THIRD EDITION

FIRE FIGHTER SAFETY AND SURVIVAL

Don Zimmerman

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Don Zimmerman has been active in the fire service since high school. He worked his way through the ranks of the Hambden (Ohio) Volunteer Fire Department, with the last 15 years as the assistant chief. He recently retired as a career lieutenant and paramedic with the City of Mentor (Ohio) Fire Department. His career also included many years as a basic recruit instructor for fire fighters at Auburn Career Center, as well as fire service degree and paramedic classes at Lakeland Community College. He continues to be an emergency management coordinator and EMS instructor for the EMSI at the University Hospitals Health System in Cleveland, Ohio.

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Preface

This text is written to meet the Fire and Emergency Services Higher Education (FESHE) Associate's Core course outcomes for Principles of Fire and Emergency Services Safety and Survival (C0281). Its primary use will be for postsecondary education. It also mirrors the 16 Fire Fighter Life Safety Initiatives, with one chapter devoted to implementing each initiative. This makes it suitable for promotional testing as well.

Three of the latest trends with the fire service (as it relates to college education) are following the FESHE guidelines, a greater emphasis on the application of risk management, and online courses. This textbook is different than any safety book ever written. Unlike other textbooks that merely touch the surface of safety, this book delves into the 16 initiatives and gives realistic examples from fire and emergency services that each student can apply. Every chapter is full of situations, which could each be used as a case study on its own. Instructors can start discussions or assign projects based on the specific examples. By writing a textbook from this vantage point, it actually teaches the readers skills in risk management as they progress through the book. The text also has several new methods of increasing safety and implementing the initiatives never introduced to the fire service before. But possibly the best feature of the book is its application for online courses. Because of the amount of new information provided, distance learners can participate in online discussions and projects which would in turn encourage them to apply the changes and raise the level of safety in their geographical area

Introduction

Courtesy of Bridget Gandee Photography

They say that the only thing constant is change, with fire and emergency services being no exception. The intent of this book is not only to prove that fire fighter safety and survival can be improved, but also that using the 16 Life Safety Initiatives as a guide is a creative and effective way to do it.

Created by the Everyone Goes Home campaign and the National Fallen Firefighters Foundation, the initiatives target specific goals to reduce the number of line-of-duty deaths in the fire service. Safety is not a very fascinating subject, but this book attempts to keep the reader's interest and spark some creative juices to make a change for safety.

So how do we get past the "*Safety First* sticker on a hard hat" phase and into a fire service culture that actually weaves safety and risk management throughout it? In addition, how do we meld the best aspects of the rich history and raw tradition of firefighting with the new ideas and equipment for injury prevention, such as the ergonomic, aerodynamic, bicycle helmet, that the fire service might fear? The first thing working against us is that safety has always been a "bolt-on" component to the fire service (both literally and figuratively).

In a literal sense, a department could order the safety component from a catalog, and simply bolt it on; for example, the first PASS alarms clipped on to existing SCBA straps, making them safer. Of course, someone might forget to turn it on, or it might even fall off during an intense search and rescue. Still, it was an improvement. Eventually, thanks to NFPA standards and manufacturers, they became integrated and second nature. You can't take the safety component off, and new fire fighters can't imagine a SCBA without an integrated PASS. It's even becoming more and more difficult to lay it on the table and point out specifically "this is the SCBA and this is the PASS."

On the figurative side, we also use bolt-on safety components. Recently, accessories such as rapid intervention crews (RIC, RIT, FAST), personnel accountability reports (PARs), and air management procedures (AMPs) became hot topics and departments grabbed them up. It became common place to attach one of these to trainings and emergency scenes. Every one of them started as a brilliant idea, and evolved into a system that still has the potential to save fire fighters' lives. Unfortunately, some departments still have these hanging on the side of an airpack. For example, survey fire departments around the country, and ask how many have ever assembled an RIC for a fire scene. Now ask how many have one at every structure fire scene. What about how many have a policy or procedure of RIC job responsibilities and radio channels? Ask about what specific jobs on the fire scene they can accomplish without permission from command. Can they throw a ladder, pull a backup line, or ventilate a window? Can they assist getting a victim out of a window? Some believe RIC stands on a tarp next to command until being deployed. Others argue RIC should do what is possible to prevent a fire fighter from getting trapped, to avoid rescue. All of a sudden the answers get a little cloudy.

It should be obvious to fire and emergency services that a bolt-on approach is a great way to institute new ideas and equipment. If it doesn't work, simply unbolt it and throw it in a drawer. But if it has potential, it eventually has to be built into the equipment. Safety must be weaved seamlessly into the emergency culture. Each chapter is full of examples from inside and outside the fire service of how the initiatives can be implemented. These ideas will hopefully unlock specific opportunities for fire departments to expand on the initiatives without actually giving up history and tradition.

The problem with integrating safety into our culture is that safety has always been a "soft" issue. Not soft as in fluffy or flexible, but soft as in offering no concrete road to travel. We know water weighs 8.34 pounds per gallon, and is relatively incompressible. You can multiply 29.7 times the squared diameter of an open orifice times the square root of the flowing pressure and calculate exactly how many gallons you are flowing every minute. This is because hydraulics is a "hard" subject. You can wish for less BTUs and more GPMs in the middle of the night, but facts are facts. If the BTUs surpass the GPMs, you're going to miss breakfast. Every facet of safety, on the other hand, from rapid intervention teams to Mayday communications, is soft. When it comes to health and fitness, what is fit? Which homes should be sprinklered and how do we convince fire fighters, homeowners, and builders it's a good idea?

Because of this relative lack of hard data in regard to safety, we must expand our view and see how similar situations are handled in other professions. Sometimes the comparisons aren't apples to apples, but we have to at least agree that they are similar in size, shape, texture, and color and even come from similar trees. In fact, it is also fair to assume that disease, insects, nutrients, and weather will similarly affect them. Wholesale costs for growers are relatively the same, and most of the equipment used for the production, harvest, shipping, and storage is the same for both. Even end-market users, grocery stores, and farmers markets would buy the product. In reality, there is no other practical way to reduce injuries and death in the fire service without comparing apples to

pears. There are differences between them, but in order to actually make changes to reduce line-of-duty deaths in the fire service, we need to spend the next 16 chapters concentrating on the similarities.

We can't just go out and compare firefighting to tax preparation. The common denominator has to be life preservation for us as well as for the public, and frankly we're not talking paper cuts. In an effort to pick a fruit that is close to us, we must use examples, theories, and practices from industries that share our unique features:

1. High risk—The potential for disaster is significant.
2. Life safety—The potential for multiple fatalities is present.
3. Human response—The potential for outcomes is based primarily on decisions that are made, sometimes with limited information.

Any profession that meets these three conditions deserves a ticket to our debate. We can objectively view how their past disasters occurred, how similar problems were handled, and what they did to ensure it would never happen again. We can look at the policies and procedures they have developed based on their experiences. Finally, we can use some of their knowledge to apply to our problems.

Nowhere in this book does it say we can't do our job. We still have to respond to the new emergencies that society continues to throw at us, bandage the injured, extinguish the fires, and mitigate the situations. We must do it promptly, professionally, and safely. There is absolutely no reason why safety and operations can't work together. Even though they are represented by two distinctly different boxes on a command flowchart, it is possible for them to coexist and even encourage each other. What's at issue here is creating a safety culture in the fire service. The goal is to first do our job—just do it safer. Firefighting is dangerous work. We will continue to lose fire fighters every year in the line of duty. However, there's little justification to lose one or two every week.

CHAPTER 1

Defining a Cultural Change

LEARNING OBJECTIVES

After studying this chapter, you will be able to:

- Define *culture*.
- Discuss the need for cultural change in the fire service relating to safety.
- Discuss the aspects of a safety culture within fire and emergency services.
- Discuss the gaps between a safety culture and the existing culture of emergency services.
- Discuss why change occurs in an organization.
- List examples of how an organization can use change to its advantage.
- List some of the reasons people resist change and give examples in fire and emergency services.
- List examples of other industries that have used leadership, management, and supervision to develop components of a safety culture.
- Discuss ways to use the successes of other industries as a catalyst for "advocating" a safety culture within fire and emergency services.

Case Study

As you sit on the front bumper of Engine 265 and watch traffic go by, it's hard for you to believe that you are actually a fire fighter. You think back to how many times you walked, rode your bicycle, and drove your car past this building, imagining what it would be like to look out of it. Now you have a uniform, a key to the firehouse, and even a helmet with your name on the back. You look forward to embracing the customs, culture, and traditions of the fire service. You are eager to learn everything you can, ultimately winning the trust of your fellow members and officers. It simply doesn't get any better than this.

1. Do you consider the fact that you could be seriously injured or even killed?
2. Is it possible for traditions and safety to coexist?
3. How flexible is your organization to change?

INITIATIVE 1

Define and advocate the need for a cultural change within the fire service relating to safety, incorporating leadership, management, supervision, accountability, and personal responsibility.

Introduction

For the past 200 years, the United States has gone through several significant changes. Time has proven that adapting to circumstances is both normal and vital to our existence. From the Boston Tea Party to the Great Depression, uncertainty has always given way to progress. The present generation is no exception. On September 11, 2001, we watched an attack that would change life forever. It moved terrorism from the six o'clock news to our front windshield, putting emergency responders on the front line and at a heightened risk. News reports of active shooter incidents and bombings consistently show violent scenes with emergency apparatus and personnel in unsafe areas, and this affects the way we do our jobs. Fire and emergency services have no choice but to evolve with the rest of the country.

Emergency Services Change

A change that is currently under way in fire and emergency services is the change to a **safety culture**. Partially due to the threats to responders from violent events and terrorism, coupled with the statistics of our **line-of-duty deaths (LODDs)**, a change is imminent. For the purposes of this book, **culture** can be described as the values, customs, and traditions of a group of people or an organization. A change to a safety culture does not necessarily *abandon* those values but instead *incorporates* safety into our customs. Other industries have proven that advocating a change for safety has not disrupted their operations or put them out of business; rather, a safety culture allows them to do their job more safely. The change involves weaving the theories of **risk management** into everything we do. As with all change, there is resistance. Fire and emergency services have long attempted to maintain a balance between being progressive and remaining traditional. We are a passionate profession with a rich history and generally do not embrace change. When change does come, it is usually a slow and arduous process. Although it's human nature to resist change, some fire fighters tend to excel in resisting change. This stress is apparent as soon as a new theory on firefighting emerges or a new piece of equipment is introduced.

Take simultaneous **positive-pressure ventilation (PPV)** during a fire attack, for example. Some experts believe that a well-orchestrated structural fire attack, using fans in tandem with hoselines to reduce the loss of life and property, can take place both safely and efficiently. By creating an increased pressure of fresh air at the point of the attack, interior floor-level temperatures and poisonous gas concentrations can be reduced, giving trapped victims a better chance of survival. Smoke and heat are cleared to the seat of the fire, allowing for a quicker search and attack on the fire while forcing a vent on the other side. Besides increasing safety, the odds of a successful attack can be

improved when fighting fires in which natural ventilation disrupts firefighting efforts, such as in basement or wind-driven fires.

Other fire fighters feel PPV on attack is a dangerous practice because it creates unsafe situations that threaten the building, the safety of occupants, and fire fighters. PPV not only adds oxygen to the fire, increasing its intensity, but it also could force the fire into concealed spaces or adjacent areas that it might not normally spread to, such as closets or soffits. In addition, natural fire spread patterns are accelerated into areas such as attics or other exposures. With construction materials and methods used today already speeding up the fire, our goal should be to slow the spread of fire rather than to increase it. It's hard to believe that creating a "wind-driven fire" is a useful tactic. Unfortunate victims in remote areas located between the fire and vent point are exposed to lethal concentrations of poisonous gases and increased heat conditions that make a rescue highly unlikely.

This debate has excellent points on both sides, made by very intelligent fire fighters and officers. It's also fair to say that because gas-powered fans were not readily available 30 years ago, it's a fairly new debate and one that is sure to continue for years to come. Is one side right and one wrong? As in most debates, the answer lies somewhere in the middle. Many fire fighters believe that a positive pressure on attack can be incredibly effective under the right conditions. These would include:

- knowing the location of the fire;
- having an attack team ready;
- establishing a water supply; and
- having a safe external vent point adjacent to the seat of the fire.

But if you miss one component, you may burn the structure to the ground.

This example is one of the most common change models in a fire department. It does not necessarily begin with the fire chief but often originates lower in the ranks. It starts with a belief in a new concept and a desire to add it to the fire fighter's arsenal. It involves research, debate, and, ultimately, a decision by administration to change. Some embrace it as forward thinking, whereas others continue to resist. Hopefully, the department continues to train hard, make sound decisions on the subject, and adjust its procedures to be successful. As victories mount with the new tactic, dissention dissolves. Time eventually heals wounds, and retirements take care of the rest. As new fire fighters join, it's as though the tactic was there forever. Change has taken place.

Types of Change

Change has commonly been considered either **reactive** or **proactive**. When changes are made in response to a past event, they are considered reactive. Reactive change is a common and ordinary approach for emergency response organizations. Many times, this change occurs with the addition of a new rule, guideline, or procedure as the result of something negative that occurred. Proactive changes attempt to prevent a future event that is expected. More recently, discussions about change have introduced the idea of being **predictive**. Predictive changes take proactivity one step further by attempting to forecast what could possibly happen. Many times, this is based on hypothetical situations using current practices and systems. Society is generally reactive regarding safety issues. For instance, take a small town that consists of two state routes intersecting in the center. Although the speed limit on both roads is 55 mph, one road has stop signs. Over the years, traffic has increased, and so have serious crashes. Local officials complain to the state about the safety of the intersection, and the speed limit is reduced to 40 mph in the town center. After two teenagers are killed one spring, the state adds flashing red lights to help draw attention to the stop signs. People continue to complain and ask for a stoplight. Several years and another fatality later, a stoplight is finally installed.

It is not uncommon for safety improvements to come at a cost, especially when tax dollars are at work. Department of Transportation (DOT) officials simply cannot afford to install stoplights at every intersection in the state. They are forced to use **data** in their ranking of which intersections most need the improvements. In this case, "data," unfortunately, is lives. Although we might jump to the conclusion that it's just a governmental tactic, this reactive approach is more of a human trait.

Say you assist at a motorcycle crash in a remote area. A 15-year-old boy who was not wearing a helmet was involved in a dirt bike crash and received a serious head injury. Would you expect the parents to order his younger brother to wear a helmet when riding in the future or maybe even sell the dirt bike? It's obvious that the parents would institute *reactive* rules and force change on his siblings, possibly reducing the severity of any future injuries to members of the family. The question is: why don't all families have *proactive* helmet rules before a debilitating injury causes a change? One big reason is because human nature says "it won't happen to me." It could be that the general public is not convinced that wearing a helmet really makes that much of a difference. Some might feel it's a free country, and parents need to decide what is best

for their children. Depending on media coverage and the political climate following an incident like this, the government may intervene and pass laws that would mandate the use of helmets off-road for children younger than age 18. Citing public safety as the reason, an enforceable change would be instituted. A change in the law actually moves the issue from reactive to proactive.

