



Volunteer Fire Service Culture:

ESSENTIAL STRATEGIES FOR SUCCESS



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For more information about the NVFC, visit www.nvfc.org.

PREFACE

National Fire Protection Association (NFPA) data over the past decade indicates that approximately 73,000 firefighter injuries occur annually in the United States (Haynes & Molis, 2016). U.S. Fire Administration (USFA) data shows that on average another 100 lives are lost in the line of duty each year (USFA, 2016). This situation is of particular concern for volunteers, who are at greater risk of injury on the fireground, during training, and while responding to or returning from a call.

The risks firefighters face go beyond safety issues. Firefighting is one of the most physically demanding activities that the human body can perform, as well as one of the most stressful. Heart attack remains the number one cause of on-duty firefighter fatalities (USFA, 2016). Cancer is a rising concern in the fire service community; a study released by the University of Cincinnati showed that firefighters have increased risk of developing certain cancers, likely attributed to chemical exposures they experience on the job (LeMasters et al., 2006). While effects of these exposures may not be realized for years or even decades, they can be debilitating at best, and deadly at worst. In addition, emergency responders are often left to deal with situations that may have tremendous, long-term mental health effects that can lead to depression, substance abuse, post-traumatic stress disorder, and even suicide.

Many of the risks and dangers faced by firefighters and emergency responders could be mitigated or eliminated with the

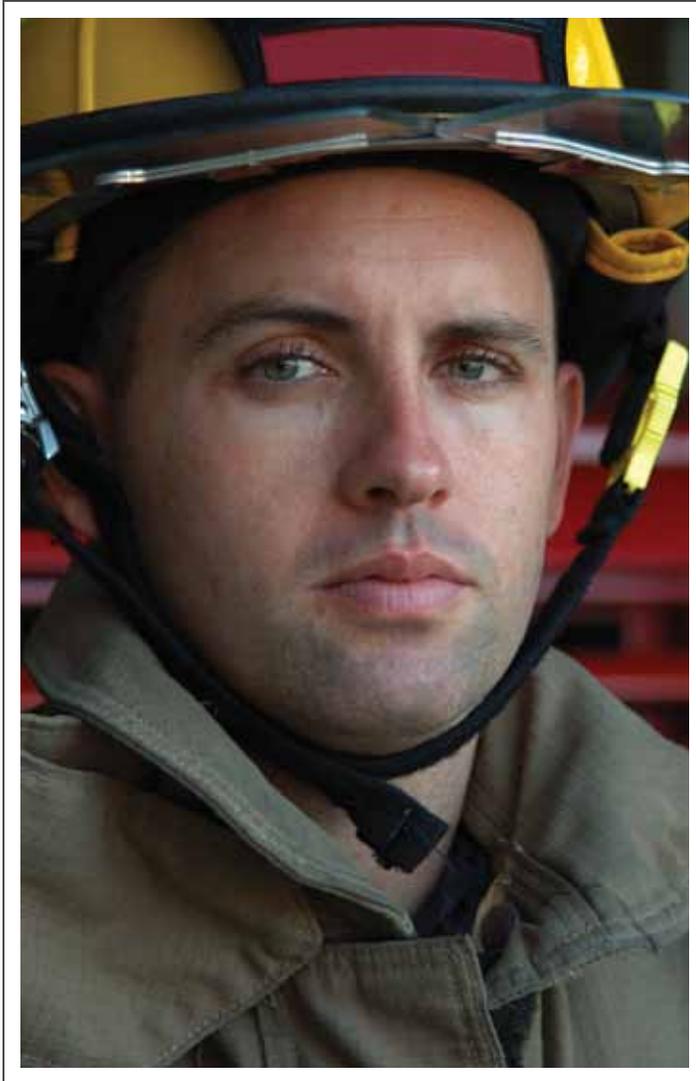
proper precautions, and yet these hazards persist. It is without a doubt that the culture of the fire service plays a role in that first responders rarely put their own health and safety first over those they serve and protect. What many firefighters fail to consider is that the best way they can serve their community is by being there when they are needed. Putting themselves through unnecessary risks increases the chances they will be unable to do so due to injury, illness, or even death.

The NFPA's report *U.S. Volunteer Firefighter Injuries 2012-2014* focuses on the need for training and the reinforcement of a safety culture to mitigate injuries and reduce the death rate (Haynes, 2016). Remember that volunteers accept the multitude of risks they face not for monetary reward or out of necessity for a career but out of passion for the job. It is the duty of the entire fire service community to do what it takes to protect the lives of all who serve.

This publication was developed to examine the role that culture plays in health and safety within the fire and emergency services and to provide information and recommendations to heighten and enhance a culture of safety throughout the volunteer fire service. A culture of safety will result in less fatalities, injuries, and illnesses, and create a stronger, more resilient fire and emergency services for generations.

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CHAPTER ONE

INSIDE THE VOLUNTEER MIND

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CHAPTER ONE

INSIDE THE VOLUNTEER MIND

Case Study

The Quincy Fire Department was formed in 1878 as the Quincy Hose Company #1. In 1917 the Plumas County Board of Supervisors created the Quincy Fire District and appointed a board of commissioners under the state laws of California. The district protects a population of 5,500 people; it has a primary response area of 11.4 square miles, but responds to an area of 290 square miles. The department's budget is approximately \$461,000 per year: \$224,000 is from the basic tax base, and \$237,000 is from a special assessment that was last passed in 2013 and comes up for renewal every five years. There are no major issues affecting the department today that would have an adverse impact on the organizational structure. The International Organization for Standardization classification is class 4 in the developed areas and 8b in the rural areas.

The department has 33 volunteer firefighters, plus three full-time positions (fire chief, secretary, and mechanic). They have an annual workload of 550 alarms on average per year, or approximately 1.5 alarms per day. In addition, the department has 13 volunteer support personnel who provide nonoperational tasks during larger incidents, fire safety training, and other nonemergency functions and operates with a three-person commission.

The department has an approximate turnover rate of 23 percent every year. In other words, seven to eight volunteers need to be recruited annually. To maintain appropriate staffing, department leadership must understand how to recruit and retain volunteers. To be successful in this endeavor, they must understand why people choose to join or leave the volunteer fire and emergency services and ensure that the department is meeting the needs of its volunteer staff.

Introduction

This chapter is focused on the mindset of the volunteer fire and emergency service personnel of today. Although it is appropriate to recognize the earliest efforts to protect the community against fire through the use of volunteers, it is also important to recognize the changes in society affecting the ability to continue to provide these services. A contemporary volunteer fire chief needs a different tool kit than his or her predecessors used to keep the department operating. An additional reality is that even though almost every community embraced some form of volunteerism early on, many have adopted a hybrid approach of volunteer and paid staffing as combination departments, while others have become full-time career departments.

The departments that remain fully or mostly volunteer-based today often face serious challenges, such as obtaining funding, ensuring adequate staffing, and providing for the health and safety needs of personnel. All and mostly volunteer departments protect 87 percent of our nation's communities (National Fire Protection Association [NFPA], 2016). Because volunteer-run departments remain such a critical part of our nation's fire service, it is critical to address these challenges and evolve in ways needed to keep the volunteer fire service community strong now and for the future.

Overview of Volunteerism

Volunteerism has been a part of the community tradition of the United States since the beginning of colonization. America's earliest settlers volunteered to give up their lives in Europe and Asia and travel to a new world with no governmental services. When they got to the colonies, there was no one to provide them with the basic protection that was badly needed, so they volunteered to help each other. For example, in almost all of the colonies, one of the first things done to protect the community was to organize a militia and then a fire brigade—volunteers staffed both.

Today many local community organizations (e.g., libraries, hospitals, homeless shelters, and, of course, fire departments) still depend on volunteers to deliver essential services. According to the U.S. Bureau of Labor Statistics (2016), some 62.6 million individuals volunteered for some type of organization between September 2014 and September 2015; these volunteers served a median of 52 hours per year, or 1 hour per week. As these statistics show, volunteerism is strong in American communities.

Overview of the Volunteer Fire Service

An NFPA report released in November 2016 estimated that there are 1,149,300 firefighters in the United States. Of these, 341,150 are career firefighters. Volunteers account for 808,150 men and women who are dedicated to protecting their local community and make up 70 percent of all firefighters in the United States.

Small and rural communities rely almost entirely on volunteers, yet recruitment and retention have become increasingly challenging. Many volunteer fire departments are struggling to meet staffing needs, as call volumes have tripled in the last 30 years, services provided by volunteer fire departments continue to expand, and training requirements have increased. At the same time, the average age of volunteers has increased, causing concern in many departments as to how to fill the ranks as older members near retirement (National Volunteer Fire Council [NVFC], 2017).

Communities all across the country still rely on volunteers for many community activities, so why are departments having difficulty recruiting and retaining adequate numbers of volunteers? This may be due to the distinct differences of being a volunteer firefighter as compared to being a community volunteer. Why would a person be less likely to serve as a volunteer at a firehouse than at a library?



On-demand volunteerism. A key factor as to why fewer people might be willing to become a volunteer in the field of fire protection, in comparison to other endeavors, is that it is an on-demand service. In most volunteer-staffed organizations, such as hospitals or libraries, volunteers can schedule their work time at their own convenience. However, being a volunteer firefighter is a 24-hour, 365-days-a-year commitment. To be a reliable and competent firefighting volunteer, a person might be on call constantly and must be trained to a high level. Missing a training activity for a librarian might create an inconvenience, but missing a training session or drill for a firefighter can be dangerous. The commitment needed for becoming a volunteer firefighter is significantly more involved than spending a few hours as another type of community volunteer. The training hours alone exceed that national average for volunteer activity, demonstrating the intensity of the commitment.

Citizen awareness. Many residents of the communities protected by volunteer firefighters are completely unaware that their local fire and emergency services department is staffed by volunteers. In a national survey, an estimated 80 percent of community members reported not knowing if their local department is looking for volunteers (NVFC, 2015). Community members would have a hard time differentiating between paid and volunteer personnel based on their training requirements, their performance on the fireground, their physical appearance, and the willingness to risk their lives in their community.

Increasing demands. Volunteer firefighters save localities an estimated \$140 billion a year, yet many volunteer fire and emergency departments have little or no tax base and must devote hundreds of hours to fundraising just to survive (Hall, 2014). Most often volunteers serve more rural communities with small population bases and inadequate tax bases to pay for career personnel.

In terms of staffing challenges, part of the issue is that the nature of being a fire service volunteer has become increasingly complicated. If the average time commitment for training volunteers is about 2 hours per week, it is easy to see that a volunteer firefighter would easily double that amount of time with fundraising and emergency response. In addition to time demands for training and fundraising, call volume has increased significantly because of an expanded role in emergency medical services (EMS), hazardous materials, and other rescue responses. The advent of EMS to the workload of many volunteer departments alone has caused significant difficulty in meeting staffing requirements.



Dangerous occupation. Firefighting is one of the most dangerous occupations around. Mediocrity is lethal in firefighting; it erodes critical problem-solving ability and destroys innovation. But, what makes individuals voluntarily expose themselves to this kind of danger? The answer is very complex and requires analysis of the drivers, motivators, and culture of the fire service to thoroughly understand. Even though some may be drawn to this element of danger, even more are repelled, compounding the difficulty in recruiting and retaining enough volunteers to maintain adequate staffing.

Volunteer Rights and Department Expectations

In many ways, being a volunteer firefighter is like competing on a sports team: Everyone has a role to play, and the team's success is often more important than the success of any one person. Being part of a team that is a volunteer fire and emergency services department means that every person has certain rights. Volunteers have the right to:

- Be treated as coworkers, not just free labor;
- Have suitable assignments;
- Know as much as possible about the organization, policy, people, and programs;
- Participate in a wide range of activities;
- Receive the appropriate quality and quantity of training;
- Receive sound guidance and direction through leadership;

- Have proper and safe working conditions;
- Have promotional opportunities and a variety of experiences;
- Be heard and have a part in planning;
- Be recognized through promotion and reward; and
- Be appreciated day to day by the community and department leadership.

Given these rights, the department has expectations also. The fire department has an expectation that volunteer members will:

- Participate in the training and education at a level that assures competency;
- Follow proper safety protocols, policies, and procedures;
- Participate in all planned activities of the department;
- Not allow competition to result in inappropriate behavior toward others; and
- Not allow peer pressure to generate inappropriate behavior.

The New Breed of Volunteer Firefighters

At the origin of volunteer fire departments, volunteers were often the political leaders in a community. For example, in the colonies, George Washington, John Hancock, and Benjamin Franklin were among the members of early volunteer fire companies. But, much has changed in the nation's fire service since then. The early tradition of having almost all volunteers come from the community's political arena evolved many years ago into the workforce coming from the community's tradesmen, craftsmen, and those with a vocational inclination. It is now evolving again.

Today the volunteer labor force consists of citizens who are more technologically savvy and driven by an entirely different set of criteria. Those departments that ignore this evolution are suffering staff deficiencies. Other departments are aware of the changes, but have been unable to repurpose their volunteers to meet the emerging needs of the new breed of community volunteers.

Another factor affecting volunteer fire departments is linked to future employment opportunities. Many decades ago, volunteers seldom sought jobs as full-time firefighters. They were community-based volunteers motivated by helping others. However, today a significant number of candidates join the volunteer fire and emergency services to gain experience with the goal to be hired as full-time paid firefighters. This is a common motivation, and it is difficult to manage. For example, seasonal firefighters working for wildland agencies are often away from the community for as much as six months out of a year. There may also be pressure from an individual's career department for them to stop serving as a volunteer. In

areas where there are volunteer fire and emergency services departments in close proximity of paid departments, this factor may be more prevalent.

There is nothing inherently wrong with a volunteer using the department as a first step to a paid firefighter position, especially if the volunteer department has a reputation for good training and strong leadership. While this may make some departments reluctant to take on a volunteer that has career ambitions, many volunteer departments have capitalized on this phenomenon and have become feeder departments to other local full-time fire and emergency service agencies while meeting their own volunteer needs. In many cases, an individual will spend several years volunteering before taking that next step to the career service and may even continue to volunteer once moving to a career position.

Based on changing demographics and personal orientation, the new breed of volunteer may exhibit many of the following traits. He or she:

- Is very busy;
- Often volunteers for many organizations;
- Wants flexibility;
- Expects to be empowered;
- Will not tolerate working alongside people perceived to be incompetent;
- Is very technologically savvy;
- Does not want to simply make a contribution, but wants to make a difference; and
- Does not want to be micromanaged (McKee & McKee, 2012).

Motivation to Become a Volunteer Firefighter

For departments that rely on volunteer staffing, it is critical to understand what motivates volunteers to join an organization and why they may choose to terminate their participation. The challenge for the leaders in the volunteer fire service is to recognize both of these elements in managing and leading a fire and emergency services department. These are factors that must be kept in consideration as recruiting and retention programs are developed and executed (see Chapter 7, Recruitment and Retention).

The motivation to be a volunteer is complex. The following beliefs are essential:

- I am making a difference in my community.
- I am treated with respect.
- I am appreciated.
- I can see my relevance and importance in the community.
- I can tolerate other inadequacies; however, treat me badly, and I am gone.

If volunteerism is alive and well, why are the fire and emergency services experiencing a serious problem with recruiting and retaining its labor force? Although recruitment and retention challenges continue to grow in some sectors, other volunteer organizations maintain good membership participation. Organizations that seek new solutions and adapt to the changing personnel environment are successful. Those that are not changing may suffer adversity.

Individuals are still willing to give their time to volunteer fire and emergency services organizations provided they experience the following:

- The experience is rewarding and worth their time.
- The training requirements are not excessive.
- The time demands are adaptable and manageable.
- They are rewarded with a personal sense of value.
- There is good leadership minimizing conflict.
- There is ample support for the organization from the community.



The nation's earliest volunteers fought fires with mops and buckets. Today they use apparatus and equipment that is very sophisticated and expensive. The types of services provided by volunteers in the distant past were minimal compared to what is provided and expected today. People expect when they dial an emergency number that a response vehicle will arrive quickly. Very little consideration is given to the differences between paid and volunteer fire forces by the community at the time of an emergency. The financial resources devoted to creating and sustaining a volunteer fire department is a small percentage of what a fully paid department would cost the community. Today fire and emergency services include EMS, rescue, hazardous materials, and more. The expectations of the community have also increased. They expect the personnel who respond will mitigate all emergencies. Volunteer emergency responders face the same challenges as their full-time peers. The work includes more expertise and more specialized equipment, and the risks are multiplied.

Research has found the main motivations for becoming a volunteer firefighter are a combination of the aspiration to give to or serve the community, the sense of responsibility people have toward their community, and the desire to meet personal needs for social contact (Alkema, Murray, & McDonald, 2013). Everyone has a different combination of motivations. The following are some of the reasons people volunteer as firefighters or emergency responders.

Intangible Benefits of Volunteering

By definition, volunteers are giving their time without compensation. Therefore, many of the benefits of volunteering with the fire and emergency services are intangible.

The emotional payment to a volunteer is the knowledge that they are serving their community and helping fellow residents in times of need.

Being part of a community. No man or woman is an island. People sometimes take for granted the community that they live in. People and societies are codependent on each other for survival, but growth of things like commercialism may cause traditional values to be disregarded. Communities are suffering due to the growth of competing activities and increasingly busy lifestyles, but at the same time some people are able to successfully bridge that expanding gap through volunteering. Volunteering is ultimately about helping others and having an affect on people's well-being. What better way is there to connect with the community and give a little back? As a volunteer, a person certainly returns to society some of the benefits that society has given to them. The fire and emergency services provide a unique way for individuals to give back to

their community while also finding a sense of belonging in what is traditionally a close-knit group that acts like a second family.

Sense of achievement. Fundamentally, volunteering is about giving away energy, time, and skills freely. Unlike many things in life there is choice involved in volunteering. Volunteers have made a decision to help on their own accord, free from the pressure to act from others. Volunteers predominantly express a sense of achievement and motivation, and this is ultimately generated from their desire and enthusiasm to help. Sometimes volunteers are regarded as "do-gooders." Those that hold that view also assume that one person can make a difference. It may be true that no one person can solve all the world's problems, but what volunteers can do is make one small corner of the world just a little bit better. Volunteers do make a difference!

New experiences and interests. Volunteering is a brilliant way to get life experience that is meaningful. Volunteers will experience the real world through hands-on work. It has been established that volunteers can do almost anything to which they are willing to commit. Sometimes people get locked into the rat race of life, and volunteering can provide a means of escape to everyday routine and create a balance in their lives. Finding new interests through volunteering can be fun, relaxing, and energizing. The energy and sense of fulfillment can carry over to life outside of the fire and emergency services department. It sometimes helps to relieve tensions and foster new perspectives for old situations. Sometimes volunteer experiences can lead individuals to something they never even thought about or help them discover an interest they were unaware of. Being a volunteer can strengthen a personal and a professional mission and vision for life by exploring opportunities and expanding a person's horizon.

Learn or develop new skills. Volunteering is the perfect opportunity to discover new skills or to develop existing skills to a greater level. It is never too late to learn new skills. In fact, in many cases, people seek to learn new skills to help further their career goals or to further define an interest they have outside of school or work. There is no reason for people to stop adding to their knowledge just because they are already employed or have finished their formal education.

Meeting a diverse range of people. Volunteering brings together a diverse range of people from all backgrounds and walks of life. The recipients of volunteer efforts and the exposure to volunteer coworkers can be a rich source of inspiration and an excellent way to develop interpersonal skills. Volunteering also offers an incredible networking opportunity. Volunteers cannot predict whom they will meet or what new information they will learn or how their lives could be affected.

Send a positive signal to employers, teachers, friends, and family. Coworkers at the volunteer's paying job may pay attention to the volunteer's life outside of the everyday work environment. For example, an employer could be interested in the activities that provide a good work-life balance. Volunteering reflects and supports a complete picture of a person. Volunteering represents an individual's commitment, dedication, and interests to their community.

Family history. One of the most common traditions of a volunteer fire department is the presence of several generations from the same family. In some communities there are volunteers who are related, such as spouses, children, nieces, nephews, cousins, aunts, and uncles. The presence of several generations is a very powerful influence in many departments. On one hand, it often strengthens the department by ensuring a pool of highly motivated members. On the other hand, it can create cronyism and nepotism, where relationships may be viewed as more important than skills and ability, which could result in negative influences on the department.

Need for excitement. Adrenaline is a strong motivator. While some people get their energy from playing computer games, volunteer firefighters get a rush by responding to a call. The possibility of saving a life, home, or other property occurs every time a firefighter responds to call. Of course, disappointment can occur. Getting called out for minor problems is not as exciting as being called out for a working structure fire.

Personal pride and self-esteem. Pride is defined as a sense of one's own personal dignity or value; it is a sense of self-respect that gives pleasure to someone for something he or she has done or stands for. Being a volunteer firefighter provides many opportunities to take pride in the department's activities and in one's own accomplishments.

Altruism. Altruism is the belief in or practice of selfless concern for the well-being of others. Another way of understanding altruism is defining people with altruistic motives as those who demonstrate care and compassion for the condition of others. Altruism often creates a need to belong to something that is important.

Tangible Benefits of Volunteering

Some states, localities, and departments offer tangible benefits to their volunteers. These practices vary and may be based on local human resources practices. Examples of tangible benefits include:

- Retirement and pension plans (some are called Length of Service Award Programs);
- Pay per call or per hour;
- Reimbursements for items such as food or gas;

- Tax exemptions, credits, and deductions;
- Health insurance;
- Housing assistance;
- Live-in programs for college students;
- Seasonal bonuses;
- Business discounts;
- Insurance and liability coverage;
- Public Safety Officers' Benefits Program;
- Uniform and department paraphernalia;
- Specialized/technical training;
- Educational support; and
- Recognition and awards programs.

Reasons for Leaving the Volunteer Fire Service

While there are many reasons why a person becomes a volunteer, in actuality there are just as many reasons why they quit. Volunteers "vote with their feet." If the organization is not meeting the volunteers' expectations, the volunteers leave. Retention is one of the biggest dilemmas for fire service leadership and management and will be examined more in the section on group dynamics (also see Chapter 7, Recruitment and Retention).

It is critical to understand that the continued motivation to volunteer is directly related to how a person is treated when they first join a volunteer fire and emergency services department and how they are treated as they are exposed to its traditions. Organizations that match the motivation needs of a volunteer and treat volunteers with respect usually do not experience high turnover rates. Conversely, organizations whose members feel intense competition or peer pressure or are treated as irrelevant typically have difficulty retaining volunteers.

Retention is not only a fire service problem. Many other organizations that rely on volunteers face the same dilemma. According to Jonathan McKee and Thomas McKee: "Volunteers don't look like they did yesterday—the programs that worked in the past may not work in the present" (McKee & McKee, 2012).

Volunteer firefighters almost never leave due to frustration in meeting the main motivation of becoming a firefighter. Instead, reasons for leaving fall into the category of disappointment about how the volunteers are led, equipped, and trained while participating in the organization. The top demotivators for causing people to leave are relatively easy to predict (Virginia Fire Chiefs Association, 2011). They include:

- Disappointment in departmental leadership,
- Work commitments at full-time jobs,

- Family pressure or commitments,
- Changing jobs in general,
- Leisure time and sports commitments,
- Competition with another volunteer activity,
- Seemingly onerous and boring training requirements,
- Lack of recognition or reward for positive behavior,
- Lack of compatibility with other members, and
- Lack of emergency responses.

A significant factor in fire and emergency services volunteer job satisfaction is derived from the adrenaline rush of going on calls. When calls are reduced to a minimum, there needs to be a substitute activity that will provide the adrenaline rush for reasons other than emergencies.

A leading reason that individuals choose to leave a volunteer fire department is failure to receive effective leadership (California State Firefighters' Association, 2016).

Fire Service Cultures

One cannot speak about involvement in the volunteer fire service without a discussion of organizational culture. If there has ever been an occupation that has been defined as having a culture, it is the fire service. Everyone has heard the clichés about the culture within volunteer fire departments. On one hand, volunteer fire departments are accused of being so traditional and doing things in such a rigid fashion that they are incapable of change; on the other hand, they are regarded as America's heroes and can do no wrong. Somewhere in between these two extremes is reality.

During the past couple decades there has been a lot of dialogue about defining culture and understanding its impact in recruiting and retaining volunteer firefighters.

In a simplistic way, the definition of culture is "the way we do things around here." However, that simplistic approach ignores the complexity of how and why cultures develop within organizations.

There is no such thing as a singular fire service culture; there is a range of fire service cultures. In other words, every individual fire agency creates an environment that defines its culture. There are fire departments that see themselves as being completely different from other fire departments down the road. The real issue, though, is whether each individual department's culture is a positive or negative one.

The 2012 digital edition of Collins English Dictionary defines organizational culture as "customs, rituals, and values shared by the members of an organization that have to be accepted by new members." One can go all the way back to the 1700s to see how this organizational culture was generated and supported in the volunteer fire service. A standing joke is that the fire service represents 300 years of tradition unhampered by progress, but this is not true. The reality is that the fire service is 300 years of progress defined by some of its traditions. For example, the fire service no longer uses steamers to fight fire, but it doesn't take long to realize that the pump panel on a modern apparatus is a direct descendent of the steamer. However, the perception remains that volunteer fire departments are bound by tradition.

