



# 2018 FIRE SERVICE HEALTH & SAFETY REPORT





**WATCH THE NATIONAL MEMORIAL  
& CANDLELIGHT SERVICES LIVE**



**BELLS ACROSS AMERICA  
FOR FALLEN FIREFIGHTERS**



**LIGHT THE NIGHT  
FOR FALLEN FIREFIGHTERS**



# HONOR & REMEMBER

## America's Fallen Firefighters

October 6 – 7, 2018 ★ Emmitsburg, Maryland

Every October, the National Fallen Firefighters Foundation sponsors the official national tribute to all firefighters who died in the line of duty during the previous year. There are many ways that members of the fire service can honor these heroes and their families in the community. We invite you to join us by organizing a Bells Across America for Fallen Firefighters event or lighting your firehouse for Light the Night for Fallen Firefighters. The Candlelight and Memorial Services will be streamed live on our website and Facebook.

**Learn More on Our Website: [weekend.firehero.org](http://weekend.firehero.org)**



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Above photo by Ken LaBelle  
Cover photo by Seth Lasko

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Funding for the 2018 Fire Service Health & Safety Report was generously provided through DHS/ FEMA's Grant Program Directorate for Assistance to Firefighters Grant Program – Fire Prevention and Safety Grants.



# Supporting the Safety, Health & Wellness of Firefighters



Chief Dennis Compton  
*Chairman, Board of Directors*  
National Fallen Firefighters  
Foundation

**We find ourselves on the cusp of a significant anniversary in the fire service.** Next year marks the 15<sup>th</sup> anniversary of the 16 Firefighter Life Safety Initiatives (FLSIs). When the 16 FLSIs were published, we weren't sure how they would be received by the fire service at large. While preparing this year's Fire Service Health & Safety Report, we couldn't be more pleased to see how much the fire service has embraced the intent of the 16 FLSIs and how much emphasis has evolved in the discipline of firefighter health and safety. Our generation of firefighters didn't talk much about physical and psychological health on a large scale. Today's fire service is not only talking about these things, it is routinely seeking new knowledge and integrating findings from research on these topics into their daily operations.

Just as we are looking back at what the fire service as a whole—including the National Fallen Firefighters Foundation (NFFF) and our many partners—has accomplished under the guidance of the 16 FLSIs, we encourage you to look back over your professional career and evaluate your knowledge and application of the Initiatives. The tools and resources highlighted in this report will do two things for you: 1) reinforce the value of a progressive, safety-focused culture and 2) help you integrate the 16 FLSIs in your day-to-day responsibilities.



Chief Ronald J. Siarnicki  
*Executive Director*  
National Fallen Firefighters  
Foundation

This year's edition of the Health & Safety Report focuses on a broad range of subjects and issues impacting the fire service today. We are committed to focusing on the preeminent issues for firefighters. Health and fitness lead the list again this year. You will find sections highlighting the overall wellness program developed by the Philadelphia Fire Department, as well as other "Making a Difference" segments from both the career and volunteer perspectives.

We continue our focus on improving human performance this year with the introduction of a new concept for the fire service—human performance optimization—as well as features on firefighter and officer development and the First Responder Center for Excellence. FLSI 2 (Accountability), 8 (Technology), 11 (Response Policies) and 13 (Behavioral Health) are also featured and include new information on work the NFFF is doing to promote these efforts.

Additionally, you will find a feature on wildland firefighting that is reflective of the NFFF's new partnership with the Wildland Firefighter Foundation (WFF). Forged this year, the NFFF and WFF will work together to reinforce the messages of firefighter risk management, comprehensive health and wellness, reducing preventable firefighter injuries and deaths, and being prepared when the unspeakable occurs.

We sincerely hope you will find the Fire Service Health & Safety Report a valuable tool as you work diligently to ensure that Everyone Goes Home.

Two handwritten signatures in black ink. The first signature is "Dennis Compton" and the second is "Ronald J. Siarnicki".



# 16 FIREFIGHTER LIFE SAFETY INITIATIVES

Guiding the NFFF's focus on health and safety

- FLSI 1 CULTURAL CHANGE**  
Define and advocate the need for a cultural change within the fire service relating to safety; incorporating leadership, management, supervision, accountability and personal responsibility.
- FLSI 2 ACCOUNTABILITY**  
Enhance the personal and organizational accountability for health and safety throughout the fire service.
- FLSI 3 RISK MANAGEMENT**  
Focus greater attention on the integration of risk management with incident management at all levels, including strategic, tactical, and planning responsibilities.
- FLSI 4 EMPOWERMENT**  
All firefighters must be empowered to stop unsafe practices.
- FLSI 5 TRAINING & CERTIFICATION**  
Develop and implement national standards for training, qualifications, and certification (including regular recertification) that are equally applicable to all firefighters based on the duties they are expected to perform.
- FLSI 6 MEDICAL & PHYSICAL FITNESS**  
Develop and implement national medical and physical fitness standards that are equally applicable to all firefighters, based on the duties they are expected to perform.
- FLSI 7 RESEARCH AGENDA**  
Create a national research agenda and data collection system that relates to the initiatives.
- FLSI 8 TECHNOLOGY**  
Utilize available technology wherever it can produce higher levels of health and safety.
- FLSI 9 FATALITY, NEAR-MISS INVESTIGATION**  
Thoroughly investigate all firefighter fatalities, injuries, and near misses.
- FLSI 10 GRANT SUPPORT**  
Grant programs should support the implementation of safe practices and/or mandate safe practices as an eligibility requirement.
- FLSI 11 RESPONSE POLICIES**  
National standards for emergency response policies and procedures should be developed and championed.
- FLSI 12 VIOLENT INCIDENT RESPONSE**  
National protocols for response to violent incidents should be developed and championed.
- FLSI 13 PSYCHOLOGICAL SUPPORT**  
Firefighters and their families must have access to counseling and psychological support.
- FLSI 14 PUBLIC EDUCATION**  
Public education must receive more resources and be championed as a critical fire and life safety program.
- FLSI 15 CODE ENFORCEMENT & SPRINKLERS**  
Advocacy must be strengthened for the enforcement of codes and the installation of home fire sprinklers.
- FLSI 16 APPARATUS DESIGN & SAFETY**  
Safety must be a primary consideration in the design of apparatus and equipment.

For more information on the 16 Firefighter Life Safety Initiatives, visit [everyonegoeshome.com](http://everyonegoeshome.com).

Photo by Bernie Deyo



# EVERYONE GOES HOME<sup>®</sup> ADVOCATES

Working for you  
in every state

**T**he National Fallen Firefighters Foundation (NFFF) is supported in its mission to prevent line-of-duty deaths (LODDs) by a dedicated group of trainers known as Advocates. This cadre of 137 fire service professionals form the backbone of the NFFF's Everyone Goes Home<sup>®</sup> (EGH) Program. Advocates have committed themselves to representing the NFFF by carrying the banners of safe operations, overall wellness and courageous leadership.

## Supporting the mission

The Advocates serve as the NFFF's primary points of contact at the local and state levels. Their primary external responsibility is supporting the 16 Firefighter Life Safety Initiatives (FLSIs). This responsibility is achieved through attendance and participation in activities, events and programs within their respective geographical area. Advocates are charged with keeping abreast of new developments and trends in firefighter safety as well as making recommendations to the EGH coordinator for program enhancements. Internally, Advocates have an established network where ideas can be exchanged. This system allows the group to share best practices and/or exchange information pertinent to the program.

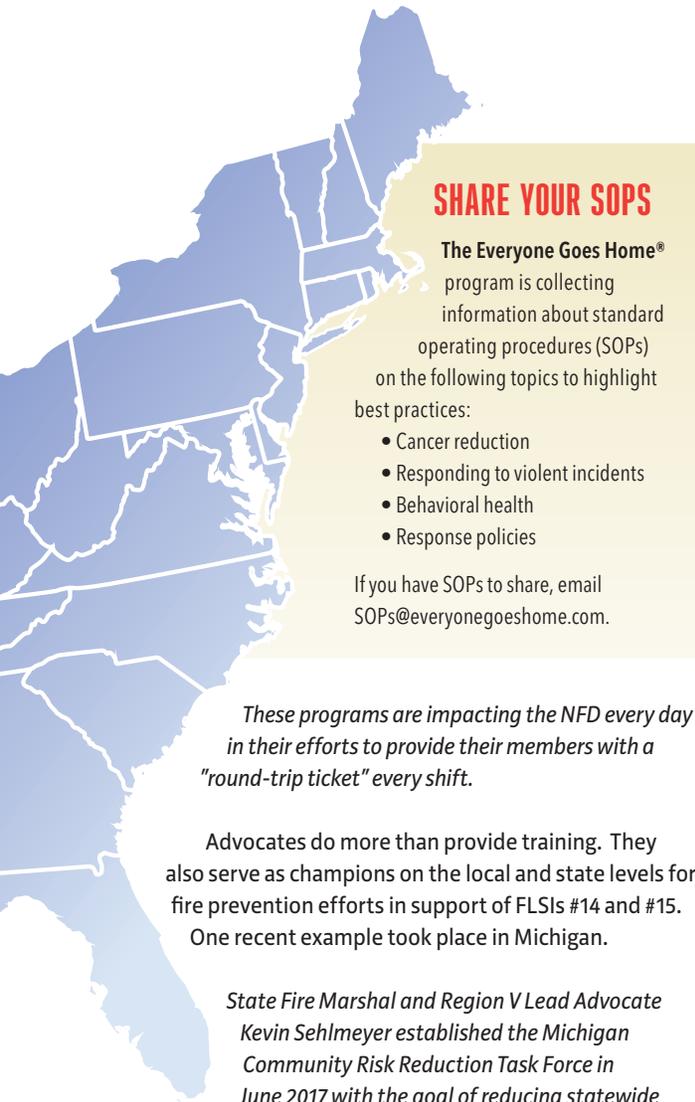
An Advocate's value to the fire service community served is many fold. Advocates are invited to a wide variety of venues to further the message of reducing preventable LODDs. One significant contribution they make to the day-to-day operations of a fire department is reinforcing a department's

safety and risk management programs. Advocates go into departments equipped with a variety of tools developed by the NFFF. These tools can be viewed at the EGH website, [firehero.org](http://firehero.org), and the Fire Hero Learning Network website, [fireherolearningnetwork.com](http://fireherolearningnetwork.com).