A proactive approach foresees risk and takes steps to minimize it. A great example of a proactive approach to safety is an insurance agency. Take homeowners insurance, for example. When a new home is built, many factors go into insurance rates. Besides the value of the home and where it is located, sometimes inspections are done. If an inspector finds safety violations, such as stairways without railings or an uneven sidewalk, the insurer may not insure the home or may increase rates accordingly. Sometimes environmental studies are completed for underground fuel tanks or verifications that there are no potentially violent breeds of dogs on the premises. Some life insurance policies require the insured to sign papers confirming that he or she will not partake in any potentially risky recreational activities such as sky diving or auto racing. Insurance companies gamble on risk every day, so a proactive stance is the only way to do business.

Predictive change has become much more common in recent years, especially in the field of emergency management. Planning for a potential terrorist attack, severe weather events, or **active shooter hostile event responses (ASHERs)** has become much more common for fire and emergency services personnel. Jurisdictions that have concerts, festivals, and other public events find themselves developing comprehensive **incident action plans (IAPs)** for fire protection, emergency medical services, and security. Many of these plans include redundancies not commonly used before such as mass casualty patient flow paths, backup helicopter landing zones, and moveable street barriers. Predicting "what could possibly happen" takes the proactive stance one step further.

We would like to think that since we are in the risk management business and work in emergency situations daily, fire and emergency responders would be generally proactive **FIGURE 1-1**. It is true that we wear steel-toed boots with our structural fighting gear to prevent smashed feet, and we wear hoods to protect our necks in fires. We stripe brightly colored **chevrons** on the rear of our apparatus and wear high-visibility vests or jackets on highways to make ourselves easier to see. In fact, we tend to be quite proactive when necessary. National Fire Protection Association (NFPA) standards and DOT guidelines require us to follow certain rules and use specific safety equipment.

FIGURE 1-1 Fire and emergency services many times lag behind industry when it comes to a safety culture.

However, policies and equipment that are not mandatory are sometimes ignored. In effect, we are not much better than the kid who has to wear a helmet on a dirt bike because it's the law. Many times we electively change procedures as a result of an injury or death. Using fire fighter fatality reports from the National Institute for Occupational Safety and Health (NIOSH) is a great way to forecast the next fatality, but it is still initially reactive in nature. Our primary goal in creating a safer work environment should be to forecast what *could* happen as opposed to responding to what *did* happen. Steps should then be taken to actively prevent the possible negative outcome from ever happening. Additionally, most changes should be industry-wide as opposed to local. It is not a very proactive "brotherhood" if fire fighters 400 miles away do not get the message. But are completely proactive approaches to safety even possible?

SAFETY

NFPA 1500 endorses the creation and utilization of a Safety Committee to evaluate potential risks in a department. By identifying threats to safety, solutions can be adopted that may prevent an injury or death.

Changes for Safety

Many high-risk industries use a near-total proactive approach to safety. Take, for instance, tunnel construction. Making a mistake in this type of work has

the potential for catastrophic failure that results in death, but it is also capable of creating immediate financial ruin. For hundreds of years, a 30-mile-long tunnel burrowed under the English Channel between France and England was just a dream. The English Channel is a commonly traveled inlet of the Atlantic Ocean that has some of the fiercest storms of any body of water. Gale-force winds, high waves, and dense fog have caused numerous maritime disasters. The first proposal for a tunnel came in 1751, with many more after that. The early plans addressed engineering obstacles as well as safety concerns ranging from collapse and flooding to lack of oxygen. Even with obvious improvements in equipment and design, tunneling under part of the ocean was still a serious undertaking in 1987. The potential for a leak, which would result in near-instantaneous flooding of pressurized water that would kill any workers in the path and destroy work already completed, was always present.

Unique to the project was the fact that the French and English governments did not finance the construction. Investors, in the form of 220 banks from around the world, carried the note to the tune of $9 billion. Because of their investment and potential loss, the financial institutions insisted on perfection in construction and safety. Tunneling for each of the three tunnels began from both sides, using specially designed lasers to keep them on course. This required the two crews to meet in the middle with little room for error. The workers knew that if the two boring machines were 30 feet off in any direction, it would be disastrous because the boring machines were unable to back up and the ability to fix the mistake was questionable. In fact, the machines were actually designed to be gutted of all components when they met in the middle, and their shells were left permanently as part of the tunnel wall. The safety and construction plans were evaluated and reevaluated to ensure that no mistakes were made. This proactive approach from the start ensured that the boring machines would meet head-on more than 200 feet below the Atlantic Ocean, not once but three separate times, without a leak.

The biggest difference between emergency scene operations and tunneling under the English Channel is time. When an emergency occurs, responders do not have years to lay out an effective incident action plan (IAP) with zero tolerance for injuries or mistakes. There will always be hasty decisions with limited information under stressful situations. Individually, any of these three components could spell disaster. Therefore, in order to accomplish a proactive safety initiative, we must continually evaluate standard procedures for emergencies while we eliminate nonemergency mistakes. If 100 percent of fire fighter injuries and deaths were a direct result of **dynamic** emergency scene effects, it might be more difficult to execute a proactive stance. However, we know that most of our injuries and deaths occur in foreseeable situations on emergency scenes and preventable causes during nonemergency activities. By continuing to update SOPs, we create templates that include the risk–benefit in all decisions. These proactive changes for the fire service as a whole can prevent many of the dynamic scene injuries that we have not even seen before. Although proactive safety initiatives will never be 100 percent effective in eliminating injuries and LODDs, we could see a reduction in their incidence.

Reasons for Change

Generally speaking, change in the fire service occurs for two different reasons. The first is because change is desired, such as the PPV on attack, for example. The desire to change can be critical—as a result of a problem, an injury, or a death—or it can happen for no particular reason, such as a desire to create a new department patch or paint scheme. In either case, it's a result of the basic human desire to become better at what we do acting as the catalyst. Perhaps we go to a class or watch a video online. Maybe it's a result of reading an article or a book that perks our interest or studying a job-related injury or LODD report that makes us rethink our procedures. A desired change has a good chance of being implemented because it involves passion: if the member who is the instrument of change has access to powerful tools such as motivation and leadership, others will want to jump on board.

The second reason change takes place in the fire service is because it is obligatory. Whether laws have been enacted that affect our job or orders come down from the fire chief, we have no choice but to institute the change. We can choose to fight the change or do our best to implement it as painlessly as possible, but the fact is that it must take place. This type of change tends to encourage the most resistance, but the atmosphere is ultimately controlled by leadership. Accountability in situations such as this is covered in depth in the chapter *Enhancing Accountability*. An example of this type of change would be the federal law that was passed in 2008 regarding high-visibility clothing in the right-of-way of federally funded highways. The new law specifically identified fire fighters and emergency medical services (EMS) workers in regards to their apparel. The law cites American National Standards Institute (ANSI) II as being the minimum visibility, which at the time neither normal firefighting nor EMS squad coats met. The only responders exempt from

FIGURE 1-2 Some safety changes are mandated by governmental agencies.

wearing high-visibility coats or vests are fire fighters actively involved in firefighting or hazardous materials (Hazmat) operations. Although it's not perfectly clear, a good rule of thumb is if you do not have an airpack on, you probably should be wearing a vest **FIGURE 1-2**. This mandatory change was surely not embraced by all organizations, and some may still not have the required protective gear. The cultural change under way in the fire service is a combination of both reasons above. Not only is the fire service attempting to reduce LODDs with the 16 initiatives, but also evolving NFPA standards and increasing legal liabilities are making more and more changes prudent.

Leadership During Change

Periods of change are a time for management to shine, but sometimes leaders instead ignore the opportunity. Although there is usually resistance to change, some will accept it—in fact, the ability to embrace change is one aspect of an effective leader. One reason is because leaders are in a position to either make a change successful or stomp it flat. If leaders do take on the challenge and support the change, it becomes a reality much faster. As change is successful, other members will find it exciting and motivating; however, a manager's history with change becomes an issue to employees who were part of the manager's past failures. Trust is an issue that follows leaders throughout their career. A lack of trust can lead to a fear of hidden agendas or questions about how committed the manager is to the change. If subordinates get the feel that the change is just the "flavor of the month," there likely will not be much support for it. On the other hand, if they get the impression that the change is here to stay, they are likely to make it work.

Many emergency responders have a goal of being promoted within their organization. Although change will be an obvious component of evolving job titles and responsibilities, the ability to accept change can also improve the chances of being promoted. Organizations value hard-working members who take on additional education, training, and responsibilities. All of these require the individual to embrace change. Members who prove they can function as a *change leader* by furthering themselves—and ultimately the organization—will be of great value.

Managing Change

Initiative 1 calls for the incorporation of leadership, management, and supervision in adopting a safety culture. The National Fire Academy (NFA) curriculum for Managing in a Changing Environment sees leadership during times of change as an opportunity to grow (FEMA, USA, NFA MCE-IG 1995). It further describes the four main causes for change, each with unique challenges and opportunities for leaders. These causes include economic, social, political, and technological impacts.

Economic Impacts

At no time in the history of the fire service have economic impacts been so evident. The steady strides gained in equipment and manpower since the Great Depression recently ground to a screeching halt, with many fire departments and EMS agencies back where they were 20 years ago. Finances affect fire and emergency services because income is a direct result of how well business, industry, and families are doing. If income is lost or homes are foreclosed on, personal budgets take a hit. Because of the economic delay of taxes, there is usually a warning of impending financial reductions. At the time someone loses his or her job or home, most governments are still using tax money collected during the previous year. Leaders who see the crisis coming can reduce their financial obligations in anticipation. The economic delay also means that agencies will not recover until a year or two after everyone else recovers.

Social Impacts

Society has an impact on responding organizations based on the types of neighborhoods they serve. Longer driveways mean more hose, taller buildings mean taller ladders, and barricaded districts mean more forcible entry tools. Some departments need to truck

in their water, whereas some need to wait for the police (Initiative 12). Other social impacts affect us inside our organization. Hiring practices, in response to federal laws, and cultural diversity affect the makeup of the personnel. There is a constant rise in the educational levels of new hires, with many already having degrees. This, along with differences in age, leads to generational differences between members, which have the potential to raise personnel issues.

Political Impacts

Decisions by governing bodies affect us in many ways. Local politicians drive what we do and what we do it with. New laws and standards influence how we do it. Funding at state and national levels can change with political agendas, many times trickling down to emergency service budgets. Some organizations have great relationships with their political leaders, and others seem to have continuous problems. Unfortunately, the political climate can change any time elections take place.

Technological Impacts

With new technology coming out constantly, it presents continuous changes in emergency services. Many times, this equipment can improve safety on the fireground (Initiative 8). New technology is also unique in that it encourages new rules and standards for equipment. Equipment not available 20 years ago, such as thermal imagers, handheld electronic devices, drones, and automated external defibrillators (AEDs), is standard now, which in turn requires the expenditure of more money.

Resistance to Change

Human beings have a natural inclination to resist change, so one of the most crucial components of effective leadership is anticipating and reacting to that resistance. First of all, change takes energy. Isaac Newton's first law of motion states that an object in motion tends to stay in motion unless acted on by an outside force. It's pretty easy to get in the rut of "that's what we've always done" and act out this theory. Take, for instance, a lieutenant who is newly appointed to a busy truck company. In his first month, he spends much of his time learning his new equipment, response area, and crew. He notes that Antonio, his normal "irons" man, keeps the irons at his feet in the jump seat. When asked about it, Antonio responds that it's a way of saving a couple seconds when he gets a "work" (or working fire) so he can force a door before the engine company needs it. The lieutenant asks what would happen if the apparatus was in a wreck and whether Antonio was worried about it becoming a missile. Antonio insists that it's been on the floor as long as he's been there and that he holds it down with his feet. He adds that lots of other guys do it and that they learned how to do it in the academy. If the lieutenant sees it as a dangerous action and wants to make a change, he's bound to run into resistance with his new shift as well as the other shifts. Sometimes fire fighters find it easier to overlook a "bad habit" rather than try to change it.

Resistance to change sometimes surfaces as a bad habit. Bad habits are commonplace in all occupations, and emergency responders are no exception. Some don't create much of a safety issue, but others are "an accident waiting to happen." Consider if you moved to a rural area and joined the volunteer fire department. Although they are not very busy, you figure they seem like a pretty nice group of people, it's fulfilling a community service desire that is important to you, and every once in a while they get an exciting call. You notice that they are relatively well trained, but when there is an emergency call it turns into a race to drive the fire trucks. In fact, some who miss the driver's seat on the first rig out run to the second out and take that driver's seat. It's not uncommon for all six apparatus in the station to roll with only one or two people in each. Later-arriving members are forced to drive their personally owned vehicles directly to the call, which creates mayhem at the scene. Somehow over time, the members have been seasoned to think that the emergency is better handled by a rapid response with more vehicles and less manpower. The culture of the department appears to hold emergency vehicle drivers in a higher esteem, creating a greater desire to drive. Drivers tell stories back at the station of their "fastest" response times and driving abilities that defy physics. It's clear that the bad habits some members have with driving have become deeply rooted in the culture of the membership.

SAFETY

Take a minute to examine your emergency service organization and identify what you perceive as a potentially dangerous bad habit. It does not have be unsecured tools or reckless driving, but rather anything that has the ability to cause an injury or death. Now create a list of what solutions might change that habit, and consider ways to make a change.

Unfortunately, bad driving habits will take commitment and time to change. After identifying and eliminating the stimulus of driving recklessly—in this case, esteem—alternative benefits with positive outcomes must be introduced. Solutions might include driver's training classes that emphasize skill levels in maneuverability rather than speed or even a competition for the best (not the fastest) driver. The class could cover emergency vehicle accidents and their **investigations**, causes, and prevention. Drivers could be required to take the training and pass a test to be "certified" to drive. Likewise, there could be classes on pump operations that would require drivers to be proficient at basic fire hydraulics in order to operate the vehicle. Other training classes could include fire attack jobs based on seat positions. By making the officer in charge (OIC) and jump seat positions more interesting, some might prefer them over driving. A push around the firehouse to promote stories of the fire fighters who drive the safest or the fire fighters "making a good stop" can also be beneficial. Finally, a stance by the chief that unsafe behavior will not be tolerated should take care of anyone else who does not learn the importance of this.

Historically, fire fighters are no stranger to change—it's just that some departments are a little better at it than others. Chief Brunacini claimed that his Phoenix fire fighters had been eating change for breakfast for a long time (Brunacini 1996). With all of their theories on the fireground command system, they went through as much experimentation and change as any department anywhere. In fact, open up any book on the history of firefighting and take a good look at a fire scene. What do you think fire fighters thought of replacing horses with motorized apparatus when that change happened? What about the introduction of those "leather lungs"—were they happy to start using them instead of breathing through a wet beard? Speaking of beards, you can just imagine how happy they were when they were told they had to shave them off. The fact is change has always been a part of the fire service but usually has not been embraced. However, history also proves that when change has been better for operations, service, or safety, it almost always prevails.

So, why do we resist change? Type it into any search engine on the Internet, and you will find plenty of explanations. Besides the fact that we are wired to remain skeptical and resist change, we tend to fight change for several other reasons. For instance, say that your battalion chief has just issued an order that all first-arriving officers on his shift will conduct a 360-degree view of a fire building to see all four sides prior to commencing an attack **FIGURE 1-3**. His reasoning is that many

FIGURE 1-3 Many fire departments now require the completion of a 360-degree view of a structure during size-up.

