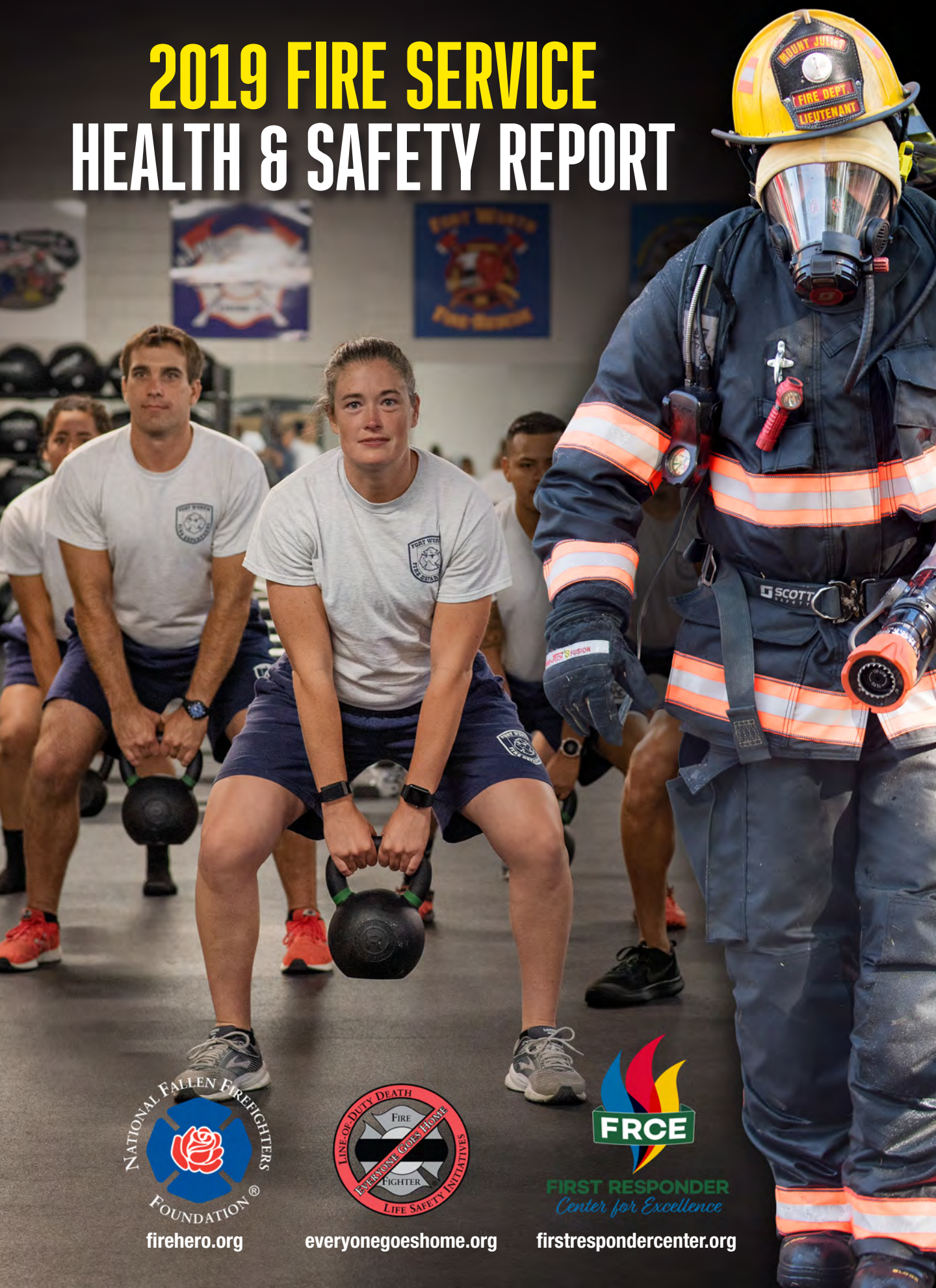


FIREHOUSE[®] SUPPLEMENT

2019 FIRE SERVICE HEALTH & SAFETY REPORT



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BELLS ACROSS AMERICA
FOR FALLEN FIREFIGHTERS



LIGHT THE NIGHT
FOR FALLEN FIREFIGHTERS



Honor & Remember America's Fallen Firefighters

October 5 – 6, 2019 ★ Emmitsburg, Maryland

Every October, the National Fallen Firefighters Foundation sponsors the official national tribute to all firefighters who died in the line of duty. 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 lived on our website and Facebook.

Learn More at: weekend.firehero.org





Photo by Glen E. Ellman



Cover photo by Glen E. Ellman

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Funding for the 2019 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.



Improving Decision-Making Skills & Safety of Firefighters



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



Chief Ronald J. Siarnicki
Executive Director
National Fallen Firefighters
Foundation and First
Responder Center for
Excellence

The NFFF is pleased to collaborate again this year with *Firehouse Magazine* and the First Responder Center for Excellence to present the 2019 Health and Safety Report. This is our third year of partnership with Firehouse and the FRCE on the supplement. We hope you will be as excited about this year's issue as we are. Thank you to our authors for sharing their knowledge and thank you to the staffs at Firehouse, NFFF and the FRCE for their work on bringing this report to you. A special thank you goes out to the U.S. Department of Homeland Security's Assistance to Firefighter's Grant Program. Their generous funding underwrites this year's addition again, bringing you 13 first rate articles from authors representing the breadth of the fire service.

This year's report incorporates two intersecting circles of critical firefighter performance (decision making, health and wellness) and the nexus played by the 16 Firefighter Life Safety Initiatives in successful outcomes. Everything we do in the fire service involves making decisions (critical and non-critical) and taking care of ourselves to maximize our ability to serve. We've assembled a lineup of authors who have proven aptitude in the wide variety of the topics presented. Each brings a unique and fresh perspective to what we believe are today's hottest fire service buttons. We're especially pleased that this year's report is an amalgam of some incumbent and new authors. We are particularly honored to include a special piece penned by Ms. Kimberly Settle McDonagh, widow of FDNY Lieutenant Edward McDonagh. Ms. McDonagh presents an incomparable perspective on cancer in the fire service we should all heed. As you delve into all of this year's report, we hope you find every piece informative, thought-provoking and something you can use in your daily efforts to serve your community, your colleagues and yourself.

Finally, we're excited to bring you up to date on the NFFF's latest facilitated training offering, *Attributes of Leading*, as well as what has transpired with the Foundation's efforts to strengthen the presence of its mission in the wildland firefighting community. You'll note again this year we've divided the pages between NFFF and our affiliate, FRCE, to provide a breadth of perspectives and a range of experiences you'll be able to refer back to as you work to maintain operational excellence, physical and mental well-being, and preparedness for the rigors of being a firefighter.

We urge you to take this year's report and keep it where you can readily access it throughout the rest of the year, and beyond. The insight offered by the authors may be just the nudge you need to focus, or refocus, on taking care of those you serve, those you care about and those who care about you.

Be safe.



firehero.org



everyonegoeshome.org



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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.

For more information on FLSI 6 and 13 visit firstrespondercenter.org.



EVOLUTION OF THE EVERYONE GOES HOME® TRAINING PROGRAMS

An update on NFFF training curriculum

By Rick Best

In 2004, the Firefighter Life Safety Summit was held in Tampa to address the need for change within the fire and emergency services community. Through this meeting, 16 Life Safety Initiatives were produced. In the spring of 2006, the Courage to Be Safe (CTBS) program was released and set as the cornerstone for the National Fallen Firefighters Foundation's Everyone Goes Home training programs that were designed to change the culture of accepting the loss of firefighters as a regular occurrence.

The CTBS program builds on the untold story of line-

of-duty death survivors; it reveals how family members must live with the consequences of a firefighter death. This presentation provides a focus on the need for firefighters and officers to change fundamental attitudes and behaviors to prevent line of duty deaths.

The Leadership, Accountability, Courage and Knowledge (LACK) is the second program in the series and focuses on education and training so departments can improve their survivability by understanding the root causes of firefighter fatalities by tackling these four elements with particular



Attributes of Leading is designed to build more effective fire service leaders at all ranks. Through a process of view, review, introspection and discussion, the program seeks to stimulate leaders to focus on qualities that constructively influence members regarding overall performance.

grit, wellness, trust, humility and self-regulation. Attributes of Leading is designed to build more effective fire service leaders at all ranks. Through a process of view, review, introspection and discussion, the program seeks to stimulate leaders to focus on qualities that constructively influence members regarding overall performance.

In the fall of 2017 and the winter of 2018, the NFFF held listening sessions in Orlando, Boise, ID, Denver, Phoenix, Woodland, CA, and Portland, OR. Each of these events provided the needed and welcomed communications on what the wildland community felt would be a great addition to the NFFF training curriculum.

Since the initial rollout of the CTBS program in 2006, there have been multiple revisions and additions to the curricula of each of the programs. The most notable alteration is currently underway. In January 2019, there was a group of subject matter experts brought together to update the legacy programs—CTBS, LACK and LEGH—for content and were given a task to design one version of each application that is all-encompassing to both the structural and wildland communities.

emphasis on understanding fire service culture.

The third program, Leadership So Everyone Goes Home (LEGH), is designed to assist the chief-level officer in defining the tools needed to identify issues that could lead to a line of duty death or serious injury. These goals are met by reviewing the adaptive challenges facing emergency services today so we may create a safer environment.