## Making an impact

Rick Best, a 20-year veteran of the fire service from the Westerville, OH, Division of Fire, was recently appointed as the Advocate Manager. He has served in a management function of the program for eight years and has seen firsthand the benefits of involving Advocates in your department. He relates the following examples of what Advocates can do to make a difference.

*Tennessee Advocate Ben West made a cold call to the Nashville Fire Department (NFD). As a result of that call and subsequent interaction, Captain Moses Jefferies, one of NFD's training officers, enlisted to become an Advocate and was instrumental in introducing the NFFF's many safety programs into NFD's recruit and incumbent training system.*



## SHARE YOUR SOPs

The Everyone Goes Home® program is collecting information about standard operating procedures (SOPs) on the following topics to highlight best practices:

- Cancer reduction
- Responding to violent incidents
- Behavioral health
- Response policies

If you have SOPs to share, email [SOPs@everyonegoeshome.com](mailto:SOPs@everyonegoeshome.com).

*These programs are impacting the NFD every day in their efforts to provide their members with a "round-trip ticket" every shift.*

Advocates do more than provide training. They also serve as champions on the local and state levels for fire prevention efforts in support of FLSIs #14 and #15. One recent example took place in Michigan.

*State Fire Marshal and Region V Lead Advocate Kevin Sehmeyer established the Michigan Community Risk Reduction Task Force in June 2017 with the goal of reducing statewide fire-related fatalities and injuries of civilians and firefighters. The task force has more than 70 retired and active firefighters and other community stakeholders. Task force members are using data collected from a review of fatal residential fire reports to develop a community risk reduction approach to reduce fire-related fatalities. The task force created maps for local fire departments and the American Red Cross to identify target areas for smoke alarm installations and fire safety education. For more information on these efforts, email [SehmeyerK@michigan.gov](mailto:SehmeyerK@michigan.gov).*

## Providing training and tools

From June 2017 to June 2018, Advocates worked with more than 1,000 fire departments—equaling about 11,500 firefighters—to

## BECOME AN ADVOCATE

To learn more about becoming an Everyone Goes Home® Advocate, visit [everyonegoeshome.com/about-us/advocates](http://everyonegoeshome.com/about-us/advocates) or email National Advocate Manager Rick Best at [rbest@firehero.org](mailto:rbest@firehero.org).

share the training and resources available through the EGH Program. Following is a snapshot of the training programs delivered by the Advocates. To request any of these trainings, contact a state advocate listed on [everyonegoeshome.com/about-us/advocates](http://everyonegoeshome.com/about-us/advocates).

### COURAGE TO BE SAFE®

This program was designed to change the culture of accepting firefighter fatalities as a "normal" occurrence by examining the 16 FLSIs. The overarching message of this program is to promote good decision-making. This program is mandatory to all firefighters in Texas and Ohio. In Ohio, about 2,000 firefighters took Courage to Be Safe® in conjunction with Firefighter I and II at the fire academy.

- Trainings: 42
- Attendees: 2,015\*

*\*Includes attendees from stand-alone classes and not those in mandated fire academy.*

### LEADERSHIP, ACCOUNTABILITY, CULTURE AND KNOWLEDGE (LACK)

LACK provides a balanced approach to leadership with practical and specific tips on preventing fatalities and injuries.

- Trainings: 11
- Attendees: 329

### LEADERSHIP SO EVERYONE GOES HOME

This program examines the contributing factors that can lead to a firefighter fatality or injury. It also gives the foundation of steps to take to reduce the risk of firefighter fatalities and injuries.

- Trainings: 8
- Attendees: 705

### STRESS FIRST AID

This behavioral health training program teaches supporting actions designed to reduce the negative impacts of stress. The program is based on a practical, flexible model that can be tailored to fit the needs of the individual firefighter. The program has recently been revised and will now be managed under the First Responder Center for Excellence.

- Trainings: 53
- Attendees: 2,305

## A noble pursuit

Firefighter survival is a relentless pursuit. The vocation is filled with risk. Some of the risks are readily identifiable, while others are insidious. The NFFF Advocate should be viewed as a partner in the pursuit of every fire department's efforts to prevent preventable LODDs and reduce preventable injury.

For more information on how you can benefit from the assistance of an EGH Advocate, contact Advocate Manager Rick Best at [rbest@firehero.org](mailto:rbest@firehero.org).

## MAKING A DIFFERENCE:

# Philadelphia Fire Department

Focusing on firefighter health and safety to ensure that members are mentally and physically prepared

by Adam K. Thiel



The Philadelphia Fire Department (PFD) traces its lineage back to Benjamin Franklin in 1736. Although the core mission of serving the city of Brotherly Love and Sisterly Affection has not changed since then, the mission requirements have evolved to meet the increasing response demands and full spectrum of target hazards. To accomplish this, the PFD is continually striving to provide the required staffing, training, apparatus, equipment, facilities and other resources to help safely meet the needs of our citizens, visitors and first responders.

### Prevention first

The PFD uses a comprehensive approach to firefighter health and safety. Somewhat unique to this approach is recognizing that community risk reduction (CRR) plays a direct role in firefighter health and safety. Simply stated, the fire or EMS incident that doesn't occur in the first place presents zero risk to our responders and citizens. As such, CRR has been a constant focus of the department for many years.

In addition to full-time fire prevention and fire code units, the PFD recently placed three round-the-clock community action teams (CATs) in service to deliver fire safety education, install smoke alarms (with assistance from engine and ladder companies), provide courtesy fire inspections, support fire marshals' investigations, and coordinate support for fire survivors. In the past 8 months, with support from the federal Assistance to Firefighters Grant (AFG) program, the PFD and partner organizations have installed almost 20,000 smoke alarms. Further, the EMS CRR unit delivers education on proper 9-1-1 utilization, provides bicycle helmets, and has plans to expand its outreach efforts in the future.

### Training focus

The City of Philadelphia has a relatively high rate of fire occurrence and fire-related casualties, including tragic losses of PFD members throughout its history. Given the frequency and severity of these incidents, and with help from an AFG grant, over the past year, the training academy staff has delivered the IAFF Fireground Survival program to almost 2,000 Philadelphia firefighters. In addition, through the relaunched "PFDTV," training videos are now streamed to most of the fire/EMS stations from multiple content providers.

Also in the past year, a deputy chief was added on each platoon to serve as a dedicated safety officer. Future plans include expanded incident command system (ICS) training, in-depth training on fire dynamics, implementing a learning management system (LMS), and a mobile field training program to coordinate in-service training across all four platoons.

### Health and safety

Arguably, the members' health and safety begins and ends at their assigned work locations. Despite their varied vintages, designs and conditions, every PFD fire/EMS station is equipped with a diesel exhaust extraction system. To the credit of the members' ingenuity, most stations have dedicated fitness areas/equipment as well.

After an unexpected partial roof collapse in one of the stations last year, the department was able to work with the city facilities agency to not just replace damaged areas, but also take the opportunity to upgrade and update the entire facility with some vital health and safety enhancements. From this collaboration, upgrades included a proper women's facility, the first gear extractor/dryer set, automatic fire sprinklers, and appropriate storage for bunker gear. They also modified an existing renovation—and the plans for an addition to another station—by adding automatic fire sprinklers and gear extractor/dryer sets. Bunker gear is currently cleaned twice a year by an outside contractor. More importantly, the department worked with several partners to create a multi-year, \$168 million facilities improvement plan that will bring these improvements, and many more, to all of the fire/EMS stations.

Due in large measure to the efforts of the Philadelphia Fire Fighters' and Paramedics' Union, IAFF Local 22, through a joint health and safety committee, over the past two years, almost half of the uniformed workforce has received the *NFPA 1582* medical examination. This vital initiative is expected to reach the balance of these members in 2018.

For many years, the PFD has maintained an in-house employee assistance program (EAP) staffed with full-time peer counselors from within the department, overseen and augmented by a professional cadre of behavioral health clinicians. The department is also in the process of formalizing a chaplaincy program for members seeking faith-based support.



## PHILADELPHIA FIRE DEPARTMENT

**Personnel:** 2,851 (2,707 uniformed EMS and providers and firefighters)

**Community Served:** 1.6 million residents

**Apparatus:** 56 engines, 27 ladders, 55 medic units, 2 squad companies, 1 heavy rescue, multiple aircraft rescue and firefighting (ARFF) vehicles, and several other specialized units

**Service Area:** 3 EMS/Fire Divisions over 141 square miles

**2017 Runs:** More than 525,000 runs per year (est. 330,000 EMS incidents, 50,000 fire-related incidents, and 2,600 working structure fires)

**Fire/EMS stations:** 63

Once again, Local 22 is a great partner in the joint efforts to create a comprehensive and coordinated system to help support members with what they need when they need it. Over the past two years, almost 50 peer counselors have been trained through an IAFF program to recognize behavioral health issues and engage their colleagues in times of need.

The PFD has built-in coordination between Local 22 and the uniformed members' health insurance plan. Local 22 has been very successful in developing incentives for voluntary preventive healthcare activities, including smoking cessation programs, cardiac scans, participation in fitness programs, semi-annual health fairs for members and their families, plus a host of other initiatives.

Local 22 also sponsors Philly Fire's Motivated Fitness—a voluntary fitness program available to all members that is staffed by 35 IAFF-certified peer fitness trainers. With an eye toward the mind-body connection, classes include functional fitness, fun runs, yoga and martial arts. Plans for the future include a new purpose-built wellness facility offering a full range of services for members and their families.

Finally, PFD and Local 22 are partners in a new AFG-supported initiative with Drexel University's Center for Firefighter Injury Research & Safety Trends (FIRST) to help develop a systems checklist that will address the salient risk of violence to EMS providers across the United States.