LODDs were a result of not getting a good look at the building or fire progression. You may resist the change because of the following:

- **There's no need for the change.** *"The 360 is not vital to initial operations and can be done by a later-arriving officer."*
- **Loss of control.** *"He doesn't trust me to make good decisions, so he keeps me busy until he gets there to give orders."*
- **Closed mind.** *"It's a waste of time. Should I just tell the victim in the window to wait, that my boss wants me to lap the house first?"*
- **Not wanting to learn.** *"I've been fighting fires since the BC was in KG, and now he wants to 'teach' me how to fight a fire."*
- **Connection with the old way and people who did it that way.** *"Lt. Edmond never did a 360, and he never had an issue with it."*
- **No role models for the new way.** *"Why aren't the other shifts doing it? The same reason nobody in the country is doing it!"*
- **It's too overwhelming to change.** *"It's just one more thing I have to do during the busiest period in a structure fire's timeline."*
- **Bad experiences.** *"It's just the flavor of the month and won't last. Remember last year when he had us take search rope with us every time we wore an airpack?"*

Fire fighters in particular are very passionate about their profession and therefore are not easily convinced of something new. Part of this could be because they respect those who have come before and feel a strong tie to tradition. For instance, European fire fighters

FIGURE 1-4 European-style firefighting helmets have many safety features built into them, yet stray from the traditional American style.

wear helmets with their turnout gear that are reportedly lighter, recess the shield, and offer more protection than some traditional helmets. On safety alone, there is a good reason to consider a change **FIGURE 1-4**. But most fire fighters take one look at them and scream. The traditional American fire helmet has a unique shape that was designed a long time ago to keep hot embers from falling into the collar of a canvas or rubber coat. With the protective ensemble used today, the rear brim is more traditional than practical. A national change to the European-style helmet would be one of the most difficult changes in the history of the fire service. As long as traditional helmets can meet the safety standards required, it's a change we probably won't ever make.

Other reasons to resist change could be ego- or personality-driven. An officer might not want to try something new for fear of failing or because he or she feels that the risk of change outweighs the risk of doing nothing. Sometimes there is a lack of trust between a supervisor and the employee being asked to change. This can lead to a fear of hidden agendas. A supervisor can reduce the risk of resistance due to personalities by identifying potential issues ahead of time and communicating the change and its intentions. The employee with concerns should be able to voice an opinion but must ultimately make a conscious effort to adopt the change. Although resistance to change must be anticipated, progressive personnel and organizations must always be on the lookout for opportunities.

Opportunities for Change

Retired Chief Dennis Compton of the Mesa, Arizona, Fire Department described changes in the fire service as "waves" (Compton 2002). He explained that every 10 years or so, the fire service is exposed to a new wave. When the wave comes, a department can either get up on the board and ride the wave or let it pass. Whether a department chooses to ride it has to do with the ability to see opportunities and a desire to improve. If an organization misses the wave, it's not uncommon to see it work twice as hard later to catch up with everyone else. For instance, in the 1970s, the wave was EMS. Some fire departments saw an opportunity to improve their service to the community, create jobs, and assign a better value to their service. EMS was a good fit for many fire departments, whether they simply provided first responder assistance or ran advanced life support (ALS) transports. EMS billing brought in income without additional taxes, which made the department more valuable. Some fire departments that fought off EMS like a terminal disease are now at least partially involved in medical responses. What follows are other perceived waves in which the fire service has been involved.

- 1980s—Hazardous materials response
- 1990s—Technical rescue, public education
- 2000s—Terrorism, safety initiatives
- 2010s—Budget cuts, active shooters
- 2020s—ASHER planning, safety culture

Although we may not know what the next wave will be, it's up to progressive fire fighters to identify and embrace it. The one thing for sure is that changes will continue to come, and those who can react to and accommodate the change will be the most successful. Many believe the future includes becoming more involved in prevention activities, such as home inspections. When residential sprinklers become more commonplace (Initiative 15), fire departments could become more involved in new construction inspections. With terrorism and natural disasters an ever-present danger, we could see an increase in regional planning and disaster training. It could be that, in the future, we expand the amount of medical services provided to a victim, such as sutures or X-rays, or assist in mass immunizations. Many emergency management, police, fire, and EMS organizations were heavily involved in the H1N1 virus immunizations in 2009. The experience in medical response and handling of large volumes of people greatly benefited health departments.

Businesses have long been involved in disaster mitigation and business continuity plans. Whether they sustain a natural disaster such as fire or flood, a human disaster such as a disease, a bomb threat or hostage situation, or even a technological disaster such as a power outage or widespread computer virus, many

want to have a plan. Investors and customers want to be assured of **sustainability** in the event that the unthinkable happens. Fire and emergency services are equipped to provide the leadership necessary if there is a need in the community and a desire in the organization. The National Fire Protection Agency (NFPA) recognized this ability and released NFPA 3000, Active Shooter/Hostile Event Response (ASHER) standard, to assist in planning for a local event. Sometimes we do not have a choice but to be involved in the change. Some industries have allowed changes in society to alter their business model. For example, the Internet has changed the way many consumers purchase goods. When the Internet began to take hold in the mid-1990s, many retail businesses refused to ride the wave. They saw Internet sales only as competition to their bottom line and continued to rely on phone books and local advertising to bring in business. Others saw it as a way to make additional sales and to reach more customers. They built websites to advertise their products, providing prices, specials, and even maps to the store. Email addresses were made available for customers to ask questions anytime, virtually eliminating store hours. Some even offered secure checkouts so purchases could safely be made online and shipped or held at a local store for pickup. Some small package shippers saw the change and made residential shipping easy for stores, even offering free pickup. Others created shipping calculators as a simple way to get an immediate quote on shipping and even allowed customers to pay online and print the bar code shipping labels directly from their printer. Like the fire service, many individuals who fought the wave are now struggling to catch up. Ironically, several of the stores that held on tight to the phone books found themselves no longer in business.

Once a new opportunity presents itself, the goal of any change process must be to succeed. We have already discussed how and why changes come about and the reasons for resistance to change. The inability to identify key players and sources of resistance is the most common cause of the failure of a change. Therefore, an important strategy is to create a team of individuals from different groups who have a common interest in the change **FIGURE 1-5**. It is important to pick members who are open-minded and who have the ability to lead. Do not mistake this for a group of "yes men." It is important to bring different opinions to the table, but they must be able to leave with a plan. This group must be able to take the plan back to the members and communicate the purpose and advantages of the change along with a timeline for implementation. They must collect any concerns and complaints that arise and bring them back to the group for discussion. The plan must be continually evaluated and adjusted as needed throughout the implementation period.

FIGURE 1-5 Selecting team members with diverse opinions and knowledge but who have a common interest is one of the most important aspects of developing a plan for change.

In an effort to initiate a change for safety in the fire service, the **Everyone Goes Home (EGH)** campaign took a similar team approach by holding life safety summits in 2004 and 2007. Invitees included those from the fire service and industry, some identified through their involvement in the **National Fallen Firefighters Foundation (NFFF)** and the NFA. After identifying concerns about safety and creating the initiatives, they developed a training program to build a workforce of advocates to spread the message around the country. Advocates visit fire stations and present the 16 life safety initiatives to fire fighters and officers on a local basis. Fire departments are then supported in their quest to implement the safety improvements through online resources.

Safety Culture

The goal of adopting a safety culture in fire and emergency services is a daunting yet essential task. In order to define a safety culture, we first have to examine the causes of injuries and death. Emergency responder injuries can be caused by mechanical failure (a rope breaking), human failure (overloading the rope), or an organizational failure (not inspecting or replacing the rope). Organizational failures are always a result of not having a safety culture. There are many informal definitions of safety culture, but it is probably best described in a technical report prepared in 2002 for the **Federal Aviation Administration (FAA)** (Wiegmann

et al. 2002). Researchers identified the presence of a safety culture when the following were in place:

- **Organizational commitment.** Management must view safety as a core value or guiding principle. It must actively support and reevaluate safety through training, equipment, financial support, and policies (Initiatives 5, 8, 10, 11, 12, and 16).
- **Management involvement.** Management must be involved in safety seminars, training, and research (Initiatives 5 and 7). Encouraging new programs that increase safety should always be considered (Initiatives 14 and 15). This includes presence as well as contributions to safety efforts (Initiative 1).
- **Employee empowerment.** Employees are "the last line of defense" for errors that can cause injuries. As a result, they need to be physically and mentally capable of performing their duties (Initiatives 6 and 13). Additionally, they must be involved in safety decisions and empowered to stop unsafe acts (Initiative 4).
- **Reward systems.** Reward systems must be in place for safe practices, while punishment is reserved for unsafe acts as opposed to mistakes (Initiative 1).
- **Reporting systems.** Employees must be able to report safe and unsafe practices with no fear of discipline (Initiatives 2 and 4). This is a vital component of a safety culture when attempting to identify risks and prevent injuries (Initiative 3). Recommendations also include near-miss reporting (Initiative 9).

This recipe for creating a safety culture is as applicable to fire and emergency services now as it was for the FAA when it was written. In effect, maintaining a safety culture is evidenced by management's commitment to embrace safety procedures and employees' commitment to safe practices even when nobody is watching. A fire department that truly buys into a safety culture includes it in its mission or vision statement and makes it clear through policies, training, and actions that fire fighter safety is the first priority. Rewards are reserved for heroic actions when making a rescue attempt as safely as possible under the circumstances. In other words, risk management is applied to all emergencies, ensuring that if a fire fighter dies in the line of duty, it was part of a calculated risk in an effort to save a life (Initiative 3). It's also important to remember that the change to a safety culture takes time, often involving a process that takes several years.

FIGURE 1-6 Integrating prevention, control measures, and actions to adopt a safety culture takes a significant commitment by an organization.
Courtesy of AC Matt Roosa, Mantua Shalersville Fire District, OH.

Fire and emergency services are not alone in this endeavor. Many other dangerous occupations, such as steel workers in the construction industry, are actively pursuing a safety culture. Rather than believing that a safety culture specifically eliminates a hazard, such as an iron worker falling from a building or fire fighters falling through a floor, the National Construction Agenda for Occupational Safety and Health establishes broad beliefs that "prevention, control measures, and action" are three specific ways to use a safety culture to counter hazards (National Occupational Research Agenda [NORA] 2008). If we apply their belief, fire fighters have a lesser chance of falling through the floor if *prevention* (training, preplans, and residential sprinklers), *control measures* (policies and procedures), and *action* (size-up, 360s, and situational awareness) are standard procedures at all structural fires **FIGURE 1-6**. To create a safety culture, we need to utilize all the tools and experience we have gained over the years and implement them into every function we participate in.

The Evolution to Safety

Did you ever wonder why discussions regarding firefighting safety are often compared to the airline industry? Besides the fact that both are high-risk professions, they also have the potential for large losses of life based on human decisions, and many times both professions must work with incomplete or inaccurate information. However, the biggest reason why firefighting should be compared with the airline industry could be that it identified a lack of a safety culture and actually evolved into one. It has a solid track record

with change and in the past 30 years has rewritten the manual based on safety procedures. There are more lessons for emergency responders to learn from the airlines than any other industry, primarily due to their adoption of **crew resource management (CRM)**. The chapter *Eliminating Unsafe Acts* explores the concept of CRM, a program that has had an enormous impact on reducing incidents.

On a flight to complete a final inspection on a new piece of fire apparatus, a couple of fire fighters and their salesman left Chicago O'Hare on Flight 6019 heading west. As the airplane gained altitude, it suddenly leveled off and took a hard 180-degree right turn. One fire fighter turned to the salesman and said, "Either our pilot just figured out we were heading east, or we've got troubles." It did not take long for the captain to get on the intercom and apologize that there was a little problem that did not involve passenger safety but warranted a return to the airport and a change of planes. When the plane landed, there was no fire, no crash, not even a response by the airport fire department (much to the dismay of the salesman who sold some of the aircraft rescue and firefighting [ARFF] equipment). What was it that was enough of an emergency to make the pilot turn around but not enough to create an emergency response or standby? The fact is returning to the airport was expensive. Besides the cost of extra fuel, scrambling to get another plane ready, getting an open terminal, and changing flight plans at one of the busiest airports in the country, the decision made a lot of customers unhappy. If there were connecting flights, the airline had to accommodate those people, possibly covering meals and hotel costs. One thing for sure is the airline made no money that night.

Whatever the cause, probably a warning light or gauge reading outside normal limits, it was treated as a true emergency that required immediate attention. Twenty years ago, that airplane probably would have continued west and probably would have landed at its destination without any problem. Compare that with an engine company that is responding first due to a reported garage fire. The vehicle pulls out of the station with the low air alarm buzzing, but it slowly builds enough pressure to release the brakes and turn the alarm off. Now, only a half-mile out and a header visible in the sky, the air alarm goes off again telling them there is a probable leak. The gauge reads 50 psi. Do they call dispatch and cancel the response?

A cultural change for safety in the airline industry shifted its primary goal of delivering passengers and turning a profit to delivering passengers safely 100 percent of the time and turning a profit. Because their safety culture was initiated, commercial airline crashes have continued to drop, with only 10 fatal crashes worldwide in 2017. (Aviation Safety Network ASN 2017)

Tips for Creating Change

In order to successfully institute a change, there are many components that help make it work. It is possible to create a cultural change for health and safety in every emergency services department. Just as each airline instituted changes in their thinking, we can as well. Some tips we can borrow on a department level are noted below.

Take It for What It Is

If the alarm says there is a problem, believe it. Safety devices are on equipment for a reason and should not be circumvented or disabled. If the mechanic cannot fix it, find someone who can. If a specific safety device is inoperable and a suitable replacement is available, use it. For instance, a vehicle found to have a broken backup alarm can be used safely by having a backer every time reverse is used until it is fixed. If a suitable replacement is not available, park it. An antilock braking system (ABS) warning light that suddenly comes on is pretty hard to diagnose while responding to an alarm and passing cars left of center. It has a best-case potential of being a faulty sensor and a worst-case potential of resulting in a fiery crash. A safety culture says the gamble is not worth it; let second due handle the alarm and you call for a tow.

Make It a Line-Level Effort

Besides the fact that those toward the bottom of the chain of command are the ones who actually change their behavior, many times they know how to make the transition smoothly and successfully. They can see the benefits of making it happen and are most likely to be unhappy with the current situation. They are also the ones with the highest rates of injuries and death. Although safety cultures require management involvement, a conscious decision to implement safety can be achieved at any level and many times without anyone else even knowing. In fact, the fire chief is not even involved in most decisions that affect fire fighter safety on a daily basis **FIGURE 1-7**.

Communicate the Issues

Communicating safety concerns and near-misses is an excellent way to start the process. Rather than allow the conversation to turn toward how management allows unsafe practices or will not dedicate the resources

FIGURE 1-7 It does not take an organizational commitment to begin the adoption process of a safety culture.

to safety, honestly evaluate the things that can be changed. Once change begins to take place, ensure that everyone knows the intent of the plan. The worst thing an organization can do is to fail to communicate change among all members. Change makes some people nervous, causing them to jump to conclusions. Rumors can get out of hand and can prevent participants from making an informed decision on their own. As a change is taking place, progress has to be communicated along with potential problems or oversights.