The cultural system in most volunteer fire departments is acquired over a lengthy period of time and is based on the organization's members' efforts to cope with both internal and external influences. If a department is successful in coping, it leads those members to consider their way of doing things as the best way of doing things. Success is hard to argue with when it survives for decades.

Nurturing and Toxic Cultures

Two types of cultures that may exist within fire departments are (1) nurturing and (2) toxic.

A **nurturing culture** is one in which it is okay to be competent, and the expectation is that everyone tries to achieve the highest possible performance level. In nurturing cultures, the organization prizes performance. A good example is how fire departments strive to maintain a competitive edge between departments. This can be seen at firefighter musters and special events where department members can be witnessed striving to increase their skills or outperform their peers.

A **toxic culture** is one in which individuals are limited or restrained in terms of expressing opinions or advancing change, or both, within the organization. In toxic cultures, there might be criticism of anyone who attempts to elevate the expectations of the department or achieve something other than mediocrity. A fire service example of this could include a department that fails to adapt to new technologies or expand its knowledge base through training and practical experience. A department with a toxic culture might experience extreme turnover and lack of discipline among its ranks.

Although nurturing and toxic cultures are the extremes, many organizations have components of both of these cultures.

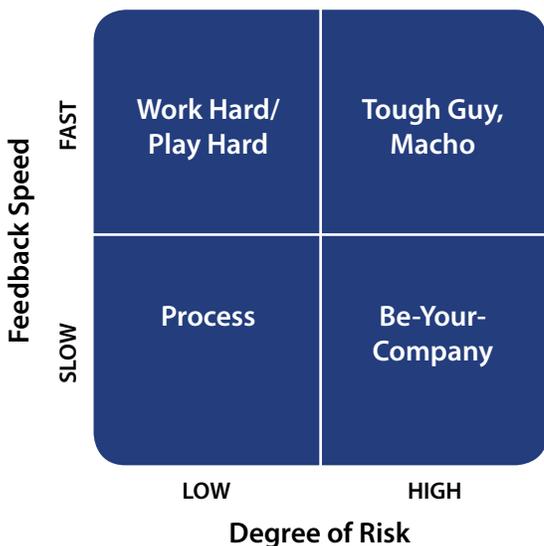
For example, a fire department can have an overall nurturing environment, but a particular station, a particular shift, or an individual function in the department can suffer traits of a more toxic culture and not share the same experience as others within the same organization. Generally speaking, the concept of a culture being created in an organization is based on the fact that it is the overwhelming morale of the organization that really determines the culture.

Symbols are a powerful component of a shared culture. The fire service has many symbols that define its culture and are representative to the outside world. The profile of a firefighter helmet, the Maltese Cross, the badge and patches a firefighter wears, and the fire chief's trumpet are all symbolic of fire service functions and are used in a nurturing environment to create inspiration. When applied in a toxic environment, they have exactly the opposite effect. In hazing scenarios, for example, symbols can be used to intimidate and ridicule personnel.

Deal and Kennedy Early Model of Organizational Culture

Models of organizational culture are helpful in determining what type of culture an organization has and can be applied to volunteer fire and emergency service departments. The earliest of these models was developed by Deal and Kennedy (1982) and proposed the following four generic organizational cultures:

- The tough-guy, macho culture,
- The work-hard/play-hard culture,
- The be-your-company culture, and
- The process culture.



Tough-guy, macho culture. In this individualistic culture, risks are taken, but the environment provides quick feedback on whether the actions were right or wrong. The entertainment industry, especially motion-picture production, and advertising are prime examples of this culture. Some think this is the preferred culture for the fire service also. Many firefighter injuries and even fatalities can be attributed to the macho culture. When firefighters ignore basic safety considerations and expose themselves to danger, this type of culture is often fundamental to the problem.

Work-hard/play-hard culture. Fun and action rule in this culture. In this culture, volunteers may be high energy and low risk, receiving almost immediate feedback on their performance. This culture understands that success is a team effort. Competitions among team members is common as they drive everyone to excel. Sales-driven organizations, especially retail sales organizations specializing in door-to-door selling, where the risks are low but feedback on sales performance immediate, are examples of this culture.

Be-your-company culture. This culture calls for big-stake decisions, with years passing before the environment provides clear feedback on whether or not the decision was correct. This is a high-risk, slow-feedback culture. Many high-tech organizations, especially in aerospace, are prime examples of the be-your-company culture.

Process culture. Little or no feedback is provided in this culture, and employees find it difficult to measure what they do. Instead, they concentrate on how their work is done. Most highly regulated organizations, such as governmental agencies, including the fire service, are common examples of the process culture.

Harrison and Stokes Model of Culture

The early model by Deal and Kennedy contributed greatly to bringing attention to the issue of organizational culture and to shaping the ensuing discussion. Their typology of organizational cultures, however, is not all-inclusive, and the criteria for classifying organizations into one of the categories are difficult to apply in all cases. Harrison and Stokes (1992) offer an alternative model, which, like the Deal and Kennedy model, also involves four generic types of organizational cultures. These are:

- The power culture,
- The role culture,
- The achievement culture, and
- The support culture.

Power culture. The power culture is based on the assumption that an inequality of resources is a naturally occurring phenomenon. Life is a zero-sum game with clear-cut winners and

losers. Among the resources that will be unequally distributed are money, privileges, security, and the overall quality of life. Strong leaders are necessary to manage these inequalities and maintain the overall balance of the system. In organizations with a strong power culture that works well, leaders are firm, but fair, and generous to their loyal followers. There is an acceptance of the hierarchical structure of the organization. Badly managed power cultures, on the other hand, are ruled by fear, with power abused for personal advantages for the leaders and their followers, often with much political intrigue and infighting. A fire service example would include an organization where cliques begin to take shape, and favoritism is used to distribute power and influence.

Role culture. The basic assumption of the role culture is that work is best accomplished through the rule of law. Roles are developed that spell out each person's responsibilities and potential rewards, and systems are installed to make certain that this is done fairly. Well-managed role cultures provide stability, justice, and efficiency. People are protected from arbitrary decisions from the top and, thus, can rely on impersonal standard operating procedures. The role culture tends to stifle creativity and innovation and is rather inflexible. A fire service example of this would be an organization that is overly bureaucratic and micromanaged, where tasks are done by the book with little opportunity for change or innovation.

Achievement culture. The basic assumption of the achievement culture is that all people want to make meaningful contributions to their work and to society, and they enjoy their interaction with both customers and coworkers. The role of management in such cultures is to develop work situations that seriously engage people and help people feel that they are contributing to some higher goal articulated in a clear mission statement. People are allowed to supervise themselves in self-directed work teams that provide an opportunity for people to learn and grow on the job. Although an achievement organization has rules and structure, these work to serve the system rather than stifle it. The power in the achievement culture focuses on creating the mission and then working until that mission is complete. The downside of the achievement culture is the difficulty in sustaining energy and enthusiasm over time. A fire service example might include a department that has a period of high achievement followed by a timeframe where people are burned out and cannot sustain the same level of enthusiasm and energy.

Support culture. The basic assumption of the support culture is that mutual trust and support must be the primary basis of the relationship between the person and the organization. People must be valued as human beings, not only as contributors to work or occupiers of organizational roles. The weakness of the support culture is in its internal commitment to its own members rather than in a commitment

to external task accomplishment. The strengths of the support culture are nurturing and developing its members. An example of this would be a department that focuses a lot of the attention on taking care of its people and less on its goals as a department.

Understanding these culture models does not require using any or all of them to understand the culture in one's own organization. Rather, the question is to what extent the elements of each of the models are represented. No model, however, fits any organization exactly.

Generational, Gender, and Other Differences

Generational, gender, and other differences can exert enormous influence in the motivation, recruitment, and retention of fire and emergency service volunteers.

Generational Differences

Over the last few decades, the recruiting and retention processes in volunteer fire and emergency services departments have become more institutionalized; in many cases, these processes are as formal as those for full-time paid positions. Concurrently there has been a shift among the different age groups of volunteers, a growing gap in generational differences.

Generational differences are caused by the perspectives acquired by being born, growing up, and maturing in a changing world that is different for each generation. Generally, the age difference is not as important as the philosophical difference. There have always been differences between generations. For example, those who entered the fire service in the 1950s were Traditionalists born prior to World War II. Those who entered the fire service in the 1980s had drastically different backgrounds and experiences growing up. Conflict tends to develop among members of different generations when each thinks their way of doing things is the best way and is not open to different ideas or compromise.

The following tables provide a general overview of the generational differences seen over the past 100 years. The birth period provided for each generation is approximate and may overlap because there are no standard definitions for when generations begin and end. The names that have been given to these groups are Traditionalists, Baby Boomers, Generation X, Millennials, and Generation Z.

Table 1.1

Traditionalists

Category	Features
Birth Period	Born between 1909-1945
Characteristics	Conformance, hierarchy, sacrifice, duty before pleasure
Pros	Stable, loyal, detail oriented, thorough, hardworking
Cons	Dislike change, like to avoid conflict, more reserved until threatened
Workplace Style	Derive identity from boundaries, hierarchies, and position

The Traditionalists are almost entirely gone from the fire service, although there are still some that have been retained as senior advisors and a few that are still in active service. They were the predominant staffing resource that created the fire services of the 1950s, 1960s, and 1970s.

Table 1.2

Baby Boomers

Category	Features
Birth Period	Between 1946–1964
Characteristics	Optimistic, team oriented, personal gratification/growth, work involvement
Pros	Driven, aggressive, aim to please, relationship focused, team players
Cons	Hesitant to adopt new technologies, process driven not result driven, reluctant to disagree
Workplace Style	Collaboration, cooperation, being part of the whole

Baby Boomers are still engaged in the fire service, but mostly at the leadership level. Often they are in conflict with the younger generations over motivations and attitudes about the department.

Table 1.3

Generation X

Category	Features
Birth Period	Between 1965–1980
Characteristics	Independent, diverse, technologically oriented, detached, self-reliant, entrepreneurial
Pros	Adaptable, not intimidated by authority, creative, independent
Cons	Impatient, quick to criticize, skeptical, results over process
Workplace Style	Look/quality is important, support individual needs

Generation X is involved at a significant level in today's fire and emergency services and often has conflict with previous generations.

Table 1.4

Millennials

Category	Features
Birth Period	Between 1981–1996
Characteristics	Confident, easily bored, streetwise, environmentally oriented, nurturing
Pros	Multitasking, realistic, technologically savvy, tenacious, meaningful work
Cons	Need for structure/supervision by someone else, job hoppers, work isn't everything
Workplace Style	Informal, fun and games

Millennials are involved in the fire service today and are set to become the department leadership of tomorrow. Much like their predecessors, Millennials often have conflict with previous generations.

Table 1.5

Generation Z

Category	Features
Birth Period	Between 1997–2010
Characteristics	More pragmatic and independent than their predecessors
Pros	Don't know what it is like to be "unplugged"
Cons	Risk averse
Workplace Style	Loyal, compassionate, determined, integrated with the Internet

The next generation of potential recruits, Generation Z, is still being defined and will ultimately be an important part of the fire service's future. Some other titles for this group include ReGen, the Homeland Generation, Plurals, and Founders.



Mentoring

A best practice to work effectively with generational differences is a mentoring program. The newest generation entering almost any organization will bring with them a point of view and unique experiences. The generation that is in charge of the department has expectations and is interested in retaining their particular point of view. Volunteer leadership needs to develop a mentoring relationship with junior members to bridge this gap. Leadership should also encourage open dialogue and idea-exchange so that members of each generation can learn from each other and find each other's strengths. In addition, mentoring can help bridge other differences between members, such as gender, racial, or ethnic differences.

Gender Differences

Women have continuously been involved in the volunteer fire service, but for many years were restricted to mainly support roles, either by policy or by practice. Over the last four decades, there has been growing recognition that women have a role to play in all activities of the fire and emergency services. The roles of women in society have changed significantly, and fire service organizations that understood this have incorporated methods to recruit women. While there is still a long way to go to achieve a fully integrated fire service, women are increasingly becoming members and leaders in fire and emergency response organizations across America.

Traditionally firefighting has been considered to be a profession dominated by males. Although improvement is being made, and the fire service is becoming more diverse, statistics show that women make up just 11 percent of the volunteer fire service (NFPA, 2016). Conversely, when it comes to general volunteerism, the Bureau of Labor Statistics (2016) reports that men and women in general continue to volunteer in almost equal portions, with women actually a small percentage point ahead. A survey conducted by the NVFC (2015) indicated that women are just as interested in volunteering as their male counterparts.

Women make up half of the population and present a significant area of recruitment growth for volunteer fire departments. They are highly capable of performing the job of a firefighter, driver/operator, officer, chief, and any other fire service position. A volunteer department that discriminates against women as members and leaders is limiting the resources available to the organization and would be breaking civil rights laws. Incorporating women into the fire service may require cultural changes to create an atmosphere of inclusion, but the department will benefit from different perspectives. In addition, potential female recruits are more likely to join a department when they see that women are welcomed and treated equally. It is critical that leadership establish a work environment in which women are accepted as fully participating members.

Other Differences

An ongoing challenge in the fire service is for departments to reflect the diversity of their communities. Religion, ethnicity, nationality, and even social status have been reasons that some people have joined a fire department; however, these same factors have prevented others from doing the same. Today fire departments need to work actively to take on department members who reflect the demographics of the community being protected. Achieving this diversity requires a concentrated effort and willingness for departments to grow and change to ensure that they are inclusive. Departments that reflect the diversity of their communities benefit from

the multitude of skills, knowledge, backgrounds, and experiences of their volunteers and are better equipped to serve their communities.

Recruiting Best Practices

- Use images of ethnic minorities and women in recruitment materials.
- Organize a high school Explorer or cadet program.
- Use mentoring to support new recruits.
- Advertise volunteer needs.
- Recruit at job fairs and community events.
- Involve female and minority personnel in recruitment activities.



Figure 1.1. Recruitment materials available through the National Volunteer Fire Council's Make Me A Firefighter campaign (<http://portal.nvfc.org>).

Competition and Peer Pressure

Competition is a part of the culture of many organizations, and it can have a positive or negative effect. In much the same way, peer pressure can have similar repercussions.

Competition

Competition is defined as a rivalry between two or more persons and can have both advantages and disadvantages within a workplace. On one hand, competition can create an environment where team members are pushed to excel and can create a sense of teamwork. On the other hand, competition can lead to unhealthy rivalries resulting in resentment, stress, and a breakdown in comradery. Both positive and negative competition can affect morale and the ability of the team to accomplish the goals of the organization.

Positive Competition. Humans are competitive by nature. Competition occurs across society and is reinforced by media. Children compete in sporting events at a young age. Workers compete formally and informally. Work teams are established so the competition among them creates an environment for work to be completed better and faster. Fire and emergency service departments are full of competition. A pick-up basketball game, a foot race, physical fitness, culinary skills, and firefighter skill-related events like the Firefighter Combat Challenge are all part of the fire department culture. Positive competition can motivate firefighters to perform at their best and can serve as an incentive for firefighters to remain involved and engaged with the department.

Negative Competition. Any competition that results in anger, hostility, fear, or retribution is not appropriate in a fire department. Negative competition occurs when people personalize differences by making the other side the enemy. Volunteer fire departments that have too much negative competition often find that the energy devoted to the hostility detracts from the positive aspects of the competition.

For example, it is not uncommon for volunteer fire departments to compete for reputation, hoping to outperform their neighboring departments by having greater capabilities, better equipment, or by being first on the scene. While competition that is based on performance and competency is highly desirable, drawing lines of conflict is undesirable and can result in negative outcomes, such as one volunteer fire agency refusing to accept the assistance of a neighboring department when a major event occurs. In this case, the competition might lead the department to discount mutual aid or assistance with a “we can handle that” phenomena instead of working with their neighbors in the interest of protecting the community. Another behavior that has been seen in volunteer organizations is the “don’t cross that line” mentality. This is when territory means more than success in coping with whatever emergency is in progress. Both of these are undesirable and inappropriate behaviors.

Peer Pressure

Peer pressure is defined as social pressure by members of one’s peer group to take a certain action, adopt certain values, or otherwise conform in order to be accepted. The pressure that people feel to behave in a certain way because it is what their friends or people in their group expect is a very powerful feeling. Any feeling that an individual must always do the same thing as other people of the same age and social group can create peer pressure. Peer pressure is positive when it is used to define a group’s expectation, but is not desirable when it is used to discriminate or harass others. Both positive and negative peer pressure can have a direct impact on morale and discipline.

Positive peer pressure. Positive peer pressure occurs when the attitude of a peer group encourages good behavior and defines expectations. For example, the group dynamic can create a sense of pride among individuals in the organization as well as an atmosphere of team spirit and camaraderie. This peer pressure can affect the morale of the organization positively by creating confidence, self-esteem, and enthusiasm for existing working conditions. A well-disciplined organization with a strong sense of purpose usually has a high level of morale and is better able to influence positive behaviors. Other examples of positive peer pressure may include encouraging members to wear seat belts, clean their gear, exercise regularly, eat more healthfully, or participate in training and education to expand skills and knowledge.

Negative peer pressure. Two specific areas of inappropriate peer pressure include workplace bullying and harassment or hazing of any type. These examples show how negative peer pressure can damage an organization.

- **Workplace bullying.** Workplace bullying is defined as “repeated, health-harming mistreatment, verbal abuse, or conduct which is threatening, humiliating, intimidating, or sabotage that interferes with the work of an employee or group of employees” (Workplace Bullying Institute, 2014). With this definition in mind, it is relatively easy to identify behaviors that should never be allowed in the fire service.
- **Harassment or hazing.** Harassment, or hazing, is the act of systematic or continued, or both, unwanted and annoying actions (including threats or demands) of one party or group. Such activities can result in findings of a hostile workplace or legal action, or both, based on discrimination. A close examination of how people are treated in an organization can result in identifying those behaviors that are considered appropriate and those that are not.

Negative peer pressure results in a hostile workplace that people do not want to be a part of. Hostile workplaces can be a primary reason why departments have difficulty recruiting and retaining adequate personnel. One of the challenges to the leadership in any volunteer organization is to retain the desire for pride and enthusiasm in a department without creating or allowing a toxic atmosphere in the organization.

Groups and Group Dynamics within the Volunteer Fire Service

Groups

For this section, a group is any collection of volunteers that come together to accomplish a task. It can be on the scene of an emergency, at a training session, or for a fundraiser, for example. The term group can also be defined as two or more individuals who are connected to one another by social relationships.

In the fire service, a group can be as small as three to four people or as large as a fire company or the entire department. Of course, in any organization there are different groupings of individuals that vary because of interests and similarities. In addition, there is grouping by position and title, such as officers or the fire chief and his or her associates.

Group dynamics become more complicated as the number of people in a group grows. Characteristics of an organization's culture and of groups within that culture can influence organizational change and learning (Lucas & Kline, 2008).

The literature defines several subheadings that are relevant to this discussion:

- Group formation (the creation of a volunteer fire department).
- Group membership and social identity (those who belong versus those who do not). This process is where the group develops criteria for “belonging.”
- Group cohesion (the degree of independence that exists among group members).
- The black sheep effect (what happens to those who do not conform).
- Group influence on individual behavior (where peer pressure and competition begin to play in the group's activity).
- Group performance (issues of competency and skill development).
- Group structure (the role of the fire company versus the role of the larger group). Furthermore, the group's structure or internal framework includes a set of subcategories that are significant in context:
 - Roles,
 - Norms,
 - Intermember relations,
 - Values,
 - Communication patterns, and
 - Status differentials.

The Four Stages of Groups

Psychologist Bruce Tuckman first came up with the memorable phrase “forming, storming, norming, and performing” in his 1965 article, “Developmental Sequence in Small Groups.” He used it to describe the path that most teams follow on their way to high performance. Later, he added a fifth stage, “adjourning” (which is sometimes known as “mourning”). A classic example of the mourning phase occurs when a totally volunteer fire department begins to add paid staff. In almost all cases there is a sense of loss and deprivation that occurs as roles and norms may change, the original group structure is disbanded, and a new group structure is reformulated in the form of a combination department.



One of the greatest challenges that volunteer leadership faces is bringing his or her group together as an effective team in any one of those four stages. One of the reasons that this is difficult is because team building involves getting everyone to agree to follow a specific course of action, and volunteers, by nature, are independent. They are there for specific reasons that may vary by person. When they join a department, it is because they have justified in their own minds that being a volunteer is worthwhile, and other changes or events that take place that reduce this sense of satisfaction can be very demotivating.

Tradition in Groups

Tradition is perceived by many as a double-edged sword. On one hand, it is the foundation of competency; on the other hand, it can restrict learning new and evolving skills. Firefighters often use tradition as a defense to change. Tradition is an interesting phenomenon. It does not always mean “the way we used to do things.” Instead it often means “the way we want to do things based on what we have been taught.”

The role of leaders and managers in volunteer fire departments is to show personnel the way to preserve the right kind of traditions, while also building the ability of the organization to change in order to remain relevant. This is a group process that has to be accepted and understood by individuals in the organization. Change can easily sever relationships with personnel if their perspectives are not considered.

Group Dynamics

One of the first things to recognize about group dynamics is that it is not a decision, it is a process. It needs to be recognized early on that there is often resistance to change, which can make group dynamics difficult at times. Any time someone works on developing an organization’s values and requires a change of behavior on the part of members, there is going to be a certain amount of pushback. This is all the more reason for the subject of group dynamics to be an area of focus by management and leadership. Group dynamics is where the organization begins to learn a new way of doing things; one of the most essential elements necessary is trust.

Group dynamics is an extremely critical factor in understanding the decision-making behavior in most organizations, especially volunteer fire departments.

For this chapter, group dynamics is defined as a system of behavior and psychological processes within a social group (intragroup) or between social groups (intergroups) (Dictionary.com, n.d.).

In the fire service, group dynamics can never be taken for granted. The fire officers in a volunteer organization must not only have an understanding of the principles of group dynamics, but they must practice them almost daily. Failure to understand teamwork and how groups work together will have dire consequences for a department.

Group dynamics is an endeavor from the top down and the bottom up. Leaders have to create an atmosphere that is positive from the point of view of the organization, and the followers must engage in behaviors that are consistent with that

positive atmosphere. This is not a simple task! In fact it is the essence of volunteer management.

Figure 1.2 characterizes how group dynamics affects the behavior of individual members. The department needs to have a focus in terms of its direction. This is based on a vision that is achieved through consensus. Interpersonal skills are involved in making the vision a reality. Values are established by setting the example of appropriate behavior. Interpersonal skills based on personal values and focused on the vision of the organization affect the reputation of the organization. In this model, the organization’s dynamics result in two things: the consensus for what is the right thing to do and the reputation for living up to the department’s values. Departments that engage in best management practices and maintain a high level of participation by their volunteer work force offer an example of how group dynamics can be developed. Departments that understand group dynamics may also possess a high retention rate and have high morale and a strong sense of organizational pride.

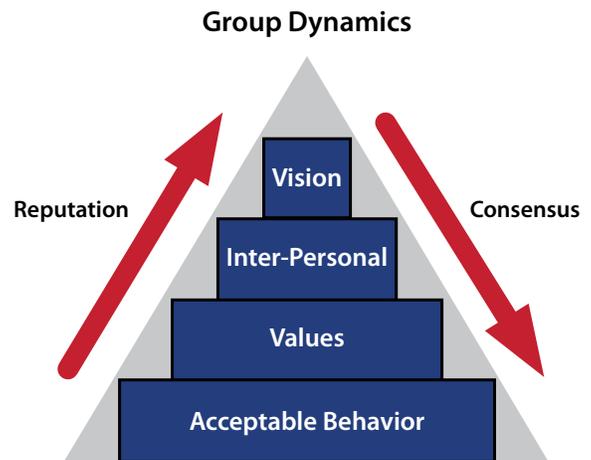


Figure 1.2. Effect of group dynamics on individual behavior.



External Influences and the Volunteer Fire Service

Family

When an individual chooses to become a volunteer firefighter there is a substantial impact on the family. The volunteer's schedule can be unpredictable and may require more time away from home responding to calls or staffing duty shifts at the station. Maintaining a balance between commitment to the fire department and commitment to the family requires careful consideration of time management and a common sense approach to balancing out these potential conflicts. In addition to time restraints, volunteers face many inherent dangers in the line of duty that can cause worry and concern among family members. A line-of-duty injury or death can result in severe emotional and financial stress for the family.

Failure to consider the effects that volunteering in the fire service can have on the family can be a powerful demotivator at times and can cause volunteers to resign from their departments. Volunteers who have the support of their family are more likely to continue in their volunteer capacity and can even be great recruiters for the department, bringing in potential volunteers through children, grandchildren, nieces, nephews, and others.

Other Influences

Today more than ever before, volunteers are being pulled in multiple directions. They are more likely to have less time due to a myriad of factors, such as two-income households, longer commutes to work, trying to balance their paid job with their volunteer activities, struggling to find childcare to accommodate their schedules and budgets, and working to keep up with the onslaught of information that comes from constant connectedness to the external world. Departments seeking to attract and retain volunteers must pay close attention to volunteer motivators and demonstrate flexibility and a willingness to work with busy schedules and changing needs. In doing so, the departments will be better able to create a positive, supportive culture that allows them to meet the needs of the community while also maintaining a motivated volunteer workforce.