### "Make it work"

From the hazards of treating patients in unstable environments to the inherent dangers of structural firefighting to occupational cancer and post-traumatic stress, PFD members steadfastly "make it work." While the members of the PFD continue to respect the time-honored traditions of such a historic department, the comprehensive approach to firefighter health and safety ensures that members are prepared mentally and physically for protecting the lives and property of the City of Philadelphia today and in the future.

**Adam K. Thiel** became the fire commissioner for the City of Philadelphia in May 2016. He has completed doctoral coursework in public administration at Arizona State University and in public policy at George Mason University. Before coming to Philadelphia, Thiel held posts including deputy secretary of public safety and homeland security for the Commonwealth of Virginia and chief of the fire department in Alexandria, VA. He is on Twitter @ThielAdam.

## MAKING A DIFFERENCE:

# Santa Clara County Fire Department

Taking a comprehensive approach to health and wellness—  
and preventing occupational cancer

by Steve Prziborowski



**A**bout a year ago, our units were dispatched to a house fire that ended up going to a second alarm. As the operations chief for the Santa Clara County, CA, Fire Department, I arrived on scene and put on my turnout coat, pants and helmet. If I needed an SCBA, I'd get one from a rig on scene.

While making my way to the command post, I stopped in my tracks when I saw the driver with an SCBA on while pumping the fire. I went up to her to reinforce the positive behavior of wearing her SCBA with so much smoke in the air. She told me she couldn't take credit; the credit went to her captain, who had ordered her to don her SCBA because of the smoky conditions. Later, I found the captain and thanked her for her leadership. She looked at me like I was crazy and said, "Chief, just doing my job, which includes taking care of our personnel."

It is common to have personnel enter an Immediately Dangerous to Life and Health (IDLH) environment with full PPE and an SCBA. What isn't common is for the driver (chauffeur, engineer, apparatus/operator) to don turnout coat or pants, helmet or even an SCBA. Take a look at the many pictures of fireground operations on the internet or social media, and rarely do you see a driver pumping a fire wearing any form of PPE. In our department, it's expected that the driver wears their turnout coat, pants and their helmet while pumping a fire.

There are reasons why personnel in other agencies don't make their drivers wear PPE. Some would say the SCBA could be a trip hazard for the driver. Some would say they shouldn't

have parked in the IDLH environment, or that when they initially arrived on scene, the smoke wasn't so bad. But these reasons pale in consideration of the alternative of breathing in carcinogens.

Drivers wearing PPE is just one example of the department's proactive and comprehensive approach to preventing occupational cancer and overall health and wellness. The Santa Clara Fire Department issues two sets of turnouts, requires personnel to participate in annual physical fitness/medical evaluations, encourages personnel to clean and maintain their PPE, and encourages use of the physical fitness equipment in each firehouse.

Also, washers and dryers are being installed in firehouses. New firehouses are being designed with the hot/warm/cold zone concept to ensure a safe travel path to prevent carcinogens from being brought back into living areas and to ensure contaminated PPE is cleaned and stored appropriately.

While change can be tough for many, it has been encouraging (but not surprising) to hear and see personnel embracing these changes in operations on the scene and back at the firehouse. We are also seeing our personnel hold each other accountable to ensure they are following the best practices. Peer pressure—for the right reason—is key. We may never be able to fully eliminate cancer, but if we can each do our part to reduce our exposure, the better off all of us and our families will be.

Finally, I would like to add a special word of thanks to our Fire Chief Ken Kehmna and the rest of our administrative staff, as well as our collaborative relationship with our IAFF Local 1165, for without them, none of this would be possible.

**Steve Prziborowski**, a Firehouse contributing editor, is a deputy chief for the Santa Clara County, CA, Fire Department, a Chabot College (Hayward, CA) Fire Technology Program instructor, a Volunteer Advocate for the NFFF Everyone Goes Home Program, the Northern Division Director for the California Fire Chiefs Association, and was the 2008 California Fire Instructor of the year. Prziborowski is a regular speaker across the country and has published three career development books: "Reach for the Firefighter Badge," "The Future Firefighter's Preparation Guide" and "How to Excel at Fire Department Promotional Exams."



## MAKING A DIFFERENCE:

# Lisbon Volunteer Fire Department

Following the philosophy,  
"If you don't get your physical,  
you don't ride"

by Jeffrey Vogts

Lisbon Volunteer Fire Corporation (Lisbon VFC), a station within Howard County Department of Fire and Rescue Services (HCDFRS) in Maryland, has been in existence since 1944. As the community of Lisbon has undergone many changes in the past 70 years, Lisbon VFC has kept pace to provide adequate fire and safety protection to the community and its members. One such advancement is the volunteer corporation's commitment to require an annual *NFPA 1582*-compliant physical for every operational volunteer member. This policy reinforces Lisbon VFC's desire to be the best it can be for the community it serves and the members staffing its apparatus.

The hazards of firefighting are well known both inside and outside of our profession. First responders experience high levels of stress, intense physical demands, short- and long-term exposure to chemicals and infectious disease, and schedule disruptions. These stressors contribute to heart disease, lung disease and cancer, which are the three leading causes of death and occupational diseases for firefighters. Recognizing the horrific impact these diseases place on firefighters and their families, Lisbon VFC made a conscious decision to take bold action to minimize the threat to its members. This action is the annual firefighter physical program. And at Lisbon, if you don't get your physical, you don't ride. It's that simple.

Our personnel undergo an annual firefighter physical from our occupational medical facility, Corporate Occupational Health Services. This facility is staffed with personnel with more than two decades of experience servicing our industry. That experience makes a tremendous difference in the type and quality of physicals we get.

This type of commitment requires a huge culture change, a shift that happens gradually and requires perseverance. It is a



culture change that takes time and gradually builds believers. We commonly hear that firefighters hate change, and there's a lot of fear associated with perceived consequences of not performing well during a physical. Many non-believers just want to keep doing things the way they've always been done and, like a lot of people, they fear something may be found during the exam. But the proof of the program's value can be found, even in a small organization like Lisbon VFC. We've had at least one referral due to a cardiac anomaly that was able to be mitigated, and one member who received a cancer diagnosis. That member is now a cancer survivor *because* of the discovery during the required physical and subsequent treatment received. At Lisbon VFC, *we know and can attest that medical evaluations save lives.*

We're very fortunate that our leadership, both Corporation level and County Department level, sees the value of annual physicals by funding the physicals. It is incumbent upon us, the membership of the Lisbon VFC, to return that commitment and support of these leaders by ensuring we show up as scheduled for our physicals and follow up on recommendations made by the medical provider.

Producing a culture dedicated to safety for first responders requires sound leadership, strong management of the medical program, and supervision that holds people personally accountable. Our knowledge of the demands firefighting puts on the human body has expanded exponentially in the last two decades. Wanting to serve, while noble, is not enough to fulfill the multi-faceted responsibility of being a first responder. We have a responsibility to the community we serve, the personnel with whom we share the job, and the families waiting at home for a safe return.

It's a privilege to be driving or riding on fire apparatus, and there is accountability that goes along with that privilege. Being safe *and* healthy should be our top priority. We can't serve our community or our members if we are not in top form. The community and the department depend on that.

**Jeffrey Vogts** is a deputy chief with the Lisbon, MD, Volunteer Fire Company. He is a 38-year veteran of the fire service and worked 24 years for the Prince George's County, MD, Fire Department. He currently works for the Frederick County, MD, Division of Fire and Rescue.

# ACCOUNTABILITY ISSUES

## Who are we accountable to?

by John Dixon

**W**e need not listen too hard before we hear the loud beat of the proverbial accountability drum in today's fire service. There are many organizations devoted to ensuring that individuals and organizations alike are emphasizing the importance of accountability. But are we all on the same page? What actions are attributed to the path of continuous improvement? Let's analyze how we are accountable, not only to ourselves but also to the organizations to which we belong and, ultimately, the public we swore an oath to protect.

### Personal accountability

It can be said that the fire service is a large jigsaw puzzle of which we are only a small piece. So how do we know where we fit? We must remember that, first and foremost, we are accountable to ourselves. We are faced with many trying decisions during our careers. It is therefore vital for our future success that we know our "why," as this must serve as the backbone of our decisions.

### **FLSI 2** Enhance the personal and organizational accountability for health and safety throughout the fire service.

Mission, vision and values comprise the foundation of a solid fire department. Naturally, one of the hardest, yet most rewarding, accountability actions an individual can perform is completing personal mission, vision and values statements. Not many emergency service members have them, but developing these statements is the first step among many others toward holding ourselves accountable.

### Organizational accountability

Sometimes we focus so much on our service delivery to the public that departments can forget that their greatest assets are the people. Organizations can enhance accountability through three primary approaches: 1) education, 2) physical and psychological health and 3) ownership.

**Education:** Knowledge is power. Is the organization doing everything it can to ensure that its members are learning, on and off the fireground? If your department doesn't have the resources to provide continuing education and training, there are free tools available. The Fire Hero Learning Network



(fireherolearningnetwork.com) offers free virtual training programs on topics like Stress First Aid, Communication and Mentoring for Company Officers, and a newly released module on Automatic Fire Sprinkler and Alarm Systems.

**Physical and psychological health:** Physical and psychological health is vital for accountability. The NFFF has partnered with outstanding organizations to enhance our understanding of the physical and psychological needs of firefighters.

**Ownership:** We must hold our organizations accountable for prioritizing our ownership of our health and safety. Are we willing to accept that our organization may be vulnerable or drifting toward a preventable injury or LODD? The Vulnerability Assessment Program (firevap.org) is a tool to help organizations identify gaps in resources and service capabilities, with resources to address those gaps. Developing protocols to help eliminate exposure to carcinogens is a must.

### Final thoughts

Do you wash your gear often? Does the organization provide methods of control? Do you wear your SCBA during overhaul? Does your department mandate it? In order to improve personal and organizational accountability, we must challenge ourselves and ask the tough questions. If it feels uncomfortable, good; that means there is room for improvement.

Accountability takes courage—a trait firefighters pride themselves on. That courage works both ways, to hold ourselves and our organization accountable for getting everyone home.