Make It Easy

The change has the best chance of success if it requires minimal effort. If it is a big change, investigate any other options that may improve its chances of success. For example, one shift decides that they are going to make a conscious decision to eat healthy for the next month, following strict health guidelines. Discussions prove that there are many different opinions by the members of exactly how strict it should be. A simple survey may show that if the strict plan is enacted, there will only be 65 percent involvement. By loosening the plan slightly, it may jump to 90 percent participation. Mathematically, the fat intake of the shift is reduced by simply allowing a little fat in the diet. If the change is going to require a significant amount of effort, participants must be warned of what is involved. It should be manageable and made as painless as possible. Hurdles should be identified and targeted ahead of time so they are not a surprise.

Break It Down

It has been said there is only one way to eat an elephant: one bite at a time. Try to break down the change into easy steps. A mandatory change to add cardiovascular training to the daily routine would not be well received by members who are out of shape and have a sedentary lifestyle outside of work. Some of the baby steps could involve more walking on shift during preplans or low-impact sports between emergency calls. If the shift occasionally gets together on days off, they could golf nine holes one day without a cart. Whatever the goal, any fitness program should be presented in phases.

Bosses on Board

The last way to improve the chances of a successful change is for supervisors to jump on board. If a department decides to start a wellness and fitness program, it boosts both morale and involvement if everyone is held to the same standards. Just like a chief wearing full turnout gear on a fire scene in the summer because everyone has to, a chief on a treadmill is a wonderful sight. It shows management's commitment to safety, with zero tolerance for not following policy. More importantly, it shows leadership during change.

Cultural Changes for Safety

Suppose you have just been assigned to an engine company that has a fairly long response time to a first-due industrial area. In fact, during rush hour on school days, it is common for at least one other company to beat you to your area. It has been subtly apparent for several years that companies either race or sandbag to the area based on dispatch information and even joke about it. As an engine operator, it has been made clear by your lieutenant that you are expected to be first in. You are surprised to find that each member does his or her part to make it happen, with a special "response procedure" specifically for that area. On dispatch, chauffeurs report directly to the engine without checking a map or donning gear. Fire fighters scramble to get into whatever gear they can before the engine starts moving. The lieutenant gears up en route while reading a map propped on the windshield. Although seat belts are normally worn by all members, they sometimes neglect them for emergency responses to this area. It's not uncommon for the engine to arrive with no one but you buckled.

One afternoon you are dispatched to a forklift on fire in a plant in this specific area. The crew assembles and responds quickly, as they normally do. You pause on the pad to close the bay door and the officer yells, "Go, go, go!" As you approach the school zone, he appears to be pushing you through traffic with little regard for safety. You do your best to weave at a brisk

pace while watching for pedestrians and not causing an accident. At one point, you are forced to lock up the brakes when a car pulls out of a gas station in front of you. The lieutenant curses and gestures to the driver. Despite the harrowing drive, you make it to the building just ahead of the second-in unit and pull to the rear, where black smoke is emitting from an open overhead door. A plant manager approaches your window and tells you everyone is out of the building, but a propane-powered forklift is on fire inside.

Your lieutenant gives an on-scene report and assigns duties to the fire fighters. You engage your pump and pull a section of large-diameter hose (LDH) to a hydrant nearby. You feel a burr on the aluminum coupling slice your finger and look down to see blood running down your hand. You then remember that you do not have any gear on, so you drop the line to don your gear before the captain arrives. By the time you gear up, you hear someone yelling and see that the crew is ready for water. It's then that you realize the portable radio you usually grab when exiting the cab is still in its holder. The line is charged and you climb back in the cab to get the radio. Now you return to the hydrant to make your connection.

SAFETY

Dangerous situations can occur when emergency responders are rushed. Although emergencies are time-sensitive, the urge to work at an unsafe pace must be inhibited by training and self-control. It is vital for all emergency responders to practice suppressing the desire to work faster and instead remain cognizant of what is happening around them.

The crew inside finds the forklift on fire and extinguishes it before the propane tank breaches. As they exit the building, one of the fire fighters approaches your engine and opens a pump panel discharge on his left hand. When you get to him, you notice a slight second-degree burn to the back of his hand. He tells you he apparently lost his glove at some point and received the minor burns when steam blasted back off the machine. You try to convince him to see EMS, but he refuses. When you get back to the station, you find the missing glove on the bay floor just outside the fire fighter's jump seat door.

What kind of culture exists in an organization such as this? It resulted in no LODD, but it is obvious that there are plenty of brush fires burning in the department. It's only a matter of time before someone is seriously injured or killed. The first step to creating a safety culture is to identify our current culture. By defining the existing culture, we can identify the attributes that we want to keep. It is pretty clear that our culture is one that fire fighters are very passionate about. It's a perception we have of ourselves and one of how the public sees us. As a result, most would hate to give up any of our assets. Some of those assets include the "brotherhood," the apparatus, the uniform, the fire station, the job, and the "hero."

The "Brotherhood" (Both Men and Women)

Whether it's the teamwork at a structure fire, loading supply hose back onto the pumper after the fire, washing the ladder truck at the station, or helping a member move into a new home, the picture is solidarity **FIGURE 1-8**. Lawyers and accountants might not get together away from the fire station, but we do.

The Apparatus

It does not matter if it's an engine, an ambulance, or an aerial ladder. They are always clean and usually red. They have lots of chrome and more lights than a Christmas tree. They are loud and fast and know every street in the town. They belong at the front of a parade. Children stare as we go by, and so do the adults. Most kids want to climb inside (and so do the adults).

The Uniform

From Class As at the funeral of a retired captain to duty pants and a department T-shirt when we are washing windows at the fire station, our uniform turns heads. Sometimes it is turnout gear or just a helmet and

FIGURE 1-8 It is difficult to find organizations that rely on teamwork more than fire and emergency services.

gloves rappelling down a rope. When we turn down the aisle of a grocery store pushing a shopping cart or when we pull up at a block party, we stand out from the shorts and the flip-flops. It's no secret who we are.

The Fire Station

It is a home like no other. The American flag is always flying, but sometimes only at half-mast. The fire trucks are always backed in, and they get washed every day. If the weather is nice, it happens out front in the driveway. It has a huge garage, a big kitchen, and lots of recliners. Paper towels serve as table linen, and concrete blocks are the walls. Kids are welcome to stop by, and so are dogs.

The Job

People know they can call us if an airplane crashes or if there is a snake on their porch. If they do not know whom to call, they call us. Everybody knows our phone number. We will not make fun of them or ask for a credit card number. We will get them the help they need and make things better. They need us, but we need them. They are our customers, but usually it's more than that.

The "Hero"

We will always be the hero. Whether we personally earn the title or not, we are what we represent. We do not get scared. Some people are aware we saved their life in the back of the ambulance or in the back of their apartment. Some will never know it or will blame us for things we did not do. Still, people look up to us because we go into buildings others run from. Some of us will pay the ultimate price.

The list goes on and on because we have a lot to be proud of—and a lot to hold onto. However, there is one thing that does not have to be part of our culture: we must reduce the number of our family members who pay that ultimate price needlessly. Although we know we will never eliminate LODDs, we know a cultural change for safety will make a huge difference in the number of funerals we go to. We put LODDs on a pedestal, which is exactly where they should be. But if we reduce the total number of deaths per year by eliminating the needless ones, it actually increases the value of the pedestals we have. The best way to honor those who gave their lives is to make sure it never happens again. This leads us to a question: Can effective firefighting tactics and improved safety go hand in hand? Can a high-risk organization adopt a safety culture? Once again, some investigation outside emergency services might shed some light on the debate.

Components of a Safety Culture

When the U.S. Navy began designing nuclear-powered vessels, such as aircraft carriers, in the Nimitz class, Admiral H. G. Rickover was forced to adopt a safety culture (Charles Jones, written correspondence). The world had little experience with nuclear power, and problems in the commercial reactor industry heightened public concern. In fact, trust of nuclear power was so low that Navy leaders insisted on perfection. A single reactor problem on any of more than 100 nuclear-powered ships would shut down the entire fleet, leaving questions about national security. Although it was a revolutionary theory in management, the adoption of a safety culture by the Navy's Nuclear Propulsion Program was effective in designing a safe nuclear-powered fleet that is still in operation today (Jones and American Nuclear Society 2003). Leaders instituted a safety culture based on three specific changes: no-fault management, supervisor responsibilities, and employee responsibilities.

No-Fault Management

The first step in creating a safety culture is to have no-fault management (NFM) for most issues. NFM is based on the principle that management is responsible for both the successes and the failures of the organization. Therefore, any failure of a worker or a system component belongs to management. If a failure of any kind is hidden from management in an effort to avoid discipline, it will cost the organization in the form of money, time, and maybe even lives **FIGURE 1-9**. Problems must be identified early without fear of repercussions. Rather than identifying and punishing the

FIGURE 1-9 No-fault management seeks to expose near-misses and potential problems without fear of discipline in many instances.

person responsible, effort must instead be focused on fixing the failure and ensuring that it does not happen again. The actual person responsible may already know where the root of the problem is and how to fix it. That person will be much more willing to help if a supervisor is not micromanaging. In fact, the main fault in NFM is a failure to communicate potential issues.

NFM can be especially effective in emergency service organizations in which split-second decisions are necessary. We have a unique group of personnel and the very best employees society has to offer. Take Dave, for example, a paramedic working for a large city EMS system. He was a high school graduate who decided to enter emergency medical technician (EMT) school. His classes included anatomy, physiology, and basic medical procedures and lasted approximately 6 months. Clinical portions were completed in the hospital as well as during ride time in ambulances. Dave had to pass the class final in order to sit for the **National Registry of Emergency Medical Technicians** exam. The National Registry test is made up of two separate components: the computer-based knowledge exam and the practical applications test. When Dave passed those, he became a certified EMT and became eligible to enroll in paramedic school.

Dave's choice for paramedic school had an entrance exam and two prerequisites to be accepted, which he completed. When paramedic school began, he found himself in class 12 hours a week and averaged an additional 12 hours of clinical time. He had to maintain a passing score through advanced anatomy, acid–base balance, pharmacology, and cardiology. He completed certified courses in both pediatric and adult advanced life support. After approximately a year of school, he passed the class final and once again sat for the two-part National Registry exam. He passed both components and became a paramedic. Dave applied for a job at several EMS agencies. When he heard that a large city in the southern portion of the state was taking applications and giving a civil service exam, he made the trip. He scored well on the exam and found out his ranking was fifth out of the 64 paramedics who took the exam. He did well in his interviews, and his background check showed no criminal history. The agency checked his driver's license record and found that clean as well. Dave was hired and assigned to the midnight shift on Medic 36.

If we look at all the steps Dave took from high school to being hired, it's obvious that fellow candidates dropped off at each point along the way. He passed hundreds of tests before he could even get an application for the EMS agency. Civil service testing is designed to identify the very best candidate out of all who are qualified and rank the rest behind number one. Even at that point, many high-ranking and qualified candidates have had a "skeleton" in their closet exposed when it came to background or driver's license checks. Compare Dave with someone who dropped out of high school and filled out an application at a convenience store. After one interview, he gets the job because he is available to close on the weekends. It is obvious that Dave is the cream of the crop when it comes to the pool of possible employees. We would expect Dave to not make any mistakes or be involved in any mishaps during his career. He is, however, human.

Dave has been on the job now for 18 months when he and his partner Kelly are dispatched to a nursing home at 5:00 AM for a patient with shortness of breath. They assess a dementia patient and begin treatment in the patient's room. They lift the patient onto their cot and head outside. As they roll the cot down the sidewalk to the medic unit, it hits a bump, and the cot suddenly drops 3 feet to the collapsed position. The patient screams from the jolt but appears to be uninjured. Kelly barely gets her fingers out of the way from being crushed, and Dave tweaks his back slightly from trying to slow the fall. They reassess their patient and find no obvious injuries. They load the patient, who is unaware of what just happened, into the ambulance. At the hospital, they examine the cot and find no problems with it. They decide they must not have had it completely in the locked position but agree to keep an eye on it in the future. They debate whether to report the incident to their supervisor.

Policies and procedures would dictate that a report must be filed with statements by both crew members. Human nature would theorize that no harm was caused and that there is no need to bring undue attention to a meaningless event. History might remind the paramedics that the last crew to drop a patient was written up, with a permanent copy in each of the employees' files. Most would agree that even though Kelly and Dave are both phenomenal employees, they may very well keep the incident quiet. Under NFM, policies and procedures would explain the steps to take when an incident such as this occurs. This alleviates the fear of being written up; that fear is replaced by the desire to investigate what went wrong and to prevent it from ever happening again. The gurney would immediately be taken out of service until it could be inspected. If it was determined that it was a mechanical failure, it would be repaired or replaced. If no problem was found with the cot, the training deficiency would be identified and used to ensure that all employees would know how to avoid a similar occurrence.

NFM does not necessarily mean no discipline. It would not pertain to incidents involving the

dereliction of duty or a violation of safety policies. A pattern of unsafe acts would still bring discipline, as would events that transpired under the influence of drugs or alcohol.

SAFETY

NIOSH line-of-duty death reports continue to expose similar contributing factors. A culture of safety would reduce the reoccurrence of such factors. Some of the more common findings include:

- Lack of command and control
- Loss of situational awareness
- Personnel accountability
- Freelancing
- Risk management

Supervisor Responsibilities

As a result of NFM, supervisors have specific responsibilities that encourage a safety mentality on the part of the workers. NFM necessitates a change in management style, sometimes referred to as the "upside-down pyramid." Managers take responsibility for assisting the workers in completing their duties while ensuring that communication errors do not occur. Additionally, two specific duties include eliminating **problem filtering** and removing barriers.

Eliminating Problem Filtering. One of the main roles of a supervisor is to ensure that problems that do occur are not filtered. Problem filtering occurs when people involved in the incident fail to report potential events or evidence. This can arise when a witness does not feel a specific fact is relevant to the investigation or chooses to withhold it in an effort to prevent fault. Rather than trying to place blame, NFM concentrates on what went wrong and how to prevent it from happening again. The military found that problem filtering had a negative effect on investigations. For instance, when investigators look into the cause of an airplane crash, they usually identify several contributing factors. A **contributing factor** is something that did not necessarily cause the plane to drop from the sky by itself but definitely could have been "the straw that broke the camel's back." As contributing factors are discovered, they are collected. Investigators continue digging for what they really want: the **root cause**. A root cause can be referred to as the primary event that occurred: if the root cause had never occurred, the crash would likely not have happened. NIOSH reports for LODDs and fire investigations operate in much the same fashion. In NFM, a fact-finding operation is exactly the same. Problem filtering occurs when contributing factors are covered up in an effort to hide minor mistakes or procedures. Thus, eliminating problem filtering is a way to ensure that all the contributing factors are identified.

Why is collecting all contributing factors so vital to a safety culture? Simply put, any combination of contributing factors under the right conditions will result in another incident. Obviously, the next incident could be more severe. It is possible that there was no root cause at all, just contributing factors. Take Dave and Kelly's incident at the nursing home, for example. A fact-finding investigation under NFM might turn up contributing environmental factors, such as darkness, uneven sidewalk joints, or extraordinary travel distance to the ambulance. It could expose operational factors such as discovering a seat belt was wedged in the linkage or that the lock was worn and prone to slipping. Maybe the investigation finds that Kelly's hand position had the potential for injury and that both of them were at the end of their shift. Problem filtering can occur because someone thinks a fact is unimportant or because they do not want to have to explain why they perform their duties in a certain way. In this example, the EMS crew might withhold the fact that they were working a double shift on overtime. They might fear that if it's determined that the long shift was a contributing factor, overtime would be eliminated. Supervisors must ensure that whatever the reason, problem filtering does not occur.