Summary

The behavior and characteristics of a volunteer firefighter are not to be taken for granted. The culture of the organization will determine what traits and characteristics are supported and encouraged. A positive cultural environment results in an organization that is very likely to be competent and relevant, while a negative cultural environment can result in the opposite.

The role of leaders in the fire service is to encourage the type of environment that is positive and supportive of an organization with a reputation for the right things to do from the top to the bottom of the department.

Competition and peer pressure have an influence on the culture of the organization, either positively or negatively. The decision to engage in appropriate behavior, inappropriate behavior, or both, is highly dependent on leadership creating the right kind of culture from the top down and followership mirroring those behaviors on the way up. It does not take much of an effort to destroy the morale of an organization; on the other hand, it takes a great deal of energy to sustain a positive culture. The net result is that time and energy devoted to providing appropriate behavior is among the most meaningful thing that leaders and managers can perform on a day-to-day basis.

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CHAPTER TWO

LEADERSHIP

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CHAPTER TWO

LEADERSHIP

Case Study

Members of the volunteer fire and emergency services department meandered into the meeting room. Tension was in the air. The agenda item generating all the discussion was a change to the bylaws. Before the meeting factions were actively seeking votes for the various positions they supported, and all the fire department movers and shakers were jockeying for position. The vote was imminent.

The room was near capacity, filled in part by members who had not been active for a while. The process had taken almost a year to get to the actual vote. Members were divided, and some were still undecided.

The leadership, both formal and informal, had strong beliefs about their points of view, and they had worked to sway the vote. There were distinct groups that believed they had the momentum to win the vote.

Finally, the main event, changing the bylaws, was on the floor. A motion was made and seconded and discussion began. The Bylaws Committee recommended the change.

Proponents made their case; opponents countered. The discussion was lengthy and at times heated, with members voicing strong and emotional opinions. The fire department president struggled to maintain control. Firefighters spoke out of order; some were unruly and boisterous. Voices were getting louder, and the gavel was used a number of times.

The president attempted to please everyone and allowed many to speak repeatedly. Tension was building. Frustrations were overflowing, and the group became like a mob, chaotic and unmanageable.

A volunteer firefighter raised his hand to be recognized and waited his turn. This volunteer was frustrated that the discussion was going round and round without facts. He was patient and continued to raise his hand. The president noticed the lone hand in the air and recognized him.

The young volunteer had the floor. He stood and began, "My fellow volunteer firefighters, we live and die by our bylaws. The decision we make tonight is a critical change for our volunteer fire department. I have listened to all of you. I have heard much dissension and divisiveness. Let us use our logic, not our emotions, to weigh the choices and make the right choice because our current and our future volunteer firefighters depend upon us." He then used the force of his personality and a series of well-conceived factual statements to lead the group through a rational decision-making process. Although this young volunteer firefighter was neither the chief nor an officer, he was the leader.

In many volunteer fire departments leadership can be better. It is evident in meetings, during training sessions, in helter-skelter planning, and in the lack of positive outcomes.

Introduction

In the case study, it is obvious that the fire department's formal leadership lost control. It took an informal leader to bring order to the chaotic meeting. Many volunteer members have been part of similar discussions and have suffered frustration with the lack of logic and ineffective leadership.

Leadership is the heart of a successful volunteer fire and emergency services department. Research about why volunteer firefighters leave their departments lists the top two reasons as:

1. Lack of positive leadership, and
2. Lack of time (NVFC, 2015).

The report cites the additional reasons for members thinking about leaving the volunteer fire service:

- Boredom,
- Senior leadership's poor treatment of firefighters,
- Tired of best efforts resulting in loss,
- Amount of time required to volunteer, and
- Poor communication between officers and members (NVFC, 2015).

The fact that firefighters leave because of poor leadership demonstrates that the volunteer fire department is only as good as its leaders.

Volunteer fire chiefs are hired, appointed, elected, or become the chief by default. This results in volunteer fire chiefs of all ages; with a range of experience, wisdom, and occupations; and a multitude of other varied distinguishing attributes to lead their fire departments. It is an honor and a challenge to serve as a fire chief, who is ultimately responsible for the success or failure of the volunteer fire department. However, the chief is not the only leader in the fire department. An effective chief acknowledges and learns to use other leaders to benefit the fire department.

The volunteer fire chief is the department's moral and emotional core, and he or she sets the tone. The rest of the department will mirror the chief's leadership, expectations, and professionalism. Successful fire chiefs realize the greatest assets are the volunteer firefighters, rescue personnel, and emergency medical service providers.

Focusing the mission and values of the fire department on serving the needs of the community is the fire chief's primary role. The chief must also always protect the boots-on-the-ground firefighters. Keeping the focus on emergency responder safety and the needs of the community will ensure effective, efficient, and safe response. An effective fire chief

serves as the glue that keeps a volunteer fire department operating and progressing.

Self-Awareness and Leadership

Self-awareness is a key leadership quality. All leaders have strengths and weaknesses. Effective leaders, and those who aspire to be so, are self-aware of their strengths and weaknesses and make efforts to capitalize on their strengths and neutralize the weaknesses. Leaders who lack self-awareness often exhibit traits like defensiveness, micromanaging, making excuses, denial, and bullying; they are not best serving their department or the community. The following specific steps can be useful in fostering self-awareness:

- Be willing to change methods and style.
- Find and engage other leaders who will help compensate for identified weaknesses or gaps in the current leadership's skills.
- Gather input from others to help identify the leadership challenges that lie ahead.
- Be open to constructive criticism and willing to adjust leadership and communication styles.
- Employ a positive attitude; it can overcome other leadership shortcomings.
- Identify respected leaders and study their methods. Schedule a conversation and ask for tips to be a better leader.
- Read current articles about leadership and management.
- Attend leadership training opportunities at local, state, and national levels.

Leadership Types

Formal and Informal

There are many types of leaders, formal and informal, in any organization, including within fire departments. Formal leaders are the chief and officers who have been formally assigned the job of leading the department. Informal leaders are those who have no formal leadership role, but who at times influence the department as much as, and sometimes more than, the formal leaders.

Informal leadership exists on the operational side as well as on the support side of the department. Most informal leaders have the power to influence others and have the respect of department members. Their leadership can be an asset to the department, and they should be included in the strategic planning, training, and other department activities when possible. Informal leaders are often the social leaders in the organization that bring the fun factor into the department (unfortunately, some social leaders emphasize negative or

counterproductive behaviors—these, too, must be identified and managed to mitigate the possible harmful effects of their influence).

Formal and informal leaders draw on specific personal skill sets to lead. Some may have excellent social skills, are charismatic, and are people that others want to be around. Others lead because they are viewed as technical experts, and people listen to them because of their perceived or actual knowledge. Their leadership is tied to their expertise and competence. Sometimes several members of a family are on the department, and this influences the leadership. Seniority and experience can be the sole source of selecting leadership for some departments.

Formal leaders in some departments have the added factor of legal authority behind their position. This legal authority or power can be an advantage as well as a formidable responsibility. Formal leaders should consider their role in social activities and the expectation that they maintain their expertise associated with their position.

In addition to formal and informal leaders, the volunteer fire department has fire department experts who provide leadership and assistance in their areas of expertise. These are the mechanics, certified instructors, information technology experts, radio specialists, and others. The capable fire service leader identifies these experts, uses them as advisors, and ensures that the department benefits from their talents.

Operational and Support

In many volunteer fire and emergency service departments there is the operational side, which handles the emergency calls, and there is the support side, which handles nonemergency functions. The support volunteers may help lead the fire department's fundraising activities, plan the awards banquet, and perform other tasks, such as making sure the members have the latest gear and equipment. Support members can also perform recordkeeping, training, station maintenance, and many other essential tasks. Operational and support functions both require formal and informal leaders.

Most fire departments have a monthly meeting to keep the members informed about the support operations and the emergency response operations of the department. These meetings are an opportunity for leadership to convey key information to volunteer personnel while also receiving important feedback from the membership.

Leadership Styles

The fire service is home to multiple leadership styles, and some are more effective than others. With each leadership style, there are advantages and disadvantages. Fire chiefs must develop their own style based on the departmental culture, membership buy-in, and the characteristics of the other leaders within the department. Leadership styles include coercive, authoritative, affiliative, democratic, pacesetter, and coaching (Goleman, 2000).

Coercive

The coercive leader tells subordinates what to do and when and how to do it. There may be times when the chief must be assertive, stern, and decisive, such as in times of crisis or when there is an imminent threat to firefighter safety. The coercive leader expects immediate compliance and can be effective in getting tasks done quickly and efficiently.

Although there may be a time and a place for this style, coercive leadership can stifle innovation and creativity and is generally unpopular among subordinates, who may feel underappreciated and overworked.

Authoritative

The authoritative leader leads with enthusiasm and a clear vision. As one of the most effective leadership styles, the authoritative leader motivates their subordinates by helping them understand how they fit into the larger vision for the organization. Managing a fire and emergency service department where everyone understands the broad organizational goals as well as how they fit into achieving that goal will allow the fire department to accomplish objectives and achieve positive outcomes. Ideally, an authoritative leader will bring about desirable firefighter behaviors through clearly communicated expectations and by providing freedom to innovate, experiment, and take calculated risks in achieving the vision.

The downside of the authoritative leader is that this style may not work in all situations. If an authoritative leader is working with a team that is more experienced or knowledgeable than he/she is, they may view this leader as out-of-touch. If an authoritative leader becomes too overbearing, this can also have a negative effect on the morale and motivation of the team.

Affiliative

The affiliative leader follows a people-first attitude, valuing people and their emotions more than a task or goals. This style is useful in bonding with the team, creates a sense of belonging, and provides an environment in which firefighters can openly share ideas and develop trust. The affiliative leader provides ample positive feedback, excels at building relationships, and often inspires strong loyalty from subordinates.

The affiliative leader can use this sense of loyalty and belonging in the firehouse to encourage positive behaviors and reinforce these behaviors with praise and positive feedback.

As with the other styles, this one has its potential challenges. Even though affiliative leadership can be very effective, its singular focus on praise and positive feedback can allow underperformers to go uncorrected, which can lead to the perception that mediocrity is acceptable.

Democratic

The democratic leader uses the consensus model, which seeks to solve problems or make changes by asking team members for feedback, suggestions, and ideas. Democratic leaders may be uncomfortable making decisions themselves but excel at garnering buy-in from department staff and involving them in the decision-making process. A strength of this leadership style is in drawing out the best ideas from the volunteer staff rather than depending on a single person to identify the best possible solution. This can be an effective style in encouraging behavior change within an organization because staff are more invested in ensuring the proposed solution or outcome works.

The downside of this leadership style is that the democratic leader may struggle when decisions need to be made quickly, when personnel disagree on the best course of action, or when firefighters are unavailable to provide input.

Pacesetting

The pacesetting leader sets high standards of performance and exemplifies them, and seeks better and faster ways to do

things, expecting the team to follow suit and replacing them if they don't. There is a time and place for this leadership style, such as on the fireground, where things must happen quickly and effectively among a competent and skilled team of firefighters; however, it is best used sparingly.

The expectations of a pacesetter leader can prove overwhelming for personnel and quickly destroy morale. Subordinates may feel mistrusted and uninspired to take initiative or try their best, focusing instead on guessing what the pacesetter leader wants.

Coaching

The coaching leader focuses on building their team members' skills, experience, confidence, and knowledge. Being able to assist firefighters by strengthening their skills creates rapport and respect. The fire service leader who uses a coaching style develops a bond of trust with the members; provides guidance and assurance; and teaches personnel how to solve a problem or answer a question, rather than telling them how to do it. This direction and support can be very effective and can create a team atmosphere. The coaching leader can cultivate a sense of teamwork and loyalty to encourage positive behaviors and empower personnel to assert positive peer pressure within the team.

This leadership style could be detrimental to the organization if the personnel are unwilling to learn or if the leader is not an effective teacher (Gill, 2015).

The Six Leadership Styles at a Glance

Our research found that leaders use six styles, each springing from different components of emotional intelligence. Here is a summary of the styles, their origin, when they work best, and their impact on an organization's climate and thus its performance.

	Coercive	Authoritative
The leader's modus operandi	Demands immediate compliance	Mobilizes people toward a vision
The style in a phrase	"Do what I tell you."	"Come with me."
Underlying emotional intelligence competencies	Drive to achieve, initiative, self-control	Self-confidence, empathy, change catalyst
When the style works best	In a crisis, to kick start a turnaround, or with problem employees	When changes require a new vision, or when a clear direction is needed
Overall impact on climate	Negative	Most strongly positive

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Chief officers play a key role in how the department operates and its ability to serve the community effectively. How chief officers lead is up to them, but completing the mission of the fire organization is of primary significance and predicated on clear expectations and strategic planning. To that aim, a variety of leadership styles can be employed to most effectively reach the highest number of members—some members will respond to coaching methods, some may respond better to authoritative leadership, while others may appreciate the democratic style. Certain situations may require different leadership styles. For instance, on the fireground a leader may need to be authoritative, or even coercive, but when implementing a broader change within the department a more democratic style may be in order.

Whatever the style, or combination of styles, officers should lead with a purpose; a clear vision will allow for success. Leaders must be aware of their leadership style, strengths, and weaknesses in order to progress and be successful in their role, and they must be knowledgeable and factual and allow others into the circle of leadership. Clear expectations, sound judgment, and an action plan are necessary to create a thriving, positive fire department culture. Results-oriented leaders will bring a sense of building something special that the volunteers want to be a part of. Leaders need to step up to the challenges that the American volunteer fire service faces, and be progressive, intuitive, and in tune to the members. They need to develop their own style, be their own chief.

Leadership Roles of the Fire Chief

A fire chief must make productive use of resources, manage time, practice a team approach, communicate clearly, and make sound decisions. The fire chief serves as the leader, not just a manager or administrator, but as the full, five-bugle leader. He or she must lead with confidence, internally within the department and also externally within the community, with elected officials, and with outside agencies and partners. The fire chief is the face of the fire department. Whether during fire department interactions or simply having lunch on Main Street, the fire chief represents the entire fire department at all times.

External

It is in his or her role as the public face of the volunteer fire department that the fire chief demonstrates external leadership. The chief must always have a game face on and proudly serve the residents whom the department protects. Specific activities of external leadership include the following:

- Working collaboratively with elected officials and keeping them and other stakeholders informed.
- Demonstrating pride in the organization.
- Navigating the political environment when needed to support the members and the department.
- Creating, forging, and building partnerships to better equip and maintain the department. These partnerships can prove very beneficial in supporting the department and the community in times of need.

Affiliative	Democratic	Pacesetting	Coaching
Creates harmony and builds emotional bonds	Forges consensus through participation	Sets high standards for performance	Develops people for the future
"People come first."	"What do you think?"	"Do as I do, now."	"Try this."
Empathy, building relationships, communication	Collaboration, team leadership, communication	Conscientiousness, drive to achieve, initiative	Developing others, empathy, self-awareness
To heal rifts in a team or to motivate people during stressful circumstances	To build buy-in or consensus, or to get input from valuable employees	To get quick results from a highly motivated and competent team	To help an employee improve performance or develop long-term strengths
Positive	Positive	Negative	Positive



Internal

The fire chief practices internal leadership by serving as a motivational recruiter, presenter, coach, cheerleader, professional trainer, and an advocate for the fire service, the fire department, and the volunteers. The chief must seek growth in the organization and serve as a positive change agent when change is needed. With focus on the vision and mission of the volunteer fire and emergency service department, the chief must continuously strive to ensure that the department is meeting or exceeding the goals and standards that have been set. Responsibilities of the chief may include the following:

- Setting high standards and goals, moving the department progressively forward, and safely and effectively serving the customers;
- Keeping current with fire dynamics, best practices, training evolutions, and ever-changing technology; and
- Devoting the appropriate time to train, prepare appa-

ratus and equipment, organize coverage, maintain certifications and inspections, and provide the necessary resources for efficient response.

Fostering personal responsibility. Personal responsibility must be a constant reminder both on the scene and in all that is done in or around the fire station. Volunteer firefighters are professionals, whether or not they are paid, and this job requires responsibility that cannot be taken lightly. This sense of responsibility must be instilled in each new candidate and reinforced with all personnel on an ongoing basis.

Building rapport. Building rapport with all volunteers is a balancing act for every fire chief. In the volunteer fire service there are various cultural differences, ethnic backgrounds, gender differences, and families to blend together into one productive workforce. It is important that leadership models a culture that values all of these differences and the unique traits, ideas, and experiences that they bring to the table and provides a voice for all members. Providing an inclusive environment will promote buy-in, increase volunteer satisfaction, and make it easier to effect positive behavior changes among the members when needed.

Promoting safety. Creating and maintaining a positive and safety-minded culture must be a priority for department leadership. Chief officers must serve with clear expectations and be able to communicate these expectations clearly to others. In addition, they must use their authority to eliminate mixed messages. For example, if the department has a seat belt policy in place that is not practiced consistently on every call by every person, then it is the responsibility of the chief

Build a Budget to Lead the Way

A department budget can set the tone for the department, identifying operational areas that are considered valued and important as well as those that are not. Building a budget requires a clear understanding of the mission and vision of the fire department. For example:

- How does the leadership communicate to taxpayers?
- What services does the department provide?
- What services should the department provide?
- What operational expenses are required?
- What are the maintenance and replacement costs of equipment, apparatus, tools, personal protective gear, and all the necessary budgetary items required to fulfill the mission?

Providing documentation and justification for each line item to all constituent groups is essential in obtaining buy-in and support. Communicating the needs of the department and anticipating future purchases to ready the tax base for the uptick in costs is both prudent and necessary. Keep communications open with all stakeholders and make sure the goals of the department and the community are aligned. Clearly communicate the successes of the fire department, the need for firefighter safety, response capabilities, and the importance of adequate resources to help the budget process go smoother. Setting budgetary priorities and planning for the future will set the department up for success and communicate that these critical budget areas are important to leadership, the department, and the community.

officer to change this behavior by clearly communicating that the policy must be followed and enforcing consequences when it is not. Volunteer fire service leaders must set the tone for safety and accountability and continue to reinforce those safety protocols. This can be accomplished by the following:

- Providing members with the necessary tools and guidelines to keep them safe,
- Providing education and training,
- Developing and enforcing policies and procedures for safe practices,
- Providing awareness programs on health and safety topics,
- Providing the appropriate and necessary personal protective equipment, and
- Ensuring all apparatus and equipment is maintained and functioning properly.

By creating a culture that values its members, their health, their well-being, their differences, and their contributions, leadership is setting the stage for a well-prepared, highly motivated volunteer force to respond effectively and efficiently to the needs of the community.

Leadership and Cultural Change

How can the chief officer effect culture change within the volunteer department? Clear policies and procedures are the roadmap to success. A formal review process of the department's standard operating guidelines or procedures, or both, will keep the department in check. A strong, motivating, influential leader guides the fire department toward success. A successful leader engages members and inspires them to train to become better firefighters. Leadership's dedication to inspire and motivate volunteers is essential in maintaining the participation and interest of the boots-on-the-ground volunteer firefighter. Creating a clear, positive, and safety-minded culture is critical for the department to function well, continue to recruit and retain volunteer members, and ensure safety for all.



In addition to clear policies and procedures, leadership must monitor the morale, pride, and motivation of department members. Department members who are satisfied in their roles are more likely to be open to change within the department and more responsive to leadership's requests. Members with pride in the department are likely to embrace change that allows the department to grow, improve, and serve as a model for others.

Working with Informal Leaders

Reflecting back on the case study, the young firefighter was an informal leader. How is it that a lower-ranking individual can lead by example and effect culture change from the bottom up? The fact is that leaders are found throughout an organization. Members will tend to gravitate to a leader, even though that person may not hold an official rank. This social rank is enough for some to respect their opinion and support them through actions. The command staff must recognize these assets among their personnel and work collaboratively with them to influence behaviors. All fire service leaders, whether formal or informal, can change the safety culture to ensure that everyone goes home and that the community is safely and effectively protected.

Effecting Change

An effective fire service leader is always learning and teaching. Research reviews, tactical response training, and trade journals all offer thought-provoking ideas for encouraging and implementing progress and positive change within the department. A regular review of activities, why they are carried out, and how they are executed is essential to avoid becoming stagnant. Continuously ask the question, how can the department improve? At times, the American fire service gets stuck in tradition, making change difficult. What leaders must realize is that change and tradition aren't mutually exclusive; it is only the ineffective, outdated, or unsafe traditions that need to be updated or replaced to create new traditions in which the health and safety of personnel and the effectiveness of the organization are prioritized.

A volunteer fire department chief must be willing to lead from the front, removing the fear of change while building an environment of trust.

An effective fire service leader plays a key role in making change happen within the department. One way this is accomplished is by setting the culture and expectations of the department. A culture based on transparency, openness, team building, information sharing, and mutual respect provides a strong platform for the exchange of ideas and discussion-based decision making. Success is easier when all members feel welcome and willing to share in the change process.

An effective fire service leader can also encourage change by leading by example and demonstrating the change they are striving to implement. For example, a chief of a department seeking to enforce seat belt policies will always wear his or her seat belt. This not only models the desired behavior, it also demonstrates equity in which expectations are the same across all ranks and tenures. Personal responsibility starts at the top. Leaders who model what they want the department to be will find it much easier to gain the respect and buy-in of the volunteer staff.

Forming the Leadership Team

To lead a volunteer fire department, leadership must embrace the concept that it takes a team to reach success. Team-building skills are essential in maintaining high morale and team cohesiveness. The fire chief cannot act alone, but must be surrounded by a strong leadership team. In selecting members of the leadership team, look for:

- Leaders with different leadership styles, which allows for a balanced team;
- Leaders with various skill sets that complement each other; and
- Leaders who are an active part of the team.

Look for leaders who will not blindly agree with the chief, but those who will challenge the chief's thoughts if needed. Look for leaders who ask thought-provoking questions.

Fire chiefs must understand their own style, strengths, and weaknesses. The selection of those individuals who formulate the leadership team can balance any identified gaps. If technology is not the fire chief's strength, then a deputy chief with the necessary technological skills will help balance command's roles. A fire chief can offset a personal weakness by cooperating with others who have different strengths and using officers' talents to complement his or her own. A well-balanced team will set a tone of collaboration and teamwork for the whole department and will allow leadership to work together toward common goals.

The fire department leadership team should be built with the premise that the whole must be greater than the individual parts.

Setting Goals

An effective leader sets and communicates clear goals. One way to do this is through the development of a strategic plan. A well-thought-out plan includes the vision, mission, and goals of the fire department; is shared with department staff; and will establish clear expectations of the department's response capabilities, priorities, and future goals. The strategic plan communicates clear and defined goals to all members

of the department, identifies where change is needed, and ensures all personnel are working toward common goals. The plan should be reviewed annually and updated accordingly.

The fire chief must also provide the officers with the resources to execute and implement the strategic plan. It is best to allow leaders to achieve the goals as they see best. Share the goals and performance standards, and let them work through the results. There are many ways to get the job done right. Lead and inspire, and then let the process work.

Thinking Globally, Maintaining Awareness

Leading a fire department requires global thinking and awareness. A fire chief must be aware of the department as a whole as well as of the environment in which it operates; he or she should consider this a 360-degree walk around the thoughts, ideas, and attitudes that are shaping the department at all levels. Keeping an ear open to the troops, listening to the tone of their voices, hearing their concerns, and acknowledging their accomplishments is imperative—feeling heard and understood goes a long way in building the relationships and trust that are necessary in the fire service. It is this sense of family that motivates each member, from the boots-on-the-ground volunteer to the chief of the organization, to be their best and do their best for the good of the team. This sense of belonging and having a voice will go a long way when change needs to be implemented.

An effective fire service leader will demonstrate awareness, speak with meaning, be forthcoming with praise, and lead by example.

"I remember when I was seeking the position of deputy chief. I recall my very first alarm and the tone that I would set on the radio. I wanted to emulate one particular deputy, a calm demeanor, in control to set the tone for the call. How you say things is perhaps more important than the words." Chief Kevin D. Quinn, Union Fire District (RI)

Effective leaders will:

- Support the volunteers in all they do.
- Know the volunteers, their interests outside the firehouse, their family members, their strengths. Inspire and motivate the firefighters to apply their greatest skills to the fire department mission. Be passionate, genuine, and caring.
- Taste the fruits of their labor. Take time to stop and engage with the volunteers; be a part of their lives.

With regard to seeing the fire department clearly, think of a professional photographer with multiple cameras and lenses.

As a leader, consider which lens to use. At times a wide angle, global lens for seeing the big picture is needed. Sometimes the telescopic lens will bring out specific details that need to be addressed. Maybe a completely different view is needed, perhaps the 35,000-foot elevation view or that balcony view? Keep a constant, critical eye on the nuances of the department.

Prioritizing Safety

Volunteer fire service leaders are responsible for all who serve in their ranks. As such, it is essential to identify, reinforce, and embrace a culture of safety within the department. This culture of safety must infiltrate all levels of the department, from the most seasoned veterans to the newest recruit. How can leaders establish safety as a core value? Create an environment where safe practices and adherence to policies and procedures are the norm. Require that all members learn, adopt, and practice these skills and safe behaviors. Clearly state expectations and use teachable moments. Be willing to learn together, developing an environment for firefighters to ask questions and offer suggestions. Possible techniques to implement change include the following:

- Identify successful methods to communicate safety practices and policy compliance within the volunteer fire department.
- Set clear expectations from the beginning, and constantly reinforce policies and procedures.
- Be creative with the newest generation of volunteers. Send a text message to verify that hoods have been washed. Send a gentle reminder email that turnout gear is to be inspected and in response-ready condition.