The newest program added to the list of field-deliverable programs is the Attributes of Leading program (AoL). The program focuses on six qualities of leading: competence,

Rick Best is a nationally recognized leader in firefighter health and safety. He has more than 20 years of experience in fire service training, program development, and public speaking, and currently serves as the Everyone Goes Home advocate program manager for the National Fallen Firefighters Foundation. Best began his career as a volunteer firefighter and worked his way into a full-time position for the city of Westerville (OH) Division of Fire. Best has been an invited presenter at Firehouse Expo, Firehouse World, and FRI, and multiple state, local and regional fire service events. He holds a Bachelor of Science degree in public administration from Neumann University, and is currently working on a master's degree in strategic and organizational leadership.



DRIVE CHANGE THROUGH LEADERSHIP

Changing to a safety-driven culture requires officers and chiefs to lead, manage and supervise

By Kevin Sehlmeier

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.

I have been asked to share my thoughts on the NFFF's 16 Firefighter Life Safety Initiatives, and more specifically, to provide perspective on the first initiative: *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.*

Leadership, management and supervision are three key words contained within the NFFF's Firefighter Life Safety Initiative 1. The interesting thing is, however, that if I ask different people in the fire service, "What is leadership, management and supervision?" I would get many responses regarding the meaning of each word. Regardless of how you define each of these words in FLSI 1, it comes down to each leader being personally accountable. I believe an individual is the only person who can control how he/she leads, manages or supervises.

Cultural change starts with leadership

I have heard many times during my short 35 years in the fire service that a lot of people want the rank on their collar or the title behind their name, but don't want to manage or supervise. This lack of leading is change that is needed. If we want to change to a safety-driven culture, then we need officers and chiefs to lead, manage and supervise. We currently have a culture that believes that people will be good leaders just because they were good firefighters. While I do believe that leaders in the fire service with solid firefighting skills have a better-than-average possibility of being a good officer or chief, we need to make sure that we provide the training, coaching

and mentoring skills for a leader to be successful just like we do for firefighters when they come on the job.

For the most part, I think many in the fire service agree that meeting the NFPA 1001 requirements is a good foundation before letting someone respond to and enter an immediate dangerous to life and health environment. We don't always require an officer to have the leadership, management or supervision skills when we promote them. We need to provide a leadership pipeline concept that meets NFPA 1021 as the guide, using established job performance skills to build leadership skills.

What makes a good leader?

I have had the opportunity to attend a few sessions of a newer NFFF workshop titled "Attributes of Leading," developed by Kevin Conant and Dr. Brian Crandall, and it includes wisdom from the late great mentor Chief Alan Brunacini. The interesting part of this program is that it dives into the attributes that a good leader should understand, especially for leading in the fire service. Attributes of Leading provides an interactive journey of learning by sharing six words and letting the participants focus on each word during a facilitated discussion at a fire station kitchen table with a small group of less than 12 participants.

My takeaway from Attributes of Leading is that, while there is not a correct order to discuss the six traits of leading, by the end of the day it is important that you fully understand your role in relation to all six attributes.

So, let's look at the six Attributes of Leading: trust, wellness, humility, grit, self-regulation and competence.



Photo by Tod Sudmeier

Trust: I believe each individual leader must trust that they have the ability to lead. I recently heard someone say, "Just wing it till you get it right." I have never felt a lot of confidence in following a leader who is winging it in search of getting it right! I understand that each day is an opportunity to learn, but I want to follow a person who wants to manage and supervise and most of all, take care of the people they lead.

Wellness: Another important trait of an effective leader is their ability to promote wellness among those they lead. For a leader to promote health in those they lead, they too must strive for a healthy balance in their own life. A strong leader seeks and participates in the mental wellness of those they lead and leads by example. A strong leader leads by making sure that they and their crew are active in cardiovascular exercise and are physically strong to meet the needs of their community.

Humility: Own up when you make a mistake. Your crew knows mistakes can and will occur while you learn, even as a leader. They would also prefer that your mistakes happen during training or during non-life-threatening activities. At an emergency scene, your crew would prefer that you limit potentially life-threatening mistakes from occurring as you lead them.

Grit: Your crew expects that you will have grit and want to get stuff done. They want you to push yourself to be better and for you to advocate for them.

Self-Regulation: Many people have shared with me stories about the lack of self-regulation by the people who lead them. They want you to know the time to push forward but even more importantly, the time to pull back. This self-regulation should happen during an emergency incident and also at the fire station.

Competence: I purposely saved this word for last. Your crew wants you to strive to attain mastery as a leader. They also know that for a leader to be competent he/she must have high expectations for him/herself. They want you to have a thirst for knowledge in fireground skills *as well as* people skills. They also want you to be accountable to yourself and them.

Final thoughts

I chose to include the six "Attributes of Leading" to emphasize the point of what the Everyone Goes Home program and the NFFF 16 Firefighter Life Safety Initiatives strive to accomplish. In order to reduce line-of-duty deaths and near misses, we need leaders to step up and gain the knowledge and experience to effectively lead. More importantly, leaders must promote a culture change in themselves and the people who they get the opportunity to lead. We need to change from a "ME" to a "WE" culture to reduce line-of-duty deaths and injuries of firefighters. "WE" all play a part, starting first with personal accountability, into how "WE" lead, manage and supervise.

Kevin Sehlmeier has 35 years of experience in the fire service. His fire service career started by serving six years with the Michigan Air National Guard as a crash rescue firefighter from 1984–1990. Sehlmeier was hired in 1985 by the Grand Rapids, MI, Fire Department. From 1985 to 2016, Sehlmeier held the following positions: firefighter, lieutenant, captain, battalion chief, training chief and he retired in January 2016 as the deputy fire chief of support services. Sehlmeier has been the Michigan lead advocate for the National Fallen Firefighters Foundation since 2012. In 2015, he assumed the role of Region V lead volunteer advocate, coordinating "Everyone Goes Home" efforts in Ohio, Indiana, Illinois, Wisconsin, Minnesota and Michigan. In April 2017, he was appointed state fire marshal by Michigan Governor Rick Snyder. Currently, Sehlmeier leads the Michigan Bureau of Fire Services as the state fire marshal under Michigan Governor Gretchen Whitmer.

MAKING A DIFFERENCE:

Howard County Department of Fire and Rescue Services



Changing the fire department health and wellness culture through preventive education

By Dr. Gamaliel D. Baer

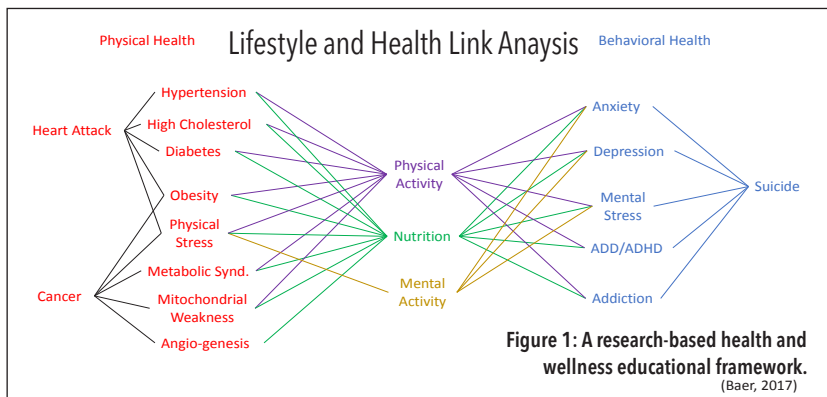


Figure 1: A research-based health and wellness educational framework. (Baer, 2017)

Howard County Department of Fire and Rescue Services (HCDFRS) is in central Maryland between Washington, D.C. and Baltimore. With more than 450 career personnel, HCDFRS has a constant flow of new recruits going through six months of initial training at the Howard County Fire Academy. In the summer of 2018, after three years of development and testing, the Office of the Fire Chief (OFC), the director of Education and Training (E&T), and the director of the Bureau of Occupational Safety and Health (BOSH) partnered to develop a comprehensive 32-hour health and wellness curriculum for its recruits.

Fire department support for research

BOSH was officially created in 2014. Joanne Rund—now the fire chief of Baltimore County Fire Department—was one of the health and safety leaders in HCDFRS before BOSH existed, and eventually became the director of BOSH. Rund's vision for BOSH was a comprehensive safety, health and wellness program for everyone in the department that spanned each member's entire career. As a fitness trainer and prior instructor in the academy, she understood the need for preventive wellness and the lasting effects of good education and training.

Research purpose and findings

Although there are known occupational factors for heart attack, suicide and cancer in the fire service, lifestyle factors play a major role in all three, which allows for preventative action. HCDFRS did not, however, have an educational curriculum to address heart attack, suicide and cancer. Furthermore, there were no state-sponsored health and

wellness courses for firefighters. The purpose of the research was to conduct a needs analysis in the areas of knowledge, motivation and organizational resources necessary to design and develop 16 hours of physical and behavioral health and wellness education for HCDFRS.

A mixed-methods approach using surveys, interviews and document analysis was used. The study involved 47 members of BOSH. The survey had a 100 percent response rate and interviews were held with 11 of the most experienced BOSH members.