Removing Barriers. A manager's job should also be to provide employees with what they need to complete their job and eliminate barriers as they are discovered. If a supervisor spends the majority of his or her time looking over the shoulders of workers (micromanaging), it both is counterproductive and gives the wrong message about NFM. During the construction of nuclear vessels, managers identified their main job as clearing obstacles for those doing the work. Under this theory, a lieutenant in charge of fire department fleet maintenance might spend more time ensuring that parts are available as they are needed and that rigs are rotated through preventative maintenance at regular intervals. Sometimes the duty is more technical, like locating an alternator that holds up to higher loads. Regardless, he or she would spend less time watching mechanics work and more time streamlining the process of work. A manager has to figure out how to clear the path. A mechanic ensures vehicles are safe only when he is working on them. If an emergency alarm delays getting Ladder 1 to maintenance or there is no reserve apparatus for Ladder 1's crew to use, efficiency suffers. In a safety culture, efficiency = safety.

SAFETY

Considering the personnel you have available for emergency responses is a key responsibility for all members. Supervisors must draft policies, procedures, and guidelines that specify the standard priorities for emergencies. They must train their members to make good risk management decisions and make changes in response as appropriate. Members need to prioritize tasks on scene, ensuring that their effectiveness is second only to their safety.

One serious safety concern over the past several years has been a reduction in staffing. Shortly after NFPA established 1710 and 1720 standards, the economy took a downturn. The vision of staffing improvements for career departments from the new standards soon faded away. Many saw no increase in personnel but instead saw a further drop. Volunteer agencies also found a reduction due to members having to get another job or even to move to find work. Not having sufficient personnel on hand is a twofold problem, having both operational and safety effects. If a successful safety culture is dependent on managers removing safety obstacles, sufficient staffing is at the top of the list. A manager working on this safety issue only has two ways to make it safer. The first way is to increase personnel, which may not even be an option for some departments. In some cases, employees might be hired with variations in qualifications or additional responsibilities. Automatic aid agreements or joint staffing on jurisdictional borders could be another possibility. If increasing personnel is not an option, the only other way is to reduce the risk to the limited staffing you have left. This does not mean that all interior firefighting will cease to exist but rather that every job must have a risk–benefit factor assigned to it. The fire service has always been able to adapt and overcome, and working with limited personnel forces us to do a better job. You cannot do more with less, but you can be more efficient. Once again, efficiency improves safety. At a fire scene, it is always a little more reassuring when an incident commander (IC) has a rapid intervention crew standing by outside and four apparatus not committed. Without the extra personnel available, the IC is forced to be a little safer. Even gamblers bet a little smarter when their chips are low.

Fortunately, there is more to clearing safety obstacles than large problems such as sufficient personnel. Everyday decisions by company officers can be made to clear safety obstacles. If fire fighters will not wear a seat belt because it interferes with the airpack strap, some chiefs have been known to pull out the packs. Officers and fire fighters can train daily on putting their self-contained breathing apparatus (SCBA) on under a seat belt until it becomes second nature. If they will not learn to do it, they can put on the SCBA before the vehicle moves or after it stops at the scene. It could be that the way the airpack is mounted interferes with the seat belt and that simply moving the bracket fixes the problem. Perhaps the straps and belts are too similar to differentiate in the dark. Maybe new seat belt or SCBA designs would solve the problem. Whatever the issue, management must provide the resources necessary to eliminate the distractions in order to allow a safety culture to exist. By providing solutions to fix the seat belt issue, management is clearing the path.

Employee Responsibilities

The final component of a safety culture is that employees must learn every component of a job. On the whole, fire and emergency services are pretty good at this one. The natural desire to learn and become better is an inherent trait of most first responders, especially young ones. As some progress through their career, they become disenchanted, discouraged, or downright disgruntled. Although there are no surefire ways to bring back the members who have given up on their department, communication can sometimes unveil where the downturn occurred so it does not happen to someone else. Many times, it's simply the fact that the job has become mundane. An opportunity sometimes overlooked is **mentoring**. By matching up someone with experience and knowledge to someone who has a strong desire to learn, they can actually help each other. For example, in recruit school, the basic operation of forcible entry tools is learned, but what is key is when those emergency responders use those tools to solve problems on the scene. Good mentoring techniques would allow the employee providing the mentoring to put the rookie on the spot by throwing "what-ifs" at him or her, things like using the tool for breaching walls, lifting manhole covers, opening the trunk of a car, breaking a window on the floor below you, or even anchoring an escape line. Mentoring utilizes every person on the department to improve training. It gives a rookie a goal to shoot for and someone at the end of his or her career a reason to get enthusiastic about coming to work.

Mentoring can improve the dynamics of the entire organization, and is not limited to training new personnel. Officers should learn how to properly

mentor officers and firefighters under their direction, ensuring that the next succession of leaders are prepared to lead. In the short term, it allows individuals to learn on the job and fill in when the supervisor is away. However, its benefits become more obvious in the long term. Using mentoring throughout the ranks with an emphasis on a safety culture can ultimately influence the entire organization.

Safety as a Certification Level

Everyone in the fire service has his or her own strong points when it comes to interest, knowledge, and abilities. Take ropes, for example. All fire fighters and EMTs must be able to tie some basic knots. From tying off a Stokes basket for pulling a victim up a small hill to hoisting a hydraulic cutter onto a bridge overpass, we never know what the next call might bring. We expect everyone to be able to use the tools provided in a safe and appropriate manner, including ropes. Some departments have technical rescue or rope rescue teams that specialize in advanced practices of haul systems or high-angle lowering systems. Hazardous materials teams may have to tie a knot in a Level A Hazmat suit in order to hold open a trailer door or secure a pallet of leaking materials. Dive team members need to be able to tie knots under water or in ice rescue suits to assist in the removal of victims or evidence. Emergency responders are generally trained to different levels for a given subject based on their job description. A successful safety culture should follow this same tiered format when it comes to the subject of safety **FIGURE 1-10**. Although it is covered in detail in Initiative 5, the basics include awareness-, operations-, and technician-level aspects.

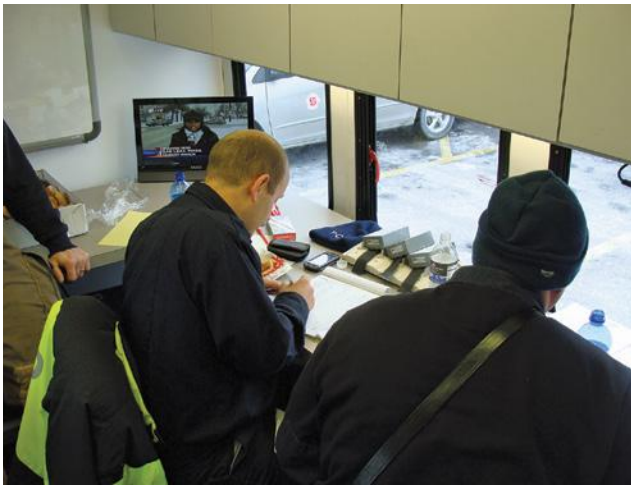

FIGURE 1-10 Integrating a safety culture means applying safety at all levels.
Courtesy of Lt. Rob Gandee.

Awareness Level

The awareness level is an introductory level that identifies basic principles and risks. Awareness classes usually target new employees and other agencies involved with first responder activities. In a safety culture, the awareness level would introduce the 16 life safety initiatives and a brief description of how each is being implemented.

Operations Level

The operations level is the standard by which all fire fighters and EMTs should be trained. This actually gets into the theories behind the practices and introduces the hands-on portion of training. A safety culture would identify certain theories of risk management in the operations level and begin incident safety officer training. Not only would operations-level members identify safety issues, they would also begin to fix them.

Technician Level

Technicians have been trained to the highest level of safety and have become proficient in setting up safety systems. They become certified incident safety officers and ensure that all other members are trained to the operations level as a minimum. Their focus would be forecasting potential issues and building safety into each skill performed by fire fighters.

Cultural Compliance

The final component of defining a cultural change can be referred to as cultural compliance. Cultural compliance is putting your seat belt on not because it is a state law, a department policy, or even a cause of fire fighter death but because you cannot imagine riding in a vehicle without it on. The U.S. Navy instituted these rules with its Nimitz program described earlier in this text. Charles R. Jones, a nuclear safety consultant who retired from the U.S. Navy and was actively involved in creating the safety culture, stated that the design of the nuclear reactors was given to the engineers to construct because "it was possible, not because we knew how to do it."[8]

It is not a plausible argument to say that instituting a safety culture in fire and emergency services is impossible. We know it's possible; we just have to figure out how to do it. It is no longer an option to maintain the culture we have.

Conclusion

Defining a cultural change for safety is a vital component of reducing injuries and line-of-duty deaths in the fire service. It's not always easy to see or identify a safety culture. It's not something tangible, but without it, nothing else will survive. For instance, if you ever saw a full and healthy tree dangling perilously over a stream or river with its roots exposed, you may have wondered how long it would continue to hang on. If you did not look at the base of the tree, it might look as if it would be there for another hundred years. The trouble is that we all know the waters will eventually rise and the wind will blow. The tree might try to resist, but without deeply anchored roots, it will simply topple into the water.

Similarly, emergency service organizations must adopt a safety culture as a foundation for their operations. It does not necessarily require the abandonment of existing traditions or culture, just a primary emphasis on safety. We still need to do our job—we just need to do it smarter. We have been writing our own job description for more than 200 years and can start writing safety into it anytime we are ready; other industries were ready a long time ago and made the changes they needed to reduce their LODDs. The military still fights wars, pilots still fly, and miners still mine: they just moved safety a little higher up the priority list by adopting a safety culture. In many cases, this will require a change. History shows that leaders who are able to accept and manage change can use it as an opportunity to improve safety and allow the organization to grow. Our job is a dangerous one, and without a deeply rooted safety culture with several layers of protection, our greatest assets are at risk.

Wrap-Up

CHAPTER SUMMARY

- Change is a vital component of any organization, including emergency response agencies. The world changes, and organizations that do not change with it will find themselves struggling to survive.
- The adoption of a safety culture does not necessarily look to eliminate the culture or traditions of an organization but instead incorporates safety into what the organization does.
- A choice to be proactive rather than reactive in regard to safety issues is a large component of adopting a safety culture.
- Change can occur from inside an organization because of a desire to improve or from outside the organization as the result of a requirement or need.
- Good leaders recognize the opportunities for change and successfully guide their departments and members through relatively uncharted waters.
- When a new opportunity presents itself, it is important to create a team of members who share the common interest for change, bring varying opinions to the table, have the ability to create a plan and take it to other members, and return with concerns and complaints.
- There is a natural inclination to resist change. Human beings generally do not embrace change due to uncertainty, lack of understanding, lack of trust, or unwillingness to put in effort to see it succeed.
- History has shown that many successful fire departments have seized opportunities for change. Others that do not readily accept change many times spend valuable time catching up with the rest.
- The Federal Aviation Administration (FAA) identified a safety culture as one that has organizational commitment, management involvement, employee empowerment, reward systems, and a reporting system.
- The construction industry believes that prevention (training), control measures (procedures), and action (situational awareness) are three ways to reduce injuries.
- The fire service has many customs and traditions such as the brotherhood, the apparatus, the uniform, the station, the job, and the perceived hero status. These all have value to the members and need to be retained. A safety culture not only can coexist with each of them, it can actually complement them.

- No-fault management (NFM) is a term used by the U.S. Navy and is a major component of its safety culture. NFM assumes that management is responsible for both the success and failure of an organization; as a result, holding an individual worker responsible for a failure has no benefit. It can, however, lead to other problems such as problem filtering.
- Problem filtering occurs when someone who is describing an incident eliminates some of the details because he or she does not think they are important or in an effort to obscure fault. As a result, the contributing factors and root cause may not be apparent. An NFM investigation eliminates problem filtering primarily by eliminating fault.
- Supervisors also have a responsibility to remove barriers that can delay workers or encourage unsafe practices.
- The fire service would benefit from the creation of certification levels for safety, as many other subjects already do. Introducing safety at an awareness level would be standard for all emergency responders and be followed by an operations level that all fire fighters and EMTs would attain. For certain ranks and positions, a technician level would increase the knowledge level.
- A safety culture will be apparent when we achieve cultural compliance. Cultural compliance does not mean that safety rules are followed because there are specific procedures that should be followed or because we fear what will happen if we do not follow them; it occurs when we cannot imaging completing the duty any other way.

KEY TERMS

active shooter/hostile event response (ASHER) A term used to describe the planning for, response to, and recovery from a violent event.

chevrons A method of diagonal striping consisting of opposing colors utilized on the back of vehicles intended to provide more visibility.

contributing factor A tertiary component of an event that may have encouraged an event to occur or worsened the outcome.

crew resource management (CRM) A program focused on improved situational awareness, sound critical decision-making, effective communication, proper task allocation, and successful teamwork and leadership.

culture The values, customs, and traditions of a group of people or an organization.

data Information, usually in the form of numbers or statistics.

dynamic Changing or moving.

Everyone Goes Home (EGH) A prevention program created by the National Fallen Firefighters Foundation in an effort to reduce future line-of-duty deaths. One of the major accomplishments was the creation of the 16 initiatives, the basis of this text.

Federal Aviation Administration (FAA) A division of the United States Department of Transportation responsible for civilian aviation oversight and safety.

incident action plan (IAP) A written or verbal plan stating the overall objectives, strategy, and specific tactics for a specified period of time.

investigations Reviews of an event in which fact finding provides insight as to the root cause and contributing factors with the intent of preventing future events.

line-of-duty deaths (LODDs) Fatalities that are directly attributed to the duties of a fire fighter.

mentoring The process of an experienced person counseling someone else who is new to an organization or career.

National Fallen Firefighters Foundation (NFFF) A nonprofit organization created to honor fire fighters who die in the line of duty, assist their families, and create programs to prevent future events.

National Registry of Emergency Medical Technicians An organization that establishes standards for the training and certification of EMS providers.

positive-pressure ventilation (PPV) A technique of forcing pressurized air into a structure or enclosed space in an effort to clear the area of smoke or gases. It can also be of limited use in conjunction with a fire attack in certain situations.

predictive Making changes to avoid an event that could possibly occur. This usually uses hypothetical situations and compares them to existing systems.

proactive Making changes to avoid an event before one can occur.

problem filtering During an investigation, the process of eliminating or not identifying contributing factors. It can occur inadvertently or in an effort to prevent fault.

reactive Making changes to avoid future events after one has occurred.

risk management Identification and analysis of exposure to hazards, selection of appropriate risk management techniques to handle exposures, implementation of chosen techniques, and monitoring of results with respect to the health and safety of members.

root cause The primary cause of an event. Without it, the event would likely have not occurred.

safety culture A philosophy that prioritizes safety as a paramount value and relies on it to guide many of an organization's decisions.

sustainability To operate in a fashion that ensures an organization can continue to thrive without danger of losing the resources it needs to succeed.

CASE STUDY

You are the first in your department to be driven to work toward a cultural change for safety. Although the organization follows most safety regulations, you know of some who don't wear seat belts, some who perform unsafe practices at structure fires, and some who are not physically fit to perform their duties. You decide to solicit others to assist in developing a plan to improve the safety culture of your organization.