These actions will communicate the importance of safety within the fire department and will help shape the culture and the norms that dictate firefighter behaviors and beliefs.

The Vulnerability Assessment Program is an online risk-assessment tool for helping department leaders identify risks that could lead to firefighter injury or death. The tool is free and can be accessed at www.fireVAP.org.

Other Leadership Roles

Recruitment and Retention

As leaders recruit volunteers and forge their team, it is important to consider the role that leadership plays in this process. Consider the following:

- Is the recruitment program succinct?
- Does it make sense within the jurisdiction?
- Is the recruitment process clear, simple, and relevant?

Some volunteer fire departments place handcuffs on their recruitment process through the wording of their bylaws. For example, one department had a regulating bylaw that stated, "All applicants must be homeowners within the boundaries of the town in order to become a volunteer firefighter." In today's world, this type of restriction may not be relevant or practical.

Today's leaders must realize that they need to recruit differently. Leaders must become marketers and must learn new methods to recruit. While departments used to be able to rely on multiple generations of families volunteering together, this is changing, and the fire service must adapt its recruitment practices to reach a broader audience. Questions to guide the recruitment process include the following:

- How does the fire department sell itself?
- What will motivate quality candidates to become part of the mission?
- How can the department attract more diverse volunteers that represent the community?

The best way to sell the organization is to live it. Understand the functions and processes of the department and what motivates people to volunteer. Communicate the many benefits of volunteering to prospective recruits, and include all members of the department in the recruitment process.

Use the younger generation to formulate a recruitment campaign using social media. Be sure to include the veteran firefighters in the mix of bringing in new members. Establish a recruitment and retention committee to develop this campaign and build the team. First impressions are lasting—the department must make new recruits feel welcome and included. This will help them remain motivated and willing to respond to that early morning box alarm.

Communication is also key to the retention of members. Maintain a sense of trust, integrity, and transparency within the fire department at all times. Share information freely. Always solicit the members' voices and include them in the change process. Provide a clear foundation for respect, fairness, and open-minded planning. With all members, instill a serious ethical expectation internally and externally to propel the fire department to the highest possible standards.



As a fire service leader, it is important to be able to communicate across all lines. Be approachable, accessible, and kind. Be an active listener. Hear the voices of the members, superiors, and the community. Develop plans for improvement based on logic, facts, and available resources. Bring everyone into the fold and create a welcoming environment. Let the firehouse be the hub for the community, and help the community, current department members, and prospective volunteers realize the strength and competency of the fire department.

Understanding Risk

Today's fire environment is extremely different than that of the past. Fires are burning hotter, and the materials are more dangerous than when many current leaders began in the fire service. The spread of fire is explosive today, and modern materials emit more dangerous off-gases than ever before. Fire flow and heat flux are factors that the fire service historically did not understand and didn't think they needed to understand. Today, research indicates the need to treat fire as a science, and the fire service must change tactics and strategies to protect firefighters.

Fire service leaders have a duty to understand new techniques and research of fire dynamics and behavior. It is this understanding that serves as the foundation for ensuring that volunteer firefighters go home safely after each incident. The lack of fire behavior training is a significant factor in firefighter injuries and line-of-duty deaths in the fire service. Improper ventilation and unplanned ventilation are accidents waiting to happen. New tactics, which at times are in direct conflict with previous training, will make a difference in the safety culture of the fire service. Cooling atmospheres prior to entry, controlling fire flow, coordinated tactics, and command presence are all essential in the successful operation of an incident. This new science of firefighting impacts tactics and the ability to positively affect fire operations (Weinschenk, Overhold, & Madrzykowski, 2014).

Summary

Change is constant in the always-evolving world of volunteers and the fire service. Technology, fire dynamics, research, member expectations, populations, and community risk all affect how departments are operated and managed. Ingredients to success include keeping abreast of current trends within the fire service, knowing the needs of the community, and maintaining strong connections with the volunteer workforce. Working smarter, using resources, involving others, and remaining open to fresh ideas will keep morale thriving. Additionally, do not be afraid to listen and make change for the better; always seek methods to improve the services being provided to the community.

Changing the culture within an organization can be critical for the success of the organization as well as for the health and safety of its members and the community. Fire chiefs must be willing to use the force of their personality and a series of well-conceived factual strategies and objectives to lead the fire department to greatness. A well-established vision and mission and clearly-written strategic goals will positively impact culture change in the fire department. Progressive, safe, well-trained, and efficient emergency responders standing proud to support and protect their community will ensure there are professional volunteer firefighters well into the future. Fire service leaders must take on the responsibility to change the fire culture and keep their firefighters safe.

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CHAPTER THREE

PERSONAL ACCOUNTABILITY & RESPONSIBILITY

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CHAPTER THREE

PERSONAL ACCOUNTABILITY & RESPONSIBILITY

Case Study

Eric Quinney knew he had to make a significant change. Weighing in at nearly 350 pounds, his asthma was out of control, his joints constantly hurt, walking up a flight of stairs winded him, and he was in danger of becoming diabetic. Perhaps more alarming, he was having difficulty performing his duties as a first responder with the Uinta County Fire and Ambulance in Wyoming. "This lifestyle significantly impacted my ability to fully perform my duties as a first responder because I was limited physically in what I could accomplish," he said. "My size, my breathing difficulty, and my stamina just were not up to being able to serve every need."

Quinney was no stranger to the consequences of poor health. He lost his grandfather, father, and brother to heart disease, and another brother also underwent quadruple bypass heart surgery. In addition to his family history, Quinney paid attention to the steady stream of line-of-duty death notices relating to cardiac issues. "My brothers and sisters serving were dying on the job, and if I didn't do something soon, the same could happen to me," he said.

It was time to take charge of his health and become personally accountable for his lifestyle choices. In the fall of 2016, he took the initiative to change his life and improve his health. He wanted to change his habits permanently so avoided the fad diets that he had tried in the past but had proven unsustainable over time. With the oncoming holidays, he knew there might be setbacks and hurdles, but he realized he needed to learn how to navigate through these if he was going to be successful in the long run.

Quinney began his new lifestyle with walking 10,000 steps a day. To achieve this goal, he found himself moving more and getting up off the couch. He also evaluated his diet and determined what needed to be cut out. Rather than eliminate all of his favorite foods, he focused on reducing portions and making healthier choices.

The results of his efforts have been tremendous. Within seven months he had lost over 110 pounds. His body no longer aches, the breathing problems disappeared, and he has a new-found self confidence that fuels his desire to continue to make the results a long-term success story. The benefits as a first responder have been significant. "I am now able to accomplish any task that is required as a first responder," he noted. "I have the energy, the endurance, and the stamina to do what is needed. I also have the confidence to be able to successfully do the job so I am able to take more of a frontline role and lead by example instead of being out of shape and embarrassed about my abilities."

Quinney understands that his health is a lifelong commitment. He continues to challenge himself in his exercise routine so he doesn't slide back into bad habits. He is also realistic that there are days where he may eat excessively or have a dessert, but his approach is to limit these occasions. Eating well and exercising six days a week will offset an occasional day where he indulges. As he put it, "It is not realistic to think we are never going to eat a burger at our favorite restaurant or have that piece of cheesecake for a birthday celebration. It is possible, though, to have those days be small rewards for the hard work, and in the process we don't binge on those things if we deprive ourselves completely."

He also wants to use his personal efforts to help inspire others in his department. "Being in leadership and getting myself healthy, I hope to lead by example and work towards more incentives for people to follow suit," he said. "The citizens we serve deserve the best versions of ourselves, but more importantly we and our families deserve it more!"

Introduction

Firefighting is one of the nation's most hazardous professions. According to the U.S. Fire Administration (USFA, 2017), an average of 100 firefighters died in the line of duty annually between 2006-2015. The National Fire Protection Association (NFPA) reported that there were 68,085 firefighter injuries in 2015, with 43 percent of these occurring at the fireground (Haynes & Molis, 2016). Although there have been great strides in improving the tasks of firefighting through advances in technology, equipment, and standards, the number of injuries and deaths remain high. In fact, the NFPA reports that the rate of fireground injuries per 1,000 fires remained fairly constant over the past 20 years, which underscores the hazardous nature of fireground operations (Haynes & Molis, 2016). These fatality and injury reports also do not take into account firefighters who experience long-term critical illnesses such as cancer, post-traumatic stress disorder (PTSD), diabetes, or heart disease. Heart attacks are consistently the leading cause of on-duty firefighter fatalities, and recent data suggest that cancer and suicide claim more firefighter lives each year than on-duty deaths.

For generations, the value placed on safety during fireground operations remained low, with individuals and departments focusing instead on efficiency and rapid actions. The focus began to change in 1973 with the publication of *America Burning*, the report of the National Commission on Fire Prevention and Control. In 1968 President Richard Nixon appointed the Commission to analyze and assess why America's fire loss problem was greater than the rest of the industrialized world in terms of fire deaths and property losses. Following the recommendations of *America Burning*, the U.S. Congress passed the Federal Fire Prevention and Control Act of 1974. This legislation led to the formation of the National Fire Prevention and Control Administration (now the USFA), which was tasked with responsibilities for data collection, technical research, fire prevention and safety education, and training for America's fire service leaders in prevention and control. One of the more critical findings of the report was the need to address the high death rate for firefighters in the line of duty. Published more than 40 years ago, *America Burning* remains the cornerstone for changing the culture of the fire service relative to safety.

The decades that followed the publication of *America Burning* saw a continued emphasis on firefighter safety and reducing line-of-duty injuries and deaths. In 1987 NFPA published the first edition of *NFPA 1500: Standard on Fire Department Occupational Safety and Health Program*. This was the first consensus standard from the fire and emergency services across the nation that focused on the occupational hazards of firefighting and the actions necessary to reduce the risk of

injury and death. Now in its fifth edition, NFPA 1500 continues to direct the actions of departments across the United States in implementing and evaluating health and safety programs.

In 2004 the National Fallen Firefighters Foundation (NFFF) convened the Firefighter Life Safety Summit in Tampa, FL, with more than 200 fire service leaders from across the United States participating. The purpose of the summit was to identify methods to reduce firefighter line-of-duty deaths (LODDs) by 50 percent over the next 10 years. The summit participants defined the root causes of firefighter LODDs and initiated a process to reduce them. The result was the development of the 16 Firefighter Life Safety Initiatives, found at www.everyonegoeshome.com.

Firefighter Life Safety 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.

This is not the fire service of yesteryear. Firefighters have learned to work smarter and safer. Current safety protocols prohibit riding the tailboard and require the full ensemble of personal protective equipment on calls. Research has proven that fires today burn hotter and faster due to synthetic materials and lightweight construction. The occupational risks for firefighters continue to be identified and include serious health issues such as cancer, PTSD, and heart disease.

It is also clear that the actions of one can impact the outcome for all. Firefighters and emergency medical technicians need to be personally accountable because that improves the effectiveness for the entire crew. If one firefighter is unhealthy or unsafe, the consequences can result in negative outcomes for all involved, including other responders and the community members being protected. Each responder holds the key to



overall mission success. It is time for all members of the fire and emergency services to take responsibility for their own individual actions and be accountable for safety on the fireground and in all fire department activities.

Changing the culture of the organization begins with each individual. Since the culture of the organization is based on an agreed set of values, beliefs, and attitudes, each individual shapes the organizational culture. The focus of this chapter addresses how individuals must take responsibility and hold themselves accountable for changing the culture of the fire and emergency services so that everyone works toward the goal of reducing line-of-duty injuries and deaths.

Personal Accountability and Responsibility

What are personal accountability and responsibility? How do they shape the organizational culture?

- **Accountability** is an obligation or willingness to accept responsibility or to account for one's actions and the consequences of those actions.
- **Responsibility** is a duty or task that is required or expected; a duty or task that is morally right or legally required.

To change the fire service culture related to safety, all individuals must accept responsibility and be accountable for their actions. Personal responsibility and accountability require that an individual maintains a balance between how the individual perceives the value of safety and how the organization perceives the value. Often the organization is resistant to change because of the desire to maintain structure and control over the individuals in the organization. Quite often fire and emergency service members fail to accept responsibility because of the desire to be part of the organization and to hold up the image of risk as a necessary part of the job.

Firefighter Life Safety Initiative 2 focuses on each individual making a commitment to be accountable for his or her personal health and safety and helping implement safety as part of the organizational culture.

Firefighter Life Safety Initiative 2

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

In 2014 the NFFF convened another firefighter life safety summit, commonly referred to as Tampa2, to revisit the recommendations of previous summits and assess progress toward the achievement of the goals. One of the key statements in the Tampa2 report is, "For true culture change to happen, everyone in the fire service, from firefighter to fire chief, must take accountability to promote safe actions and stop unsafe actions."



It was agreed on by the participants at Tampa2 that progress had been made toward changes in the fire service culture with regard to safety. That progress generated backlash from individuals and organizations that wanted to preserve the current culture. This backlash proved to be beneficial because it initiated discussions about how to best preserve the traditions of the fire service while initiating changes regarding safety that protects the lives of firefighters.

To achieve personal accountability and responsibility, each member of the department must exercise his or her own personal leadership in implementing change in the organization's culture. Leadership, both formal and informal, exists within every fire and emergency services department and often sets the norm for safety practices. Regardless of rank or title, a fire service position does not excuse any individual from the responsibility to be safe and practice safe operating procedures every time. When an individual does not wear seat belts, fully don his or her personal protective equipment, follow standard operating procedures (SOPs), drive at posted speeds, or operate in a safe manner on the fireground, that behavior will be observed, will be accepted as the norm, and will be practiced by other members of the crew.

Reducing injuries and LODDs requires the effort and acceptance of every individual in the department. Culture cannot be changed in spite of the members because it is the members that control the culture, both individually and collectively. Each member has a responsibility to do his or her part in maintaining a positive, productive, healthy, and, most importantly, safe work environment. This is a responsibility that cannot be disregarded or ignored.

Challenges to Accountability and Responsibility in a Hierarchical Organization

The fire service has long been a paramilitary structure. This type of organizational structure is also commonly referred to as a hierarchical organization.

A hierarchical organization is characterized as one that exhibits a strong sense of stability and control.

At the top of the organization is a leader such as the fire chief or department president. Each layer of the organization is represented by a defined set of tasks and responsibilities based on principles set by the leadership. For example, the fire chief is responsible for setting the strategic vision of the organization and managing the external influences that effect the organization. The company officer is perceived as the individual responsible for carrying out the vision through policies and procedures. The most effective leaders are good at planning and implementing projects. These effective leaders rely on formal rules and policies. Policies, procedures, tools, and equipment are designed for maximum efficiency and doing tasks the same each and every time.

The need for efficiency and common operating practices drives the fire and emergency services to a hierarchical organizational structure. The fire service has traditionally used a rigid command and control system. Originally adapted from the military, the fire service command and control system enables the incident commander to direct and control resources for operations at the incident scene. As illustrated by Figure 3.1, the National Incident Management System (NIMS) establishes a command and control framework for responders from all emergency response disciplines to work together and meet common goals on the emergency scene. The command and control system provides a hierarchical organization system consisting of chief officers, captains or lieutenants, firefighters, and other responders. NIMS further simplifies the incident command system structure by defining a hierarchical structure consisting of command, branches, sections, divisions, groups, and resource units.

Although operating in a hierarchical organizational structure provides benefits, it also generates cultural issues that impede change, such as movement toward safe operations. For example, a hierarchical organization has an interest in keeping things the same and so creates a barrier for change. Change is perceived to be a challenge to the authority and power of the individuals in control of the organization. As the composition of the fire service workforce and leadership changes, there is a driving desire for change in policies and procedures. A strategic force is needed to overcome the challenge of conflict between the need for change, such as the need for safer practices, and the desire to keep operations unchanged.

Hierarchical leaders will find implementing change for safety is more successful when individuals understand the reason for the change and the new safety policy is fully communicated as opposed to simply being directed by a written policy. For example, fire department members are more inclined to follow a seat belt usage policy when individuals understand the need for and the benefit of the change. The firefighters also become part of the strategic and driving force behind the implementation of the change. That strategic force begins with each individual in the organization. Leaders at the top of the hierarchy must provide the reasoning and justification for the change and also accept personal accountability. In the example, the chief must be a role model for the members by using seat belts every time in every vehicle.

Fire Service Ethics and Their Impact on Safety

Being ethical is sometimes described as doing the right thing, all of the time, even when nobody is looking. Being ethical requires an individual to make choices between right and wrong. While most individuals consciously want to do the

Incident Command Organization Chart

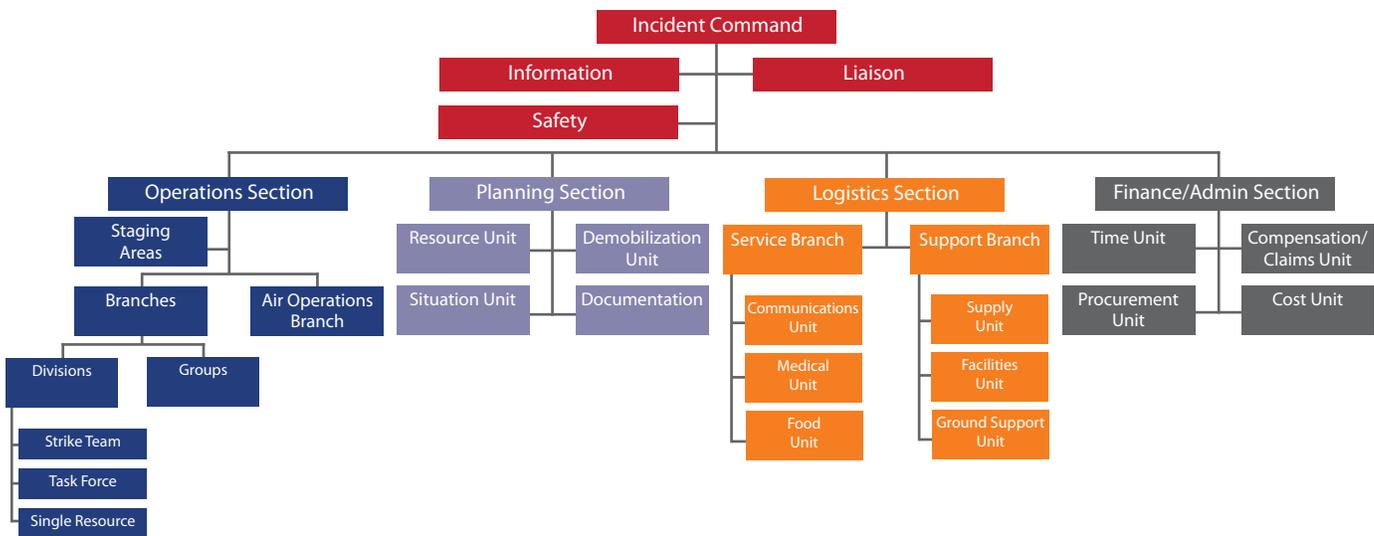


Figure 3.1. NIMS establishes a command and control framework for emergency responders.

right thing, there are examples where organizational or cultural pressures lead individuals toward unethical behavior. With regard to safety, this means individuals will continue to perform in an unsafe manner when unsafe actions are common in the organization. Absent an undesirable outcome, such as an injury or death of a department member, unsafe behaviors are repeated and become the accepted norm.

Ethics are the moral principles that govern a person or group's behavior. For the fire and emergency services, unsafe behavior is unethical. Safety must be identified as an organizational value. Violating safety is then unethical.

When individuals act in an unsafe, and therefore an unethical, manner the question is whether these actions are a result of a conscious decision by the individual (a bad apple), or whether the actions are a result of a bad organizational culture (a bad barrel). In other words, is the behavior caused by the individual's own lack of value on safety (bad apple) or is it caused by the organization's acceptance of unsafe practices (bad barrel)?

The worst case for this dilemma is when an organization has bad apples in a bad barrel. This mix requires a substantial change to correct unsafe practices. When there are bad apples in a good barrel, quick action is necessary before they poison the barrel. When organizational norms discourage ethical behavior (a bad barrel), people tend to follow practices that are accepted and recognized by others in the organization, even if they realize these practices are questionable (good apples in a bad barrel).

Once the organization uncovers the source of the undesired behavior, it can take actions to correct the values, beliefs, or assumptions of the individual or the organization to provide a corrected course. When the organization's culture is suspect (a bad barrel), then action to change the culture of the organization must be made. If crews use unsafe practices on the emergency incident scene because "that's the way that we've always done it," department leaders should take corrective actions through modification of SOPs and training to correct the unsafe behaviors. If an individual's lack of safety demonstrates a lack of this important value and is the cause of the unsafe behavior, then the department can take action to correct the undesirable behaviors through disciplinary actions or remedial training.

There are a number of actions that fire departments can take to encourage ethical (and safe) behavior by the members:

- Conduct regular ethics training for all department members. Ethics training should be incorporated into initial training for all new members, with refresher

training conducted on an annual basis to reinforce expected behaviors and performance for members. This training must include that safety is a value of the organization and that ethical members are members who know the importance of safety and practice safety as an integral part of their responsibility as members of the department.

- Establish a culture that includes organizational and individual responsibility for ethics. Hold every member of the organization's hierarchy, from the most senior to the newest recruit, responsible and accountable for his or her ethical and unethical actions, especially with regard for safety.
- Provide mechanisms for communicating ethics standards and organizational values. Post the adopted code of ethics and organizational values in visible locations within the station. These are directly connected to the mission and vision of the department; post them together. Connect safety and ethical behavior in the code of ethics. Develop policies that encourage members to report unsafe actions. Involve members in writing safety policies. Identify ways to recognize safe behaviors and reward people for doing the "right" things.

Whistle-blower Protection for Unsafe Practices

Most often the term whistle-blower brings to mind an individual uncovering the misuse of funds in an organization. The same terminology can be used to refer to individuals reporting unsafe practices, violation of safety policies, or identifying unsafe procedures that the organization must change. Every individual should have the freedom, and consider it a duty, to report unsafe practices.

Whistle-blowing is an act of voluntary disclosure of inappropriate behavior or decisions to persons in positions of authority in the organization.

The Internal Revenue Service (IRS) recommends that all nonprofit organizations develop "A whistleblower policy [that] encourages staff and volunteers to come forward with credible information on illegal practices or violations of adopted policies of the organization, specifies that the organization will protect the individual from retaliation, and identifies those staff or board members or outside parties to whom such information can be reported." (See instructions for IRS Form 990.) While the intent of this policy is normally directed at the corporation's financial operations, it may be extended to safety and operational practices as well.

Likewise, the Occupational Safety and Health Administration protects workers from retaliation when they report unsafe conditions or practices. According to Title 11(c) of the *Occupational Safety and Health Act*, employers cannot retaliate or take adverse action against workers who report protected activities such as injuries or safety concerns (see www.whistleblowers.gov).

Whistle-blowing, Ethics, and the Hierarchical Organization

The organizational culture should embrace the open disclosure of concerns as an opportunity to improve operations and reduce negative consequences, such as a firefighter injury. When the organization permits the open discussion of concerns, there is little need for whistle-blowing, as the opportunity already exists to identify safety-related issues.

Whistle-blowing is more prevalent in organizations that do not tolerate dissent well. These organizations also tend to exhibit a poor safety performance history. For example, evidence produced after the Deepwater Horizon oil-drilling explosion in 2010 demonstrated a trail of unsafe practices that contributed to the accident. Vaughn Mitchell, an oil worker on the Deepwater Horizon, was terminated after he filed multiple reports of unsafe practices. Had the organization been more open to addressing the safety issues he reported, the explosion may have been prevented. Organizations that tolerate dissent and provide an open forum improve workplace safety, empower employees, and strengthen the organizational safety culture.

Whistle-blowing is closely related to ethics because it requires an individual to make a choice between doing the right thing (being safe) or following an unsafe status quo. In some cases, the individual perceives the choice as between conformity or potential unemployment. Voicing dissent is often viewed by the organization as nonconformity, and individuals fear retaliation in organizations that do not tolerate dissent. As noted in the beginning of this chapter, most fire service organizations are structured in a hierarchical manner. Historically, hierarchical organizations do not tolerate dissent well. The hierarchical organization is structured along lines of authority and does not readily accept dissension from lower levels in the organization. The culture of hierarchical organizations tends to be indifferent to the opinions of employees. The whistle-blower confronts the ethical issues of disclosing unsafe practices with the view of serving the greater good of the organization.

Fire department organizations can discuss how to provide an atmosphere that encourages members to speak up and to correct unsafe actions. The organization can also implement whistle-blower procedures. Perhaps an impartial committee



can receive and review reports or an anonymous reporting system can be set up (this could be a locked suggestion box that a committee opens together and reviews the contents). SOPs need to be in place to protect those who make reports and those that investigate the reports.