**John Dixon** is a career fire officer with an urban fire department in New Jersey and has over 23 years in the fire service. He earned his Fire Officer (FO) credentials from the Center for Public Safety Excellence and Training Officer (TO) credentials from the International Society of Fire Service Instructors, and is a National Fire Academy alumni. Dixon has served as an instructor with the Bergen County, NJ, Fire Academy, is a member of Project Kill the Flashover, and serves as the New Jersey State Lead Advocate for the NFFF.

# TAKE THE PLEDGE

*Sign the International First Responder Seatbelt Pledge*



*The International First Responder Seatbelt Pledge is part of the National Fallen Firefighters Foundation's Everyone Goes Home® Program.*



## Signing Pledge Is Easier Than Ever

1. Click on Create an Account Now and complete the online form.
2. On the Invitations tab, enter the name(s) and email(s) you would like to invite to sign the pledge.
3. Click the Invite link on your email.
4. Enter email address on the Pledge Invite page.
5. Click on 'I Accept' – You have signed the pledge!

“ Our department modified our Mission Statement in 2011 to include safety as one of our primary objectives. A pivotal part of this commitment was achieving and maintaining 100% compliance with the Seatbelt Pledge for the past 7 years. Life is a ride so you better buckle-up. ”

– Chief Scott Titus  
North Port (FL) Fire Rescue District

**WWW.SEATBELTPLEDGE.COM**

# FIREFIGHTER PHYSIOLOGICAL MONITORING TECHNOLOGY

Envisioning the future and making it a reality ... today

by Matthew Tobia



Cardiac-related events continue to be the leading cause of death among firefighters, and for every fatal sudden cardiac event, there are 20-25 non-fatal events. In response to this, the National Fallen Firefighters Foundation (NFFF) began hosting an annual Firefighter Physiological Monitoring Technology Summit, with a goal of examining the cutting-edge technological programs related to cardiac events currently used by fire departments and learning about those programs under development by research partners. The Summit was conducted in cooperation with the National Fire Protection Association (NFPA) Fire Protection Research Foundation and researchers from Skidmore College. Skidmore College's Science Medicine and Research & Technology for Emergency Responders (SMARTER) Program is working toward decreasing the risk of firefighter injuries, fatalities and toxic exposure.

## 4 key research areas

Dr. Denise Smith, principal researcher and director of the First Responder Health and Safety Laboratory at Skidmore College, opened the program with a review of her ongoing seminal work in understanding the physiological causes of

**FLSI 8** Utilize available technology wherever it can produce higher levels of health and safety.

sudden cardiac events among firefighters. Attendees reviewed technology related to four key research areas related to firefighters and cardiac issues:

1. Physiological status monitoring
2. Real-time ECG/EKG monitoring
3. Fireground particulate monitoring
4. Enhancing the ability to accurately estimate core body temperature

Each research area was presented during general sessions and then evaluated in small group sessions where attendees discussed advantages, disadvantages and practical applications on emergency incidents. The key findings below reflect that many of the technologies available today can be incorporated into the training environment while continuing to revise and refine the applicability to emergency incident response.

### Research Area #1: Physiological Status Monitoring

Dr. Mark Buller from the U.S. Army Research Institute of Environmental Medicine presented an algorithmic predictive model for determining core body temperature, pioneered in the military and subsequently adapted for firefighters. High ambient temperatures, encapsulating PPE and heavy work associated with firefighting results in elevated core body temperatures. Elevated core body temperatures have serious consequences resulting from heat stress, including increased cardiovascular strain, impaired cognitive function affecting



The NFFF aims to examine the cutting-edge technological programs related to cardiac events currently used by fire departments and learn about those programs under development by research partners.

decision-making, and physiological manifestations, including exhaustion and stroke. Prolonged heat stress also increases risk for rhabdomyolysis, multi-system organ failure and sudden cardiac events. Findings from military studies suggest that the algorithm provides an accurate estimate of core body temperature. Preliminary findings from the SMARTER Program suggest the algorithm's applicability to firefighting and work is ongoing to confirm this in a larger group of firefighters.

### Research Area #2: Real-Time ECG Monitoring

Andrea Wilkinson, MA, of Skidmore College reviewed the statistics regarding the frequency and impact of sudden cardiac events—the leading cause of on-duty deaths in the fire service. The use of monitoring during firefighting activity has many challenges, including developing a portable ECG system with arrhythmia detection for real-time monitoring. It is also a challenge to determine which arrhythmias (life-threatening or benign) warrant attention during operations and who will be reviewing the data in real-time. The three systems Wilkinson researched were not suitable for ECG monitoring during firefighting due to movement issues and problems with the interpretation of the data. This technology may be better suited for the rehab phase of monitoring, although it is hoped that an arrhythmia-detection algorithm that accounts for

motion artifact can be developed for real-time ECG monitoring in the future.

### Research Area #3: Fireground Particulate Monitoring

Dr. Aydogan Ozcan from the University of California – Los Angeles shared information about a low-cost particulate matter monitor, designed to be used in the ambient environment of firefighting. Exposure to particulate matter has been linked to many health issues, including respiratory complications, cardiovascular disease and cancer. Firefighters often use the presence of smoke or four-gas monitors to determine the need to continue to wear SCBA; however, such assessments are inherently inadequate because of the literally hundreds of compounds that are most easily inhaled and most dangerous to responders. The current monitor prototype is able to provide real-time imaging of particulate matter and has potential application on the emergency incident scene. This effort, however, reflects a concerted attempt to leverage science and technology in determining environmental hazards common in structural firefighting.

### Research Area #4: Enhancing an Algorithm to Accurately Estimate Core Body Temperature

Wilkinson, along with Chief Craig Haigh from the Hanover Park, IL, Fire Department, presented on the Wearable Advanced Sensor Platform (WASP) comprised of a Globe NFPA-approved flame-resistant base layer shirt and Zephyr Bioharness 3 technology. The ensemble is also being used by the Houston Fire Department (HFD) during recruit training. HFD's Senior Captain Jeff King shared Houston's efforts to change their organization's actions after they experienced an LODD of a recruit during training. The technology has immediate applications in the recruit training environment and can be effectively used to monitor core body temperature, heart rate and other physiological status monitoring. The device produces a tremendous volume of data that can be used to further refine the effectiveness of the garment.

## Learn more

Visit [skidmore.edu/responder/smarter-project.php](http://skidmore.edu/responder/smarter-project.php) for more information about the SMARTER Program and one-page fact sheets on each of the four research areas. A comprehensive report will be available on [firehero.org](http://firehero.org) later this year.

Funding for the meeting was provided through DHS/FEMA's Grant Program Directorate for Assistance to Firefighters Grant Program – Fire Prevention and Safety Grants. LION, MSA/Globe and DuPont Nomex provided additional funding.

**Matthew Tobia** is an assistant chief with Loudoun County, VA, Fire and Rescue and is a 30-year veteran of emergency services. He has a bachelor's degree from the University of Maryland and is a graduate of the EFO program. Tobia also holds Chief Fire Officer Certification and is a member of the Institute of Fire Engineers (MIFireE). He is the former chair of the IAFC's Safety, Health and Survival Section and is active with the NFFF and the Mid-Atlantic Burn Camp for Children. Tobia can be reached at [matthew.tobia@loudoun.gov](mailto:matthew.tobia@loudoun.gov).

# RESPONSE POLICIES



Common response policies provide jurisdictions the help they need to get the job done safely and efficiently

by John Tippett

**R**adio speakers in multiple fire stations across several jurisdictions announce a reported structure fire. Firefighters quickly make their way to apparatus floors, don their PPE, board apparatus bearing several different patches and uniforms, buckle their seatbelts, and respond to the call for service on a common tactical channel.

Apparatus operators deftly maneuver the responding four engines, two ladders, one heavy rescue, three battalion chiefs and EMS unit through congested traffic, stopping and clearing intersections and giving traffic time to make way.

The first-arriving engine (not from the jurisdiction where the fire occurs) gives water supply instructions, reports a working fire in a medium-sized strip mall, announces that a 360 can't be completed due to building size, advises an offensive strategy, and establishes command and accountability at the engine. The other arriving units take pre-determined positions.

The first-arriving battalion chief (from a separate jurisdiction than the first-arriving engine) confirms conditions and obtains a conditions-actions-needs (CAN) report from the first-arriving engine officer. The battalion chief then notifies the dispatch center that command will now be with the battalion chief at the chief's buggy and requests an upgrade of the assignment.

**FLSI 11** National standards for emergency response policies and procedures should be developed and championed.

Additional arriving chief officers fill the accountability and safety officer roles while companies make a calculated, organized interior attack.

The fire is quickly contained and extinguished by crews from all responding departments. Crews conduct an on-scene decon, critique the operations using the National Fallen Firefighters Foundation (NFFF) After-Action Review, and everyone goes home in one piece to further decon themselves, their equipment and get ready for the next run.

## Importance of response policies

The NFFF's 16 Firefighter Life Safety Initiatives (FLSIs) are aimed at reducing preventable firefighter line-of-duty deaths (LODDs) and injuries. Initiative 11: Response Policies calls for fire departments to establish "... a minimum set of activities that are universally recognized and understood to assure life safety at every fire—regardless of organizational composition

or geographic location.” The initiative goes on to note, “Common standards provide the added benefit of allowing multiple responding agencies to operate with similar strategic and tactical considerations, regardless of the complexity of the event.”

The scenario described in the opening paragraphs is not an imaginary account envisioned by a fire service utopian. Jurisdictions across the country have actively embraced FLSI 11 and, in fact, were the impetus for the initiative’s creation during NFFF’s Tampa 1 Summit and affirmation during the Tampa 2 Summit.

Fire departments with successful Initiative 11 stories abound—Columbus Metro Area, Phoenix Metro Area, Charleston Metro Area, Northern Virginia Emergency Services, Northeast Fire Collaborative, to name a few. As one seasoned battalion chief from a department in the Charleston Metro area stated, “I used to have to fight all of our fires with my four engines, one truck and me. Now I have 40 engines, 12 ladders, 4 heavy rescues and 10 battalion chiefs at my disposal, all singing off the same sheet of music. It just makes sense.”