1. Who should be included on your team?
   - **A.** Personnel who agree with your solutions
   - **B.** Members who have influential positions
   - **C.** Those who can collect concerns and complaints
   - **D.** People who are intelligent and know how to research
2. Suppose you are able to get your chief to commit to a cultural change for safety. What does the FAA suggest is a key to "management involvement"?
   - **A.** Safety training
   - **B.** Safety equipment
   - **C.** Safety discipline
   - **D.** Safety rewards
3. Your group agrees that prevention, control measures, and action could increase seat belt use to 100 percent. If a new policy or procedure were created to address seat belt use, it would fall under which category?
   - **A.** Prevention
   - **B.** Control measures
   - **C.** Action
   - **D.** All of the above
4. Suppose your group discovers that some fire fighters took unnecessary risks at a recent vacant structure fire, putting the entire crew in jeopardy. As you communicate the issues, one of the members blames the fire district administrator for cutting staffing and not providing the necessary resources to work safely. Your best option is to:
   - **A.** Evaluate the things that you can change on a company level
   - **B.** Create a report to the administrator to consider staffing levels
   - **C.** Write a letter to the editor or add a comment on the news website
   - **D.** Compile a list of complaints about the administrator

CHALLENGING QUESTIONS

1. What is the definition of culture?
2. Why is there a need for a cultural change in the fire service relating to safety?
3. What are some of the components of a safety culture within fire and emergency services?
4. Why does change occur in an organization? Give an example.
5. What are some of the reasons why people resist change? Give an example from fire and emergency services.

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CHAPTER 2

Enhancing Accountability

LEARNING OBJECTIVES

After studying this chapter, you will be able to:

- Define *personal accountability* and *organizational accountability* and list their advantages.
- Discuss ways that accountability can affect health and safety within fire and emergency services.
- Explain the process of using NFPA 1500 to improve the accountability related to the health and safety of an organization.
- Discuss implementing the combination of accountability and no-fault management.
- Discuss the need to create health and safety parameters for organizational accountability.

Case Study

It's been a couple months since you got assigned to Engine 265, and you've enjoyed working with some of the best fire fighters in the area. In fact, you couldn't have gotten assigned to a better lieutenant. He has the respect of your entire crew as an experienced fire fighter, instructor, and leader. One day he asks you if you know what the key to being a great fire fighter is. You think about it and respond with words like *bravery*, *knowledge*, and *safety*. He tells you they are all important, but without personal accountability, none of them really matter. You walk away trying to figure out what he meant.

1. What is personal accountability?
2. What does bravery look like without accountability?
3. What are the advantages of organizational accountability?

INITIATIVE 2

Enhance the personal and organizational accountability for health and safety throughout the fire service.

Introduction

Did you ever wonder what makes one fire department better than another? How can two fire departments that have similar equipment, finances, and response areas consistently come up with different results? Take two departments with a common border that even share some personnel, and yet they still operate differently. Why is it that some organizations just click and some do not, and why is it that some members might leave one organization for another? Words like *leadership* and *accountability* are often used to describe the difference. It's easy for members of a department with problems to play the "blame game." The fact is that a lack of accountability is one of the biggest complaints of employees in any profession, and emergency response agencies are no exception. With so many employees in so many industries throwing out the "no accountability" flag, they must be onto something. So what exactly is accountability, and why is it so hard to find?

Accountability

Many times the words *accountability* and *responsibility* are used interchangeably. They are similar in meaning but are actually quite different from each other. Say a fire chief has been given the order to reduce his operating budget by 20 percent for the remainder of the year. With this directive, he is now **responsible** to cut costs, which then makes him **accountable** to everyone involved; in other words, responsibility is assigned to you by a superior, which then makes you accountable to your superior, your subordinates, the general public, and even yourself. The fire chief has several ways he can accomplish the cuts and must make tough decisions based on his vision, opinions, and values. He may decide to cut staffing through attrition or layoffs. He may decide to close a fire station, combine companies, or delay the replacement of apparatus. Possibly the cuts will be made to maintenance, training, or fire prevention. No matter how he chooses to reduce the budget, he is accountable to various persons and groups, often with differing perspectives and wishes. If he fails to cut the budget as ordered, the mayor will hold him accountable to the fact that he did not do his job. If the decisions he makes are unpopular with the fire fighters, the chief is accountable to them. If the fire department fails to respond to an emergency in a timely matter due to his decision to close a company or station, he is accountable to the public. Finally, he is most accountable to himself. Any decision he makes will have immediate effects on lives and may even have unforeseen future results.

In this case, it would be very easy for the fire chief to claim that the city administration is actually responsible for the cuts. Although this would be an accurate statement because the mayor is responsible for balancing the budget, the mayor did not actually cancel the order on the new truck and decide to run Engine 33 into the ground. This is where the fire chief either exemplifies accountability or chooses the easy way out

and plays the blame game. If he is truly accountable, he explains to his members that his decision was the best option at the time. He shows leadership by creating a team approach to making E-33 the best it can be. He asks for the fire fighters' suggestions and assistance in making the existing vehicle both safe and functional for another year or two. He also offers to do whatever he can to provide the resources they need to keep E-33 in a ready condition.

If the chief leads by example and stays accountable, his decision creates a succession of accountability. By explaining to the personnel that they would not be replacing the engine, the *responsibility* to make old E-33 ready to serve the citizens in a safe and efficient manner for a couple more years is issued to the officers, fire fighters, and maintenance crew. They are now *accountable* to make sure that it happens **FIGURE 2-1**. Imagine the feelings of a fire fighter who was on the truck replacement committee and helped write the specifications for new E-33. His natural reaction would be that all the work he did was wasted, and he could become very bitter as a result. He could blame the fire chief for "not standing up to the mayor" and "making us drive an unsafe piece of junk." He may even be tempted to sabotage a component of the old truck just to prove his point. If he chooses this road, he essentially breaks the succession of accountability at the shift level and destroys accountability for everyone. Interestingly enough, a person like this who throws out the claim that the supervisor lacks accountability is usually the real person who is unaccountable. Intentionally sabotaging not only shows no ability to be accountable but also demonstrates a destructive attitude.

FIGURE 2-1 Older equipment does not necessarily mean unsafe equipment, but the maintenance may require more accountability.

The succession of accountability travels up the chain of command as well. If the mayor believes in accountability, she defends the fire chief for his decision to delay apparatus replacement; she does not blame the taxpayers, or even the economy, for a decrease in revenue. Accountability was a tribute that some politicians, such as President Harry S Truman, personified. He even had a plate made for his desk that said, "The buck stops here," derived from the slang phrase of "passing the buck," which meant to blame someone else (Harry S Truman Library and Museum 2010). Rather than passing blame, the quality of accountability instead looks at a problem and asks what "I" can do about the situation. Effective leaders look at a hurdle or a failure by evaluating all the causes of the situation or "breakdown," starting with their own contributions. The chain of command dictates that every boss is responsible for every action initiated under his or her position, as discussed in the chapter *Defining a Cultural Change*. Therefore, blaming a subordinate has no benefit.

Blame

Besides providing a great excuse, blaming someone or something has some nice side effects. Blame deflects faults or weaknesses, which in turn boosts egos. It makes some people feel better about making a mistake or performing poorly because they can convince themselves that they were not at fault; rather, they can conclude that they were simply a victim of circumstance. For instance, one evening at work, you walk into the ambulance bay after dinner and see that your ambulance is parked outside. You know you left it inside earlier, but it appears your partner pulled it outside to clean the bay floor. It's getting late, so you decide to put it away. As you back into the bay, you feel resistance and hear a loud crash. When you get out and look up, you see the crushed bottom panel of the bay door wrapped around the light bar. Apparently the overhead door was not all the way up when you backed into it.

What is your first reaction? It is easy to blame your partner. After all, he put the ambulance outside and did not put it back. He left the door halfway down, just asking for someone to hit it. There may even be a policy he broke about doors being partially closed. He does it all the time—he never finishes anything. And where is he now while you are working? He's probably on the phone or asleep in a chair. Now that you think about it, the only thing that points to you at all is the fact that you did it. Maybe it's anger, maybe it's embarrassment, or maybe it's a fear of discipline. Whatever it

is, it probably will lead to blame. By blaming someone else for the failure or loss, you essentially make yourself the victim. Some people enjoy being a victim and rely on it for esteem issues. Some just use it to keep from becoming the villain. If you are able to convince others that you are the victim, they tend to look for and turn on the villain. Victims always receive more sympathy than villains.

One interesting aspect of this **victim syndrome** is specific exclusively to emergency services. It's a well-known fact that when call volume drops, so does morale. More than one chief has claimed that nothing cheers up fire fighters like a fire. It's not that fire fighters enjoy seeing someone lose their property; it's just that periods of inactivity tend to be breeding grounds for personnel issues. The biggest reason may be that fire fighters were trained and equipped to handle serious emergencies and that not much of recruit school is dedicated to odor investigations and fire alarms. When all they seem to get is "smells and bells" and there is a prolonged lack of significant calls, they feel underutilized and become disappointed. Having all the emergency equipment and gear may lead to the feeling of "all dressed up and no place to go." They may see nonemergency functions such as fire safety inspections or hydrant flow testing as "busywork" during these times.

Unfortunately, sometimes fire fighters just feed off each other negatively in slow times. It could begin with nitpicking and blaming between them and potentially evolve into an all-out shift war. They might fight changes from administration and file complaints or grievances over situations with which others would not have a problem. They might blame their problems on the attitudes or training level of the new fire fighters joining and relish "the good old days." They could think the old apparatus was garbage and the new is built poorly by "low bid." Whatever the situation, they paint the picture of being constantly victimized by their co-workers, their shift captain, or the chief. Everything they discuss points the finger at someone or something else. It's not fair, and none of this would have ever happened back when they joined. Their audience is anyone who will listen, and the stories of how bad it is continue to get exaggerated each time they are told. You might actually think that things have gotten pretty bad in this department.

Compare this crew with one that makes a mistake on a call, such as the discussion in the chapter *Defining a Cultural Change* about Dave and Kelly working on Medic 36. Remember that they beat out hundreds of students and potential hires for their jobs and are essentially the cream of the crop. They passed tests and screenings most professions do not even use. What could make the two groups so different? The answer is a lack of accountability. In this case, a lack of activity at work and some potentially bad attitudes have been fertilized, cultivated, and harvested into one bad situation. It may not be too late to save them. In fact, at the next major incident, they may actually shine and impress everyone. One theory at work here has to do with the human psyche and the victim syndrome. If the personality of an emergency services worker is caught in a victim syndrome cycle, then a conflict occurs when there is a real victim. During an emergency, responders automatically identify and help the victim. Because the victim role has already been filled, the emergency responder takes the role of hero. Victims receive attention, but heroes get more. That's why there is very little arguing and blame on emergency scenes. In fact, most emergency responders agree that personnel interact much better on scenes than back in quarters. You could say it's hard to be the victim when you are helping one. The only way to prevent blame from taking over is to make a genuine commitment to being personally accountable.

If a lack of serious calls is a problem, we can expect that it will be more prominent in the future. If you've been a fire fighter for some time and you feel that you do not respond to the number of fires you used to, you are correct. According to USFA and National Fire Protection Association (NFPA) statistics from 1986, fire departments responded to 11 million emergency calls, 19 percent of which were fires (National Fire Protection Association 2017). Throughout the following 25years, there was a steady increase in emergency responses yet a further decline in fires. In 2015, calls for service reached 33 million, but the number of fires made up a total of only 4 percent of all responses. The reduction in fires does not mean there should be a reduction in preparedness. Fire fighters must still be equipped and trained to handle incidents and actively work to prevent them.

As a result, many departments look to expand services and improve the department's public image with new programs. Maybe the department begins offering residential fire inspections or door-to-door smoke detector tests. It could be reading a fire safety book to children at the library on Tuesday nights or performing blood pressure checks at the mall on Saturday mornings. Other departments plan for downtime by designing stations and assigning personnel based on a special skill or interest. A fire station may house self-contained breathing apparatus (SCBA) repair with all the necessary testing equipment and tools while technicians on each shift are trained to make repairs. Other stations might have a wood

shop, welding shop, or sewing shop. Sometimes pump testing pits or lakes are adjacent to stations to facilitate pump testing, while others have adjoining public education facilities, such as a safety village **FIGURE 2-2**. Besides the fact that members keep busy doing something they enjoy or even learning a new skill, a properly designed specialty shop can save the department money. Fire departments are commonly looking at new ideas to share resources and save money, and a specialty shop is a great way to do that on a regional basis. Even if the department does not offer specialty shops, the personalities of some people tend to focus their unused energy on other suitable projects. They might join a special team and devote slow times to that. A member who is active on the dive rescue team could spend Saturday afternoons on shift organizing the dive trailer or inspecting dry suits. A person interested in the history of the fire department might spend downtime clipping old articles or researching the history of Station 2. Sometimes being involved simply means reading online articles of firefighting tactics or National Institute for Occupational Safety and Health (NIOSH) **line-of-duty death (LODD)** reports.

SAFETY

Is there something that interests you in your department that could keep you involved? Taking ownership of a project is a great way to practice personal accountability as well as improve your department.

FIGURE 2-2 Specialty shops such as pump testing facilities not only can save a department money but also can keep fire fighters trained, active, and interested.

Courtesy of Bob Lloyd

Personal Accountability

The term **personal accountability** refers to the ability of an individual to take responsibility for the present situation and to react to the circumstances without attributing faults to other factors or people. In other words, you have the ability to account for all of your results. This definition points out several key components. The word *ability* infers that someone learned the art of personal accountability, much like learning other skills. The ability of an engine operator to estimate friction loss at 4 a.m. while supplying three handlines and a standpipe is not a God-given gift. An honest effort to become proficient at hydraulics is the only reason a pump operator can pull it off. For most, accountability makes hydraulics look like a piece of cake. Some could be simply born with it, but most would agree that being accountable is not the way most humans are wired. From childhood to adulthood, the typical response when something goes wrong is to pull out an excuse. Sometimes the defense mechanism blurts it out so fast that we do not even realize how ridiculous the excuse is until we hear ourselves say it. It takes a conscious effort to learn to put on the brakes and *not* to blame.

The technique is simple in theory, but it's difficult to master. Say you are a newly assigned fire fighter on a busy engine company. Your first 3 months have gone well, and your lieutenant is happy with your progress. One day you get dispatched second due to a house fire in a two-and-a-half-story wood-frame building from the 1930s. You pack up en route while Gene in the other jump seat tells you to grab the line if needed and he will take the tools. Your engine is assigned to pull a backup line through the kitchen on the **Delta side**. After entry, it's clear that first due put a pretty good hit on the fire in an adjacent room, and you hear the incident commander assign your lieutenant to change to overhaul operations. Your boss gives you vague instructions to retrieve more pike poles. He leaves the kitchen while Gene begins to pull ceiling. You start to lay the line down on the floor but second-guess leaving it on the steps and in the doorway where someone could trip over it. You ask Gene what he thinks, and he tells you to pull it back out to the driveway.