Research data suggested improvements were needed in four areas. First, not enough BOSH members felt prepared to develop and deliver a comprehensive physical or behavioral health and wellness curriculum. Second, BOSH members felt more authority was needed for BOSH to prioritize health and wellness within HCDFRS. Additionally, BOSH members believed that more staffing and financial resources were needed to effectively educate on health and wellness. Finally, not enough BOSH members believed the fire chief was fully committed to health and wellness education.

Furthermore, unpublished survey data from our academy suggested that large percentages of our recruits were coming into the academy with little or no prior education on topics like fitness, nutrition or stress management. Additionally, many of our recruits expressed, through anonymous surveys, that health and wellness education should be a mandatory part of the fire academy.

Figure 1 provides a graphical representation of some risk factors that are associated with heart attack, suicide and cancer that were found during the literature review.

Although there are known occupational factors for heart attack, suicide and cancer in the fire service, lifestyle factors play a major role in all three, which allows for preventative action.

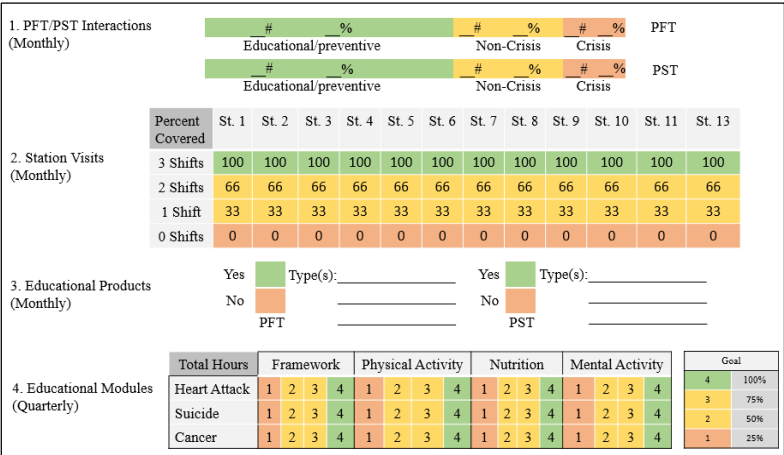


Figure 2: Health and wellness education tracking

Risk factors for heart attack, suicide and cancer are influenced, sometimes heavily, by lifestyle factors to include physical activity, nutrition and mental activity. Each line in Figure 1 is associated with at least one research article. Figure 1 was used as a framework for developing an educational curriculum for HCDFRS.

Figure 2 is a matrix that was used to meet the goal of 16 hours of health and wellness education. Four modules, each being four hours, included heart attack, suicide and cancer prevention education. The framework from Figure 1 and the matrix from Figure 2 can be used to design a curriculum outline.

Program development and implementation

In February 2019, HCDFRS launched a comprehensive health and wellness program for Training Class 31. The goal of the four-day program is to educate new recruits on preventing heart attack, suicide and cancer by educating on the physical and behavioral effects of physical activity, nutrition and mental activity. Recruits complete 16 hours of health and wellness education in the beginning of the academy and are assigned homework. Recruits complete seven one-page essays throughout the six-month academy on topics of resiliency, physical activity, nutrition and mental activity, plus heart attack, suicide and cancer and how each topic applies to our career. An electronic health and wellness library was developed for recruits and all members of HCDFRS to access research articles, videos and job aids. Figure 3 shows the curriculum.

At the end of the academy, the recruits receive an additional 16 hours. Eight hours is dedicated to introducing our Peer Fitness and Peer Support programs and includes guest speakers who are experts in those areas. The other eight hours are currently dedicated to the National Fallen

Health and Wellness Syllabus										32 Hours Total
DATE	SESSION	TOPIC	ASSIGNMENT	Info						
2/6/2019	1	Resiliency Framing Resiliency Nature vs Nurture Deficiency vs Excess Micro vs Macro Resiliency and Leadership	PowerPoint Presentation and Class Discussion Resiliency Paper: <div></div>	4 hours Total						
			Write a one page essay describing 1) nature and nurture, 2) polarities, and 3) micro and macro principles as they relate to building resiliency in the individual.							
2/6/2019	2	Gear Based Activity Science of Aging Understanding Growth and Decay Biology and Exercise Activity and Lifestyle	PowerPoint Presentation and Class Discussion Gear Based Activity Paper: <div></div>	4 hours Total						
			Write a one page essay explaining 1) why our bodies decay, 2) why gear-based activity promotes growth, and 2) how gear-based activity applies to your career.							
2/11/2019	3	Nutrition Biology and Nutrition Understanding Sugar Understanding Fat Nutrient Density Toxin Management	PowerPoint Presentation and Class Discussion Nutrition Paper: <div></div>	4 hours Total						
			Write a one page essay explaining 1) what the MyPlate model is, 2) what nutrient density is, and 3) why nutrition matters for your career.							
2/11/2019	4	Attitude and Connection Exercise and the Brain Biology and Emotion Biology and Thought Attitude and Health Connection and Health	PowerPoint Presentation and Class Discussion Attitude and Connection Paper: <div></div>	4 hours Total						
			Write a one page essay explaining 1) one example of a way to improve your attitude, 2) one example of a healthy way to connect with one or more people, and 2) why attitude and connection are important for your career.							

Figure 3: Recruit curriculum overview.

Firefighters Foundation Courage to Be Safe (CTBS) and the First Responder Center's Stress First Aid (SFA).

Culture change initiatives can take a decade or more. By educating in the academy, we demonstrate to our members that health and wellness is a priority for us and should be for them. HCDFRS is serious about doing what we can to prevent heart attack, suicide and cancer and the health issues that lead up to those fatal disasters. Because of HCDFRS leadership, our members have a healthier future.

Dr. Gamaliel D. Baer became the health and wellness coordinator for HCDFRS in December 2017. He has been a firefighter/EMT for HCDFRS since 2008 and served as a special operator for the last five years in the field before going to BOSH. He is a certified health coach and a certified personal trainer and teaches the health and wellness program in the academy. He holds a Bachelor of Science from the University of Maryland, College Park, a Master of Science in management from Johns Hopkins University and holds a doctorate of education from the University of Southern California. He is on Twitter @GamalielBaer.


A large fire is burning on a brick building. Two firefighters are on a ladder, working on the fire. The fire is very intense, with bright orange and yellow flames. The ladder is extended from the left side of the frame. The building is made of red brick. The sky is dark, and the fire is the main source of light.

Photo by Scott LaPrade

LOOKING OUT FOR THE CREW

We are called to a higher accountability to improve the health and safety of our firefighters

By Nick Perkins

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

Firefighter Life Safety Initiative 2 asks us to make a personal commitment to accountability regarding health and safety issues at all times and at all levels of our fire service. The initiative is put into practice in two ways. First, it begins with individual firefighters taking responsibility not only for their own health and safety, but also for those in their sphere of influence. This challenges firefighters to acknowledge they are responsible both to and for the people they work with daily on their crew.

If a firefighter knows someone on the crew is struggling with a health or safety issue, the firefighter is compelled to take action and provide help. This can be difficult both for the helper and the person being helped. It may require delivering some tough love, but it is an absolute and fundamental part of accountability. We all need help from time to time and I take comfort in knowing I have co-workers looking out for me. I have experienced this firsthand in my career and am grateful for it.

Accountability for health and safety is grounded in an organizational commitment to workforce well-being. At a minimum, this means ensuring there is an organizational priority about health and safety included in the strategic plan, and committing to put health, safety and accountability at the center of the organization's core values. While this commitment starts on paper, it can't live and die on a shelf. There must also be an ongoing focus to build and support

In such a high-risk occupation as firefighting, it is imperative that the organization takes deliberate steps both on paper and in practice to assist employees with their own success. This includes helping employees get back on track when their health starts to drift through coaching, counseling and discipline when necessary.

firefighter health and safety with tangible resources and budget dollars. For fire departments with strict budgetary constraints, alternative and creative means should be pursued—with a heavy emphasis on addressing the need.

From past to present

Like some of you, I entered the fire service prior to the creation of the Life Safety Initiatives. Though I was taught in the fire academy the general concept of life safety for rescuers, it was delivered from a tactical perspective. Firefighter safety was typically framed as a simple short-term output, not the long-range, hard-fought outcome I now understand it to be.

Personal health was little more than an organizational after-thought. As for the role of the individual, I can honestly say that personal accountability about health was not really a message I recall being directly discussed and taught until years later. While it has always been the culture of the fire service to have the backs of our brothers and sisters on the line, that didn't necessarily mean getting involved in their so-called personal business 20 years ago.

FLSI 2 finally called out the critical importance of accountability at all levels—accountability to self, to each other and to those in our charge. Like many human characteristics, the concept of accountability is easy to say but can be difficult to practice. Some people hold an intrinsic gravitation toward accountability for their own health and safety. Their drive comes from within. Firefighters, however, are human, and humans are fallible. We lose focus and tend to drift from the norm over time—even those rare few who are naturally driven to self-discipline. Therefore, there must be systems in place to catch problems upstream and early. Better yet, we should prevent them from emerging at all. Here in Texas, we are fortunate that the NFFF “Courage to Be Safe” program is mandated for every firefighter, helping to set the stage from day one for a long career of personal accountability. In such a high-risk occupation as firefighting, it is imperative that the organization takes deliberate steps both on paper and in practice to assist employees with their own success. This includes helping employees get back on track when their health starts to drift through coaching, counseling and discipline when necessary.