Fire Service Examples

One example of a successful program in the fire service that operates like a whistle-blower process is the National Firefighter Near Miss Reporting System managed by the International Association of Fire Chiefs (IAFC). The Near Miss Reporting System permits the anonymous reporting of “unintentional unsafe occurrences that could have resulted in an injury, fatality, or property damage if not for a fortunate break in the chain of events” (www.firefighternearmiss.com/About). The Near Miss database is managed by the IAFC and is focused on providing a learning tool so fire departments can use lessons learned from others to reduce firefighter injuries and deaths.

Firefighter Life Safety Initiative 4 highlights the role of each individual in identifying, reporting, and stopping unsafe practices. On the incident scene, every individual must have the confidence and the authority to prevent accidents before they occur. The chief officer or incident commander must create an environment where this is not only permitted, but encouraged.

Firefighter Life Safety Initiative 4
All firefighters must be empowered to stop unsafe practices.

Firefighter risks are prevalent on emergency incident scenes, but firefighter risks are also present in other fire department activities, where safety practices can also be violated.

The U.S. Department of Homeland Security adopted the slogan “If You See Something, Say Something” as a measure to involve the public in homeland security awareness. The

fire service would be well served to adopt a similar slogan to advocate the responsibility of every individual to report unsafe actions on the emergency scene and to report unsafe actions on every fire and emergency department activity.

Training, equipment maintenance, social activities, and even monthly meetings all have necessary safety practices. The value of safety extends to every fire and emergency services department function, and all members are responsible to use safe practices, correct unsafe practices, and report unsafe actions.

Providing Incentives for Safety

There are many examples of fire departments whose efforts to improve safety have achieved positive and measurable results. The challenge is getting all of the more than 30,000 departments across the United States to see the importance of change and implement similar programs.

Nationally known author and speaker Ken Blanchard says that one of the key elements of developing people is to catch them doing something right and praise them for their performance. This reinforces good behavior and sets an example for others to follow. Blanchard often refers these actions as fostering a “culture of encouragement.”

Acknowledge Progress Toward Safety

Changing behavior is a learning process. No individual will perform every action correctly and safely right from the start. Fire service leadership should monitor the actions of firefighters and praise progress, even if the actions are not performed perfectly. It must be recognized that any occupation has a learning curve and that progress is made when correct behavior is acknowledged. Rewarding progress develops relationships between the individual and the supervisor and aids in developing good behaviors.

Celebrate Safety

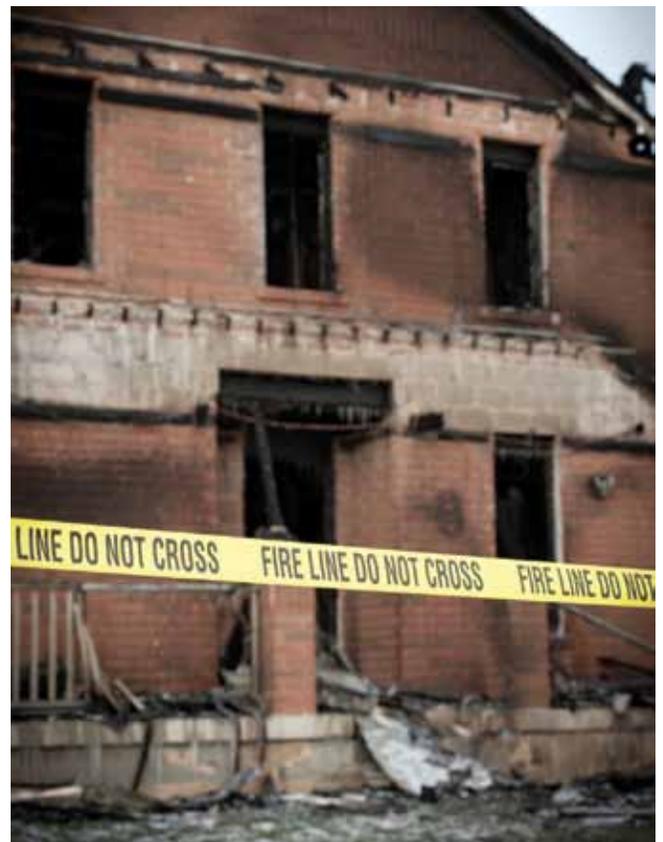
Many industries post signs outside their facilities heralding “No on-the-job injuries in [XXXX] days.” The fire service can post the same in fire stations. Take pride in being safe and recognize safe behavior. The Anne Arundel County Fire Department in Maryland maintains a health and safety bulletin board in a prominent location in each fire station. The board is changed routinely to post notices of relevance to the health and safety of the fire and emergency medical services personnel. A notice of any injuries involving lost work time is included so that members can learn from the incidents where injury has occurred.

Heroism and Safety

During the Tampa2 Firefighter Life Safety Summit, the following statement was made: “Unsafe acts must be punished,

or at least go unrewarded, while safe acts should be rewarded.” These efforts should include challenging the traditional definition of what it means to be a “heroic” firefighter. Too often, firefighters assume the responsibility to be heroes and accept risks that lead to injury or death.

Perhaps an alternative is appropriate. The definition of hero should be altered to include those individuals who select a safe operation alternative instead of the risky one. Consider the case of the Worcester, Massachusetts, cold storage warehouse fire on December 3, 1999. It took a great deal of courage and heroic action for District Fire Chief Michael McNamee to make the decision that he would not risk the lives of additional firefighters to continue the search for six trapped firefighters, who ultimately died.



The fire service still has a long way to go with this recommendation. Of course, firefighters who risk their lives to save others should be commended, but in many cases these actions tend to reward behavior that is outside the boundaries of acceptable risk versus potential benefit. Too often there are cases of firefighters taking extreme risks when no lives, or no savable lives, are at stake. A change in the line of thinking needs to occur in which personnel need to accept that sometimes lives or property cannot be saved. The fire service needs to understand that not all situations are the same, and not all situations warrant significant risk to personnel. The commanding officer needs to weigh the risks with the ben-

efit when determining the best course of action. In addition, more recognition should be given to firefighters who fight, often unrecognized, for better building codes, or who work ceaselessly at the company level to check smoke alarms and generally help residents reduce their risk of death or injury and prevent emergencies from occurring in the first place.

Areas of Opportunity for Personal Responsibility

Changing the safety culture of the fire service begins with every individual. Members must accept personal responsibility for their own actions. Individuals must demonstrate a high regard for their own safety. Fire and emergency responders are people who care. They have great motivation to help others, and that motivation extends to the other fire department members. Firefighters naturally care about each other. Firefighters need to extend that care so the safety of other members is a personal priority. This is what it means to be part of an organizational cultural change that emphasizes safety.

Leaders must establish a commitment to create a culture shift that makes safety a priority, establish an open environment that encourages active participation by each member, and lead by example. Change occurs at the rate each individual is committed. When there is no commitment, change is slow. Embracing a safety culture emphasizes the commitment of the organization to the well-being of each member. Even though changing one part of the organization's culture does not necessarily result in a complete change in the culture, safety is one area that can change the overall culture of the organization in a very positive way.

Some of the areas of opportunity for individuals to engage in a safety first culture for their fire department include personal protective equipment, emergency response, health and wellness, and operational safety.

Personal Protective Equipment

Establish department policy that requires every member to do the following:

- Keep personal protective equipment (PPE) clean. It is no longer a badge of courage to use dirty PPE. Science has demonstrated that the toxic smoke in modern fires carries chemicals and carcinogens that are extremely dangerous to firefighter health. These products of combustion penetrate PPE.
- Keep PPE out of personal vehicles and living areas of fire stations. Use a gear bag. See Chapter 5 for more information.
- Use a self-contained breathing apparatus on every fire incident. Wear it with the mask in place until the area has been metered and products of combustion are no

longer present. This includes overhaul and cause and origin assessment.

- Because cancer is emerging as a significant job-related disease in the fire service, protect family members by keeping soiled PPE away from family members and out of the home.

Response

Establish department policy that requires every member to do the following. See Chapter 6 for more information.

- Drive emergency apparatus in a safe and cautious manner. Responding to and returning from an emergency are the most hazardous times for emergency responders.
- Always use seat belts. Ensure that every crew member is safely buckled up before leaving the fire station. Remember, care about personal safety, and care about the safety of others. Don't move the vehicle or apparatus until everyone is belted in.
- When driving personally owned vehicles (POVs), use extreme caution. Drive slowly. Obey traffic laws. Driving any vehicle, an apparatus or a POV, to an emergency scene does not relieve a person from obeying traffic laws. Consider the road conditions. Wet or icy roads, limited visibility, and other weather conditions require slower speeds.
- Establish hot- and cold-response policies to determine the need for emergency warning lights and sirens.

Health and Wellness

Everyone in the fire and emergency services has the responsibility to be physically and mentally prepared for duty. Each individual must be healthy. This means healthy eating hab-



its and engaging in regular exercise. Routine physical exams should be scheduled to establish a health baseline and identify any changes in health that may require medical attention.

Each fire department member can lead by example. Organize a biggest loser competition, bring healthy foods to pot-luck meals, be personally accountable, and encourage other members.

Health and wellness are more than just physical considerations. Firefighting and emergency response place an extreme amount of stress on mental health, and consideration should be given to self-monitoring for stressors that could result in adverse mental health conditions.

Emergency personnel cannot perform at their best if they are not healthy, fit, and ready for the call. If a firefighter is taken out of duty due to illness or suffers a medical emergency during response, it impacts the entire crew. If a firefighter performs more slowly, inefficiently, or recklessly due to physical or mental health factors, it impacts the entire crew. Firefighters need to take responsibility for their health and wellness, and support other personnel in their health and wellness efforts as well.

See Chapter 5 for more information on health and wellness.

Operational Safety

Every responder should follow the department's SOPs. Departments need to make sure all personnel understand the SOPs through regular review and consistent adherence to them in training and drills. In all areas of operational activities, SOPs need to be strictly enforced.

When on the scene:

- Consider the conditions and the risks for each emergency responder, then ensure that the appropriate offensive or defensive strategies are being employed. Risk a lot to save a lot. Risk little to save little.
- Each crew member should have a portable radio so that conditions can be reported to the incident commander and evacuation or mayday orders are immediately known by all on the scene.
- Personnel accountability on the emergency scene is critical to maintaining scene control and for the incident commander to know the assignment and location of each responder.
- Use the Incident Command System (ICS) on each and every response so that command is established, assignments are clearly defined, and resources properly deployed in accordance to the established priorities and strategies.

When operating at an incident scene, each individual is responsible for maintaining situational awareness to quickly identify changing or unsafe conditions.

Impact of Volunteer Firefighter Safety on Family

When an individual chooses to become a volunteer firefighter there is an impact on the family. Many times the individual is the primary or sole provider for the family; thus, a line-of-duty death or injury will result in severe emotional and financial stress for the family. Firefighters have a personal responsibility to be safe. The motivation is to protect their families from traumatic loss.



The department is responsible for providing members with the best training and the best equipment available to ensure their safety. Individuals are responsible for making sure they are doing the best job they can in the safest way possible. When the department has embraced a culture that puts safety and personnel first, family members will be more secure and supportive in their loved one's decision to serve as an emergency responder.

Members need to assure their family that they will operate safely during emergency operations. Volunteers must remind themselves that their actions affect themselves, other members, the community they protect, and most importantly, their family. When Chief Billy Goldfeder often asks fire service members, "Who's in your wallet?" he is referring to the family photos that many members keep with them. Families are counting on volunteers to be in the best condition to respond, to operate safely during incidents, and to return home safely.

Applying Personal Accountability and Responsibility

This chapter has presented information, challenges, and resources for all individuals to consider in fulfilling their responsibility for personal and department-wide safety. How each individual applies these resources will be a personal decision. In a 2015 article, Cy Wakeman identifies personal accountability as a choice that individuals make when they believe that they are fully responsible for their actions and consequences. Wakeman identifies four factors that contribute to how an individual gets favorable results from accepting responsibility and accountability:

1. **Commitment.** Do what it takes to get results, no matter how difficult the challenge or task.
2. **Resilience.** People must be able to bounce back from setbacks and not give up at the first sign of trouble.
3. **Ownership.** All individuals must take ownership of their actions and accept the results, whether positive or negative.
4. **Continuous learning.** Do not view a mistake as a failure, but as an opportunity to learn.

To apply Wakeman's factors to changing the culture of safety in the fire service, fire service leaders must become and remain committed to the change, not give up in the face of challenge, take ownership of decisions, and accept continuous learning as a pathway to success.

Individuals and leaders should take charge of their own responsibility and accountability by setting the example for others to follow. Wear seat belts, properly use all PPE throughout the response until the air is clear of products of combustion, operate motor vehicles safely, drive slowly, eat healthy meals, and engage in regular exercise. Lead, and others will follow. Hold those open and frank safety discussions with firehouse peers.

Perhaps the best place to start the wave of safety changes is at the firehouse kitchen table. The kitchen table is the place where firefighters share their meals and stories. It's where the seasoned veterans talk about their experiences and pass them on to younger members. It's also where the firehouse culture is formed and reinforced.

Now is a good time to conduct an internal safety size-up. Just as a size-up is the first step at a fire before gaining entry and deploying hose lines, a size-up of physical and mental conditioning is the first step in ensuring that members are ready to respond.

Are members in the right shape, both physically and mentally, to perform the tasks of fire and emergency medical service operations in a safe manner? Have members taken measures to eat right, reduce stress, exercise regularly, and develop a good sleep pattern?

Remember that more than 50 percent of the LODDs are cardiac/stress related, so if members have not prepared for the job, then they are at risk and place everyone else around them at risk.

Role of Training

A key factor in improving the culture related to safety is to reinforce safe practices through training. Personal accountability and responsibility hinges on individuals having the right skills and knowledge. Members and leaders should be proficient in skills and understand how to perform the skills safely and correctly.

- Use PPE during training just as during emergency operations.
- Use clean gear while training.
- Understand the hazards of modern building construction and take advantage of every opportunity to visit and preplan responses to commercial as well as residential structures.
- Follow national standards and best practices related to training safely, especially when using acquired structures.

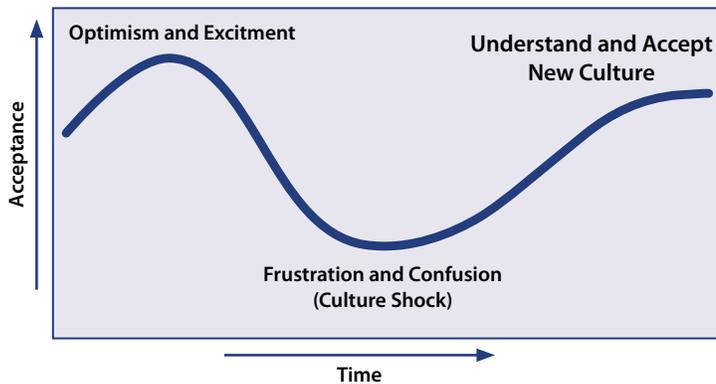


Training officers have a special responsibility for ensuring that all members are properly trained to perform their tasks safely. Each training evolution should emphasize safe operating practices so that when members are part of their company, they will safely perform those tasks.

Once the discussion is started, help promote safety during every task and activity, both emergency and nonemergency. Help direct a consciousness for health and safety by making good diet considerations, regularly exercising, and following SOPs that are focused on performing the job correctly and safely.

Summary

Change does not occur quickly, and there will be some resistance. Volunteer fire and emergency services departments will find that new concepts are sometimes met with optimism and excitement. That is the time to reinforce the importance of safe operations. Failing to nurture those feelings of optimism and excitement can lead to skepticism and frustration or confusion about why change is necessary and why it is important. Eventually, the goal should be to empower each individual member to understand and accept the new culture of safety. The central role of safety in the fire department then becomes the common practice that is passed on to the new generation of fire and emergency response personnel.



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CHAPTER FOUR

COMMUNITY RISK REDUCTION

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CHAPTER FOUR

COMMUNITY RISK REDUCTION

Case Study

Chelan County Fire District 5 is a small volunteer fire department in central Washington State that operates out of two fire stations that serve an area of 18 square miles and a population of 3,779. The population includes local full-time residents, part-time seasonal residents who work in agriculture, and seasonal residents who vacation in the resort communities surrounding Lake Chelan.

The fire department has a full-time paid fire chief and about 30 volunteers who respond to approximately 410 emergency calls per year.

With funding from a federal grant, the department undertook a community risk reduction project. First, Fire Chief Arnold Baker conducted a simple risk assessment of the community to determine where the highest risk homes were located. The fire department did not have the resources to conduct an in-depth risk analysis, but through incident history and qualitative knowledge of the department Chief Baker knew where the department responded most frequently. The locations identified in the assessment included two mobile home parks, one housing low-income Latino families and the other housing low-income seniors of mixed race and ethnicity.

In the first year of the project the department worked to install smoke alarms during home safety visits to the Latino mobile park community. The chief knew from previous experience that the residents were reluctant to install smoke alarms because cooking in enclosed spaces tended to trigger nuisance alarms.

Two Latino volunteer firefighters were chosen to lead the home visits; they had grown up in the community and through soccer programs already knew a significant portion of the population. The department visited all 40 of the homes in the park. Chief Baker credits the volunteer firefighters and their connection to the community with the success of gaining entry to 38 of the homes, where they installed smoke alarms in each common area and in each bedroom. To limit nuisance alarms from cooking, the department installed photoelectric smoke alarms in the common areas of the homes.

In the second year of its project, the department targeted the mobile home park that housed seniors. One of the mobile home park residents had been a volunteer firefighter in the department, and as a retired schoolteacher she knew many of the people in the park and surrounding community. She helped introduce the firefighters to the residents in the park, establishing the credibility of the fire department program and vouching for the reliability of the firefighters. With these efforts, the firefighters were invited into 28 of the 30 homes.

Also in the second year, the department began promoting the program via a local radio station, through a contest for an iPad Mini® for participants, and at a health and fitness event at a local school. These three efforts, along with word of mouth, resulted in requests for smoke alarm installations throughout the community.

Since then the program has continued expanding, with more volunteer firefighters joining the home safety visit and smoke alarm installation teams. A Caucasian firefighter and a Latino firefighter make up each installation team. Each home visit includes an education component. Pamphlets are left with occupants providing information about safe cooking, smoke alarm maintenance, space heater safety, and other home safety issues common to the local community. Information on preventing falls is included for older adults.

Chief Baker is a believer in proactive community risk reduction and has helped spread the program among other fire departments in his county and beyond. As of 2014 nearly every fire department in Chelan County has been participating in a home safety visit and smoke alarm installation program.

Chief Baker noted this list of lessons learned:

- Identify the right person to coordinate the program. Make sure the coordinator has the necessary skill set to manage a project like this.
- Find and use local advocates who know the people in the targeted communities; it is the key factor to the project's success. The team must be invited into homes, and having the advocates makes it possible.
- Establish the need for the project and the value the program provides to their community; this is critical for securing the volunteer firefighters' cooperation.
- Ensure that all of the volunteer firefighters have working smoke alarms in their homes. This also provides practice for them to install smoke alarms according to the manufacturer's instructions.

Community Risk Reduction Defined

It is very important for fire service leaders at every level to understand a simple statement: community risk reduction (CRR) is not just another name for prevention efforts; it is a process to identify and prioritize local risks, followed by the integrated and strategic investment of resources (emergency response and prevention) to reduce the occurrence and impact of the local identified risks.

That sounds a little stuffy and begs a better description. CRR is not a specific program a local department can identify and copy. CRR is a process each fire department must conduct to understand its own community and to consider the best approaches to mitigate or prevent the risks that are identified locally. This means that fire departments exist not only to respond to emergencies after the fact, but also to prevent or mitigate the effects of the emergency in the first place. It requires that the fire service act proactively as risk reduction agents for their community. It also assumes fire departments will partner with other community organizations as needed to accomplish their risk reduction objectives.

CRR is not a new concept for the fire service. For years, fire departments have been involved in some CRR through building inspections and public education. But this concept needs to be applied in a focused manner and fully integrated into the mindset of personnel and the mission of the fire department. It is about finding the most efficient and effective way to provide for public safety, while also providing the public with the information, knowledge, and tools through CRR initiatives to enable them to protect themselves.

CRR is not just about public safety, however. It is also about the safety of those who respond to emergencies. Firefighters

are at risk every time they respond to a call, whether the risk is in the drive to or from the incident scene, because of hazards on the fireground, or even in the physical exertion required during response activities. The fewer incidents firefighters respond to, the fewer safety hazards they face. Firefighters should consider CRR a critical part of their jobs as it saves lives both within the community and within the fire department and can reduce the ever-increasing, all-hazard demands placed on fire departments.

CRR is even more critical for volunteer fire departments that lack adequate funding and those serving rural areas. Engaging every tool possible to provide for public safety requires creative thinking, community partnerships, and commitment from the department leadership and the volunteers. The core of CRR is finding the best tools and methods to impact a specific problem that has been identified in the community.

Risk Management and CRR Terminology Explained

Risk Management

The basic tools of a CRR program correspond to tools that the fire service uses to manage risk in their local communities. The fire service calls these tools the five “Es” of CRR. These are all part of a larger toolkit to reduce or manage risks:

- Emergency response,
- Engineering,
- Education,
- Economic incentives, and
- Enforcement.

To understand the role of the “Es” in the fire service, consider engineering in a manufacturing setting. Using a power hoist in an assembly line is an example of an engineered tool that will prevent employees from suffering back injuries from lifting heavy pieces of equipment in the assembly line process. Similarly, engineering principles can be used to minimize or even prevent injuries and deaths in a given community. Fire sprinklers, smoke alarms, bicycle helmets, seat belts, and heat-regulating cooking surfaces are all engineering tools that can reduce deaths and injury from fire and other emergencies.

It should be obvious that emergency response is part of any local CRR effort. The capability to respond to an emergency and help people is the foundation on which the fire service is built, and the desire to respond is an integral part of the fire service culture. But it is not always understood that sometimes there are more efficient ways to deal with risks in local communities.

More on the five “Es” will be discussed later in this chapter.

CRR Terminology



Figure 4.1. Terms associated with community risk reduction.

It is important to understand some of the terms associated with CRR efforts in order to apply them properly.

Risk: The potential that a chosen action or activity (including inaction) will lead to an undesirable outcome or loss. Risk means danger, menace, or threat.

Hazard: A natural or man-made source or cause of harm or difficulty. A hazard can be actual or potential. For instance, a hazard can be a known physical feature that can ignite and sustain combustion or an existing feature that is natural or man-made that has the potential to cause negative impact to life, property, and natural resources.

Loss: A death, injury, property damage, or other adverse or unwelcome circumstance.

Prevention: An action that stops something from happening.

Mitigation: The effort to reduce the impact and loss of a hazard or event.

Understanding these terms leads to a better understanding that CRR is a process of managing or even reducing risks in a

given community. Hazards lead to risks. Risks are either prevented, or the damage they produce is mitigated after the fact.

Integrated Approach to CRR

The CRR process steps outlined below are simplified, and in fact they should be. Fire departments, especially volunteer departments that provide service in suburban and rural areas, typically need to keep them basic because planning resources are scarce. The CRR process involves the following steps:

1. Identify risks.
2. Prioritize risks.
3. Develop strategies and tactics to mitigate risks.
4. Prepare the CRR plan.
5. Implement the CRR plan.
6. Monitor, evaluate, and modify the CRR plan.
7. As illustrated in Figure 4.2 and in following discussion, CRR is an ongoing process.

6 Steps of the CRR Approach



Figure 4.2. 6 steps of the CRR approach.

Identifying and Prioritizing Risks

The first steps in the CRR planning process involve identifying and prioritizing risks. To do so, a local community needs to collect and analyze incident data for fires, motor vehicle collisions, medical incidents, and any other risk that would fall under the fire department’s scope of work. Some of those risks are localized, like in areas where tornados occur frequently or drowning incidents where water is prevalent. Each community has its own local risks, and even areas within a community may have different risks. For example, drowning

may be a risk in one part of the community and wildfire hazards in another. A proper risk assessment looks at incidents that happen frequently as well as those that are not frequent but represent a significant hazard when they do occur. A fire in the local hospital or long-term care facility is an example of a significant risk that is not frequent. Good risk assessments go beyond the “what” is happening to identify the “whom” it is happening to.

Data can be used to identify a current snapshot as well as trends in risks based on historical call volume and other sources to describe potential risks such as:

- Emergency incidence rates and types;
- Presence of target hazards, such as hospitals, hazardous materials operations, or a fertilizer plant;
- Demographics of the community, such as age, race and ethnicity, income, and disabilities;
- Housing type, age, and density;
- Businesses by occupancy classification/construction type; and
- Natural disasters that happen infrequently, such as earthquakes, and weather-related disasters such as flooding, wind events, or hurricanes.

Based on the data, the fire department can more specifically identify risk areas, such as fires caused by smokers, false alarms, older adult falls, and poisonings. The department can also identify the occupancy types in which the events occur, such as owner-occupied homes, rental properties, or multi-family housing. If at all possible, local communities should map those risks using graphical information technology so that the department can see where in a community events are occurring. Some fire departments have created maps by hand with simple dots or push pins that highlight higher risk areas.