## Standards and relationships

Policies, procedures and processes are the lifeblood of any sound organization. The fire service is no different. A cursory review of LODD and injury reports frequently recommends fire departments establish or follow standard operating procedures (SOPs) to help reduce firefighter LODDs and injuries. Failing to have policies in place or failure to follow SOPs are cited as significant contributing factors in firefighter tragedies. The National Institute of Occupational Safety and Health (NIOSH) has issued multiple LODD reports and alerts focusing on the need for fire departments to establish response policies or follow existing policies.

Reports also cite issues with staffing (insufficient number of personnel on scene), accountability (failure to know where all personnel are operating) and communications (incompatible radios, incompatible vocabularies, no common channel, etc.). Initiative 11 calls on departments to ensure that they are fulfilling their primary mission—saving lives and property in the most expeditious manner possible. This translates to overcoming issues related to historic animosities, “turf wars” and unhealthy competitiveness. Working toward meeting the intent of FLSI 11 can assist a fire department’s operational shortfalls related to staffing, accountability and communications.

The NFFF convened a broad-spectrum conference of fire service representatives in Columbus, OH, May 16–18, 2018. Attendees were charged with exploring Initiative 11’s value and providing direction on next steps to assist departments with implementing the initiative.

The Columbus Fire Department (CDF) and Columbus IAFF Local 67 hosted the meeting. Given the strong automatic-aid relationships in the Columbus Metro area, the location could not have been more appropriate. Columbus Department of Public Safety Director Ned Pettus Jr. provided a keynote that

cited, “Automatic-aid relationships are essential to delivering excellent service. Those relationships work best when partners are operating off standardized polices.”

Implementing Initiative 11 is not without its challenges and complexities; however, fire departments across the country have proven it can be done through a wide variety of methods. The keys to making Initiative 11 work are commitment at every level, perseverance to work through regional differences and constant focus on the benefits (i.e., faster service to the public, increased firefighter safety, better organized operations).

Chiefs Paul Summerfelt—Wildland Fire Management Officer, Flagstaff, AZ, Fire Department—and David Vitwar—Operations Chief, Colorado Division of Fire Prevention and Control—summed up the benefits by pointing out, “Standardization has been key [in the wildland firefighting community] to abilities of quickly mobilizing response assets.”

## The keys to making Initiative 11 work are commitment at every level, perseverance to work through regional differences and constant focus on benefits.

The bottom line: The most comprehensive, enhancing partnership is the automatic-aid agreement. These agreements forge strong partnerships that serve communities better, spur common operating policies and preserve individual department identities where necessary.

## It just makes sense

The benefits of having common response policies far outweigh the negatives. A variety of other high-risk industries already demonstrate those benefits on a regular basis. From the military to commercial aviation to medicine, common practices employed within the various disciplines maximize safety, operational efficiency and service. Initiative 11 seeks to expand the benefits to the wider fire service community as part of its ongoing mission to reduce preventable firefighter injuries and fatalities. As Summerfelt and Vitwar succinctly stated, “You don’t need standards if you can handle everything yourself. But who in this day and age can handle everything by themselves?” It just makes sense.

**John Tippett** is director of Fire Service Programs for the National Fallen Firefighters Foundation. He joined the NFFF in April 2018 after a 44-year career in the fire service. Tippett holds a bachelor’s degree in fire science and a master’s degree in emergency services management. He has worked extensively on officer development and firefighter safety initiatives throughout his career, including introducing crew resource management to the fire service and the Fire Fighter Near-Miss Reporting System.

# FOCUS ON BEHAVIORAL HEALTH

Tools and resources for firefighters, peers and families are available

by Angela Moreland

The Center for Firefighter Behavioral Health (CFFBH) was formally established in 2017, but its team has been developing technology-based resources for the fire service since 2011.

The CFFBH is led by faculty and staff at the Medical University of South Carolina (College of Nursing and National Crime Victims Research and Treatment Center) in partnership with the National Fallen Firefighters Foundation (NFFF), the First Responder Center for Excellence, and the Lowcountry Firefighter Support Team.

With first responders being at high risk for trauma-related consequences, including post-traumatic stress disorder (PTSD), sleep disorders, depression, alcohol abuse and suicide, the CFFBH is committed to putting tools in the hands of firefighters to help them address their behavioral health needs and those of their peers. Some of the resources developed by CFFBH are designed specifically for firefighters (self-help), others are designed for firefighter peers to help them support others (peer support), and still others are designed to train healthcare providers who serve firefighters. The ultimate goal is to improve firefighter behavioral health and overall well-being.

CFFBH resources have been created with funding from the Department of Homeland Security via the Federal Emergency Management Association (FEMA). All of them are technology- and web-based, making them freely available



to those in need. They can be found at [cffbh.org](http://cffbh.org).

In addition to mobile applications and web-based trainings, the CFFBH also offers peer and family education, in-person provider and peer-support trainings, community outreach and program evaluation.

With the tools and applications at right currently available for firefighters—and more are in development—the CFFBH is a valuable resource for firefighters, their families and peers, and mental health providers.

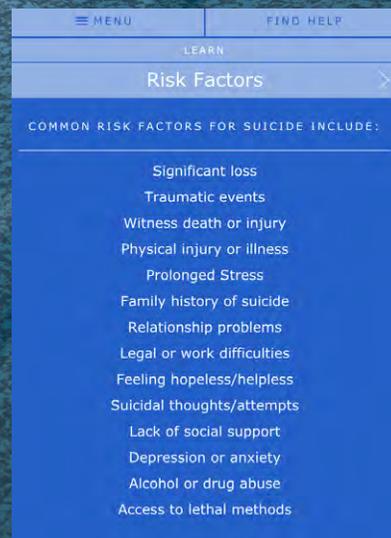
## Looking forward

The CFFBH is currently developing an app for family and friends of firefighters to support the firefighter and family through difficult times. Addressing firefighter behavioral health from different perspectives offers opportunities for firefighters to get customized help whenever they need it.

Visit [www.cffbh.org](http://www.cffbh.org) if you or someone you know is in need of firefighter behavioral health resources.

**Angela Moreland, PhD**, is an assistant professor at the National Crime Victims Research and Treatment Center (NCVC) at the Medical University of South Carolina (MUSC). She has expertise in evaluation of prevention and intervention programs targeting victims of interpersonal violence and traumatic events. Dr. Moreland serves as the Director of the Center for Firefighter Behavioral Health, which provides resources and support to address behavioral health needs of firefighters.

## TOOLS AND



## ▲ RIT TOOLS FOR SUICIDE PREVENTION

This mobile-friendly website for firefighters is designed to assist them in recognizing and responding appropriately to suicide risk.

[rit.pocketpeer.org](http://rit.pocketpeer.org)

# RESOURCES



## ▶ ALCOHOL USE AND MISUSE

This smartphone-friendly website is for both EAP providers and self-help for firefighters to identify, reduce and prevent problematic use and dependence on alcohol. [alcohol.pocketpeer.org](http://alcohol.pocketpeer.org)

Tell Us About Yourself

Please check all of the following that you have experienced in the last year:

Not been able to stop drinking once you started?

Failed to do what was normally expected from you because of drinking? ✓

Needed a drink first thing in the morning to get yourself going after a heavy drinking session?

Had a feeling of guilt or remorse after drinking?

Been unable to remember what happened the night before because you had been drinking? ✓

You or someone else been injured as a result of your drinking?

Has a relative, friend, doctor, or other health worker been concerned about your drinking or suggested you cut down?

Back Next

Survey Feedback Learn Quick Tips Resources

Tool photo by Gert Zoutendijk

MENU FIND HELP

ACT NOW!

Take

Take your friend or loved one to someone who can help now. If this is not an emergency, ask them if they have someone they could go to if they feel like hurting themselves — this can be their spouse, a close friend, the Chief, Supervisor, EAP, or a counselor.

If this is an emergency, or if there is no one available, take your friend to the Emergency Department or call 911.

Take: Non Emergency

Identify someone the person can go to when feeling unsafe.

Take: Actual Suicidal

KEEP BACK 500 FEET

If the person is thinking of suicide, don't play it down or ignore the situation.

## ▲ FIREFIGHTERS HELPING FIREFIGHTERS

This video-storytelling resource provides peer education through a video library of over 250 personal stories from firefighters and leadership. This resource is intended to reduce stigma and improve readiness to seek behavioral healthcare when needed. [fhf.pocketpeer.org](http://fhf.pocketpeer.org)

MUSC MEDICAL UNIVERSITY OF SOUTH CAROLINA National Center for Firefighter Occupational Health Research & Treatment Center

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## HELPING HEROES

A WEB-BASED TRAINING COURSE FOR PROVIDERS WORKING WITH FIREFIGHTERS

- Firefighter Culture
- Assessment
- Psychoeducation
- Behavioral Activation I
- Behavioral Activation II
- Exposure Therapy Overview
- Situational Exposure
- Writing Exposure
- Stress Management
- Evaluation

A strategy to heal

## ◀ HELPING HEROES

This eight-hour online training course is designed specifically to train healthcare providers to treat depression and PTSD in firefighters. This course has already reached more than 8,800 professionals. [training.helping-heroes.org](http://training.helping-heroes.org)

## ▶ NAVIGATING CRITICAL INCIDENTS

This smartphone-based real-time screening, assessment and educational resource for both firefighters and health professionals is geared to help firefighters after a critical incident. [incident.pocketpeer.org](http://incident.pocketpeer.org)

Navigating Critical Incidents

### Information for Firefighters

★

What is the role of the Employee Assistance Program (EAP) after Critical Incidents?



# FIRE SERVICE SUICIDE PREVENTION

## Bolstering “upstream” suicide prevention by building resilience, mental health literacy and social networks

by Dr. Sally Spencer-Thomas

**I** imagine this: You are walking along a river and suddenly hear cries for help from someone drowning. You jump into the river, pull the person to shore and start administering CPR. Just as they are starting to breathe again, you turn around and see more drowning people coming down the river, one after another. You shout out to other people around you to help. Many people come running and now the scene is chaotic.