Putting FLSI 2 to practice

FLSI 2 helps keep my organization focused on providing adequate resources to assist firefighters and paramedics with maintaining all aspects of their health and fitness. We have a robust health-related fitness program that assists them with working out and measuring their own progress. We also make a point to train them on the dangers and “watch outs” of the job—not only the physical threats, but the insidious mental ones as well. Just like early detection in a fire is key to the occupants’ survival, we know that early detection of mental and physical health issues is just as key for our responders. We’ve established a system to regularly check on their overall well-being. Day in and day out, we strive to keep our crews aware of the numerous resources available to them should they need help. But more importantly, we work to ensure they won’t ever hesitate to use them.

When the Firefighter Life Safety Initiatives were created in 2004, there was a tremendous need at all levels of the fire service to discuss and implement the concept of accountability for health and safety. FLSI 2 has helped us advance toward being a more conscientious and professional service in this area. I now see younger members joining our department who understand health and safety accountability as a given in our business. This is the result of the hard work done by committed fire service leaders and the National Fallen Firefighters Foundation, followed by fire departments and firefighters across the country embracing the concept. Today, as research, technology and data improve, we are beginning to understand new challenges and threats to our health and safety. Occupational cancer, genetic, reproductive and mental health are emerging subjects that will require significant effort and attention as the fire service takes accountability to the next level.

Nick Perkins joined the Travis County, TX, Emergency Services District No. 2 in 1998 and is currently assistant chief of operations. During his 21-year career with the department, he has risen through the ranks, becoming a chief officer in 2011. He worked as a shift commander and the training division health and safety chief before being appointed as the assistant chief of operations. He earned an associate degree in fire protection technology from Austin Community College, a Bachelor of Applied Arts and Sciences degree from Texas State University, and a Master of Public Administration degree from the University of Texas at Rio Grande. He has a history of developing industry-leading community, training, health and safety programs. He has established and taught fire protection technology programs in central Texas high schools and at the collegiate level.

CONSIDER THE HIDDEN DANGERS, *Consider Your Family*

By Kimberly Settle McDonagh

I tell myself to breathe, breathe now! If I breathe, I think and if I think, I don't want to breathe.

"Breathe!"

I inhale. I feel the air rushing into my lungs, the oxygen nourishing my blood even as the thoughts slam into my head, an onslaught invading my self-imposed solitary confinement. I hold my breath again. Each time, the story plays out exactly the same. Each time, I find myself holding my breath, wondering, why is it so hard just to breathe? Is this what it feels like to drown? Is it even possible to drown in one's own thoughts? I think it must be. I am. I feel like I am trapped under the mantle of ice that has descended on my world, beating at it with my fists one minute and then floating in the ethereal darkness the next; thankful for the respite from what my world has become, freed from my ever-present thoughts.

He has cancer.

He has cancer.

He has cancer.

That is my recurring thought. It is my only thought. I hear the doctor saying it over and over again. That instant when the life we thought we had, were going to have, washes down the drain as if someone magically pulled the plug. I hear the whoosh of the water as it spirals down to the sewer. Our life has just entered that murky, unknown realm. Down here, it is hard to breathe.

HOME

My sons point out that I sigh a lot. I try to explain, "I can't breathe." They look at me as if I am speaking another language, as if I have grown an extra head. "It's hard. It hurts. I don't want to, and I know I have to." My two oldest, both of them wise beyond their years, look at me again. The oldest tells me, "You can't change what is going to be. You just have to try and accept it." I know he is right. We don't know what is going to be. I want to know. I want to change it if I don't like it. The littlest one wanders in. I wonder if he, too, will be forced to be wise beyond his years. I don't want to know. I can't breathe again.

THE HOSPITAL

I don't want to go in. I know I have to. I have to act nonchalant; pretend like this is an everyday occurrence. I am no good at pretending. I have become a master at it. I smile at the nurses and other patients. I try to look pleasant. He and I make jokes and laugh as he is checked in for surgery. I stand outside myself, watching, wondering who that person is. "Oh yeah," I think, "that's the new me. I'm the one who can't breathe." He is taken back to the operating room. I go to the waiting room to wait. I look around and realize I am only one in a sea of other non-breathing people. "Breathe," I want to tell each person I see, but I say nothing. Words require air and I have none to spare. I have to remember to breathe.

RECOVERY

I see the mop moving back and forth. I know they clean regularly, religiously. Germs are enemy number one for him—for all of them. They must be eradicated, so they mop. The smell is not clean. I don't care what they say. Clean is fresh cotton, a summer's meadow filled with wildflowers or a newborn baby. This is artificial; the acrid smell of sickness masked with antiseptic.

The smell of death and dying hangs in the air. I can't escape it. I have to be here. I have to inhale the unclean clean air. I don't want to breathe, but I have to. My lungs give me no choice this time. I inhale deeply, bile threatening to rise even as the air goes down. I want to leave. I am trapped here.

I walk the hall. It is a rectangle. I know that 14 laps equal one mile. That is the goal; not for me, but for him. He cannot walk it, so I do it for him. As if I can. I don't know how many miles I walk in a day; miles that lead me nowhere but around the nurses' station and past the rooms of patients recovering from surgery; past the rooms of patients whose families are holding their final vigil; past the rooms of patients who don't know where they are and call out for people only they can see. I walk. I walk to nowhere, but I walk anyway.

THE VIGIL

I watch him breathe. It is a daunting task. His chest rises and falls. He breathes. It seems to come so easily for him, this ability. In. Out. In. Out. I have to take a deep breath. My lungs demand to be filled. My body requires the colorless, odorless gas to continue its existence. I have to leave. I can't breathe in here.

HIDING

I hide. When I hide, it is easier to breathe. When I hide, I can drop the pretense that I am okay with being here. I can gulp the air or hold my breath. No one is looking. It is easier to breathe, then it isn't. I have to find a new place to hide so I can breathe again.

I am Kimberly McDonagh, the widow of Lt. Edward Joseph McDonagh, Jr., Engine Company 37. Eddie was diagnosed with cancer in March 2014. He died on Nov. 12, 2017. He made it six weeks past his 49th birthday. He left behind five children, ranging from ages 6 to 24. I wrote this piece while he was recovering from both a colon and liver resection to remove the cancerous tumors. By January 2015, it was back in his liver. While his cancer may have been 9/11-related, the fact is, 9/11 was just a job on a horrific scale. The hidden dangers of an already dangerous job should not be taken lightly. I urge you, if you think something is wrong, get checked out. Decontaminate your gear regularly. Follow protocols. Take care of yourself. If cancer can happen to my family, it can happen to yours. If you can't do it for yourself, then look in the faces of your children and do it for them.

Kimberly Settle McDonagh is an advocate for the improved health and wellness of those in the fire service. She is the proud mother of three boys and two stepdaughters. She served four years in the United States Air Force as an F-16 Crew Chief. She chronicled Lt. Edward McDonagh's battle with cancer on the Facebook page, "Eddie's Fighting Irish."



Annual Physicals Can Save Firefighter Lives

Something as simple as a routine checkup can make a difference between life and death

By Todd LeDuc

Three of the most prevalent occupational-related threats to firefighter health are cancer, cardiovascular events and a host of behavioral health disorders, including suicide. All three, however, are manageable through appropriate annual medical screenings and physicals.

Annual screenings are a critical component for establishing medical baselines for firefighters and monitoring their health and wellness. Despite knowing that annual physicals are a critical component of firefighter early detection and survival, a survey conducted by the International Association of Fire Chiefs (IAFC) found that only 45 percent of volunteer and 80 percent of career fire departments received annual physicals. To enhance understanding of both the unique occupational health risks firefighters face and the occupational-specific recommended medical tests, the IAFC developed the Health Care Providers Guide to Firefighter Physicals found at iafcsafety.org. The First Responder Center for Excellence was also created to address cardiac, cancer and behavioral health needs in part through firefighter physicals and early detection and offers a host of resources at firstrespondercenter.org.

While there remain challenges, such as implementing and funding physicals, there are many opportunities. The reality is in many areas the cost of an NFPA 1582 physical is less than the cost of PPE and if we don't have healthy firefighters, we do not have a healthy fire department to properly service our communities. A large funding vehicle for firefighter physicals is the Federal Emergency Management Agency (FEMA) Assistance to Firefighter Grants (AFG), which typically has \$400 million allocated. Unfortunately, only a small amount of funding requests is for health and safety or annual physicals.

Departments of all sizes and means have been able to successfully implement NFPA 1582 physicals and 1583 assessments with early detection and wellness being the focus. In Broward County, FL, AFG grant funding was the key to implementing annual wellness exams for every firefighter.

Early detection and treatment save lives

One member of the department who was identified with cancer during their annual physical said, "As it turns out, I got a phone call from my endocrinologist and he said, 'I don't know why you had an ultrasound done, but thank your lucky stars.'" Firefighter Chris Thompson was diagnosed with two types of rare cancers in the early stages from the nodules. The diagnosis


was a rare variation of thyroid cancer that has no warning symptoms and another small tumor that is known to be aggressive. After metastasis, there is a 74 percent mortality in the first five years and, of those who survive, there is 79 percent mortality within 10 years. Chemo and radiation do not work with this type of cancer and thus it is considered terminal in most cases when metastasized. Fortunately for Chris, the early detection probably saved his life.

While this was one of the most dramatic findings, many others were identified with poorly controlled hypertension, borderline diabetes, high cholesterol and other areas of their health that by addressing proactively, dramatically reduced their risk from dying on the fireground and becoming a line-of-duty statistic.