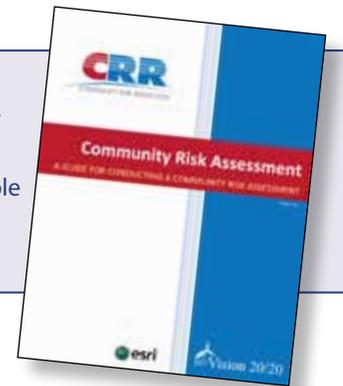
Once a picture has been developed of what is happening, where it is happening, when it is happening, and to whom it is happening, it is possible to prioritize. When a local community is prioritizing risks, it is important to look at the probability of an event occurring and the potential consequences if it does occur. Higher frequency events will typically reveal what to focus on first. For example, many may find that medical incidents are the number one call type and that incidents involving older adult falls are occurring more frequently than fires. However, even if fires or other events occur less frequently, the damage or results of one fire can be extensive and may justify a priority designation because of the potential impact.

The outcome of a fire in the home of an older adult couple while they are sleeping with no working smoke alarms will result in two fire deaths. This justifies a priority even when the frequency is low.

Other examples include floods, hurricanes, winter storms, wildfires, massive landslides, and other events that may not occur often but require significant planning and resources to mitigate. There are prevention and mitigation actions that can reduce the risk of loss from these events.

Even though the fire service responds to just about any type of emergency and equips, staffs, and trains for those emergencies, fire departments generally only have resources to focus on the highest risks. That is where departments should develop more specific strategies that integrate the emergency response capabilities with more proactive prevention or mitigation efforts designed to reduce these risks.

Community Risk Assessment: A Guide for Developing a Community Risk Assessment is available from Vision 20/20. See www.strategicfire.org.



Developing Strategies and Tactics to Mitigate Risks

As noted previously, the strategies used to either prevent an event from occurring in the first place, or to mitigate the damage once it does happen, are commonly called the five “Es” of CRR. For each risk identified as a priority, the department should consider emergency response, engineering, education, economic incentives, and enforcement as mechanisms to manage and reduce those risks. Ultimately, combinations of more than one “E” may be the most effective at accomplishing the objectives.

Local communities might consider asking some simple questions to determine which strategies are best for their risk assessment priorities:

- **Emergency response:** Would changes in local emergency response protocols help the department to be more effective or efficient and thus reduce the loss?
- **Engineering:** Are there engineering or technology solutions that could help reduce the risk? These may be items such as grab bars and night-lights to prevent falls, and smoke alarms and fire sprinklers to mitigate fires.
- **Education:** Would educating the public help prevent the risk? If so, then identify who needs to learn, what

is the message, and when and how the message will be delivered. Keep in mind that the goal of education is not only to raise awareness, but also to change behaviors, so sustained, targeted, and appropriate education efforts are necessary to impact the risk.

- **Economic incentives:** Could economic incentives improve compliance or raise awareness, or both? Consider fines for noncompliance with a smoke alarm ordinance, tax incentives for people who install fire sprinklers, or the opportunity to win a prize drawn from the names of everyone who agreed to a home visit for installing smoke alarms.
- **Enforcement:** Should enforcement be required? When legislation is in place that allows the local community the authority to enforce laws, such as fire and building codes, it is one more tool in the CRR toolkit.

Figuring out which mix of strategies and tactics is best is a local decision, but resources exist to help plan and implement CRR in a community. See the web sites for Vision 20/20 (www.strategicfire.org), the National Fire Protection Association (www.nfpa.org), and the U.S. Fire Administration (www.usfa.fema.gov).

Fire departments often benefit from engaging help in the CRR process. With limited resources, fire departments will likely need to work with other local organizations. Local colleges or universities may have free planning resources to help develop risk maps and visuals. Depending on the high-risk audiences

involved, there are often community partners who already provide services to that audience, such as home healthcare workers in contact with older adults. Other organizations have active interest in the well-being of the target audience. These advocate organizations make good community partners.

Preparing the CRR Plan

A CRR plan can represent a multiyear strategy or an annual one. Ideally, the CRR plan is reflected in the department’s mission and is part of its overall strategic plan. In other words, the CRR plan is an operational plan that can be simple or complex and matches the overall mission of the fire department, but provides emphasis on specific prioritized risks.

If possible, CRR plans should be prepared at the fire station level and reflect the resources and staffing available at that station as well as the needs of the community it serves. Planning at this level empowers and engages staff, including those who are volunteers; increases interactions with the community; facilitates the improvement of safety practices on the part of residents and businesses; and ultimately increases the ability of the fire department to manage risk. CRR plans can also be effectively prepared at a more centralized level within the fire department or even as a coordinated effort among various community partners. This may not only be more realistic and feasible for some departments, but it may have the added advantage of facilitating beneficial collaborations within local government.

Examples of Risks and Mitigation Strategies

Risk	Strategies
Fires Caused by Smokers	<ul style="list-style-type: none"> • Ensure effective emergency response capabilities. • Implement a media or public education campaign, or both, designed to raise awareness of safer smoking habits and to change behaviors. • Ensure placement of proper smoking containers in apartment complexes to avoid disposal of smoking materials in planting materials that are easily ignited, such as cellulose. • Partner with community programs such as Meals on Wheels or home health nurses to identify smokers for targeted home visits to test and install smoke alarms. • Advocate for legislation that requires distribution and use of proper smoking containers in multifamily housing. • Emphasize “fire-safe cigarettes” are required by law.
False Alarms (generating high and unnecessary call volumes for emergency responders)	<ul style="list-style-type: none"> • Establish legislative requirements for alarm contractor competence and reporting. • Enforce legislative requirements. • Educate contractors and businesses on how to reduce false alarms. • Adopt new technologies to prevent false fire alarms. • Fine repeat offenders.
Older-Adult Falls	<ul style="list-style-type: none"> • Educate target audiences on how to reduce fall hazards in their homes. • Partner with organizations to install fall protection devices such as handrails and night-lights and to remove small carpets in homes of target audience.

Table 4.1. Examples of Risks and Mitigation Strategies.

To prepare the plan, work with all levels of the department. Share risk data, perceived priorities, proposed strategies, and likely costs, and solicit feedback and new ideas. Invite community partners to provide input. Plan preparation will require balancing competing priorities and making hard choices about which risks and strategies to include and how to prioritize them.

Once the blueprint has been established, focus on allocating the necessary resources, assigning responsibilities, developing and offering trainings, preparing timelines, identifying milestones, and developing periodic reporting processes. Keep in mind that both the long-term plan and the one-year plan are working, organic documents that will need to be revisited and revised as circumstances require. But, they provide a vision and a guide for action.

There is no reason a plan has to be overly complex. It is dependent on the local resources available for both planning and implementation purposes. Its level of complexity will depend on the risks, the prevention and mitigation strategies envisioned, and a realistic expectation of what can be accomplished. The Longview (Washington) Fire Department identified five priority community risks, and produced a simple five-page plan to implement prevention or mitigation, or both, for each priority risk (see Appendix A).

A CRR plan typically outlines the vision and scope or mission for the local fire department. A CRR plan includes:

- A description of the community and service area;
- Identification of fire, emergency medical services (EMS), and other risks ranked by priority;
- The goals and expectations of the CRR activities;
- A list and description of the mitigation and prevention strategies that will be implemented; and
- The resources required to implement the plan, the timeline, milestones for measurement or outcomes, and who is responsible for the different parts of the plan.

The CRR plan is a road map written in clear and concise language so that anyone can understand how each of the various aspects of the plan needs to function. The plan should be simple to execute with measurable steps. It should clearly state what will be done, how it will be done, and who will do it.

The CRR plan must include the following: **What** will be done. **How** it will be done. **Who** will do it.

Implementing the CRR Plan

Once the plan is developed, it is ready to be implemented. The plan must include how it will be implemented, monitored, and evaluated. There are specific issues to consider for these steps.

Figure 4.3 illustrates how the planning, implementation, and monitoring for evaluation phases overlap and are a continuous cycle in which adjustments are made as the implementation process begins.

CRR Implementation Steps



Figure 4.3. Steps for implementing a CRR plan.

Communication is key to successfully implementing a CRR plan. The plan must be realistic, or no expectation or enthusiasm from a fire chief will matter. Incorporating firefighters and community members in the planning process is a way to make sure that the goals are achievable and that it is a community CRR plan as opposed to the fire chief's CRR plan.

All parties must understand their roles in making the CRR plan work. Regular feedback is needed between the leadership and those doing the work about how things are going. Almost no plan goes exactly as anticipated, so regular feedback from the people responsible for the implementation will provide valuable insight on how the plan should be modified. And most importantly, the highest authority in the department must monitor the implementation and hold people accountable for their actions. It has been said in more than one setting that what is measured is achieved. People must be held accountable for their actions in order to achieve the outcomes of the CRR plan. The CRR plan will almost certainly be replaced with other activities that are viewed as more important by the fire department if the fire chief, as leader, does not support and monitor the activities.

Monitoring, Evaluating, and Modifying the CRR Plan

Monitoring and evaluating CRR programs are both necessary processes because they:

- Allow for adjustments through ongoing monitoring of progress;
- Help assess if the program goals and objectives are being met;
- May uncover unexpected benefits and problems;
- Provide data and other information to demonstrate value and results; and
- Offer the ability to share results with the community, the organization, key stakeholders, and policy leaders.

It is very important to determine how the department intends to monitor, evaluate, and modify the CRR plan before the plan is actually implemented. There is a need to think ahead to how it will be done as well as how the information received will be used to help improve the CRR efforts. There is also a need to collect enough information to document and demonstrate that the CRR plan and its implementation are producing the desired results. The same type of data collected for the risk assessment can be used to document results. However, there is a great deal to understand about the different aspects of evaluation.

Monitoring refers to a regular communication and feedback system that is qualitative and anecdotal in nature. Were smoke alarms ordered and delivered on time? Were they distributed as planned? Was the number of presentations delivered the same as what was anticipated? Were response time goals met?

All of these questions help monitor progress and provide an opportunity to act on the information received to correct issues as the implementation continues. Monitoring never stops and is part of the continuous cycle for CRR planning.

Evaluation is more detailed and provides the opportunity to validate that the program has achieved solid, measurable results. It is much more challenging, and the level of complexity of the evaluation plan depends on the resources available.

Evaluation stages. There are four stages of evaluation used in CRR programs.

- The **formative stage** includes identification of problems and needs, or a risk assessment and/or research. It is associated with the problem identification phase, which is also called risk assessment. Formative research drives the development of specific CRR programs.
- The **process stage** addresses implementation, workload, efficiency, and program satisfaction. It is a measurement of how things are working and whether milestones are achieved. Process evaluation helps modify programs as needed while they are being implemented.

- The **impact stage** measures knowledge gain, risk-reduction behaviors, and adoption of laws and policies. The impacts are measurable but are usually more short-term in nature.
- The **outcome stage** indicates changes or reductions in deaths, injuries, and property loss data. Measuring changes in the number of emergency calls is outcome evaluation. This is long-term analysis used to measure results, and it may take years to see reductions.

Impact evaluation measures. Impact evaluation can be applied to the four primary disciplines within fire prevention: public education, code enforcement, plan review, and fire investigation. As mentioned, this stage measures short-term results, and it is different for each of the four disciplines. Methods for conducting an impact evaluation may include:

- Surveys,
- Questionnaires,
- Direct observation,
- Group discussions, and
- Focus groups.

Following are examples of an impact evaluation for public education:

- Improvements in safety knowledge, attitudes, and beliefs of the participants;
- Observed and documented changes in behavior, such as a hazard reduced or safety behavior increased; and
- Introduction or adoption, or both, of fire safety legislation.

Following are examples of an impact evaluation for code enforcement:

- Number of code violations noted and abated;
- Percentage of fires in which pending, uncorrected violations were present at the time of the fire; and
- Enforcement of fire safety legislation and regulation.

Outcome evaluation measures. Outcome evaluation is the final step; this is when everything comes together. While an impact evaluation looks for changes, the outcome evaluation looks for loss reductions resulting from those changes. Table 4.2 provides examples of outcome measures for the four prevention disciplines.

Figure 4.4 illustrates how evaluation can be used throughout the life of a program. Often in the fire service, the formative stage is not considered, and the program begins with implementation. A strategic CRR program looks at all four stages of evaluation. As mentioned previously, outcomes take time to recognize. They may be seen as a reduction in losses

Fire Prevention Discipline	Sample Outcome Measure
Public Education	Reduction in fire incidents per 1,000 residents in the target population. Reduction in fire deaths per 1,000 residents in the target population. Reduction in medical costs per 1,000 residents in the target population.
Code Enforcement	Reduction in percent of total fire losses occurring in occupancies that can be inspected. Reduction in fire deaths per 1,000 residents of occupancies that can be inspected. Reduction in number of structural fires per 1,000 residents of occupancies that can be inspected. Reduction in property structure fires with at least \$25,000 in loss that can be inspected.
Plan Review	Reduction in fire incidents in reviewed occupancies. Reduction in property damage costs from fire in reviewed occupancies.
Fire Investigation	Increase in percentage of fires where cause is determined.

Table 4.2. Examples of outcome measures for the fire prevention disciplines.

through number of incidents, deaths, injuries, or per capita losses. Alternatively, the result may not show a reduction, but instead demonstrate an increase, therefore indicating the need for a modification of the CRR program.

Data Collection and Statistical Analysis

A critical element of the CRR plan is the collection of data and information subsequent to program implementation. If the department has conducted a thorough risk assessment,

How the Planning Process Connects to Evaluation

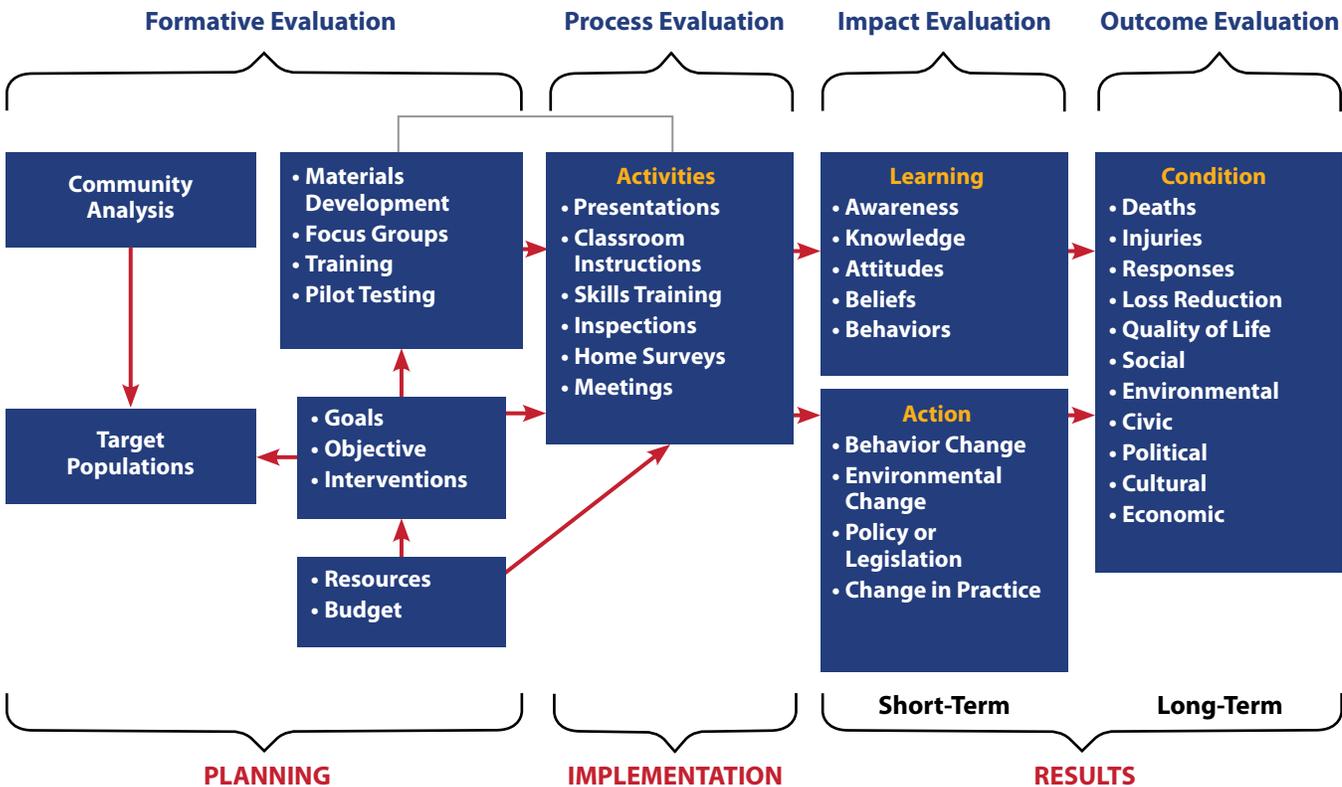


Figure 4.4. Connecting the planning process to evaluation.

staff should be able to compare previous statistics with the results found following implementation of the CRR program.

Statistical analysis is used to make assumptions about a population or data source and can illustrate significant differences in averages or changes over time. Statistical analysis is a higher level of evaluation and is more meaningful from a scientific perspective when it is statistically significant. For example, if a community had two fire fatalities in the first year, and then one fire fatality in the second year, the result would be a 50-percent reduction. Although technically this is accurate, this is not statistically valid, and thus is misleading.

Statistical analysis does not necessarily provide proof that the program is effective, but instead provides evidence that it may be working. Be cautious about making claims that may not be valid or significant.

Trend Analysis

In statistics a trend analysis, or trending, typically refers to techniques for extracting an underlying pattern of behavior in a time series. Trending illustrates the fluctuation and changes

in outcomes and outputs over time. It is an important outcome measure because over time it can indicate changes not due to random chance or normal variances. Figure 4.5 provides an example of a trend analysis.

Benchmarking

Benchmarking is a process by which one organization, such as the fire department, compares its results or performance against another organization. Usually this focuses on a specific performance or evaluation metric and compares one organization's results to another's. Caution must be used when these comparisons are made. The fire department must ensure that the same parameters are used between each organization. A good example is the measurement of cardiac arrest survival outcomes. Not all organizations use the same parameters when determining the percentage of patients that they successfully resuscitate.

Figure 4.6 illustrates how benchmarking can provide perspective on where results may compare to others. Care must be taken to compare similar communities to achieve as close a comparison as possible. The figure demonstrates the dif-

Trend Analysis: Annual Kitchen Fires

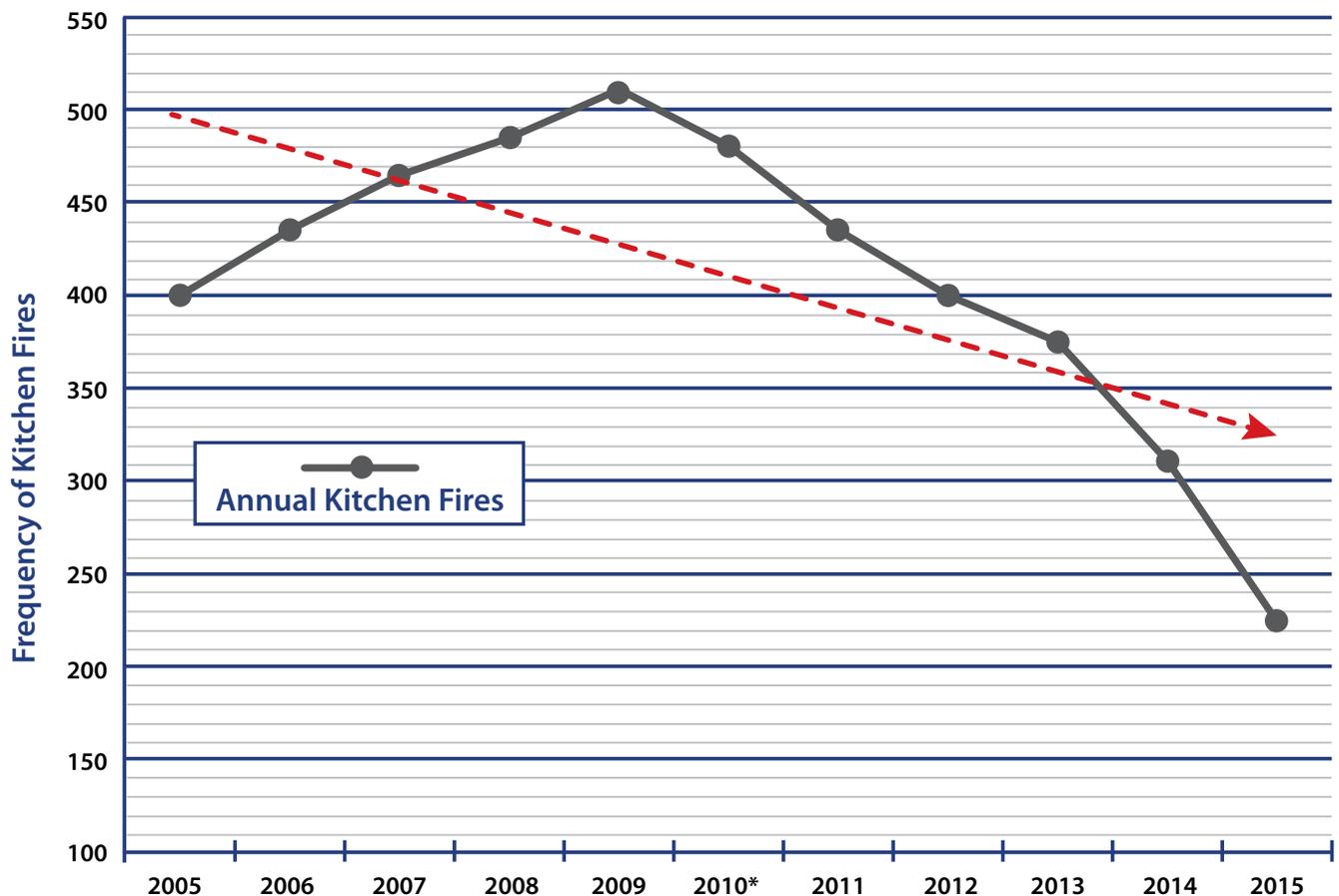


Figure 4.5. Sample trend analysis of annual kitchen fires.

*Year CRR program began

ference in cardiac arrest survival rates among several communities. When viewing the survival rates between fire departments, it appears that the mean average rate between all other departments (marked with the dotted line) is better than the performance Your City has been able to achieve. That would indicate improvements are needed and possible to do, because other communities have done so. The benchmarking could be applied to any comparative activity, such as response times, fire death rates, average dollar loss per fire, and more.

can be produced that help illustrate the benchmarks in very easy and understandable ways. Importantly, benchmarking cannot compare “apples to oranges” because a variety of factors can influence rates in one community or another. For example, building age, income levels, population ages and ethnic diversity, density of housing, and many other factors can contribute to loss rates that would explain differences from one community to another, regardless of the CRR efforts implemented.

Benchmarking can be a way of comparing results to help the department measure progress. Quick visual demonstrations

Cardiac Arrest Survival Rates

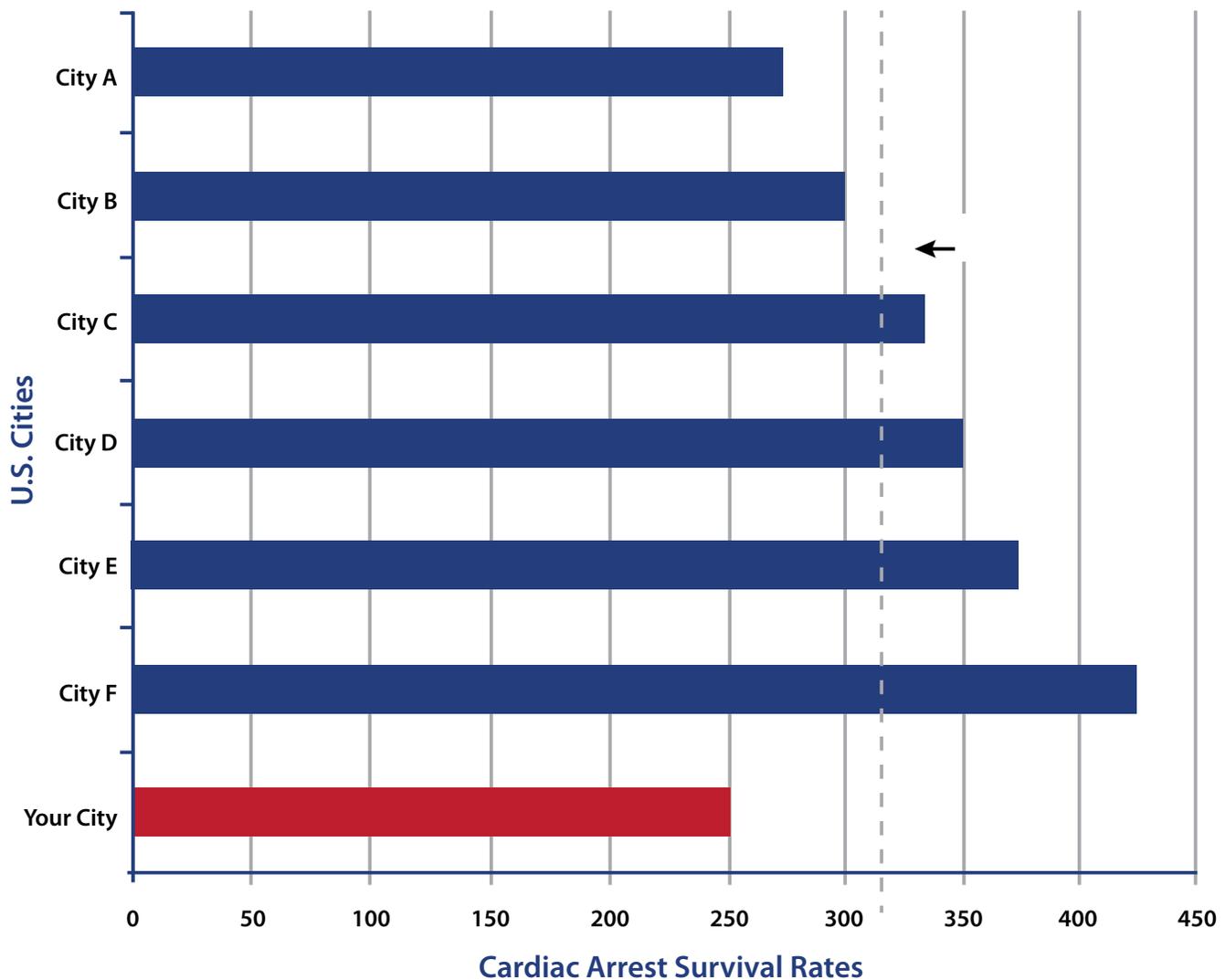


Figure 4.6. Benchmarking example of cardiac arrest survival rates.

