tots or a large bowl of spaghetti with meat sauce and a side of garlic bread. Of course we can't ignore the heaping bowl of ice cream for dessert. Over the past decade, there has been a cultural shift from high calorie comfort foods to balanced, nutritious meals.

The term tactical athlete is commonly used to describe first responders due to the high levels of physical fitness, strength, endurance, and mental resilience required to perform job related duties effectively. Due to these occupational demands, maintaining and improving health and nutrition have become increasingly important.

Research has shown that poor dietary habits, lack of physical activity, increased stress, and irregular sleep patterns are associated with obesity, and an increased risk for cancer and cardiovascular disease. According to the CDC/ National Institute for Occupational Safety and Health (NIOSH), firefighters have a 9% greater risk of being diagnosed with cancer and a 14% greater risk of dying from cancer compared with the general U.S. population. Cardiovascular events account for approximately 45% of firefighter line of duty deaths over the past decade (CDC/NIOSH). In addition, the U.S. Department of Health and Human Services reports that about 30% of first responders develop behavioral health conditions, including depression and PTSD. Data from the National Institute of Health further indicate that 73% to 88% of firefighters are classified as either overweight or obese, a condition that significantly contributes to both cancer and cardiovascular disease risk.

Several occupational factors contribute to these health risks, including shift work, high stress levels, inconsistent sleep schedules, disrupted mealtimes, and the convenience of processed or ultra-processed foods. In response to these concerns, many department have begun prioritizing preventive strategies such as enhanced nutrition education, physical fitness training, organized wellness programs, medical screenings, and mental health support.

Nutrition plays a critical role in supporting both the performance and long term health of first responders. Adequate nutrition helps maintain energy levels, strengthens immune function, aids in recovery following physically demanding calls or workouts, reduces fatigue, and lowers the risk of chronic disease and injury. It also promotes better decision making, job readiness, and supports mental health. Diets that emphasize lean proteins, whole grains, fruits, vegetables and healthy fats, combined with adequate hydration, provide the essential nutrients needed for optimal job performance, overall mental/physical wellness, and resilience.

Although awareness of health and nutrition is increasing, several challenges remain. These include limited healthy food options depending on the time of day and assignment location, rising food costs, long and unpredictable shifts, individual and cultural food preferences, and the tendency to feel irritable or "hangry" when healthier snacks are not readily available. High stress environments can also increase cortisol levels, which many influence hunger and food choices.

Rising Emphasis on Health and Nutrition for First Responders

Additionally, food often serves as a gesture of appreciation and community support. Family and community members provide baked goods and high, empty calorie treats to show their gratitude for the service we provide. While this generosity is meaningful, departments can encourage healthier habits by placing less nutritious foods in a cabinet, embracing the "Out of Sight, Out of Mind" approach. Readily available healthy snacks such as fresh fruit can be left on the kitchen table to encourage healthy, low calorie snacking.

The growing emphasis on health and nutrition among first responders reflects an increasing recognition of the unique challenges associated with this profession. Investing in the health and well-being of first responders benefits not only the individuals themselves, but also the communities they serve. Mealtime at the kitchen table remains a tradition. By integrating improved nutrition with regular physical activity and wellness initiatives, fire department culture can continue to evolve toward greater health, performance, and resilience.

Summarized by MFF/EMT Rhonda Cohen MS, RDN, LDN, CSN

What Our Readers Said

We asked our readers: "What would you have liked to have known when you joined the fire service? What changes to firefighter safety have you seen in your time as a first responder, and that you wish you had known when you started?"

Here are some responses:

Greater awareness of structural types, advent of air monitoring, thermal imaging, importance of gear decontamination. (Wayne L. Tome, Sr.)

Wearing SCBA at all times. They were optional when I joined and we actually trained on how to fight fire without them. (Ed Rush)

"Leave your facepiece on!" Starting out in the fire service it was rip your facepiece off as soon as the fire was out. After the fire is out the products of combustion are still there and still cancerous. I'm sick of seeing good fireman get cancer and die: Patch (Kentland 33) Steve Shipp (DCFD T7) Rob Heaney (DCFD RS2) to name a few. "Leave your face piece on!" If you feel the urge to rip it off so quick you likely need to get on the treadmill and exercise! (David Schoolnick)

Riding in enclosed cab apparatus instead of riding the tail board. Tail board was fun, but so dangerous. I am thankful for the apparatus designs of today!!! (Kevin Kerr)

Greater use of PPE to Include SCBA...360 Checks on all Structure Fires...Standard Operating Guidelines for Fireground Efficiency.... Use of Thermal Imaging Cameras for Searches. (Tim Delehanty)