Implementation of physicals is not limited to large metro departments. Many volunteer and small combination departments have also developed successful programs. In 2018, the Katy, TX, Fire Department began annual physicals through LifeScan Wellness Centers. Each exam includes a comprehensive approach to NFPA 1582 and NFPA 1583 including cardiac stress testing, integrated ultrasound, comprehensive laboratory panels and behavioral health and nutritional screenings. This approach is undertaken by advanced practitioners, exercise physiologists and ultrasound technicians, all of whom specialize in public safety health.

While members and employees are often apprehensive about annual physicals, Katy Firefighter Kenneth Parker is not one of them. During his physical in 2017, a mass was detected in his left testicle. During subsequent follow up he was diagnosed with Stage 1 cancer that had fortunately not metastasized. His oncologist recommended a round of chemo to kill any additional cancer cells that may be present. "I can say without any doubt in my mind that if my department had not had this scan done my outcome would have been completely different," Parker said. "As long as I am in my position here at the Katy Fire Department, I will be one of the biggest advocates for this test to be done every year," he said. "I am living proof that this works and it is a vital part of any fire department's health and wellness initiative."

Todd J. LeDuc recently retired as assistant fire chief from Broward County, FL, Fire Service after nearly 30 years of service. He serves on the IAFC Safety, Health & Survival Section Board as secretary and Board of Advisors of the First Responder Center of Excellence. He currently is chief strategy officer for Life Scan Wellness Centers.



UNDERSTANDING SUICIDE & THE FIRE SERVICE

A closer look at a complex problem

By Dr. Richard Gist, Vickie Taylor, Dr. Patricia Watson, Frank Leto

There has been a recent surge of concern regarding suicide rates in the American fire service. Suicides are devastating losses that leave a wake of grief and guilt among those who surrounded the victim. This is felt very deeply in the fire service, where camaraderie, commitment to one another and a sense of family connection define the very nature of station life.

Understanding suicide is a critical part of any effort to avert these tragic deaths. Suicide is a complex and difficult problem, our understanding of which remains quite limited. As pressing as it is to do all we can to help, it is important that we first make very certain to fully, critically and objectively understand what we know, what we do not know, what can actually help, and what, despite our best intentions, may not.

Digging into the research

Forbes recently published an article with the provocative headline, "More Firefighters Committed Suicide In 2017 Than Died in Line of Duty." The article opens by reporting a finding that rates of suicidal ideation (thinking about suicide) and

actual attempts are 10 times those of the general population. Are these statements really true? What do they really mean?

First, one must understand the statistics here are invariably riddled with complexity. Based on population epidemiology, firefighters—who are still quite predominantly white males with an aging overall demographic—would be expected to experience more suicides than line-of-duty deaths (LODDs). While this indeed means that firefighters are at greater risk from suicide than from LODD, it does not mean or even necessarily imply that being a firefighter is a risk factor for death by suicide.

Suicide rates and patterns vary quite significantly across demographics such as age, gender and race. White males are distinct in that their suicide rate rises pretty much consistently as they age. They are also more prone to utilize firearms in their suicidal actions, resulting in a much greater likelihood of a single, instantly lethal attempt. By the time they reach midlife, suicide becomes an unfortunately frequent mode of death. But is the suicide rate for firefighters significantly greater than that of the demographically comparable population?



Suicides are devastating losses that leave a wake of grief and guilt among those who surrounded the victim.
Photo by Coulter Loeb
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Suicide is a pressing public health concern throughout the population, and it deserves to be treated just as seriously among firefighters, regardless of relative or absolute rates. We should address it because we are committed to our service, our colleagues and our mission of service and protection.

or strategic sample of all member deaths within a single, large, metropolitan department across a broad expanse of time. As such, it yielded an excellent cross section of all firefighters in that organization but is limited to that specific organization and circumstance.

The survey reported in *Forbes* instead utilized what is known as a convenience sample, drawn from persons who chose to visit a set of web pages that dealt with issues related to firefighter behavioral health. As such, it was not conducted on a representative cross section of firefighters in general (called a *probability* sample) but a sample of persons who, for whatever reasons, were looking for information on these topics and chose to look in one particular place. It is certainly possible—maybe even likely—that their personal interests and experiences might differ from the remainder of the firefighting population. Accordingly, we need to be very cautious about extrapolating responses from either study to the firefighter population as a whole.

There are other reasons to remain cautious. Still another study, again involving the same research group, conducted what is known as a *systematic review* of studies addressing this question over time. Firefighters are often lumped in these studies into a broader category dubbed “protective services.” While the professions included share certain commonalities, the largest number of individuals included are typically military and law enforcement personnel—populations whose characteristics and exposures differ radically from our own. Their suicide rates and their implications can differ radically as well.

While there has been a sizable number of studies examining law enforcement suicide, even there the rates of suicide are equivocal and do not necessarily exceed those expected in comparable cohorts of the general population. Studies addressing firefighter suicide have been more limited. What few have reported occupationally specific

This is not a simple question. Death records do not consistently or reliably report occupation, and most U.S. firefighters are volunteers, whose principal occupation would likely be listed as something else. The few studies we hold of solid cross-sectional cohorts, such as a recently reported study of the Philadelphia Fire Department, suggest that rates among active firefighters are no greater than, and may actually be somewhat less than, the demographically comparable general population.

Firefighting might ultimately provide more protection than risk, at least while the firefighter remains active in good standing and hence part of a strong support system. That is important to examine and understand because, if that's true, our first and best defense may be to accentuate and amplify those aspects of the occupation that lend this protection. So what might explain the seemingly radical differences between the Philadelphia study and the survey reported in *Forbes*? They were actually conducted by the same research program and some of the same researchers. The Philadelphia study looked at what we call a structured

The best prediction of how you'll be two years after a major disruption, whether as an organization or as an individual, is how you were doing two days before. Build on the basics.

suicide rates have shown firefighters to be at or below rates for similarly situated demographic cohorts. While there is some cause to suggest that firefighters may think about suicide more frequently than others—not necessarily unexpected, given the likelihood that they will confront suicides during their careers—the evidence does not suggest that those thoughts necessarily lead to suicide outcomes and may even suggest that being a firefighter can lend a protective element despite those exposures.

Moving forward carefully and cautiously

Firefighting is a tough and demanding job and it can add a lot of baggage to a person's life. It also, however, adds immeasurable rewards. We're just beginning to understand this at more serious levels. We must keep in mind that these relationships and impacts can be very complex and very dynamic, often being different between individuals and varying over the course of an individual's career. One very reasonable hypothesis now under scrutiny is that the experience of being a firefighter generates a lot of exposures that remain mitigated by the strong social support and belongingness that the profession provides—but when one is removed from that supportive context by retirement, injury, separation or such, that mitigation might be negated and risk could then become amplified. Perhaps the most important message is this: The problem of suicide is very complex and what data we hold are limited, ambiguous and often misunderstood or misstated. We need to move forward carefully and cautiously while striving to provide all the solid support we can to those who take up this vital protective role in our communities. Overstating or mischaracterizing the problem can risk paradoxical impacts that can be anything but helpful.

It is a natural tendency to overstate a problem when trying to emphasize its importance and stimulate needed action. In this case especially, it should not be necessary. Suicide is a pressing public health concern throughout the population, and it deserves to be treated just as seriously among firefighters, regardless of relative or absolute rates. We should address it because we are committed to our service, our colleagues and our mission of service and protection. It is simply the right thing to do.

We spend a considerable amount of time, money and effort preparing for and dealing with LODDs. It is reasonable that we should. LODDs are devastating, recovery is difficult for both co-workers and their organization, and most are ultimately preventable through behavioral actions. Suicides are similarly devastating, sometimes perhaps even more so, but for far too long we failed to acknowledge or address them in our ranks.

Epidemiologically, we would predict from general population data for similar demographic cohorts that a

department would be about thrice as likely to experience this disruption as to experience a LODD in any given year. It is right and reasonable that we give serious thought and attention to how to address these when they occur, how to recognize evolving risk in those around us, how to help prevent that risk from ripening into tragic and irreversible action, and most importantly, how to prevent it wherever and however we can. Building on the supportive factors inherent in the profession may, for now, be the single most effective thing we can do. It is certainly an important first step.

Resources for help

Resources such as *Stress First Aid* (available through the First Responder Center of Excellence associated with the National Fallen Firefighters Foundation) can help cement those supportive relationships within the daily workings of your department. Resources such as the International Association of Fire Fighters' peer support team training can provide a trusted resource at the station level to bolster resilience and help those in need take the sometimes-difficult step of seeking professional help when necessary. Effective behavioral health or employee assistance programs can ensure that resources are always available to address daily problems in living as well as major disruptions and concerns. They should be a part of every fire service organization.

Still, the things that matter most may well be things that lie at our disposal daily. They are hallmarks of well-structured, well-run, effective organizations: sound, responsive and effective management of the organization and its sub-units; reliable, structured, functional incident command; competent, consistent and compassionate supervision; leadership at all levels. A sound, well-run organization will find its way through even the most challenging of situations and emerge stronger, pretty much regardless of what we do or do not do after the fact. A struggling, dysfunctional organization will fray and fragment after even minor challenges, again pretty much regardless of what we do or do not do after the fact. The best prediction of how you'll be two years after a major disruption, whether as an organization or as an individual, is how you were doing two days before. Build on the basics.