As you return to the house with more tools, you are greeted by crews yelling and scrambling for a line. Gene apparently had opened up a hot spot that erupted into fire when it got oxygen. The fire is now visible in the kitchen windows and is working its way down the hall. You pick up the abandoned hose line and feed it to fire fighters at the door who push the flames back. They extinguish the fire and account for all personnel. Your lieutenant exits the building

visibly upset and heads right for you. He tears off his mask and gloves and begins to berate you in front of everyone, including the neighbors. With a generous use of choice adjectives and adverbs, he basically asks why the line was removed from the building. This is it. This is the point where the hair stands up on the back of your neck and blood rushes to your brain. You flash back to seeing your father holding a baseball by a broken window. You scan the scene for excuses and prepare your list: "It was a trip hazard, there was a line inside with the other crew, you did not tell me to leave the line there, I thought you wanted me to take it out when you told me to chase tools," and the big one—"*Gene* told me to." The ability to take responsibility is the first part of the definition of personal accountability. The act of not answering with an excuse is an ability that can be learned and is a vital step in becoming accountable. If you had learned this technique, your first reaction would be to hold your tongue and investigate all the influences you had on the situation and its progression.

The second part of the definition worth noting is in regard to "taking responsibility for the situation." As you were being yelled at by your lieutenant in the driveway, it's hard not to defend yourself and keep your cool. Take a deep breath and start to prepare a mental list of how *you* could have been responsible for what just happened. After reviewing the facts:

1. *You* pulled the hose line.
2. *You* were assigned another task but were not told to remove the line from the house.
3. When they needed it and it was gone, it was because *you* put it in the driveway.

This is exactly how everyone else sees the facts, which is very similar to the old technique of trying to "put yourself in someone else's shoes." By looking at this list, you agree that it was at least partially your fault but that there were contributing factors. Your lieutenant and partner should take some of the credit for the mistake. To prove it, you put together a list of contributing factors that include the following:

1. Not getting clear orders about what to do
2. Not anticipating the potential of fire spread during overhaul
3. Listening to Gene instead of your lieutenant

Sure, you could blame your supervisor for muddy orders, but it is up to you to ask for clarification. He knew what he meant when he said it. Similarly, nobody said Gene was the right person to ask. You chose to do that. Actually, if you look at each contributing factor, they too are your fault. Blaming anyone but yourself for what happened is wrong. Therefore, the first words out of your mouth would consist of an apology, followed by an explanation of misunderstanding the orders, and capped off by an honest promise to learn from the event to ensure that it never happens again. Not blaming someone or something else is not necessarily "jumping on the hand grenade" and taking blame for something you did not do.

SAFETY

Think back to the last time you were blamed for something or blamed someone else for something that happened to you. Consider the facts and the contributing factors from the event to identify ways you can improve your ability to maintain accountability.

After returning to the station, your Lieutenant calls your shift into the kitchen to discuss the incident. This is a great opportunity for you to explain your actions, and take full responsibility for them. If Gene and your lieutenant are both accountable, they will offer their responsibility as well. The training that could come out of a situation like this is that your lieutenant will do a better job of communicating orders and you will ensure clarification. It could evolve into discussions of hose lines being charged and present during overhaul and ways to reduce trip hazards at fire scenes. If you really commit to getting better at personal accountability, it's amazing (and entertaining) how many times you notice others blaming their circumstances on other people or even inanimate objects. We all end up in situations we would rather not be in. The situation can be uncomfortable, embarrassing, or even downright horrifying. Regardless of the circumstances, personal accountability can work.

Examples of personal accountability, both good and bad, are found every day in professional sports. In no other occupation is a person's performance at work under such a public microscope than in sports. Players are constantly compared to their peers and even ranked by their strong points and weak points. Baseball even keeps track of mistakes in the form of errors committed by a fielder. Imagine for a minute if this level of accountability was subjected to fire fighters. Take the greatest published fire officers of all time: Bowman, Norman, Carter, Mittendorf, Brunacini, and Dodson. Picture them lined up in their Class A uniforms sitting behind a wide desk with bright lights on them and cameras rolling. They replay your performance at a structure fire last night in slow motion and question why your chief is even "playing" you. Everyone sees

the replay on the news of you lapping the aerial twice, opening every compartment door looking for a salvage cover. "Nope, still not there," they joke. They talk about how you lost your temper and threw your helmet in the locker room after the fire. They point out that you're usually the last one to drill and the first to sneak off to talk on your cell phone, and it's showing in your performance every week. Imagine your mayor reading the reports in the paper about your waning performance: 2 for 12 on successful intubations or three backing accidents in the past 14 months! Maybe the citizens even call in and say you are a washed-up has-been. "Trade him before he gets promoted," they write.

SAFETY

Take a minute and consider the influence that cell phone pictures and videos, combined with social media, can have on your personal performance review. You may be so involved in pulling the hose line, bagging the patient, or yelling at the crowd to "get back" that you do not even notice that you are being recorded from several different angles. Since the potential exists for you to be a movie star, the only way to perform well is practice, practice, practice.

It may be a little unconventional to even imagine it, but luckily we are not subjected to this level of public scrutiny. It is clear that athletes are held accountable to the public for their achievements and actions both on and off the field. Whether the player is truly accountable or not is another subject. In his autobiography *Get in the Game: 8 Elements of Perseverance That Make the Difference* (2007), Hall of Famer Cal Ripken Jr. reinforces the importance of personal accountability as he tells a story from his career. He was thrown out of a game in the first inning for arguing with an umpire. He later found out that a fan had brought his young son all the way to Baltimore to see his favorite baseball player play but never saw him take one swing. The boy was heartbroken, and the press ran with the story. Cal felt horrible. He began evaluating what was important to him and where he needed to improve. He settled in on the subject of personal accountability. A short time later he was playing a game in Toronto. As he took the field in pregame warm-ups, he noticed the sod where he played shortstop was raised up to a hump. Apparently the irrigation or drainage system had leaked the night before and froze under the turf. His first thought was to complain to the umpires and groundskeepers. He could have chosen to ask them to delay the game to fix the field or he could have used it as an excuse if he had a bad game. Instead, he chose to suck it up and play a couple feet in from his normal spot, making the most of it. He decided he was not going to allow outside circumstances to affect his performance. He played that game without a complaint and went on to continue playing every game for the record of most consecutive games played in the history of professional baseball.

If only everyone involved in sports was so accountable. When confronted about their performance, many players blame their teammates or the coaching staff. Some players complain that they are carrying the team or not getting the playing time they deserve. The referees or umpires are always wrong. When a player is called for a penalty, most deny it ever happened or complain that it was actually someone else's fault. Even with proof on instant replay, some continue to argue. Not many players who test positive for performance-enhancing drugs come clean with their fans. It's usually blamed on vitamins, herbs, allergies, or some sort of interaction from something a trainer gave them. Some teams blame a losing season on injuries or on an unfair schedule. Some owners blame it on an old stadium and move the team to another city. Coaches blame it on poor farm teams, draft picks, or even opposing fans. Sometimes it's a salary cap or outdated league rules. Even when they seem to take a little accountability, they use obviously vague phrases that show no accountability like "we failed to execute" or "we were not mentally prepared."

Personal Accountability in Leadership

People in leadership positions have an even greater need for accountability. How many times have you noted a popular politician, movie star, church leader, or public safety official plummet in disgrace as the result of a scandal? Many sources suggest that as people work their way higher in an organization, the hard work and accountability to get there has been replaced by an entitlement once they arrive. In his book *Why Great Men Fall* (2005), author Wayde Goodall theorizes that the failure of leaders is not necessarily one big misstep but rather a series of temptations that eventually are reasoned as a privilege. In his farewell speech, Senator John Ensign (2010) apologized for his actions that came easily with "more power and prestige." Many leaders who ignore personal accountability when they are successful make poor moral decisions yet carry on with their business as though

nothing happened. Eventually, the behavior catches up, and the leader is forced to give up everything that was earned.

As a result, emergency workers must realize that although personal accountability is a tough skill to master, promotions will only make it tougher to maintain. A fire fighter who works his or her way up through the ranks to a chief position will find that it might be easier to come in late, take a longer lunch, or leave a little earlier at the end of the day. Failing to meet minimum training requirements might be rationalized as less relevant than completing administrative duties. Unfortunately, this example also can carry over to accountability for safety. Many agencies can provide pictures of emergency scenes where an officer is not wearing proper personal protective equipment (PPE). Maybe they reasoned that they were only entering the hazard zone to "take a look" or that they were not "actively involved" in the incident so their risks were lower. All members must learn ways to improve personal accountability for health and safety regardless of rank.

Improving Personal Accountability

Improving personal accountability is key to eliminating blame and ultimately improving safety. There are several ways to help achieve accountability, including making the decision to be accountable, becoming an active member of your department, speaking up, taking responsibility for the outcome of calls, and taking responsibility for safety.

Make the Decision to Be Accountable

The first thing to remember about personal accountability is it's a personal decision—you cannot force it on others or take it on with half interest. Changing may not even be noticed by others right away. It could be considered an internal struggle, trying to break free of the addiction of blame. It takes determination to make it work, just like a choice to eat healthier or exercise more. The most important point is that there is nobody stopping you from making the change, and anyone can do it. Some think you have to be an optimist to achieve accountability, but it's not necessary. Imagine a fire fighter hits a mailbox while backing up a pumper. An optimist looks at the damage and notes that it was better than backing into someone's car. An accountable person looks at how he or she is responsible for the crash and vows to put mechanisms in place to prevent future backing incidents.

A great example of a decision to become personally accountable for health and safety is a commitment to being healthy (Initiative 6). Personal accountability can strengthen the desire to make conscious decisions to improve your own health. Although it's not possible to change someone else's lifestyle, you can make alterations to your own and encourage others to eat healthier and to exercise. A person who does not know how to operate a treadmill has little effect on improving the health behaviors of others.

SAFETY

Senator Ensign suggests that leaders can enhance their ability to maintain accountability by surrounding themselves "with people who will be honest with you about who you really are or what you are becoming." Since officers may have trouble noticing a change, it's vital that they are ready for it and use colleagues or family members to maintain an awareness for them.

Become an Active Member of Your Department

One obvious way to improve your accountability is to practice by being an active member of your department. By being an active participant in change, you can make the department better and work on accountability at the same time. Someone who "does eight and hits the gate" or "does 24 and hits the door" with only the bare minimum while on duty is likely to circumvent opportunities to be accountable. Volunteers can choose to be more active or can just meet the minimum requirements. You could say that being involved puts you in a position to practice accountability **FIGURE 2-3**. Whether it's a promotion or involvement with a committee, everyone tends to keep an eye on the one who is attempting to make a change. It could be that they support the change or that they are truly worried about how the change might affect them. Maybe they just like to root for the underdog. For whatever the reason, you have their attention. Adopting personal accountability has some great motivational affects on others that witness it. As discussed in the chapter *Defining a Cultural Change*, some embrace change, especially if there is success.

Suppose you are a lieutenant assigned to the training division and you want to work on implementing Initiative 1 in your department. With a broad goal of

FIGURE 2-3 Staying involved in your organization can help improve accountability.
Courtesy of Lt. Rob Gandee

putting fire fighter safety first in a true **safety culture**, you decide that the first step is to involve all of management in your safety training programs. By having chief officers actually assist with training, you can show the department's commitment to changing the culture and increase member buy-in. Your first meeting with the chief goes well, and she seems somewhat interested in teaching the drill. She asks you to put together an outline for the presentation on what you envision. You leave the meeting excited and even tell others about the plan. Most of them tell you that you are wasting your time and that nothing will come of it. Undeterred, you check out the **Everyone Goes Home (EGH)** website and download a great safety culture lesson plan. It's full of examples from new equipment to sample standard operating procedures (SOPs). It even has video scenarios for group discussions that should fit your department nicely. You transform it into a slide presentation, complete with pictures of your apparatus and personnel, and lay out the department's safety plan. You make a copy for the chief and set up a time to go over it with her. It does not take long for you to notice that she is less than impressed with your lesson.

It turns out that some of your plans are a little more drastic than what she envisioned. She feels safety is a subject that has more to do with fire fighters' attitudes and actions and less with increased funding. She believes that if existing SOPs were followed, a safety culture would already exist. She wants to keep fire fighters safe at fire scenes, but she does not believe a change in policy is necessary. For instance, your suggestions about **risk management** and rapid intervention teams would involve commitments she does not agree with. You realize that some of her points are valid but that there do not appear to be any improvements she would be willing to make in administration or operations. She tells you what she wants removed from the program and sends you back to the drawing board. As you walk back to your office dejected, you try to take in all that she said and figure out what can be salvaged with the drill. Even more difficult is how you could possibly remain accountable in this situation.

It appears as though your marching orders are clear. She outlined what the lesson plan would include and what it would not. You have been given the responsibility and are therefore now accountable for designing the lesson plan she wants. It would be easy to throw the project down and say forget it. It might be tempting to use sabotage and set the presentation up in a way to embarrass the chief. You might consider talking to the fire fighters ahead of time and giving them ammunition for arguments when she tries to present it. It's easy to blame the chief for not wanting to change her old-fashioned ways or not really caring about the safety of her crews. But accountability does not allow you to follow the easy paths. The fact is the drill could still be a success and could very well be the first step in defining the safety culture in your department that you desire. Do not throw out your original presentation. Look at it as the second or third step in the progression that you can use in the future. Personal accountability does not blame the chief's opinion—it considers the impact *you* had on the failure of her approving the proposal. In other words, maybe it was a little too drastic. Maybe your idea of what the drill would be was never what she saw. It could be that your presentation would have actually pushed fire fighters away, and they simply were not ready for that big of a change yet. It's time to pick up the pieces, start over, and create a presentation that will meet the expectations of the chief as well as be acceptable to you.

Speak Up

Another way to improve personal accountability is to speak up if you see something that does not make sense or is just plain wrong. Allowing a questionable activity to continue just because it has always been that way does not make it acceptable **FIGURE 2-4**. Ambulances regularly exchange linens at hospitals, including towels, sheets, and blankets. Everyone agrees that the intention of the service is to exchange dirty linens for clean after they are used during an emergency medical services (EMS) call. Most emergency medical technicians (EMTs) and paramedics feel that using hospital towels to decontaminate the inside of the ambulance after a call is also an appropriate use of linens. Some feel that keeping towels at the station to

FIGURE 2-4 Speaking up when something is not right should be encouraged in every fire and emergency service organization.

Courtesy of Lt. Rob Gandee

wash the ambulance exterior is acceptable, and others think sleeping on hospital sheets while on duty is permissible. A select few think it's okay to take hospital linens home with them for personal use. So what exactly is acceptable use of hospital linens? Morals and opinions guide us in everyday decisions, but personal accountability is what holds us to what we do or do not do. If personal accountability was easy, we would all be doing it. That is precisely why we have to practice accountability.

Take Responsibility for the Outcome of Calls

Another way we can improve our personal accountability is to actually take responsibility for the outcome of the emergency calls we respond to. We have always taken the approach that we did not create the emergency and that buildings will continue to burn down and people will die despite our best efforts. These are true statements, and we have to realize that we are not here to change the world. However, it's difficult to make an argument for personal accountability and then dismiss the most important component of our job as "out of our control." It's true that deciding when personal accountability can be applied is directly tied to the amount of control we have over a specific situation. Fire and emergency services have three specific components of an emergency that we deal with that dictate how much control we have over them. They are uncontrollable, semicontrollable, and controllable components.