Rio Rico Fire Department: A Best CRR Practice in a Real-World Setting

Rio Rico (AZ) Fire District (RRFD) is a career fire district, serving a population of about 15,000 residents and two school districts. RRFD has become a proactive fire district, assisting its population not only in providing emergency response, but also in placing focus on prevention. The emphasis includes fire prevention, pedestrian safety, bike safety, CPR classes to all 8th graders, wildfire prevention, and emergency planning. RRFD is also the first in Arizona with a Community Healthcare Integrated Paramedicine Program (CHIPP).

RRFD has implemented various cost-saving measures to reduce the impact of a revenue decline and to offset the costs of a public education and prevention program. The RRFD public education effort is funded primarily through savings in the operational budget. For example the department used over \$30,000 saved in fuel costs due to the replacement of ambulance units to more fuel efficient vehicles, and the department continues to produce bio-diesel at a fraction of the cost per gallon of regular diesel.

RRFD has implemented the first CHIPP in Arizona. The self-funded program is geographically limited to the Rio Rico area, and interventions are limited to patients with chronic obstructive pulmonary disease, diabetes, asthma, and congestive heart failure.

The program centers on increasing access to primary care for individuals with chronic diseases, who reside in the rural areas of Santa Cruz County, and who have limited or inadequate access to healthcare. The program is designed to serve the clients identified through Mariposa Community Health Center, Carondelet Holy Cross Hospital, and by the fire districts who identify frequent users of the 911 service. This community outreach includes a two-person firefighter team, a firefighter paramedic and a firefighter emergency medical technician, as a CHIPP Team. Success will be determined by performance measurement, which includes the regular collection and reporting of data to track work produced and results achieved.

The CHIPP allows hospitals and primary care providers (PCPs) to lengthen the reach of the care they provide directly to the participants in their homes. Through prescheduled home visits, the professional fire-based EMS CHIPP team are the eyes and ears of the physician by ensuring compliance with discharge instructions, helping detect environmentally-based triggers in the home, and helping to identify and remove fall hazards that that can cause or contribute to bad patient outcomes in a post discharge setting.

After the completion of each CHIPP encounter, the team determines a decision for follow-up. Any critical findings found during the course of the assessment are communicated with the referring PCP or medical direction as applicable. Emergency transportation is initiated as deemed appropriate by the CHIPP under medical direction. Noncritical findings are communicated with the referring PCP or other provider as appropriate. A patient with no PCP is referred by the CHIPP to an identified community provider for continuity of care. Future CHIPP visits are scheduled at the time of the home visit in accordance with referring provider instructions.

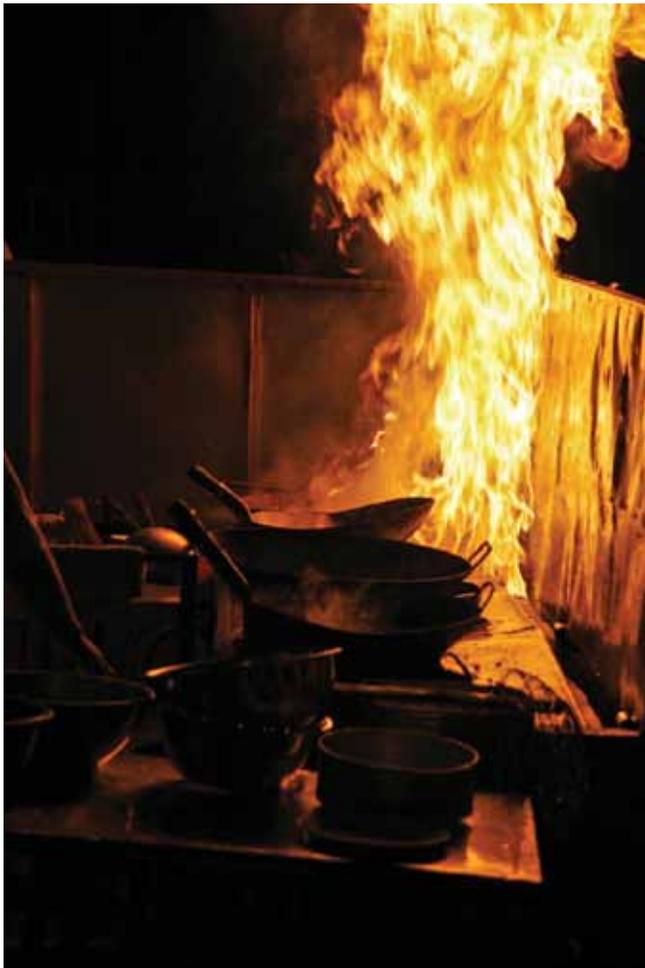
Culture of CRR

Organizational culture is not about understanding the differences between different communities (e.g., Hispanic versus North African immigrants). It is about the beliefs and values any organization has, often unwritten, that help define the organization. For example, a particular department may take great pride in vehicle maintenance, using it as a measure of value when comparing individuals or one department to another. All firefighters would recognize the value many place on aggressive firefighting tactics, even though official rules promote firefighter safety. The invisible “badge of courage” one firefighter earns for being both knowledgeable and aggressive is an example of how organizational culture shapes what is truly important to members of the department.

So the question is what value in the department is placed on response capabilities versus firefighter safety? And what value is placed on being proactive about reducing community risks? Are the people who engage in those activities held in higher esteem than the firefighter who is always first in to a scene? The values that are established and rewarded help shape the behaviors of the people in any organization. For the fire service, that means finding value in the activities that go beyond emergency response and engaging in a proactive mode that is focused on long-term results. That in no way demeans the need for adequate and effective emergency response; rather, it adds value to the fire department as a whole, and the community they serve will value them more for being not only competent to manage emergencies, but proactive at improving public safety.

Research shows that some people don't think they will ever have a fire, yet some will (Vision 20/20 & SalterMitchell Inc., 2015). They are more likely to think they may one day need medical help, especially as they age. But in the end, they won't place as much value on emergency responders they don't see very often. They will value the firefighters they see engaged in their community, helping to make it safer, and interacting with them far more frequently than any emergency would require.

An organizational culture that values CRR helps improve firefighter and community safety and can vastly improve the image any given community has for its particular fire department.



Summary

CRR is not just another name for prevention; it is a community-focused effort that employs the full spectrum of risk reduction tools. It integrates emergency response capabilities and preventive strategies into one overall approach to provide fire protection and risk reduction. Because the tools are the same regardless of risk, it integrates fire and other hazards that any community may face into a multihazard approach that provides an overall protection strategy to mitigate risks. CRR is a process that begins with a risk assessment and then deliberate plans to prevent or mitigate those risks. And because the risks will vary from one community to another, or even one part of a community to another part, there is no set outcome that fits all. It will always include emergency response, but to improve outcomes (fewer incidents, deaths, injuries, dollar loss) more proactive measures will need to be identified.

The volunteer fire service is in a unique position. Some departments are so short on resources that all available volunteer time, outside of emergency responses, would normally be focused on fundraising to support emergency operations. However, expanding that view, recruiting volunteers who are interested in CRR activities specifically (such as Fire Corps volunteers) can help that department be more efficient and effective and improve their relationship with the community in general. Reaching out to more people with CRR activities might also provide opportunities to educate the community about the need to support their local fire department.

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CHAPTER FIVE

HEALTH AND WELLNESS

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CHAPTER FIVE

HEALTH AND WELLNESS

Case Study

Kevin Quinn had a lot going on. Although recently retired from his position as deputy chief of the Union Fire District in South Kingstown, Rhode Island, he had gone back to his roots as a volunteer firefighter with Union Fire District Station #3. In addition, he served as chair of the National Volunteer Fire Council (NVFC), a position that required a great deal of his time.

Quinn knew that healthy choices and annual check-ups are critical for firefighters and emergency responders. So, in his role for the NVFC, he travelled to North Carolina in the summer of 2016 to learn about an annual firefighter physicals program that the Cherryville Fire Department conducts. He hoped the program could serve as an example for other departments across the country.

Quinn participated in the physical and was shocked to learn that his test results showed irregularities related to his heart. After following up with a cardiologist, it was discovered that he needed to have heart bypass surgery. Quinn had felt no signs of his heart condition and would not have caught the critical issue had it not been for the physical. Thanks to the early detection, Quinn was able to get the surgery he needed to prevent a heart attack that not only could have threatened his own life but also the safety of his fellow firefighters and community members had he had a heart attack on-scene. Following the surgery, Quinn was determined to get back to his firefighting family. He worked hard through cardio-rehabilitation and carefully followed all of the doctor's orders. Because he held a commercial driver's license, protocol called for a three-month waiting period before Quinn could be cleared for operational duty.

Quinn is now back to serving his fire department with no restrictions. He has realized that the tiredness and low stamina he had previously attributed to other factors, such as age, had actually been the result of his heart condition. He is grateful for the physical that saved his life, improved the quality of his life, and allowed him to be a better team player. Even though he missed his department during his leave, he came back stronger, healthier, and with more stamina to serve strong.

Although always conscious of making healthy lifestyle choices, Quinn is more committed than ever to his health and wellness. He also strongly attests to the power of firefighter physicals. He noted, "Since I have had the opportunity to share my story, I have learned from many, many firefighters of how their firefighter physical has identified life-changing medical concerns. All of these firefighters ended up with better, healthier opportunities while at the same time keeping them on the job. These early interventions have made all the difference in their lives as well. Early identification of prediabetes, various forms of cancer, cardiac problems, and other illnesses has enabled these conditions to have been treated or cured—all due to proper firefighter physical examination."

Introduction

There was a time when health and wellness in the volunteer fire and emergency services was not considered important. A yearly physical required for a volunteer firefighter? That was between the firefighter and his or her doctor. After a rough call, people went out for a beer; they did not go to critical incident stress debriefing or counseling. And, volunteers rarely retired from the fire department. They served for many years and some for a lifetime.

Fire and emergency response has changed and continues to change. Tracking personal health data on a smartphone and with wearable devices is common, and some devices are capable of reporting that data to medical providers. Advances in technology and data gathering have increased the understanding of patterns in health at a population level as never before. Treatments for a variety of diseases and chronic illnesses are improving, and increasingly effective treatments are being developed at a rapid pace. The causes of cancer are better known. Awareness, understanding, and treatment of mental health issues are on the rise, including those related to stress and traumatic experiences. These factors and more have contributed to a shifting perspective of what healthy means, both to the public and to those who serve in the volunteer fire and emergency service.

The goals of this chapter are to explore and discuss health and wellness issues in the volunteer fire and emergency services, recognize the barriers to improving health and wellness, and offer steps toward solutions.

Physical Health and Fitness Issues

Medical Exams and Physical Ability Tests

Medical exams and physical ability tests should be a part of operational procedures of every fire and emergency department. These should be part of the process when recruiting new volunteers and a part of each veteran firefighter's annual requirements to remain active with the department. The department's health and wellness programs should start with medical exams and physical ability tests.

Throughout the industry there is a greater use of medical exams and physical ability tests when recruiting volunteer firefighters, but it is much less common to require these assessments for veteran firefighters. A large number of small town fire departments do not require any medical exams or physical ability tests, largely due to limited resources.

One of the greatest barriers to fire departments requiring medical exams and physical ability tests is financial. In small towns, particularly towns with populations under 2,500 people, fire department budgets are inadequate to support daily

operations, so funding for health and wellness initiatives is simply not available.

The Massachusetts Call/Volunteer Firefighters Association (MCFVA) conducted a survey in 2015 of small town fire departments in Massachusetts. A typical department in a community of 3,000 or fewer residents had 18 volunteer firefighters and an annual operating budget of \$58,663. At this level of funding, fire departments are shortchanged for every aspect of their operations, not just health and wellness. To provide annual medical exams for firefighters, these departments would need to spend about \$350 per firefighter, equating to around \$6,300 annually. The cost of medical exams would consume about 11 percent of the annual budget, or require the department to find a way to increase their budget by 11 percent.

The full picture of the financial operations of these small town fire departments in Massachusetts shows that they are underfunded for equipment maintenance so their apparatus often fails to meet industry standards, that many firefighters do not have adequate personal protective equipment (PPE), and that these departments spend only \$2,342 annually for training. These small town departments are forced to make difficult resource allocation decisions, and typically there is not adequate funding to provide medical exams for firefighters when the department cannot cover basic operational costs. This appears to be a common trend for small departments across the nation. The National Fire Protection Association (NFPA) reports that only 27 percent of departments have programs to maintain basic firefighter fitness and health. Although larger departments have made considerable progress in this area, the majority of smaller departments simply do not offer such programs (NFPA, 2016). The NVFC outlines many cost-conscious options departments can consider when implementing a firefighter medical evaluation program (see Appendix B).

Small town fire departments face additional barriers and concerns when considering medical exams and physical ability tests, including the following:

- The exams could disqualify volunteers who are desperately needed to staff the department.
- The exams are not relevant to the duties of a small town volunteer firefighter.
- There might not be time to arrange and conduct the exams.
- Managing the paperwork could be outside the organizational ability of departments that operate with no administrative support.

The risk of understaffing is amplified because medical exams and physical ability tests will disqualify some otherwise desirable and much-needed volunteer firefighters. This is a real problem in small communities with a limited pool of potential volunteers. The fire chief is in the position of having to balance the needs of the community to have a sufficient number of volunteers respond to an emergency versus the risks of an unfit firefighter being injured or killed in the line of duty. This is a difficult position, but it is one that most small town fire chiefs know well.

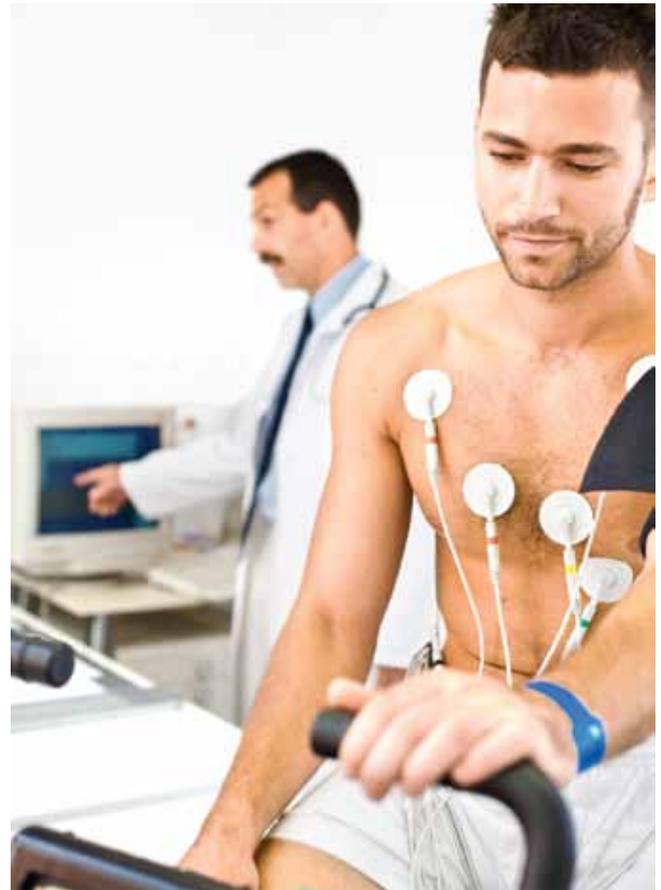
Small Town, Massachusetts (a pseudonym), is an isolated town in the foothills of the Berkshire Mountains with 369 residents. The pool of potential volunteer firefighters is very small, and anything that prevents anyone who is willing from volunteering is a problem. These numbers illustrate the specific problem in Small Town and exemplify the challenges facing many similar communities.

The town has 369 residents: Of those 369, 79 are under 18 years old, thus too young to be firefighters, and 143 are more than 60 years old, thus too old to recruit as firefighters. One hundred forty-seven people are ages 19 to 60 and therefore are in the appropriate age range to be a volunteer firefighter. Assume the department needs 18 volunteer firefighters. This means about 12 percent of the age eligible residents need to join the volunteer fire department.

These 147 potential volunteers will include people who have a disability, who have disqualifying backgrounds, are obese, or are otherwise unfit to serve. According to the Centers for Disease Control and Prevention (CDC, 2015), 34.9 percent of adults are obese. This means that 35 percent of the volunteer pool is unfit when considering only one health concern. The pool of potential volunteers is reduced by 51 people, leaving Small Town with only 96 potential volunteer firefighters. To have 18 volunteer firefighters, the Small Town Fire Department must recruit and retain 19 percent of its eligible population. This is an unrealistic task.

Fire chiefs in communities like Small Town must consider how many of the very limited pool of potential volunteers they can afford to disqualify because they cannot pass a medical exam or physical agility test. There is a belief among fire chiefs and firefighters in small communities that these tests are designed for big city fire departments and are not relevant for the volunteer firefighters in their small departments.

Further complicating this demographic issue is the aging of rural and small town America. Those areas of the coun-



try that most rely on volunteer fire and emergency service departments are also the areas that are seeing the median age of the community increase as youth move away for education, jobs, and housing. This creates two distinct issues. First, from a medical and physical ability standpoint, the volunteer pool is older and less healthy. Second, the volume of emergency medical services (EMS) and fire calls for the department increases as the population ages (Federal Emergency Management Agency, 2013).

The national standard for firefighter medical exams and for firefighter physical ability tests is *NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments*. The standard does not differentiate between paid and volunteer firefighters. The medical standards and physical ability standards for a small town fire department that responds to one or two fires a year are the same as the standards for an urban fire department that responds to one or two fires a day. A point worthy of discussion is that there is a real and measurable difference in risk between the small rural department and the large urban department that is not accounted for in this NFPA standard.

Additionally, volunteer fire and emergency service departments typically lack the time and organizational structure to provide annual medical exams and physical ability tests. This

is a resource problem in much the same way that the lack of funding is a resource problem. Small town fire departments typically do not have full-time staff and rely on volunteers or limited part-time staff (many have no administrative staff), so the task of scheduling medical exams and conducting physical ability tests becomes overwhelming for the department.

Importance of Medical Exams and Physical Ability Tests

The challenges are significant. Nonetheless, even the smallest fire departments should take steps to provide medical exams and physical ability tests for volunteer firefighters. There are important reasons for all fire departments to implement these programs, and these reasons have little to do with the existence of a national consensus standard. The real reason has everything to do with the purpose of having a standard in the first place, and that is to protect the health and wellness of all firefighters.

The purpose of the medical and physical standards for firefighters is to protect firefighters and to protect the public. Firefighting, and many of the other tasks performed by firefighters, requires physical ability and fitness. The term “occupational athlete” is used to describe firefighters. This term emphasizes that firefighters must have certain athletic abilities to perform their tasks in a safe and effective manner. A physical ability test is a standardized way to ensure that candidates have these abilities.

Just as with athletes, physical fitness improves the health status of firefighters. Unfit people are more prone to certain diseases and injuries (including cardiovascular disease) than fit people (Warburton, Nicol, & Bredin, 2006). A look at firefighter deaths within the volunteer fire service in 2014 reveals 22 out of 34 volunteer firefighter line-of-duty deaths were

the result of sudden cardiac arrest (Fahy, LeBlanc, & Molis, 2015). Medical exams are one of the best defenses against this risk. The fact that cardiovascular disease and the associated risk factors like hypertension, high cholesterol, and diabetes can be screened for and treated is an excellent reason why fire chiefs need to make sure their departments provide regular firefighter medical exams for all of their members.

Medical exams can screen for heart disease in firefighters, allowing firefighters to get treatment and prevent many deaths from sudden cardiac arrest at emergency incidents. The potential to eliminate almost 64 percent of all volunteer firefighter line-of-duty deaths cannot be disregarded. In addition, medical exams can alert firefighters to other job-related health concerns, such as cancer, where early diagnosis is an important factor in successful treatment.

The cost of screening, identifying, and treating a firefighter’s medical problems is lower than the long-term financial cost and social/community costs associated with a volunteer line-of-duty death or disabling injury. A fire chief has an obligation to provide emergency services to the community as well as an obligation to protect firefighters and to ensure that the families of firefighters are protected from the tragedy of a line-of-duty death or injury.

Possible Solutions to Common Challenges

There are no easy solutions, but there are steps that even the smallest fire departments can take to implement a program, one step at a time, to provide medical exams and physical ability tests as part of the fire department budget and operations.

Community risk analysis. Rather than implementing the NFPA standard as written and assuming every fire department and every firefighter must have a medical exam and



physical ability test annually, the fire chief should conduct a community risk analysis that focuses on the risks of being a firefighter in the local community. A community risk analysis does not have to be complex. The chief is simply moving from a generic standard or statement of need to a specific standard or statement of need based on local conditions. It is a little known and poorly understood fact that fire departments and communities can use a local community risk analysis to modify an NFPA standard to meet local need, as explained in the following:

“Some fire departments may fail to accept the right extended to the executive authority of the department or community to modify the recommendations of any NFPA standard, unless required by law or regulation, to meet the needs of the community. Modifications to any NFPA document can be considered under the equivalency clause generally found in Chapter 1.” (Willette, 2015)

It would not be unreasonable for a fire chief to document that his or her fire department responds to only 24 emergency calls each year and a building fire is part of these calls only once or twice in three years. This may mean that medical exams could be required every two or three years. This is reasonable and appropriate for the fire department based on the emergency response experience in its community. This can reduce the financial burden; using the example from the MCVFA survey, instead of spending \$6,300 per year for medical exams, the chief can allocate \$2,100 per year. This reduces the organizational burden of 18 medical exams per year to six medical exams each year. While there are departments where spreading the financial and organizational cost over several years is not enough to overcome the resource barriers to provide medical exams, for many departments this is an appropriate and achievable process.

Physical ability tests do not have a one-size-fits-all approach. The small town fire department has the option to implement a physical ability test that fits the risks and tasks typically associated with the department’s emergency call activity. This means that a department does not have to adopt a generic or standard physical ability test that may have been developed for a large urban fire department. The department can assess actual emergency call experience in a typical year and test physical abilities based on those actual tasks.

For instance, a fire and emergency service department in a community of all residential structures that rarely fights a fire but handles numerous EMS calls might add or substitute a patient lift (with a partner) to its physical ability test in place of a forcible entry skill. Some will have a negative response to this concept, concerned about ignoring forced entry, which is a basic firefighter skill. The suggestion is not to ignore it

during training or skills development, but rather to not have it emphasized in the physical ability test. If fire department members have not forced entry into a building in over 10 years but they lift patients every week, then lifting patients is perhaps more relevant for that department.

One element of a typical firefighter physical ability test involves using a 12-pound sledgehammer to hit a rubber padded post that moves along a track, with 13.9 seconds to complete the task. It is an excellent test of physical ability. However, for firefighters in a rural or residential community, where a single blow with an axe or Halligan bar opens 99 percent of the doors because they are residential doors without security bars, this test with repeated use of a tool to simulate forcible entry is not reflective of a realistic task that the firefighters need to perform.

It is up to the local fire chief or the authority having jurisdiction to determine if a skill or ability, such as driving a post with a sledgehammer, is an infrequent yet essential duty of the department’s firefighters, or if it is not an essential skill to include in the physical ability test because of the infrequent need based on past experience and the community risk.

The typical generic or commercially available firefighter physical ability test is validated by looking at job tasks from hundreds of firefighters in a handful of fire departments. There are 30,000 fire departments serving a wide variety of needs. Just because the generic or commercially available test is valid in certain communities does not mean it is valid in every community. Modifying the typical test makes it incumbent on the department to validate the test based on real needs of the community.

From a practical standpoint, modifying a commercially available test is a good solution for only a fraction of small town volunteer fire and emergency service departments. The vast majority of fire chiefs in small towns do not have the time, the expertise, or the administrative support to create and validate a physical ability test specific to their community. This is a complex problem, and fire chiefs need to understand that the commercial or generic physical ability test may be flawed for local application and needs to be examined.