Dr. Richard Gist is principal assistant to the director of the Kansas City, MO, Fire Department.

Vickie Taylor, LCSW, has provided behavioral health consultation to Prince William County, VA, public safety agencies since 1985.

Dr. Patricia Watson has been a senior educational specialist for the National Center for PTSD since 1998.

Capt. Frank Leto is a 35-year veteran of the FDNY and the deputy director of its Counseling Service Unit (CSU).

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LEARN MORE





CHANGING OPERATIONAL TEMPO

By John Tippet

A well-prepared and exercised brain is the best tool

An engine company arrives at the scene of a well-involved working structure fire with a report of a person trapped. This is the captain's first working fire post promotion and the first fire event he has faced with a person trapped.

A medic unit arrives at a childbirth call to find the baby delivered and both the mother and newborn are unconscious.

A truck company arrives at the scene of a water leak and finds water cascading through the ceiling light fixtures on the third and fourth floors of a six-floor building.

A firefighter/EMT performing the morning SCBA check in the cab of the engine notes a distinct smell of alcohol on her partner's breath.

A group of firefighters are gathered at the front of a fire station after dinner on a hot summer evening. Their officer is upstairs in the office taking care of monthly reports. The conversation slowly shifts from general topics to banter then to directed dialogue at one firefighter who recently made a mistake on a call that made the company "look bad" in front of the battalion. Three of the five firefighters in the group become agitated and their invective becomes laced with personal cutting remarks about the firefighter's appearance, commitment and worthiness to be in the company. A fourth firefighter stands quietly by as the taunts get more insulting.

Each of these scenarios can be characterized as a situation requiring action. The "operational tempo" of each event could be characterized as not of our making but needing a critical reset immediately.

For each of the principals in these scenarios, a process has been unfolding in their respective brains. Information is being recorded and that information is building much like a cresting wave at the shore. A critical juncture (decision point) is looming, requiring the principal to take an action that will change the course of the event. Each scenario contains the possibility the principal's brain will be overloaded with stimuli (i.e., the sights, smells, sounds and tactile experiences) leaving the decision maker "frozen" or ineffective. "Freezing" in each of these scenarios will lead to a performance failure as a case could be made that lives hang in the balance. A strong case can be made that the principal must decide to both assert and insert themselves in the timeline to change the outcome. Arguably the sooner the better.

The critical traits of a leader

One of the most admired traits of a leader is the ability to make decisions. Followers look to their leaders for guidance, direction, inspiration and safety. Significant research has been compiled to understand how humans react (i.e., process stimuli and make decisions) in time-compressed, chaotic, information-starved situations. Studying the research, understanding the research and applying the concepts espoused are critical to improving a firefighter's or fire officer's performance. This observation is especially true at times when one is trying to tame a chaotic operational tempo and restore order.

Since we are talking primarily about processes in the brain, and the brain is an organ that benefits from exercise like the heart, exercise regimes in decision making are critical components of developing firefighters and officers into capable and confident decision makers. Coupling the exercise with calculated applications of stress during non-stressful training better inoculates both the brain and heart to perform better when real-time, unanticipated stress is introduced.

Where does one go to find the necessary knowledge, training and experience to improve their reaction (i.e., decision making) skills? Reading is fundamental, but so is regular cerebral exercise. The critical research and conclusions reached by Boyd, Gladwell, Helmreich, and Klein are essential foundations. Studying the lives of Winston Churchill, Theodore and Franklin Roosevelt, George Washington, Rosa Parks and Martin Luther King Jr., gives insight into making courageous decisions in times of seemingly insurmountable odds. Boyd's "OODA Loop" concept is a proven game changer for taking a situation from out of your control to in your control. The OODA Loop components (observe, orient, decide, act) are easy to recall and the tenets are clear:

- Many situations in life, including each of those in the opening paragraph, can be likened to conflict.
- The goal in any conflict is to defeat an opponent.
- The faster you orient to the situation, the sooner you gain the upper hand.
- Acting (i.e., creating chaos in your opponent's operational tempo), shifts the tempo to your favor and makes you the winner of the conflict.

The orientation phase is critical. Coming to a clear understanding of what is at risk, what risk looks like and how risk impacts outcomes is key to rapidly asserting and inserting yourself to shift the operational tempo in your favor. Finally, effectively and succinctly communicating the "whys" when decisions are made offers the best scenario for successful outcomes.

The more we hone our decision-making skills prior to being thrust into stimuli overloaded situations, the more brain power we have at our disposal to observe, orient, decide and act effectively. Our profession is a combination of cerebral and tactile functions. The more innate we become with tactile skills the better positioned we are to process new and unfolding circumstances in the situation faced. If we act in a rash and impetuous manner, "ready, fire, aim" as the late Chief Tom Carr used to say when decisions were based on emotion without calculation, then the operational tempo will continue to be driven by circumstances. If we become true students and emulators of authors, leaders and decision makers who have dealt with crises, we can confidently and competently insert ourselves into the operational tempo of an incident and change it to our favor, minimizing damage and averting disaster.

Review the scenarios in the opening paragraph. How well do you believe you are prepared insert yourself into each? What would you do to affect the outcome?

For more information to improve your critical decision-making skills, you can start with a Google search of the authors and leaders under crisis named above. The results of your search will not disappoint.

John Tippet joined the National Fallen Firefighters Foundation in April 2018 as the director of fire service programs. Tippet began his fire service career as a volunteer in Montgomery County, MD, in 1974. He was hired as a career firefighter in Montgomery County in 1976 and spent the next 33 years with various departments and the county, serving as a firefighter, company officer and battalion chief. Tippet was also an adjunct instructor, member (and later task force leader) of Maryland Task Force 1 (a FEMA urban search and rescue team) and an integral part of the department's firefighter safety program. He retired from Montgomery County in 2009 as the safety battalion chief to take a position with the Charleston, SC, Fire Department as its first deputy chief of operations. Tippet spent the next 7½ years as the operations deputy, assisting with the rebuilding of the department after the Sofa Super Store Fire. From 2017 to 2018, he served as interim fire chief. He continues to serve the community as a member of the North Beach, MD, Volunteer Fire Department. Tippet holds a bachelor's degree in fire science and a master's degree in emergency services management from Columbia Southern University.

IDENTIFY, MANAGE & MITIGATE

RISK

Increase safety in high-risk environments by making changes today to things within your control

By Ben West

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.

I was 18 years old when I was accepted as a volunteer firefighter for the combination fire department in my hometown. To say I was proud would be an understatement. I grew up at this fire department—my father is the chief of department and my grandfather had served as a volunteer as far back as the late 1930s. I had just become a third-generation firefighter.

Seventeen years later I have the privilege to serve as the captain of my career department and also remain a volunteer firefighter with my hometown department. I also have the honor of working with the National Fallen Firefighters Foundation's Everyone Goes Home Program where I serve as the Tennessee State Lead Advocate.

The Everyone Goes Home Program's mission is to work to decrease the number of line-of-duty deaths (LODDs) in today's fire service. The outline for doing this is to focus on the 16 Firefighter Life Safety Initiatives developed at the first Tampa Summit in 2004. (Read about all 16 Initiatives on page A5.)

All risks are not created equal

While all 16 are equally valuable to the mission, I want to focus on FLSI 3. We all understand that firefighting as a profession is inherently dangerous and comes with an elevated level of risk associated with it. However, it is my opinion that all risks are not created equal. I would even venture to say that sometimes the actions taken or tasks performed are the constant while the individuals carrying them out determine the level of risk that is associated with the action or task.

Looking back, I can remember responding to the report of a residential structure fire as an 18-year-old firefighter. While at the time I did not fully understand, I now realize that the level of risk associated with me operating at that structure fire was high. Fortunately, everyone else involved fully understood this. This was my first exposure to the principle of risk management. This was demonstrated by command assigning tasks accordingly coupled with the "senior firefighters" understanding my limitations and experience level.

Today, when put in the same situation at the same residential structure fire, the level of risk associated with me operating at that fire is much lower. Nothing about the fire has changed. My level of knowledge and experience, however, has increased dramatically. This has a tremendous impact on

my situational awareness while operating at an emergency scene. Through training and experience my ability to interpret the scene and make decisions based on those interpretations has improved exponentially. This also affords command more options when it comes to assigning me tasks. All these things not only reduce the level of risk, they also increase the efficiency and effectiveness of the crews. This results in a more advantageous outcome for our customers.

Where to start

Although FLSI 3 undoubtedly speaks in opposition of taking risks that are unwarranted and unjustified, it does not ignore the fact that what we do is dangerous. I try to focus on the things within our control to function more safely in high-risk environments. One way to stack the deck in our favor is through consistent quality training. The more we know about what we do and why we do it, the better we will be at developing our strategic and tactical plans for high-risk situations. Another area we can control is our physical fitness. With cardiac events being one of the leading causes of LODDs, our physical fitness is something in which we should be investing a lot of effort and energy. Having the knowledge on how to do a certain action or task proves ineffective if you are not physically capable of carrying it out. Preplanning is another area we can improve our risk management abilities. The more we know about the buildings and areas in which we operate, the safer we will be in high-risk situations.