Uncontrollable Components

Emergency calls are initially uncontrollable. If a man has a diabetic emergency while driving and ends up parking his Buick on a crowd at a street fair, there's not much we can do about it. That's why fire and emergency responders will never "prevent" themselves out of a job. However, planning for this type of incident can ultimately alter the outcome.

Semicontrollable Components

Immediate response to the pedestrians struck is partially controllable. There are various ways our actions prior to the incident could change the outcome. We may have influenced getting enhanced 911 in the town. We could have taught first aid classes and pushed to have automated external defibrillators (AEDs) at public events. We may have met with the festival committee and ensured there were good maps for us and that fire lanes were kept open. We may have pushed the promoters and other **stakeholders** to develop an incident action plan (IAP). When arriving on the scene, the IAP is put into action with other responding agencies.

Controllable Components

Arrival at the scene is when the scale tips and most of the events become controllable. Promoters and law enforcement may have activated the IAP prior to fire and EMS arrival based on predetermined **trigger points**. Security was one of the major components of the plan, so law enforcement began to identify threats and move uninjured crowd members away from the danger using evacuation routes. Because mutual aid resources were already identified in the plan, they were dispatched seamlessly based on need. Triage and bleeding control kits were readily available, and emergency responders were trained to use them. Preplanned ambulance routes were used to efficiently package and transport the patients to predetermined hospitals.

Take Responsibility for Safety

The safety aspect of situations follows the same model as the outcome of calls. As previously mentioned, we do not have much influence over safety when the emergency occurs. Our influence on safety increases when we are responding and is entirely our responsibility when we get on scene. That's because if we examine emergency calls, we discover that they are not a single event waiting for us to arrive and take command of; they are actually a progression of foreseeable and unforeseeable independent events. At any point during this dynamic process, we can make a conscious decision to act or not act in a specific manner that either changes or does not change the outcome. Even on significant incidents where numerous emergency

responders converge, a decision for personal accountability has an influence on the potential outcomes of the incident.

Personal Accountability to Safety

The first component we must look at is our accountability to safety: for us, our crew, our victim, and the general public. Taking responsibility for our own safety is the main component of a safety culture. If we remain uninjured on the scene, we can continue to be a resource rather than another liability. Our seat belt, our hood, and our crew integrity are our concerns. Without personal accountability to safety, the incident is destined to have a bad outcome. Everyone is responsible for safety.

Personal Accountability to Training

Nothing affects the outcome of an emergency call more than how prepared we are for it. This can be evident in both common and rare emergencies. For example, passenger train derailments are not necessarily a common occurrence for emergency responders. Even if we have rail service through our community, chances are that most responders will never work on a derailment. Even so, knowing the location of fuel shutoffs and being aware of the existence of high-voltage power and extrication techniques are important. Practice is the only way to perform effectively for the rare occurrence of high-risk incidents. Just as important are the everyday events we respond to. Lack of training on the common occurrences leads to bad habits, the use of antiquated techniques, complacency, and, often, injuries. The old adage "If you don't use it, you lose it" applies to emergency responders. Training reinforces our actions and knowledge of how to handle a given situation and how to improvise when we have never seen it before. Without training, we are forced to improvise every day. A well-trained responder has a distinct effect on the outcome of a call.

SAFETY

Furthering your knowledge through training and education may be the best way to improve your personal accountability for safety. Whether it's department-sponsored drills or individual studies, continual learning about your job will ultimately make you and your crew safer.

Personal Accountability to Equipment

Improving equipment is one of the most obvious ways to improve the outcome of emergency events. The availability of gas meters, thermal imagers, and 12-lead electrocardiogram (ECG) monitors has allowed responders to improve the quality of the job performed. This could be by doing our job more quickly or safely or by saving more lives and property. Being aware of what new equipment is on the horizon and persuading those capable of providing the equipment to do so is everyone's job. Some choose to simply complain about outdated or lacking equipment rather than solving the problem. Although an organization may not be able to afford new equipment, the care and maintenance of existing equipment is something all members can do. There's no argument that AEDs on all emergency response vehicles save lives; it's just a matter of figuring out how to pay for them.

Personal Accountability to Services

If we never improve our level of service, we remain stagnant. We must be cognizant of what needs evolve in our jurisdiction and how the rest of the industry is reacting to their needs. We must reevaluate what we do and how we do it and make appropriate alterations in our techniques. Much like lobbying for better equipment, we must also lobby for improved services. A great example of this is how we respond to violent incidents (Initiative 12). Collaborative efforts have been undertaken in the past several years between fire, EMS, law enforcement, and even school administrations to prepare for a potentially violent event in educational facilities. Similar strategies can be utilized for large public events as well.

Personal Accountability to the Organization

By increasing our personal accountability, we motivate others to come up to our level. This is already evidenced by groups of emergency responders who seem to be more proficient and act as a team better than others. Numerous organizations have researched what it takes to have a successful team. Aside from sports, the healthcare industry and military have spent significant resources to identify the components of teamwork in an effort to duplicate successful teams. Higher-level teams tend to think in similar processes and have common beliefs and values. This can be especially beneficial in high stress situations when communication can be limited (Weir 2018).

Organizational Accountability

The next logical progression in improvement from personal accountability is organizational accountability. **Organizational accountability** involves everyone working together to achieve the vision and mission of the organization. In addition to the need for personal accountability, consider the various aspects of a safety culture and the advantages of no-fault management (NFM). We discussed blame and how it's easy to use it as an excuse when things go sour. Now meld these theories together and see what they look like in a work environment with organizational accountability. Remember when you were putting the ambulance away after your partner left it outside and you smashed the bay door? The following is what that situation would be like with the safety culture model we have been developing.

When you get out of the ambulance and realize you broke the door, your first thought is not fear that you are in trouble but rather fear that you may not be available to respond to an emergency call. You feel disgusted it happened, but because of NFM, you do not blame your partner. Instead, you remain accountable. When your co-workers come out to see what the noise was and ask what happened, you simply respond, "I backed into the door." Your co-workers ensure that the ambulance is safe to keep in service, and the door is bandaged up. Statements by you and your partner concentrate on the contributing factors to the failure as opposed to who is at fault. NFM forces the involved parties to identify system failures. System failures in this example are communication, policies, and procedures. By being involved in the investigation, you and your partner decide the first step in preventing future incidents is better communication. Besides discussing things such as moving the vehicle, you recall times in which equipment was forgotten at a residence or the hospital and agree that communication can be improved in several areas. You even talk about putting these ideas into a communications drill for the entire district. You ensure that there is a policy about doors that are all the way open or all the way closed to prevent future accidents and look at an electronic system that opens the door all the way if it is left partially closed for a certain amount of time. You even talk about suggesting a walk-around policy to administration, and you both agree to back each other in when possible.

Some might consider these theories of discipline as ridiculous and the equivalent of a "timeout for adults." The fact remains that you are a highly trained, valuable professional who made a stupid move when you backed through a door that was not fully open. It was an expensive mistake with the potential for injury, but really no more of a mistake than forgetting an axe at the scene of a structure fire or dropping a gas detector into a manhole. You are human, and humans will always make mistakes. You did not intend to do it and wish it never had happened. In fact, the chance that you ever will do it again is slim, whether or not you receive any form of discipline.

Following the traditional method of discipline, you would likely be written up and the letter would be put in your file. It's actually just a slap on the wrist compared to how embarrassed you feel already. In fact, the only organizational benefit to writing you up for an incident like this is a paper trail to keep track of those who have a pattern of poor decision making. If that's a concern for the organization, an investigation report can be filed rather than a letter of discipline. The paper trail is not very accurate anyway; very rarely do near-misses make it to a personnel file because most of the time they are not reported. You may have been the one who hit the door this time, but other people have just been lucky.

On the other hand, the benefits of NFM to instituting a safety culture are very effective. Rather than hiding from the facts, the members are directly involved in the solution and thus prevent future incidents. There should never be blame, only findings of what happened and how to prevent it from happening again. Nobody got hurt this time, but the next accident that was prevented by exposing the contributing factors may very well save a life. Because the members were less involved in pinning blame on each other, morale was improved. Teamwork was encouraged throughout the fact-finding investigation and solution-developing process. Finally, identifying and eliminating contributing factors affects an entirely different realm of accidents that have nothing to do with bay doors. The discussion you and your partner had about communication and avoiding leaving equipment at the hospital or patient's home may have resulted in a district-wide communications and accountability drill. That training may spark the interest of members who would apply the skills to other aspects of their job. Once the predominant trait of the members is personal accountability, the scales tip and the department cannot resist becoming accountable. Personal accountability takes time, but organizational accountability is suddenly an overnight success.

By mixing personal accountability and successful management techniques, an organization can grow exponentially. Organizational accountability has less

to do with individual job responsibilities and more to do with the overall picture. Breaks in communication, however, can lead to failure. For example, say you are a fire fighter on an engine company that responds to a fire in a small bungalow and arrives second-in. The family is safe outside, and the first-in engine crew is upstairs fighting a room and contents fire. Your lieutenant receives the order to stand by "on deck" at the front porch to relieve the upstairs crew if they run out of air or need anything. You look in the front window and see a neatly kept house with surprisingly nice furniture in the living room. There are numerous pictures on the walls as well as statues and various pieces of art amid the white-and-gold-trimmed furniture. There are no signs of fire extension, smoke, or water in the area, but you can hear the handline operating upstairs and figure that it's only a matter of time before dirty water works its way down. Your lieutenant points to the now-sagging ceiling and asks you how long you think it will be before it breaks through. You ask if he wants some salvage covers so you can make a water chute out the window or collect some of the belongings and move them to the garage. He denies your request, explaining that you were assigned to stand by for relief of the crew upstairs, not to perform salvage operations. Freelancing is not permitted on the fire ground and will not be tolerated.

Our fire service culture has done a great job over the years of creating rules in an effort to make a safer scene and more efficient operations. One of the biggest obstacles to creating organizational accountability or establishing a safety culture is that some of these improvements seem to fly in the face of established rules. There is no doubt that freelancing is an unsafe practice that cannot be tolerated on a fire scene. However, the order to stand by was given by someone who may not have all the information. If this situation had been part of a "skull session" in a training room, the assistant chief who is incident commander, your lieutenant who is assigned to stand by, the lieutenant who is upstairs fighting the fire, and even the viewers watching at home would say grab the pictures or a salvage cover. The department mission statement probably alludes to something about protecting lives and property (if a life is not an issue, save the property). With personal accountability, the crew standing by sees the events unfolding and forecasts that a bunch of valuables are going to be trashed in a matter of minutes unless they act now. If the lieutenant was personally accountable, he would forward the newly discovered information to the incident commander, who could then make an informed decision. The incident commander may see from his vantage point that the fire is spreading and that he may need the backup crew to ignore salvage and pull another line. At least he will have all the information he needs. Again, the biggest mistake that can be made in NFM is failure to communicate a potential problem.

FIGURE 2-5 Many times we view undesirable events as the failure of a component when the root cause can be traced to accountability.

Courtesy of John Kloski

It's interesting that the developers of the 16 Life Safety Initiatives put culture changes and accountability right up front when it comes to saving fire fighters' lives. So many times we blame the trusses or the lack of the seat belt as the cause of our problems. What we forget—or simply ignore in some cases—is that by the time the trusses are collapsing or the seat belt is needed, we have already had several failures in the system **FIGURE 2-5**. Author Dave Dodson has said that structural firefighting gear is the last line of defense for a fire fighter. This means that we cannot blame a burn injury on failure of the gear, as several failures have already allowed a fire fighter in the gear to get to the point of it being tested. In other words, the events that lead to an injury or death are usually a failure in both accountability and lack of a safety culture. Before we can even think about risk management or situational awareness at emergency incidents, our organizational accountability for health and safety must be shored up. By taking what we've learned about personal and organizational accountability, we can now apply them to health and safety.

Health and Safety Accountability

For an organization to implement accountability in health and safety, it should already be proficient in the practices of personal and organizational accountability.

It's an ongoing process that eventually works its way into every aspect of the operations of an emergency services organization.

NFPA 1500

NFPA 1500, *Standard for Fire Department Health and Safety*, is a great reference and standard for where we should be (National Fire Protection Association 1500, 2018). Although many departments cannot financially meet all the components of the standard, several sections can be applied to everyone. Many departments use NFPA 1500 as a guide to making continuous improvements.

The standard comes with a checklist so that a fire department can establish where it stands with regard to compliance. Many significant steps can be taken toward compliance without spending additional money. There are also several components that have become commonplace. One standard referenced is NFPA 1403, *The Live Fire Training Standard*. There literally is no excuse for not complying completely with this standard. A fire chief may not "choose" a budget reduction that does not include annual physicals for each member, but he or she certainly can "choose" to not use live victims and gasoline in an abandoned house used for live fire training. Once the checklist has been completed, a list of noncompliant items out of NFPA 1500 can be assembled in one of three different categories: (1) those that require no effort, (2) those that require some effort, and (3) those that require long-term planning.

No Effort

These changes will have no impact on the budget of the department and will not have a significant effect on operations. They can be completed quickly and with little effort. An example is the section (6.2) regarding apparatus drivers and operators. By simply combining some outdated policies, adding a couple new ones on apparatus operation, and establishing a better training program, the department becomes compliant.

Some Effort

Chances are that you will come across a section that will take a little more work. Breathing air compliance might be a good example. You may already have your airpacks bench-tested annually and ensure that bottles are hydrostatically tested when due. However, your department just cannot swing buying a fit test machine (7.13). Your efforts might work toward saving money to buy the needed equipment, hiring an outside company to complete the testing for you, or purchasing the equipment on a regional basis.

Long-Term Planning

Other elements of the checklist are far more difficult. For instance, your dispatch center might be shared with the village police department and be quite antiquated. It may even be controlled by the police department. Section 8.2 cross-references dispatch and communications systems to be compliant with NFPA 1561 and NFPA 1221. For the low introductory rate of several million dollars, you could bring your dispatch center up to the standards and comply with both. It's obvious that you may never see compliance with this section. Instead, it is important to relay the deficiencies to the police chief and village council while concentrating on smaller components of 1561 and 1221.

Each section in NFPA 1500 has the capability of saving lives. Each should be used as a safety culture reference that assists fire departments in achieving their goals. Section 4.5 is one of the most important when it comes to health and safety accountability. By creating an occupational safety and health committee that meets regularly, you preload the organization for accountability. Safety committees are an open forum to bring in concerns as well as to work toward compliance with NFPA 1500. If an issue is brought up in this environment, accountability prevents blame from taking over and forces the members to address the concern from each level. For instance, assume you are a member of your department's safety committee along with members representing various ranks. Someone brings up an issue of loose contaminated IV needles in EMS jump kits on the engines. Apparently the EMS bags contain a sharps container for collecting used needles from EMS scenes in one pouch of the bag. Dirty needles were found outside the container but still in the pouch, either from carelessness or the fact that the pouch is much bigger than the sharps container. The problem is that a loose needle could pierce the bag, exposing a member to pathogens. Accountability forces each rank to take responsibility for the loose needles. Paramedics must ensure proper disposal, while fire fighters carefully check the bag each day. Line officers work on better plans for needle disposal by providing separate sharps containers or ones attached outside the bag. Training increases the crew's knowledge of the flaw in the system while staff officers put out safety bulletins. The safety committee lays out a plan with a deadline to fix the problem and promptly reports the condition as a near-miss (Initiative 9).