I would have liked to know that the turnout gear that we wore off gassed carcinogens and we shouldn't have kept them in our cars and homes. (Joseph Chornock)

In my many years there have been a few changes, how about ear protection in the apparatus, also seat belt use in the operation of apparatus along with safety equipment, (traffic cones). (Bob Cumberland)

The Safety Officers role on working incidents. How the IC should best utilize the ISO and what interaction the fire fighters should expect from the ISO. / Discussions on preventable apparatus accident reduction and safe driving practices. (Kenneth Rose)

Cancer awareness and treatment/care for those experiencing it affects. We still have a long way to go to get our younger members to understand the impacts and take the necessary steps to prevent it. (John McDowell)

The Evolution of Personal Protective Equipment

There has been a continuous evolution of Personal Protective Equipment (PPE) since the 1980's. Many of the older generation of firefighters started out wearing bunker gear consisting of cotton duck full length coats with a quilted liner and three-quarter high boots. Our helmets were either tin, leather, or plastic. We wore either cotton or rubber "orange fireball" gloves. There were no hoods to protect our heads and self-contained breathing apparatus (SCBA) was just starting to be introduced and had not been widely accepted.

Today, the firefighter's PPE fully envelopes their body in a state-of-the-art system that, when properly worn, leaves no body areas exposed to the fire's harsh environment. This article shall look at a few changes that have occurred since the 1980's, starting with our helmet.

In the 1980's, our helmet was little more than a hard hat. The plastic helmets included a hard hat suspension system that had size adjustment while the tin and leather helmets had no suspension systems and were sized to the wearer. The modern helmet, be it plastic or leather, have a padded/adjustable suspension system, an engineered impact cap, and a protective shroud to protect the ears and neck. Some helmets come with integrated eye protection. Today's fire helmet is a more sophisticated system that provides better protection than the modern industrial hard hat.

Moving on to our bunker gear. The 1980's was the end of the cotton duck coat and the beginning of the evolution of bunker gear with the introduction of Gore-Tex and then Nomex®. NFPA 1971 was developed as the standard for structural fire fighter gear. Coats and pants were designed as one protective system that included a 2-inch overlap. Both had breathable liners that not only protected from water, but now included protection from bodily fluids. Padding at the knees and elbows was included along with leather wear patches. Reflective striping was improved. And the coat cuffs were lengthened to provide cut protection.

Structural firefighting PPE is not the only first responder PPE that has evolved. From basically no PPE other than steel toed boots in the 1980's to today's gloves, masks, and gowns designed to protect the provider from the various diseases. Today, we do not think twice about donning gloves prior to patient contact. Most PPE changes have come as a result of some incident that now needs to be addressed. It is sad that first responder PPE now includes body armor due to the increasing number of assaults and weapons related calls we respond to.

Even with all of these PPE changes, first responders are still being injured or killed. So, we must not just rely on our PPE alone but we must continue to perform a risk evaluation of each situation to help further prevent injury or death.

Dave Reid

Save the Dates

Eastern Division of the IAFC Annual Leadership Conference, April 16-18, 2026, Lancaster, PA

MSFA Executive Committee Meeting, April 18-19, 2026, Eastern Garrett Volunteer Fire Company

Maryland Fire Chiefs Assoc. Annual Membership Meeting, April 19, 2026, Kent Island VFD

Life Savers Conference on Roadway Safety, April 19-21, 2026, Baltimore, MD

Fire Department Instructors Conference (FDIC), April 22-25, 2026, Indianapolis, IN

Fallen Hero's Day, May 1, 2026, Dulaney Valley Memorial Gardens, Timonium, MD

National Fallen Firefighters Foundation Memorial Weekend, May 2-3, 2026, Emmitsburg, MD

National Volunteer Fire Council Spring Conference, May 15-17, 2026, Alexandria, VA

Maryland Fire-Rescue Services Memorial, June 7, 2026, Annapolis, MD

Group and Individuals in Crisis, June 8-10, 2026, Baltimore County Police Training Academy

MSFA Conference and Convention, June 20-24, 2026, Ocean City, MD

Group and Individuals in Crisis, June 24-26, 2026, Pikesville Vol. Fire Company

National Volunteer Fire Council Training Summit, June 26-27, 2026, Arlington, VA

Maryland Fire Chiefs Association General Membership Meeting, July 18, 2026, TBD

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Maryland Fire Chiefs Association

Responder Safety Learning Network

Cumberland Valley Vol. Firefighters Association

Firefighter Close Calls

Maryland State Firefighters Association

First Responder Center for Excellence

National Volunteer Fire Council

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The number of 1st responder suicides through March 31, 2026

Firefighter Behavioral Health Alliance

4

The number of fallen firefighters through March 31, 2026

US Fire Administration