The best way to manage risks is to be aware that they exist and to know how to properly identify them. Once you identify these risks, you then need to weigh those risks against your desired outcomes. If our goal is to continue to identify and address our weaknesses while also fostering our strengths then we will without a doubt leave the fire service better and safer than we found it. Thank you and stay safe.

Ben West is a 34-year-old career fire captain with the Gallatin, TN, Fire Department. He also serves as a volunteer firefighter with the Portland Fire Department in Upper Middle Tennessee. He has been with Gallatin Fire Department for 14 years and Portland Fire Department for 17 years. West is a third-generation firefighter following the path of his father and grandfather. West volunteers as the Tennessee State Lead Advocate for the National Fallen Firefighters Foundation's Everyone Goes Home Program, where he travels to deliver a number of programs.



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WHY STAFF RIDES MAKE THE DIFFERENCE

What we can learn from the fatalities of our brethren

By Julie Campbell

In the U.S. Forest Service, when considering a decision point on a wildfire, people sometimes throw around the idea of “mental slides.” Based on those freeze-frames you’ve stored up in your head from previous fires, what is your reaction to this similar situation? Those mental slides matter because they give us clues to a situation—the complexity of the fire environment, for example. Even hardened vets cannot compute the sum of all factors to predict exactly what the fire will do next.

I am not young, but I am on my third year in the wildland world. I am beginning to see just how much I don’t know. I don’t have many mental slides accrued yet.

Staff ride at the site of the South Canyon Fire

Before we embarked, I wondered whether the staff ride to South Canyon, near Glenwood Springs, CO, was important enough to

warrant a week out of our season, more than 2,000 miles of driving and the cost of feeding and sleeping so many people.

On our first day of the South Canyon staff ride, we settled into grassy “seats” atop the Overlook, a smaller hill directly across from the fatality site of the July 1994 South Canyon Fire. It’s late May now, it had just snowed, and the steep West Flank line was too muddy to climb up. Another storm front was expected, so we began our day early, trying to make the most of it. As we hiked up the West Drainage, I noticed the gentle breezes were squirrely and very inconsistent. We did several tactical decision games en route and were asked what we would do as certain key players—surprisingly, we discovered that often we didn’t have better solutions.

We listened to stories from survivors of the 1994 fire. Many of the survivors spoke of a feeling of reluctance to go down the hill and felt relieved when they were back up on the ridge, but



none gave voice to their gut feeling that day. It was 1994 and you just did not question your superiors, and certainly not with some wishy-washy “feeling” that bears no resemblance to the cold hard facts that carry weight in our culture.

After reading the investigation materials and John MacLean’s book, *Fire on the Mountain: The True Story of the South Canyon Fire*, it seems to me that nearly every one of those 50 people on the mountain that day felt something wasn’t quite right. There was a lot of grumbling, but as one survivor related, when the superintendent walked by on the line, it was all, “Oh, hey, boss!” ... and no one said a word.

It was 11 a.m. just as the last survivor was wrapping up their question-and-answers, when something unusual happened and a cold front hit. As we filed off the ridge, the trees around us came alive, swaying noisily. Oddly reminiscent of MacLean’s telling, we witnessed the wind tearing up the Colorado River canyon and then getting scooped up by the South Canyon spur ridge. All that air poured in and curled up like a wave, breaking differently on every slope, roaring at the ridgetops, and battling itself with each new gust. The sky darkened within minutes, and we leaned into the wind as we marched down. Someone’s hardhat blew off.

Checking with others around me and the Beaufort Scale in my IRPG, we estimated the gusts at 40 mph. A survivor was overheard remarking solemnly, “This is just like how the winds were on that day.” It was as though some force beyond our comprehension had chosen to replay this weather event,

Photo by Jeff Zimmerman



especially for our benefit—so that we may never let a tragedy like the South Canyon Fire happen again.

Lessons learned

The next day, I felt fortunate to have our crew (along with the Fulton Hotshots) given the assignment of helping improve the new West Drainage trail. We built stone staircases, raised a heavy kiosk at the entrance, and cleared brush on the West Flank line with our saws. Walking up that drainage afterward, we observed heavy continuous brush coverage—and the fuels are only partially grown back from what they were in 1994. There was definitely no safe zone down there.

We toiled with heavy packs up the 55-degree slope West Flank line. I had to grasp onto branches in places. I smelled the sunbaked Gambel oak leaves and the damp sandy soil as it dried out. It was hard to imagine the far more crushing fatigue that the South Canyon firefighters experienced after hours or days of unrelenting labor, and then trying to run for their lives.

We solemnly clambered past the clusters of crosses draped with 25 years of offerings from our brethren. The last one tragically stood on the cusp of where the ridge flattened out. I caught my breath as I scanned far down into both drainages from Zero Point. I now comprehended the sad inadequacy of the escape routes, given steep topography and fatigue.

Both helispots seemed uncomfortably small for even a Type 3 helicopter. There was also no good place for a single lookout with all the spur-ridges and towering brush, hiding key locations. I hiked north to where the helitack crewmembers succumbed, making it an astounding 2,000 feet before getting caught in a narrow drainage. In the other direction, on the steep climb to H1 (another reason it was a poor safety zone), I could see how stunningly close the jumpers also came to that ridgetop before they had to deploy in the rocks—just a few hundred feet.

I hope the lessons I have learned here do not come across as a critique of decisions made in the moment, because that is not my intent. It really struck me, the way the survivors insisted that we must ask anything—ask those awful, difficult questions—because that is what is necessary to bring out the lessons of this tragedy. One survivor also quietly reminded us that now it is *our* duty to pass on the importance of staff rides.

I challenge you, knowing now that a staff ride just might change the result at that tipping point on the next big wildfire this season, to go experience one for yourself, or as a crew. We owe it to our brotherhood/sisterhood of firefighters, for those who have sacrificed so that we may learn, to go and listen to those silent lessons.

Julie Campbell is an apprentice on the Modoc National Forest, currently detailing on the Redding Interagency Hotshot Crew. She is a third-year forestry technician—otherwise known as a wildland firefighter. Prior to joining the U.S. Forest Service, Campbell volunteered for two years in a Eugene, OR, structural fire agency and served as an EMT for Eugene-Springfield Fire. She holds a Bachelor of Science degree in education, English, and social science from the University of Montana-Western.

MAKING A DIFFERENCE:

Boston Fire Department

Improving firefighter health and fitness through a local partnership

By Brice Long



BFD members take part in a four-day tactical athlete workshop.



A 16-week physical training program is provided for the BFD academy.

In the summer of 2014, Joseph Finn was sworn in as the commissioner and chief of the Boston Fire Department (BFD). Taking the reins of one of the oldest fire departments in the world, Finn was stepping into the top job at an organization that was seeing a new cancer case nearly every three weeks and was averaging dozens of members on injury leave each day. Finn knew he needed to make a change. Now, nearly five years in, he's done exactly that.

Since his appointment, Finn has worked tirelessly with city leaders and local union representatives to implement sustainable, department-wide culture change and improve the health and safety of Boston firefighters. Those have included initiatives in the Safety, Health and Wellness Division such as impactful cancer prevention educational videos (found at [youtube.com/watch?v=bXd5sb6fWNM](https://www.youtube.com/watch?v=bXd5sb6fWNM)); a contract with MSA for new state-of-the-art SCBA; and an ongoing multi-year partnership with O2X Human Performance for training and education covering conditioning, nutrition, sleep science, stress mitigation and mental performance.

The steps toward improved health and fitness

Founded by former Navy SEALs, O2X Human Performance is a Boston-based company that seeks to help firefighters and other tactical athletes maximize performance, avoid injury and lead long, healthy careers. The company's mission is to provide world-class training and education programs that identify



Part of the O2X mission is to provide world-class education programs that lead to sustainable lifestyle improvements.



Aside from physical activities, topics in the program include performance nutrition, sleep science, stress mitigation, mental resilience and PTSD.

small, incremental changes that lead to sustainable lifestyle improvements. The team is made up of former U.S. Special Operations veterans, Olympians, professional athletes, and a network of elite subject matter experts from across the country who present their EAT SWEAT THRIVE methodology.

The topics covered by O2X hit all areas of performance and career longevity: physical conditioning, injury prevention, performance nutrition, sleep science, acute and chronic stress mitigation, mental resilience and PTSD, as well as mental performance techniques from the top tiers of athletics and the military. The curriculum targets the specific issues facing tactical populations including high rates of injury, elevated cancer and cardiac health risks, and behavioral health issues commonly associated with high-stress work environments.

The Boston Fire Department and O2X have partnered to provide:

- Four-day tactical athlete workshops for nearly every member of the department
- Resilience seminars for firefighters and their families
- A five-day program for all new recruits at the BFD academy
- A 16-week physical training program for the BFD academy
- Injury-prevention mobility screenings and body composition analysis for the entire agency
- Two-day refresher courses
- Ongoing access to the team of O2X specialists and virtual resources for the entire membership

When asked about his company's work with BFD, O2X co-founder and former Navy SEAL Adam La Reau remarked, "Working with the Boston firefighters who risk their lives every day to keep the city safe has been extremely inspiring. It really has been the dedication and drive of the individual firefighters to take this training and education and put it into practice to optimize the department's performance."

The results

In 2018, BFD recorded a total cost savings of \$6.3 million from these major innovations and investments in state-of-the-art safety equipment, policy changes and a three-year

partnership with O2X Human Performance. This savings included a \$4.7 million reduction directly attributed to decreased injury rates, paid time off, monthly sick call, and increased resilience of the department. The total reduction includes costs associated with surgeries, disability and administrative duties.