One of the helpers swims out to the drowning group and tries to teach them how to tread water, but it's a little too late. All the helpers are completely overwhelmed, wondering how this will stop. You then get up and start running upstream. Another rescuer shouts, “Where are you going? We need you here to help!” to which you reply, “I’m going upstream to find out why so many people are falling into the river.”

### By the numbers

Pulling the “drowning people” out of the water has been the traditional focus of suicide prevention and mental health crises interventions. The concerning rates of suicide among firefighters indicate a need to build resources to help firefighters learn how to help themselves

**FLSI  
13** Firefighters and their families must have access to counseling and psychological support.

and how to provide support to peers in need of help. We must get “upstream” in our suicide prevention efforts.

When we combine high levels of stress, significant exposure to suicide, and barriers to help-seeking, it is not surprising then to see that firefighters experience elevated rates of suicidality—suicidal ideation, plans and attempts—compared to the general population. A recent study—commissioned by the National Fallen Firefighters Foundation (NFFF) and funded under the Federal Emergency Management Agency’s Assistance to Firefighters Grants Program—of 10,271 current and retired U.S. firefighters revealed career-prevalence estimates<sup>1</sup>:

- Suicidal thoughts (ideation): 46.8 percent
- Plans for suicide: 19.2 percent
- Suicide attempts: 15.5 percent

By comparison, for the general U.S. population, lifetime rates of suicidal thoughts, plans and attempts are 13.5 percent, 3.9 percent and 4.6 percent, respectively.

### Protective factors

The good news is there are many protective factors that can be built upon to help firefighters through these difficult situations.

First, the camaraderie within the fire service is powerful. The close bonds that are forged are as close as any family member. The firehouse becomes the second home.

Second, the work offers a strong sense of purpose daily. When people have a mission-driven calling for their life, and they are able to connect to something larger than themselves, they have extra motivation to persevere when times get tough.

We can bolster “upstream” suicide prevention by building resilience, mental health literacy, and true, not virtual social networks. Just as firefighters keep physically fit through exercise and nutrition, they can learn to build up their emotional fitness through daily psychological wellness routines.

In a partnership with the NFFF, I am performing a needs assessment of suicide prevention and awareness training to ultimately build a training program to help firefighters upstream. The program will be available later this year on [firehero.org](http://firehero.org).

### REFERENCE

1. Stanley, I, Hom, M, Hagan, C, and Joiner, T. “Career prevalence and correlates of suicidal thoughts and behaviors among firefighters.” *Journal of Affective Disorders*. 2015. 187, 163–171. <http://dx.doi.org/10.1016/j.jad.2015.08.007>.

**Dr. Sally Spencer-Thomas** is a clinical psychologist who began working in suicide prevention after her brother died of suicide. She has helped start up multiple large-scale efforts in mental health, including the Man Therapy campaign. Dr. Spencer-Thomas serves on multiple national and international boards for suicide prevention and gave a TEDx Talk called “Stopping Suicide with Story.” She has developed national resources for firefighters and co-authored several peer-reviewed journal articles on suicide and the fire service.

# ACT Now! Ask. Care. Take.

## Consider

*...calling him today.*

*...asking how she is doing after that call.*

*...grabbing a cup of coffee with him after your shift.*

*...encouraging him to get some help or support.*



Photographer: John M. Buckman III

**ACT Now! Ask. Care. Take.**

PocketPeer.org | EveryoneGoesHome.com | National Suicide Prevention Lifeline  
1-800-273-TALK (8255)

# WILDLAND FIREFIGHTING

Reducing line-of-duty deaths and injuries  
in the wildland and WUI environments

by Tom Harbour

The incidence of fire in the wildland and the wildland-urban interface (WUI) is clearly rising across the nation. As these fires increase, so does the number of firefighters and their families affected by occupational accidents, injuries and deaths. As such, the National Fallen Firefighters Foundation (NFFF) has begun a targeted effort to reduce these deaths and injuries by bringing the Everyone Goes Home (EGH) program and the 16 Firefighter Life Safety Initiatives (FLSIs) to all who fight fire in wildland and WUI environments.

## Understanding the problem

The NFFF initiated the process in 2017 by conducting a wide-scale needs assessment to identify relevant vulnerabilities, attitudes and opportunities. A survey was disseminated, and six regional listening sessions were held to provide stakeholders with the opportunity to explore questions, answers and approaches to the problem of reducing wildland line-of-duty deaths (LODDs) and injuries. During these sessions—held in Phoenix; Denver; Portland, OR; Boise, ID; Sacramento, CA; and Orlando, FL—participants from every sector of wildland firefighting made their voices heard.

All levels of personnel from the broad cross-section of agencies that respond to wildland and WUI fires were represented at each of the listening sessions. This included structural fire departments because fatalities and injuries occur disproportionately among firefighters from agencies whose primary mission is NOT wildland firefighting. In 2016, one-third of the firefighters who died in the line of duty while fighting wildland fire were what we think of as “blue shirts,” or structural firefighters. Members of volunteer, combination and career departments are often under-trained and ill-equipped to be on the front lines of a wildland or WUI fire.

**FLSI<sup>1</sup>** Define and advocate the need for a cultural change within the fire service relating to safety; incorporating leadership, management, supervision, accountability and personal responsibility.

One of the resounding themes was the desire to work to end the perceived “worlds apart” separation between wildland and structural firefighters and organizations. Firefighters acknowledged the need to work and train collaboratively across organizations, and want to build bridges and connect both worlds. It was evident that from leadership down, we need to bridge the thinking that separates natural resource organization firefighters from those in the structural fire service. The increasing frequency of these two groups coming together to mitigate incidents makes a stronger collaboration critical to any future efforts to reduce LODD and injury incidents.

Another theme was the need to better define and manage risk in the wildland. For structural firefighters, risk management is an important tool of the trade. But there isn't a common framework, strategic approach or operational language that unites our risk management approach in the WUI. The U.S. Forest Service has developed some ideas regarding risk management, but those ideas are not yet broadly accepted in the agencies devoted to wildland fire. While various standards exist around risk management (ISO,



Photo by Jeff Zimmerman

## STRATEGIC & TACTICAL RECOMMENDATIONS

The NFFF developed this list of recommendations as a path forward in reducing wildland accident, injury and death:

1. Natural resource management and structural fire service organizations need to support one another.
2. Increase application and understanding of risk management concepts.
3. Change the wildland fire paradigm from, "Can we accomplish the mission?" to "Can we survive the mission?"
4. Change the expectation that we can be successful in EVERY wildland mission ALL the time.
5. Increase awareness of the 16 FLSIs among wildland firefighters.
6. Adapt effective Everyone Goes Home tools for wildland use and target marketing of these tools to wildland fire agencies/organizations.
7. Utilize state EGH Advocates to provide outreach to wildland fire organizations.
8. Increase the use of medical screenings and fitness/wellness programs to improve the health and safety of all firefighting personnel.
9. Enhance the ability of the wildland fire service to take care of its people prior to and in the aftermath of a firefighter injury or fatality.
10. Continue to focus research and prevention efforts on the major categories of line-of-duty death and/or injury in wildland fire accidents, including medical incidents (cardiac events, rhabdomyolysis, hyperthermia, occupational cancers, etc.), aviation and motor vehicle accidents, burnovers/entrapments, and snags/rocks/rolling debris.
11. Introduce results of research products and findings at all levels of the organization.
12. Data problems need to be reconciled among agencies and organizations.
13. Increase marketing efforts for the National Wildland Fire Cohesive Strategy.

NFPA, etc.), nothing has been developed that has been broadly applied in the wildland or WUI environments.

The recommendations developed by the NFFF are a path forward in reducing wildland accidents, injuries and deaths. To engage national leadership in the effort, the NFFF hosted a meeting in Washington, D.C., in April 2018. Heads of national natural resource, wildland and structural fire constituency organizations, federal agencies, and state and national level forestry leaders attended, as well as an undersecretary from the U.S. Department of Agriculture and an assistant secretary from the Department of the Interior. Leaders heard the results of the needs assessment and optimistically offered their input regarding next steps.

## Change ahead

This is the beginning of a change that will take years, and the commitment and collaboration of everyone involved. The status quo—the current rate of injury and death—is unacceptable. It's time to ensure that the safety culture codified in the 16 FLSIs reaches ALL firefighters, including those responding in the wildland and WUI environment.

**Chief Tom Harbour** is a recognized expert in wildland fire and aviation management policy and operations. He served the longest term to date as the National Fire and Aviation Management Director (National Fire Chief) of the USDA Forest Service, overseeing a program that employed over 10,000 firefighters, with an annual budget of nearly \$4 billion. Since retiring, he has worked as a consultant offering expertise and advice on wildland fire issues as well as policy and organizational issues. He is now assisting the NFFF in work to reduce LODDs, accidents and injuries among firefighters responding in the wildland and WUI environments. Harbour serves on the Board of the International Association of Wildland Fire as well as on the Advisory Board of the NFFF. He can be reached at [tom@harbourfire.com](mailto:tom@harbourfire.com).

# HUMAN PERFORMANCE OPTIMIZATION



Increasing performance, safety and well-being

by David Scharly

**O**ptimal performance is a goal of nearly all occupations. Unlike many other occupations, not performing optimally in firefighting when it matters can result in injury and death. Optimal performance in firefighting requires a high level of physical fitness, nutrition, mental acuity and self-awareness. Unfortunately, information about human performance is absent in most firefighter trainings or lacks the holistic approach needed. As a result, misinformation and popular fads drive human performance training, leading to stagnate results, injury and burnout.

In 2011, several individuals at the Wildland Firefighter Apprenticeship Program (WFAP) noticed this need in training and wanted to do something about it. After gathering a few experts to brainstorm ideas, the Human Performance Optimization (HPO) Course was born.

HPO began as a three-hour long course on one day of WFAP's academy covering basic exercise physiology, nutrition and performance psychology. But just like a teenager hitting a growth spurt, HPO quickly expanded into a three-day course encompassing all the basic elements of human performance.

Photo by Jeff Zimmerman

**FLSI 6** **Develop and implement national medical and physical fitness standards that are equally applicable to all firefighters, based on the duties they are expected to perform.**

## Purpose and curriculum

HPO's mission is to increase knowledge and application of the factors leading to optimal human performance and safety among wildland firefighters. The training is designed to give firefighters the tools to thrive in their high-risk work environment. The skills are transferable and designed to improve overall well-being in all aspects of life. This is important because life stressors at home can affect



performance at work. For example, chronic sleep deprivation, alcohol abuse or unhealthy relationships may have severe consequences on the fire line.

HPO takes a unique approach to training, emphasizing the interconnectedness of the whole individual. Its holistic curriculum provides an extensive overview of human performance factors. The subjects include exercise physiology, nutrition, performance psychology, and leadership. HPO

approaches training like an athlete preparing for competition by teaching firefighters that optimal performance requires thorough preparation and recovery for the body and mind. Perhaps unexpectedly, HPO also highlights the importance of leadership in optimizing human performance. Deviating from traditional leadership training in wildland firefighting, HPO teaches Authentic Leadership with its emphasis on self-awareness and values. Leading authentically requires mindfulness and self-compassion, areas often absent from leadership training in firefighting.

The success of HPO relies on the caliber of its instructors. They bring a mix of energy and knowledge for the content, and firmly believe in HPO's ability to improve performance, safety and well-being. The instructors hold advanced degrees and certifications in their areas of expertise and many have wildland firefighting experience. Perhaps most importantly, the instructors believe they have an obligation to equip the

firefighters with the best possible information because they understand the critical nature of optimal performance when working in an inherently dangerous occupation.

## Structure

Currently, HPO is part of the WFAF's Foundational Academy. It is taught over three days using multiple teaching methods, including lectures, interactive workshops, exercise and relaxation demonstrations, small and large group activities, experiential exercises, and question and answer sessions.

HPO begins with an "Amazing Race"-type activity with an extensive team-building activity requiring small groups to complete mental and physical challenges. This is a critical piece of the curriculum because it pushes individuals out of their

comfort zones, forcing them to work together to complete the challenges. As a result, this activity quickly connects the group and provides a foundation for the rest of the HPO curriculum.

The first two days of training consist of 30-45 minute lectures that include a variety of interactive activities, discussions and hands-on demonstrations, interspersed with physical activities. The instructors and topics rotate throughout the day. The last day of HPO is spent in small groups, attending a series of 50-minute workshops. This smaller, more intimate environment provides an opportunity to apply and ask questions about the information taught during the previous two days.

## Future of HPO

Since its inception seven years ago, HPO has grown and matured into a robust, multi-day course with an advanced curriculum covering multiple subjects. Although the days are filled with college-level material, firefighters continually express a desire for more information. Those involved with HPO have discussed expanding it, adding more days or even creating an advanced HPO program to teach additional skills and strategies.

Recognizing its importance and potential, the National Fallen Firefighters Foundation (NFFF) is currently supporting the first year of a multi-year research study. Their support comes at a critical time, as demand grows so does the need to quantify HPO's long-term impact. While firefighters give overwhelmingly positive feedback about HPO, it is still unknown how effective firefighters are at implementing what they have learned and what other tools and/or support are needed to bolster their performance in the field. The support from the NFFF has allowed for projects like conducting focus groups on HPO's impact and writing an extensive literature review of current firefighting training.

In addition, the NFFF recognizes the applicability of HPO for all firefighters. The NFFF is working with the HPO instructors to modify the concepts, design and course availability to structural firefighters.

## In sum

HPO's mission is to improve firefighter performance, safety and well-being by empowering firefighters to think differently, train effectively and lead compassionately. By continuing to improve and expand, HPO will be able to help all firefighters thrive personally and professionally. If you would like more information about HPO, please contact David Schary at [dpschary@gmail.com](mailto:dpschary@gmail.com).

**Dr. David Schary** is an assistant professor of exercise science at Winthrop University in Rock Hill, SC. He is also the president of Schary Consulting, working with firefighters to improve performance, safety and well-being. Schary researches the effectiveness of firefighter training and leadership. With the support of the NFFF, he is currently investigating the long-term effect of HPO and adapting HPO for structural firefighters. Schary completed his PhD in exercise and sport science, with a concentration in exercise and sport psychology at Oregon State University.

# FIREFIGHTER & OFFICER DEVELOPMENT

## Using a Crawl-Walk-Run approach to build competence

by Brian Crandell

**A**t the root of all efforts in improving firefighter health and safety is the need to build competence in firefighters and fire officers. A proven method for building competence at every level of the organization can be summed up in the phrases "rep the work" and "coach good reps." This approach of developing best work practices and then taking a coached practice-focused approach builds competence in a safe manner that can be replicated in skills-based training.

### "Rep the work"

We know from experience, and from research in human performance and learning, that we learn what we do when we practice the work. The more we practice the work correctly, the more proficient we become at maintaining and improving our ability to perform the work safely. These methods for building competence are no-cost/low-cost ways of improving the work by practicing the work, and many are within the span of control

and sphere of influence of firefighters and fire companies. Simply, we are most effective, and safe, when we practice the work correctly.

### "Coach good reps"

The person helping firefighters improve their performance is what we will call a coach. Coaches help members learn to perform during training scenarios and provide feedback about the performance of firefighters as the work is occurring. The use of training scenarios creates an immediate, specific, authentic association between what we practice in training and what we do in the street. The more our training scenarios look like the work we do in the street, the stronger our abilities to safely perform that work in the street. One good tool to use is to create your own smartphone-based training video showing how you want your members to respond in real-world incidents. Remember that these videos are not designed to be slick production infomercials. Rather, they should be shot with a view of the firefighter, showing them doing the work in real time, including when they stop actions and assess the situation.

### Crawl-Walk-Run

Once we have established "what *right* looks like," using a Crawl-Walk-Run approach in training is effective at building and maintaining competence. Crawl-Walk-Run is a step-by-step approach to learning by first mastering the sequence of action and then learning the techniques necessary to perform the action.

*Crawl:* The "Crawl" process helps firefighters learn the theoretical knowledge sufficient to perform the work, including "why" they should perform certain techniques in a certain sequence and what "right" looks like. Firefighters watch a video showing firefighters performing the work correctly and engage their coach in question and answer discussion. Watching the video will likely raise questions about the specific sequence of actions and techniques. Once those questions are answered, the video can be watched again, and



Using the same hand and body positions during walk-throughs and low-speed/real-speed reps is key to learning the sequence of action. *Photos by Kevin Conant*

new questions may arise. Repeating this until there aren't any additional questions is a good method to practice.

*Walk:* The "Walk" part of the process helps firefighters learn by walking through the sequence of actions in a skill set without PPE, gear or props. The benefits of the "walk-throughs": It allows for question and answer interactions, it doesn't cause fatigue, and it has no logistical load in terms of props or equipment reload. Walk-through training can be interrupted and restarted easily, which is particularly useful for on-duty crews who are training. Many firefighters report that they learn to perform to standard more quickly when they master the sequence of action before they attempt to master the techniques necessary to perform the skills set.

## **FLSI 5** Develop and implement national standards for training, qualifications, and certification (including regular recertification) that are equally applicable to all firefighters based on the duties they are expected to perform.

*Run:* Getting up to speed—or "Run"—starts with low-speed reps performed using all PPE and gear to perform the work on training props. Low-speed reps are focused on building the member's ability to perform the techniques and associate the techniques with the sequence of action. The low-speed rep is done at a pace that allows for members to ask questions to clarify specific techniques and for the coach to provide immediate feedback, and for the member to respond to the feedback by correcting the techniques they are practicing. Low-speed reps are repeated until members have mastered the techniques. Then real-speed reps occur naturally when members have mastered the sequence of actions and the techniques necessary to accomplish the work called for by the scenario while meeting all quality indicators within the specified time allotted.

### **Immediate feedback and fix coaching**

Immediate feedback by a coach provides the opportunity for firefighters to correct any errors in order to create a "good rep." While the correction is immediate, the tone of the feedback is factual, objective, supportive and based on standard expectations. Feedback is demanding, just like the work, but not demeaning.

A standard script for providing feedback as a coach starts with the coach stopping the action to call a "time out." With the action safely frozen, the coach asks the member, "What's going on?" Asking the member to exercise their situational awareness and to self-diagnose their current condition

## **ATTRIBUTES OF LEADING**

### **Leaders must be courageous in the performance of their duties.**

This courage goes beyond the incident; it includes being courageous in fulfilling an organization's mission, dealing directly with people, and standing up for principals that define the fire department's role in the community.

In conjunction with the NFFF, Fire Chief (ret.) Dr. Brian Crandell and Battalion Chief (ret.) Kevin Conant developed a new train-the-trainer program targeting the six key attributes of leading: 1) Developing Competence, 2) Building Grit, 3) Being Well, 4) Demonstrating Humility, 5) Building Trust and 6) Demonstrating Self-Regulation. Each attribute of leading presentation includes a video and resources to facilitate discussion.

Attendees at a training at Firehouse World 2018 and at the NFFF Everyone Goes Home Advocate Workshop noted the value of the content and the great potential for use in officer candidate training. As one Advocate Workshop attendee noted, "Attributes of Leading" is a simple and meaningful way for the next generation of fire service leaders to learn why it is essential to take care of 'Mrs. Smith' as well as 'Firefighter Smith,' 'Captain Smith' and 'Chief Smith.'"

To arrange for an Attributes of Leading class in your area, contact the NFFF at [everyonegoeshome.com/contact](http://everyonegoeshome.com/contact).

allows the member to learn by self-assessment, rather than being told what they are doing wrong by the coach. When the member figures out what error has occurred or is about to occur, the coach asks the member for their plan to fix the error ("What's your plan?"). Once the member describes the correct action (either sequence, technique or both), the coach can approve their plan by telling them to "Fix it" and finally to "Finish the rep."

This feedback coaching process provides opportunities for members to create a habit set of being aware of what right looks like, assessing their current performance, self-diagnosing what is wrong when an error is made, formulating a plan to fix the error, and acting in a gritty, resilient manner by following through and finishing the work. These actions are generally regarded as highly desirable attributes of a competent firefighter.