In addition to the tangible improvements in health and the quantitative cost savings, the steps taken by leadership at the BFD have also helped break barriers surrounding PTSD and other mental health issues plaguing the fire service. Of note, resilience seminars and mental performance training has led to cases of at-risk firefighters successfully dealing with severe mental health challenges and getting assistance in critical moments, the impact of which is immeasurable.

Innovation in Boston is set to continue with investments in programs for cleaning firehouses and ongoing improvements to ensure that bunker gear is maintained and stored properly. The BFD also plans to continue providing comprehensive training targeting physical health, mental wellness and resilience.

The Boston Fire Department is proud to show the economic and human impact of health and wellness initiatives implemented over the last three years. What is harder to quantify, but equally important to recognize, is how Finn, Mayor Marty Walsh, and leadership from Local 718, have facilitated a department-wide culture change leading to a more resilient force dedicated to keeping the city of Boston safe.

Brice Long is the director of human performance experience at O2X where he works to provide education and training to help tactical athletes finish their careers as strong as they started. Before joining O2X, Long was a career firefighter in Northern Virginia. He spent several years assigned to a truck company before a transfer to the training division placed him in charge of recruit academies, company officer development programs and field training, as well as conditioning programs for the academy and firefighters in the field. His work there has been recognized by national fire service organizations and published in the National Strength and Conditioning Association's peer-reviewed *Tactical Strength and Conditioning Journal*.

Increase Safety Through EMPOWERMENT

Encourage your crew to speak up when they see an unsafe practice

By David Santos

FLSI 4 Empowerment: All firefighters must be empowered to stop unsafe practices.

It is often said that the space between expectations and reality is disappointment. A theory that I strongly agree and believe in. It is also a place that you do not want to be when it comes to firefighter health and safety. Firefighter Life Safety Initiative 4 states, "All firefighters must be empowered to stop unsafe practices." FLSI 4 is extremely powerful in its message and very effective when implemented correctly. It is essential for all company officers to cover it during their expectations talk with their firefighters. We can't assume they will know that they need to speak up if they see an unsafe act or practice. This must be explained to them at every available opportunity.

Defining empowerment

There are several types of empowerment. Employee empowerment can include giving employees the resources they need to make decisions in the workplace without supervision. This does not mean that we are delegating rank or authority. So how do we go about giving all firefighters the right tools and resources necessary to decide to speak up and stop unsafe practices? Is merely telling them the old saying, "If you see something, say something," enough? It has been my experience that it is not enough.

In fact, getting a new firefighter to speak up if they see something that is unsafe is in some cases impossible and it is indeed a skill that needs to be developed and trained on. Firefighters work in teams and often have a pack mentality. They may experience peer pressure and a desire to be liked and respected. They may experience the fear of being ridiculed or made fun of for being overly cautious. These can all play a role in firefighters avoiding expressing concerns when they have a bad feeling about what is going on around them. I saw a firefighter during a recent fire not wearing his SCBA. This was a fire in a large yard and the items involved consisted of plywood doors, an old RV, several tires and some unknown items. It was not an interior fire but nevertheless I had my firefighters don their SCBA as the wind shifted often and the smoke was very thick. When I asked why he wasn't wearing his

SCBA, the firefighter stated, "I'm just following orders," with a look of embarrassment. He fell to peer pressure because his captain and engineer were not wearing any SCBA, either. It was apparent that he had never been truly empowered to speak up.

Train and practice

Firefighters are very bright people, and company officers are some of the brightest in their organizations. This does not mean we are without faults. There have been some occasions where I made decisions that were not the best. Luckily for me, it did not end up with an injury or worse. Therefore, empowerment needs to be trained on and practiced.

As a company officer, I have made it a standard to implement FLSI 4. We often make critical decisions on the fireground, at EMS incidents and even the training ground. FLSI 4 allows me to make those decisions more confidently because I have empowered my people to truly speak up if they see an unsafe practice.

Not only should you cover FLSI 4, but also practice speaking up. We go over mock scenarios to make sure we have a broad understanding of the different situations that can yield an unsafe act. Knowing your team is always at the ready and their eyes are always on the hunt for danger gives you a sense of freedom. I feel very confident that if any decision I make is not the best, or if I miss something at an incident, my team will pick it up and speak up.

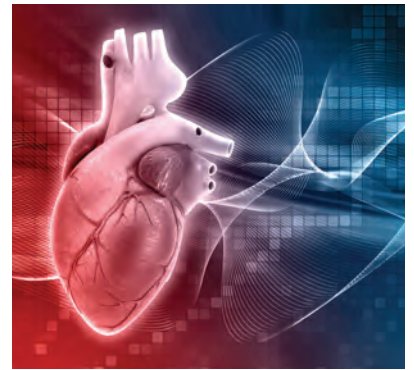
Empowerment at the company officer level is one of the most important, if not *the* most important, level where this needs to occur. It will improve your team's overall performance because it builds trust among the members of your company. Trust, as we all know, is critical to the success of any team. All firefighters need to be trained on FLSI 4—it must be covered, it must be trained on and it must be practiced. We must teach that no matter what rank officer is in charge, we are all obligated to step up and be heard if we see an unsafe practice.

David Santos is an 18-year veteran of the fire service. He is currently a fire captain for the City of Colton, CA, Fire Department. He began his career working for CAL FIRE in southern San Diego County. Santos is a Pro Board-certified fire department health and safety officer. He has a bachelor's degree in public administration from the University of La Verne and is currently in a graduate program. He also recently graduated from the Managing Officer Program at the National Fire Academy. Santos is a state advocate for the NFFF's Everyone Goes Home Program representing California.



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The Human Element in **FIREFIGHTING**

Personal growth comes from our attitude, behaviors and culture

By John Dixon

The human condition is often the most overlooked factor when examining fire service outcomes. At the street level, very little is discussed or understood of what makes us human. In taking a deeper look into our attitudes, behaviors and culture, however, we can truly work at creating a positive environment for professional growth. The improvement of the human condition within the emergency services is relative to our specific paradigms.

The Tampa Safety Summit in 2004 gathered many fire service stakeholders at various levels in their careers under one roof, in the same room, with one goal. After much deliberation, the 16 Firefighter Life Safety Initiatives were born and published industry wide. While the context of each initiative is vital to understand, the one common factor that binds them together is the human element and our ABCs.

1. ATTITUDES

Our personal attitude is synonymous to our personal accountability. We must become better at accepting our roles within the organization as vital ones. The times of simply acting as a drone or a good foot soldier must come to an end. We must expect and demand the utmost in our people's attitudes. A positive mindset can only be fostered by empowering others with positive surroundings such as access to quality training, formal education and progressiveness. We are all in direct control of our attitudes, but we are also greatly influenced by the level of empowerment we receive from our leaders. The trickle-down effect of a positive culture will be a huge return of investment.

2. BEHAVIORS

Our behaviors are a direct result of our attitudes. It is impossible to have positive outcomes with our behaviors if our mindset is not cultivated. This is where a divide within the fire service can be seen. The behaviors of the older generations of firefighters differ in many ways from the newer generations. For example, Crew Resource Management may be understood as direct challenge of authority. While the younger generation has been indoctrinated to ask questions, the older generation understands this to be a lack of a willingness to comply, thus the appearance of entitlement is born.



Photo by Glen E. Ellman

3. CULTURE

For some time now, modern fire service culture has been gravitating toward the organization itself rather than the citizens we are sworn to protect. We are trying to remain relevant to our mission of life safety, incident stabilization and property conservation all at the same time as we are fighting one another on how to provide that service. We are creating an entirely new culture of self above others.

The 2015 National Safety Culture Change Initiative found that, "The culture of unsafe practices may be so deeply ingrained that efforts to change are viewed as challenges to fundamental beliefs, while other unsafe practices are created by the culture of the fire and emergency service as a whole." This new paradigm of self above others would suggest that our emotions are still in control of our behaviors, therefore furthering the argument that our culture shapes our actions. This is why it is imperative to take caution in how we shape the future of the fire service.

Change

To understand change, we must examine the differences between incremental change and transformational change. Each type of change is a profoundly different experience. Incremental change is the result of rational planning with clearly defined goals. This change can usually be reversed if needed, which gives us the feeling of being in control. Incremental change involves using our knowledge and abilities.

Deep change requires new ways of thinking and, most importantly, behaving. This change is generally irreversible and creates a situation in which we realize we don't have the knowledge or ability. This requires that we lose control.

How do each one of us understand and apply our actions? The 16 Life Safety Initiatives provide a roadmap. How we choose to reach the destination is on us. The absolute constant in being human is that change is inevitable. Utilizing and implementing the 16 Firefighter Life Safety Initiatives in our decision-making matrix will provide clarity to our mission.

John Dixon is a career fire officer with the Teaneck, NJ, Fire Department and has more than 20 years in the fire service. He has earned his fire officer (FO) credentials from the Center for Public Safety Excellence, training officer (TO) credentials from the International Society of Fire Service Instructors, and is a National Fire Academy alumni. Dixon has a passion for training, mentoring and inspiring up-and-coming officers and firefighters. He has served as an instructor with the Bergen County Fire Academy, is a member of Project Kill the Flashover and currently serves as the New Jersey State Lead Advocate for the NFFF.



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