### **Build competence**

We help build competence and confidence when we describe what right looks like, provide Crawl-Walk-Run practice, and provide immediate feedback to empower an immediate fix by the firefighter. This learning process then helps firefighters and fire officers build their competence and operate in a safe manner.

**Brian Crandell** is a 42-year student of the fire service, including 22 years as a responding chief officer. He is the lead instructor trainer for the Montana Fire Services Training School. He earned his doctorate degree from Montana State University in 2004, with research in how command officers learn.



## FIRST RESPONDER *Center for Excellence*

# Prepare, Prevent, Protect

Providing quality education and championing health-related research

In 2016, the National Fallen Firefighters Foundation (NFFF) created the First Responder Center for Excellence (FRCE). The mission of the FRCE is to provide quality education and to champion research to promote the physical, emotional and psychological health and wellness of first responders. The FRCE is committed to ensuring first responders have the resources needed to reduce injuries and fatalities and improve their overall health and wellness. Additionally, FRCE partners with UL Firefighter Safety Research Institute (UL-FSRI) to deliver Fire Dynamics Boot Camp, a program to help instructors teach modern fire operations dynamics to firefighters.

The FRCE is primarily focused on five programmatic categories: Cancer, Behavioral Health, Firefighter Physical Initiative, Cardiac Health, and Health and Wellness.

### 1. Cancer

The FRCE manages the activities of the Fire Service Occupational Cancer Alliance and develops resources for cancer awareness and prevention. Alliance members include representatives from fire service organizations, government partners, industry partners and other like-minded entities.

With generous support from Lion and Dupont, the Alliance created the "Fire Service Occupational Cancer Tool Kit," which offers resources for departments to create policies and standard operating procedures. It also includes a downloadable exposure tracking form that captures critical information for use in the future to support causation as well as videos and posters related to cancer prevention.

In late 2018 and throughout 2019, the FRCE, in conjunction with the Firefighter Cancer Support Network, is hosting

regional one-day cancer seminars to present evidence-based research, prevention strategies, and strategies for supporting firefighters after a diagnosis.

### 2. Behavioral health

Recognizing the increased interest of behavioral health in the fire service, the FRCE is addressing the range of stressors related to first responders by providing resources for both personal development and department training. In fall 2018, the FRCE will release an updated Stress First Aid (SFA) for Fire and EMS Personnel. SFA provides guidance on how first responders can help each other deal with the impacts of stress.

### 3. Firefighter Physical Initiative

It is well known that the best way to diminish the effects of any diseases, illnesses or injuries is to detect them as early as possible. This is especially true for firefighters, who, in many cases, are at greater risk for certain diseases, illnesses and injuries than the general population. Annual physicals, based upon testing criteria for the increased health risks faced by firefighters, have proven to lead to early detection and prevention of long-term illnesses. The FRCE partners with the International Association of Fire Chiefs (IAFC) to develop resources for firefighters, clinicians and fire departments on these types of physicals and how to best implement a physical program. The FRCE and IAFC are currently developing additional resources to assist volunteer and smaller combination departments with implementing a firefighter physical program.

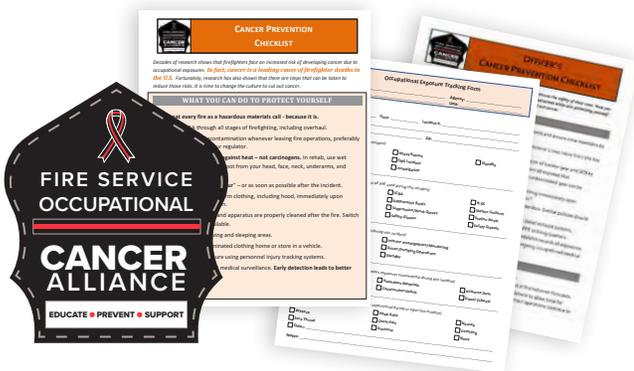
### 4. Cardiac health

The FRCE is developing resources to educate first responders on the cardiac risks as well as strategies to reduce the probability of a cardiac event. The FRCE is becoming a clearinghouse for the industry on research related to cardiac health in order to provide the most-timely information on this critical topic.

### 5. Health and wellness

The FRCE is providing guidance on research-based exercise and nutrition programs specifically geared toward first responders. Working with partner organizations, the FRCE is developing a comprehensive list of resources for firefighters.

For more information about any FRCE initiatives, visit [firstrespondercenter.org](http://firstrespondercenter.org).



The Cancer Tool Kit includes many downloadable resources.

*It doesn't matter the day of the week or the time of day, but our nation's first responders answer their call to duty without hesitation. While they train and prepare tactically for their daily responses, they must also be physically and mentally prepared for those same calls.*



**FIRST RESPONDER**  
*Center for Excellence*

**PREPARE. PREVENT. PROTECT.**

*The First Responder Center for Excellence for Reducing Occupational Illness, Injuries and Death, Inc., is a subsidiary corporation of the National Fallen Firefighters Foundation.*

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# TAKE TIME

## for Your Own Health & Safety

This Fire Service Health & Safety Report highlights some of the work that is being done on the national and local levels to embed the 16 Firefighter Life Safety Initiatives (FLSI) in fire departments. The National Fallen Firefighters Foundation (NFFF) encourages members of all ranks and from all department types to take the time to become engaged by reviewing the resources below. From taking a few minutes to download an app to using a video for a kitchen table discussion with your crew, you can use this page to guide your department toward a safer and healthier workplace, all to ensure that Everyone Goes Home.<sup>®</sup> Below are some steps to take to become more familiar with Everyone Goes Home<sup>®</sup> regardless of other time commitments.

### IF YOU HAVE 5 MINUTES:

- Follow NFFF on Facebook ([facebook.com/everyonegoeshome](https://facebook.com/everyonegoeshome)) and on Twitter (@EGH\_Programs).
- Download the free Be a Hero, Save a Hero<sup>®</sup> mobile app on the Google Play Store or the Apple Store. Encourage the public to download it during National Fire Prevention Week in October.
- Visit [pocketpeer.org](https://pocketpeer.org) on your phone and add it as a favorite or bookmark it for easy access when you or a peer need some support.
- Download the ACT Now poster (as seen on page 21) on [everyonegoeshome.com](https://everyonegoeshome.com) and post it in your firehouse.
- Visit [seatbeltpledge.com](https://seatbeltpledge.com) and join the more than 150,000 firefighters who have taken the International First Responder Seatbelt Pledge to always use seatbelts. Also, encourage 100 percent compliance in your department beginning with the next recruit class.



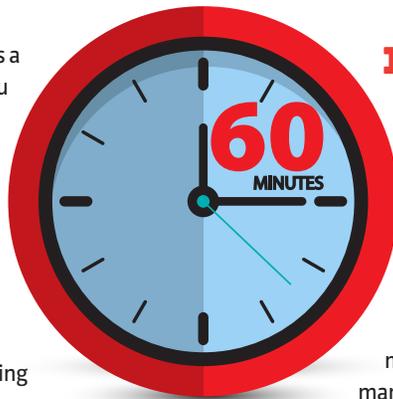
### IF YOU HAVE 15 MINUTES:

- Check to see if there is a 9/11 Stair Climb, NFFF Memorial Golf Tournament, Fire Hero Racing Event, or other NFFF event going on near you by visiting [firehero.org/events](https://firehero.org/events).
- Watch "A Conversation with Vicki Minor and Ron Siarnicki" on NFFFTV on YouTube to learn how the NFFF is partnering with the Wildland Firefighter Foundation.



### IF YOU HAVE AN HOUR:

- Watch *San Diego Fire-Rescue: Leadership So Everyone Goes Home* on [firehero.org/resources/videos](https://firehero.org/resources/videos) to learn about how one fire department adapts to the challenges of a progressive fire department. There are also other videos for quick training discussions.
- Take the "Automatic Fire Sprinkler and Alarm Systems" training module on the Fire Hero Learning Network ([fireherolearningnetwork.com](https://fireherolearningnetwork.com)) to learn about the basics of how these systems operate and reinforce their value in supporting firefighter life safety. Schedule time for on-duty training with other training modules available on the Fire Hero Learning Network.



### IF YOU HAVE MORE THAN AN HOUR:

- Review the Fire Service Occupational Cancer Tool Kit on [firstresponder.org](https://firstresponder.org) and create or update your SOPs related to occupational cancer.
- Set up a meeting with your department's leadership to explore making Courage to Be Safe<sup>®</sup> a mandatory course for all firefighters.

The National Fallen Firefighters Foundation's Everyone Goes Home<sup>®</sup> program continues to offer up-to-date fire training to help ensure that everyone does go home after each tour of duty. Visit [firehero.org](https://firehero.org) to learn more about how you can become more involved in the NFFF.



# Be a Hero

## *Save a Hero*



## SHARE THE APP IN YOUR COMMUNITY

Free app includes smoke alarm testing reminders, fire safety messages, seasonal tips and more!

Safety tips on the Be a Hero, Save a Hero® app include information from the U.S. Fire Administration, the National Fire Protection Association and other partners working together to help prevent fires.

Firefighters and community members can download the app on the Google Play Store or the App Store through links on [www.beaherosaveahero.org](http://www.beaherosaveahero.org).

**Get the App:** [www.beaherosaveahero.org](http://www.beaherosaveahero.org)



# FIRE HERO LEARNING NETWORK

**FREE SELF-PACED ONLINE TRAINING FOR FIREFIGHTERS**



## **AUTOMATIC FIRE SPRINKLER AND ALARM SYSTEMS**

Review how automatic fire sprinkler and alarm systems benefit firefighter health and safety while examining a set of core principles to guide a firefighter's interaction with these systems.



**COMING THIS FALL**

## **RESPONDING TO VIOLENT INCIDENTS**

Apply firefighter health and safety principles to violent incident response policies, standard operating procedures and training.

**START TRAINING NOW**

**[www.fireherolearningnetwork.com](http://www.fireherolearningnetwork.com)**