Departments could choose to simply adopt a generic firefighter physical ability test, or adopt one validated by another fire department. On the surface, it works because the test is theoretically valid based on firefighter tasks. The worst case would appear that the department may be testing to a higher standard (maybe suburban or urban), and there is no harm in that. However, it misses the point of the standard and may disqualify otherwise qualified individuals from volunteering.

From a legal standpoint, if the department borrows a testing standard that really does not fit the department, there is also the risk of a legal action by a person disqualified by the test. He or she could claim to have been unjustly denied a position with the department by an ability test that does not accurately reflect the department's needs. The claimant could say the test reflects activities that the department does not actually perform and fails to test activities that the department's firefighters routinely do. The primary reason a claim of this type is a low risk for small town volunteer fire departments is that most people trying to become volunteer firefighters do not have enough of an economic interest at risk to make it worth the cost of bringing suit. However, the lesson is that the physical ability test needs to reflect department and community needs. Again, this points out the importance of a community risk analysis.

Hiring a vendor or asking a vendor to volunteer their services to administer a locally relevant test is one solution to physical ability testing. Another option might be to send firefighters to a nearby larger department that has the capacity to provide physical ability tests. This option may be restricted for some departments because of geographic isolation, travel distances, scheduling issues, liability fears, or the potential costs incurred by the hosting fire department.

Support personnel. Another solution to fitness-for-duty issues brought about by medical exams and physical ability tests is to use support or auxiliary members to supplement the department's emergency responders who are the fire-fighting force. It is estimated that there are 122,150 support or auxiliary fire department members in the United States (NFPA, 2016).

Support or auxiliary members can be volunteers who for one reason or another are not qualified to serve as operational emergency responders. They may not be medically fit to perform operational duties but are cleared to assist in other roles. They may not be able to pass a physical ability test. They may be long-term members who have aged out of emergency response but continue to be a member and are suited to volunteer for other roles. In addition to providing a role for volunteers who are not able to meet medical or fitness requirements needed for operational service, it is also a great way to engage community members who want to help their local fire department but do not have an interest in operational response for one reason or another.

There are many duties a support or auxiliary member can perform that will alleviate extra burdens placed on operational personnel while enhancing their health and safety. Conducting rehab at incident scenes is a critical component of keeping a firefighter healthy during response. Support



members may also be trained as drivers or in traffic incident management to keep personnel safe en route to or on the scene. Other tasks may include maintaining equipment between calls and cleaning equipment after calls, conducting community risk reduction strategies and fire prevention education programs to lessen the number of calls a department receives, coordinating training, incident planning, or running the department's health and wellness program. All of these functions contribute to the health and safety of personnel.

When there is a structure fire in a community, many people respond to and assist directly or indirectly with the suppression and mitigation of the fire, and these are not all firefighters. Police officers, paramedics, emergency medical technicians, utility company personnel, Red Cross volunteers, and water department staff frequently respond to fires. They all have important roles, even though they are not firefighters.

The fire and emergency service community needs to recognize that people other than firefighters have a role in emergency response. That role is not directly in the hot zone fighting the fire. The role will be in the warm zone or cold zone providing support to fireground operations.

A department with only 12 volunteer firefighters needs 100 percent turnout of its fire department to provide the minimum number of positions needed at a moderate-risk fire in a single family home.

The incident commander needs personnel for some support and command post functions. If the department limits itself to members who are certified firefighters, then certified firefighters will be the accountability officer, the staging or communications officer, managing the rehab sector, and managing a water shuttle dump site. These functions could be provided by support or auxiliary members who are specially



trained to provide accountability, staging, communications, water supply, rehab, and EMS, which would free the certified firefighters from these duties and increase the effectiveness of the small force of certified firefighters.

Using others to fill support roles reduces the number of tasks the certified firefighters have to perform at the fire. This means that many command functions directly related to firefighter safety, such as accountability, communications, and rehab, are staffed. Company integrity among the firefighters is better maintained and results in safer operations. Firefighters are not being assigned support functions, so the certified firefighting force is not reduced.

When a fire and emergency department decides to use support or auxiliary members, it must do so in a professional and candid way. Leadership cannot pretend the support or auxiliary members are certified firefighters and look the other way if those members engage in direct firefighting activities. There must be written job descriptions and operational guidelines that clearly define the tasks and the limits of the support assignments.

It is a best practice to not issue structural firefighting personal protective equipment for support or auxiliary members. Doing so creates a contradiction. Provide a helmet, a reflective jacket or vest, and extrication-type gloves. The support member now has head and eye protection and reflective outerwear appropriate for the assignments and is clearly identified as a member of the fire department.

Training for support or auxiliary personnel is based on the specific roles and the needs of the department. There are some functions that have specified training, such as driving apparatus or providing traffic control. Support and auxiliary personnel need to be fully trained to perform well when responding as part of the fire department emergency incident force.

New York's Approach

A small town fire department can look at the State of New York for guidance on creating a best practices training standard for support or auxiliary members who provide scene support functions. The New York State Office of Fire Prevention and Control (2015) recommended that a support member or exterior firefighter have the following training to operate safely on the fireground or at another emergency scene:

- Knowledge and skill requirements for scene support functions, including:
 1. Fire safety;
 2. Tool and scene safety;
 3. Fire behavior and development;
 4. Personal protective equipment and self-contained breathing apparatus (SCBA) practices, excluding donning and doffing of SCBA;
 5. Fire and emergency service communication;
 6. Incident management principles (see last bullet item);
 7. Fire prevention principles;
 8. Arson awareness;
 9. Fire extinguishers;
 10. Hose practices, nozzles, and fire streams, excluding interior structural fire attack;
 11. Water supply;
 12. Ground ladder operations; and
 13. Ropes and knots;
- Hazardous materials operations—level knowledge and skill requirements;
- Emergency medical care training, including infection control, bleeding control, cardiopulmonary resuscitation, and shock management; and
- National Incident Management System I-700 and I-100 courses.

When a department uses auxiliary or support members, it must also be alert to dealing with issues involving people with injuries, including career firefighters who left the fire service with a disability. Legal and community relations issues can arise from having a firefighter who is collecting a disability pension responding to and working at emergency incidents, even if they are serving in a support role. There can also be serious health and safety issues for the disabled support member and others if the person is not fully cleared for the type of duty they are assigned.

A support or auxiliary member who is in some way disabled must be physically fit to perform assigned tasks. This also applies to people who did not pass the physical exam or agility test but are assigned support roles. A doctor, ideally a doctor who specializes in occupational medicine, should review the job description and medical records and examine the support member to determine fitness for duty.

It is good practice to ensure that the person on disability properly reports to the employer or former employer their support firefighter role in order to avoid legal complications and negative public relations.

Using support or auxiliary members as apparatus drivers comes up frequently in discussions about volunteer fire department staffing in small communities. In some areas these apparatus drivers are primarily tender drivers/operators. It is a good use in areas without fire hydrants and with limited staffing because it frees up a firefighter for fireground operations.

Retirees. Retirees or people who retire because of a disability can be good additions to the cadre of support or auxiliary positions. Their experience and job skills are valuable. However, the department is responsible for the health and the safety of all members; therefore, it remains appropriate if a person's health precludes them from emergency scene duties to identify nonemergency tasks for them to perform as fire department support or auxiliary members. Like other support or auxiliary members, retirees can be integral members of the department by providing training, administrative support, equipment maintenance, inspections, public education and outreach, and a variety of other tasks for the department.

Some people in the fire and emergency services have expressed concerns about retirees operating fire apparatus, especially fire department retirees. The implication is that if they have reached retirement age in the fire and emergency services or another industry, or retired because of a disability, then they are not fit to drive emergency vehicles. Countering this view is the position that there is no mandatory retirement age for over-the-road truckers or other heavy equipment operators, so mere age or retirement status are not by themselves valid disqualifiers for driving fire department response vehicles. Interstate commerce truck drivers must pass a U.S. Department of Transportation (DOT) physical exam every 24 months to maintain a commercial driver's license. This helps to ensure that the commercial driver is without medical conditions that place the driver or the public at risk. Fire departments should consider requiring a DOT physical exam, regular refresher driver/operator training, and an annual skills assessment for support or auxiliary members who drive emergency response vehicles.

Cancer and Cancer Prevention Methods

Every Fire Is a Hazmat Incident

Cancer is killing firefighters at two and three times the rate it kills civilians. The fire and emergency service is just beginning to recognize the cancer risk for firefighters. Every fire is a hazmat incident. Hundreds of different toxic chemicals are being absorbed, ingested, and inhaled by firefighters. Cancer is likely killing more firefighters than all other causes combined; the fire and emergency services had previously not identified the enormity of the problem. Firefighters must protect themselves now. Chiefs and fire officers must protect their firefighters now.

The smoke and soot from fires today are loaded with toxic chemicals, which infiltrate and coat firefighters' PPE. PPE carries these toxins into the apparatus, the fire station, the cars and trucks of firefighters, and even their homes. When firefighters wear dirty PPE they contaminate their bodies. When firefighters hang dirty PPE in the fire station they contaminate the fire station and expose others to the toxins.

A firefighting hood does not always stop the absorption of toxic chemicals into the skin. Wearing a dirty hood concen-



trates toxins around the neck, where they are absorbed into the skin. The skin around the neck is particularly susceptible to absorption of toxins and carcinogens as the skin is thinner and blood and lymph vessels in the neck move absorbed contaminants throughout the body. The higher the skin temperature the more the skin absorbs. Every five degrees of body temperature increases skin absorption by 400 percent (Kerns & Dewhearst, 2015).

Wet skin is also more absorbent. Toxic gas penetrates where the pants and boots meet, at the cuffs of gloves, and under the hood. Firefighters are breathing toxic chemicals during overhaul if they are not wearing SCBA. Firefighters are ingesting toxins if they do not wash their hands before eating or drinking in rehab.

The proper use, cleaning, and storage of PPE are crucial elements to cancer prevention for every firefighter. Fire and emergency service institutions are emphasizing the firefighter cancer risk and providing leadership with tools to raise the awareness of the problem and to promote solutions. For example, the NVFC passed two resolutions addressing the firefighter cancer risk: one urges fire and emergency departments to provide firefighters with two hoods, and the other urges departments to provide gear bags if call or volunteer firefighters transport their PPE in personal vehicles. Having firefighters immediately switch to clean hoods after a fire and then clean the contaminated hood should reduce the cancer risk. Gear bags can protect the interiors of firefighters' vehicles and the occupants of the vehicles from off-gassing toxins from contaminated PPE. All PPE after every fire is contaminated and must be washed or contained until washing to prevent the spread of the contamination.

Cancer Prevention Methods

Firefighters can reduce the risk of duty-related cancer. The following prevention strategies should be incorporated into the department's training and standard operating procedures (SOPs)/standard operating guidelines (SOGs) and enforced at every level:

- Wash PPE at least once a year and after each working fire.
- Decontaminate PPE at the fire scene with water. Remove as much smoke and soot as possible before getting in the apparatus and returning to the station. This applies to all PPE items, including helmet, coat, pants, boots, SCBA, and gloves.
- Wash the seats and interior of apparatus cabs regularly. It is important to remove contaminants from the seats and other cab surfaces. Think about how much time firefighters spend driving and riding in a potentially contaminated cab.

- Have two hoods. After a fire wash the dirty hood and use the clean hood. Best practice is for departments to issue two hoods to each firefighter.
- Rinse off helmet liners and gloves after each use.
- Wear SCBA until the fire is cold and there is no smoke or steam. Do not use a four-gas meter to declare it safe to remove SCBA. This meter does not detect the toxic chemicals off-gassing from the ashes of the fire.
- When a firefighter goes to rehab or is picking up after the fire, do not wear a hood around the neck. Take it off. The hood concentrates toxins around the neck and increases absorption into the body.
- Wash hands when going to rehab at the emergency scene and after returning to the fire station before handling any food or water. Simple hand washing with soap contributes to firefighters avoiding the ingestion of toxins.
- Take a hot shower as soon as possible after a fire. The hotter the water the better. The hot water opens pores and allows the water to clear the toxins.
- Exercise soon after each fire. A workout helps the body cleanse itself of toxins.
- Never take dirty PPE home.
- Make wearing PPE in the living quarters of the fire station off limits. Firefighters wearing PPE can contaminate kitchens, sleeping areas, and furniture.
- When volunteer firefighters carry PPE in their car, the PPE should be rinsed, brushed, and bagged at the emergency scene and then hung to dry at the station.
- When transporting gear in a personal vehicle, keep it in a closed gear bag. Put it in the trunk or the back of a pickup truck. Keep it as far out of the passenger area as possible. Departments that have their staff carry PPE in their cars should provide gear bags as standard issue equipment.
- Consult *NFPA 1851: Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* for the best ways to clean and decontaminate PPE. (All NFPA standards are available for free reading at [NFPA.org](https://www.nfpa.org).)

Fire chiefs must issue SOGs/SOPs requiring the above actions as an immediate step to ensure their firefighters are practicing cancer prevention procedures (see Appendix C). Firefighters should not wait for the department to issue new policies or procedures, but should protect themselves immediately. Special permission or training is not needed to take these actions.

Expense of Cancer Protection

The good news is that protecting firefighters from cancer can be immediate and low-cost.

Departments should purchase each firefighter a second hood. This costs from \$20 to \$40 per firefighter. At \$30 per hood, a department with 25 volunteer firefighters will spend \$750. Considering the high cost of cancer treatment and the practical and emotional toll of a firefighter being taken out of service due to cancer, this expenditure is a worthy investment in any cost–benefit analysis.

Gear bags to protect firefighters' personal vehicles are another inexpensive and effective means to prevent dirty gear from contaminating firefighters and their families and keeping them safer from cancer-causing toxins. A gear bag costs less than \$100 and is a great value when compared to the potential harm to firefighter health.

The cost of washers and dryers for PPE is a potential barrier for small town volunteer fire departments. Washers, or washer-extractors, can range from \$4,500 to \$12,000. For some departments this cost can seem overwhelming when compared to other underfunded or unfunded initiatives. When a department cannot afford a PPE washer and dryer there are other ways to wash and dry gear. Refer to the manufacturer's instructions for specific guidance on how to properly clean gear.

When a department does not have a PPE washing machine, decontaminate PPE at the fire scene with a hose. Removing the heavy contamination as soon as possible reduces the amount of toxins trekked back into the fire station and reduces the toxins absorbed into the gear. When firefighters return to the station, they should wash the gear manually again. It should be laid out on the apron, rinsed, gently washed with a brush or broom and a mild detergent, and then rinsed and rinsed again. Even though this is not a perfect alternative, in departments with low call volume and few fires, it is a reasonable approach. The cleaner the gear the better, and this crude cleaning method is clearly better than leaving the gear dirty.

A fire department can purchase commercial PPE dryers for as little as \$1,000 or as much as \$17,000. A drying system can be created for a few dollars or for free with materials easily available. Find or create a rack or hanging system to hang the clean, wet gear in a way that there is good air circulation. Wooden hangers on a PVC pole suspended from a ceiling or between two objects works well. Then use a fan to blow fresh, dry air across the PPE, at a gentle speed, until the gear is dry. Departments in warm climates may open apparatus bay doors to improve the flow of fresh dry air to dry PPE.

Do not dry PPE in the sun, either directly or indirectly. Ultraviolet light degrades the outer shell of structural firefighter coats and pants. Store gear away from sun, indirect sunlight, and fluorescent light when not in use.

The purchase of washers and dryers for PPE has been an allowable expense under the Assistance to Firefighters Grant (AFG) program. If the fire station has the space and utilities to support a washer or dryer, or both, prepare an AFG grant proposal. It may take two or three grant proposals to receive funding, but using federal funds for 95 percent of the cost of this equipment is a big success for the fire chief, the taxpayers, local political leaders, and firefighters.

Well-funded and busy fire departments can provide their firefighters with a second set of gear. This allows them to have clean PPE always available while the other set of gear is drying. This is not an option for most small town volunteer fire and emergency departments. Some small departments may have an inventory of spare PPE that can be shared and used by a firefighter while washing and drying their PPE. PPE is also an allowable expense under the AFG program.

Tobacco

One of the most effective actions to prevent cancer and protect the health and wellness of firefighters is to adopt and enforce a no smoking and no use of smokeless tobacco policy (see Appendix D). Combining smoking, which is a known cause of cancer, emphysema, and heart disease, with firefighting exposures to toxins and carcinogens from smoke and other products of combustion almost guarantees that firefighters will develop a chronic health problem. No tobacco is critical to firefighter safety and health.

A few states have laws prohibiting smoking by firefighters. The fire chief and firefighters must take on the responsibility of creating a no-smoking workforce. This must be done through leadership, education, fire department policy, and adherence to state and local laws.

Lead by example. Fire chiefs and senior members of the volunteer fire department must be good examples and live tobacco free. When department leaders use tobacco, they cannot expect firefighters to give up tobacco.

Smoking cessation education can be difficult because smokers have read warnings, seen antismoking public service announcements on television, and received stop-smoking lectures by medical professionals. Smoking cessation messages in a fire department can be more effective when focused on the specific hazards inherent in toxic smoke and smokeless tobacco use when combined with exposure to products of combustion associated with firefighting. Also emphasize



the impact of tobacco use on the full fire department team; it negatively impacts everyone when one member is less able to perform due to the side effects of smoking, such as shortness of breath and reduced stamina, or ultimately leaves the fire department due to tobacco-related illness.

Recruiting only volunteers who are tobacco free is a best practice; this builds a tobacco-free workplace and a healthier workforce (check local and state statutes to understand the laws concerning tobacco use requirements related to hiring). Hiring only tobacco-free firefighters in small towns can be difficult because the small population limits the available hiring pool. An estimated 17 percent of the adult population smokes, reducing this hiring pool even more for smaller, rural fire departments (CDC, 2015). This is a loss for both the department and the community, who rely on adequate staffing levels.

For firefighters who smoke or use other tobacco products, departments should provide or refer the firefighters to a smoking cessation program; however, sometimes there are barriers. Many volunteer fire departments, especially those in the smallest communities, have no resources to fund smoking cessation programs, and volunteers are typically not eligible for medical benefits through the department that could help cover such expenses. Some states have tobacco settlement endowment trust funds that provide cessation programs at no cost to tobacco users.

Most states have laws that prohibit workplace smoking. In most of these states, the fire station, the fire apparatus, the drill yard, and the emergency incident scene fall within the definition of workplace. The fire chief can use these laws to prohibit smoking in the fire department workplace. To reinforce this, the department should post No Smoking signs in the fire station and have written no smoking or tobacco use policies for the fire station, apparatus, and incident scenes. Justify these, if needed, with state law and firefighter health risk facts. Peer pressure is also important in changing atti-

tudes and actions about tobacco use. Peers can be effective in recognizing and celebrating successes when firefighters are tobacco free.

Respiratory Protection: Mask Fit Testing

SCBA mask fit testing is an important step to providing for the health and wellness of volunteer firefighters. Each department should provide an annual SCBA mask fit test for each of its firefighters.

Fit testing is the only accepted method for determining if an SCBA mask or other type of respirator fits a firefighter properly to minimize contaminant leaks into the mask during use (CDC, 2008). Since 1998 the Occupational Safety and Health Administration (OSHA) has required that users of respirators, including SCBA, receive training on how to properly use the equipment and that each worker pass a fit test before using a respirator. The regulations require fit testing annually. This applies to many, but not all, firefighters in the United States, depending on the administration of the OSHA regulations in each state.

Even though annual testing is considered necessary to make sure that the fit of the SCBA mask remains acceptable, there are different schools of thought on when or how often fit testing is needed. Some suggest that at least annual fit testing is required to catch fit issues early and before they become serious. Some suggest that fit testing is needed only when a firefighter changes masks or when there is some other significant change in the firefighter's physical condition, such as weight gain or loss. If the firefighters are subject to OSHA regulations, then departments must do annual fit testing of SCBA masks and other respirators used, such as an N95 mask. If firefighters are not subject to OSHA, then the fire chief must make a determination about how often to conduct fit testing. Keep in mind that *NFPA 1500: Standard on Fire Department Occupational Safety and Health Program* specifies that no firefighter be allowed to use SCBA in a hazardous environment without first being fit tested and specifies annual fit testing (NFPA, 2013).

Although relatively easy to accomplish, an SCBA mask fit test needs some funding and effort on the part of the fire department. SCBA mask fit testing requires the use of a specifically designed piece of equipment. The department can purchase one, rent one, or hire a third-party vendor to come to the fire department and perform the fit tests. The cost of owning an SCBA mask fit testing unit is typically too high for most smaller fire departments. Instead, an SCBA mask fit testing unit can be a good regional purchase for use by multiple fire departments. A department needs to perform fit tests only



once a year for each firefighter, so a number of departments can easily share one unit. A county government, a county fire chiefs association, a regional firefighters association, or even an informal alliance of fire departments could purchase and share a unit among their members. This makes the cost of SCBA mask fit testing nominal. Some state fire training systems have fit testing equipment that is available to firefighters and fire departments across the state.

Fire departments should consider N95 mask fit testing at the same time as the SCBA mask fit testing. Many of the fit testing units do both, and only modest additional supplies are needed to add N95 mask fit testing into the program.

N95 is a type of filter mask that blocks about 95 percent of particles that are 0.3 microns in size or larger.

Although the fire and emergency service tends to think of N95 masks as being for emergency medical service providers only, fire and emergency departments should provide them for their firefighters. An N95 mask is designed to provide a very close facial fit and filtration of very small airborne particles. This makes them necessary when encountering patients with highly contagious airborne illnesses. Since most fire departments provide some kind of emergency medical response, keeping the firefighters safe from flu outbreaks and some of the less frequent yet more dangerous outbreaks, such as Ebola, should be a priority. N95 masks cost a reasonable \$15 each.

The topic of volunteer firefighters with beards is part of the discussion about SCBA mask and N95 mask fit testing. The SCBA mask and N95 mask will not protect firefighters who have beards. The SCBA mask and the N95 mask are designed to fit very close to the skin and are not effective in providing respiratory protection if used with facial hair. This is problematic in small town fire departments. The issue of facial hair and firefighters is a real barrier to effective fit testing, and therefore a real barrier to safeguarding the health and wellness of the firefighters.

In small towns with only a few volunteers, some volunteer firefighters defy the need to be clean-shaven. They say their personal need to have a beard outweighs the health risks for them, their family, and their fellow firefighters. They take the attitude that the town is so desperately in need of their volunteer services that they can violate this safety requirement. The fire chief in a small town with only a few volunteers is in a tough spot when two or three well-trained active volunteers refuse to shave. Does the chief dismiss them, suspend them, or look the other way because the volunteers are badly needed? It is critical that the chief take a stand to make firefighter health and safety a priority and not look the other way when health and safety risks are present.

Record keeping is another barrier to annual SCBA mask and N95 mask fit testing, especially for small town fire department operations. An effective fit testing program requires simple record keeping, but many small fire departments have no administrative staff. This could be a task that falls under the purview of support or auxiliary members.

Alcohol Use and Substance Abuse

Drugs and alcohol use are an issue at the volunteer fire station just as in every other workplace, and volunteer firefighters are just as susceptible to substance abuse as any other group of professionals.

The volunteer fire and emergency service has a more difficult task regulating or enforcing policies about alcohol and substance abuse than the career fire service because volunteers respond from home to emergencies. As they arrive at the fire station to staff apparatus or arrive at the incident scene, there is no time or practical method to screen for drugs and alcohol. Volunteers must be self-policing in this regard. Even though the career fire and emergency service can still experience this issue with off-duty firefighters who respond from home, the career service has a better opportunity to enforce substance abuse policies when firefighters come to work and start their shift.

The leadership of the volunteer fire and emergency services must make it clear that coming to emergency calls while under the influence of drugs or alcohol, or both, violates policy and is against the law. It is unsafe for the firefighter and unsafe for others on the scene. Written policies and procedures must be in place, procedures that can be implemented when a firefighter arrives under the influence of drugs or alcohol. Address it from a disciplinary and safety perspective, but also treat it as a potential health and wellness issue. In doing so, the firefighter gets referred to treatment or counseling in addition to any disciplinary action. Underlying issues, such as post-traumatic stress disorder (PTSD) or depression, could result in alcohol or drug abuse, so if a member has an issue there may be a need to address the underlying cause.

The goals in referring volunteers for alcohol or drug abuse treatment are to:

- Help volunteer firefighters, not cast them away; and
- Keep them active and productive as part of the department.

Alcohol Use

“Thirty-eight years ago when I first became a volunteer firefighter, alcohol in the fire station was common. We all had a drink after a call. We served beer at fire station cookouts. Fire chiefs brought beer to brush fires. We drank beer while marching in the Fourth of July parade. Some fire stations had soda machines modified to dispense beer and mixed drinks. Most of this has gone away, but there are still fire departments, career and volunteer, where drinking at the fire station is still allowed or accepted. In this environment, substance abuse can thrive.

The time has come (and passed) when alcohol needs to leave the fire station.”

- Chief Joe Maruca

Every fire department should have a written alcohol policy (see Appendix E). This policy should address:

- Alcohol consumption by firefighters in the fire stations, on duty, and in uniform;
 - Can firefighters drink while in uniform, when specifically, and what constitutes a uniform?
- Alcohol use if the fire department rents a function hall for events such as weddings; and
- Alcohol rules when the fire station and surrounding property hosts a community event, such as a Fourth of July picnic.

One effective approach or policy would be to make the fire station an alcohol-free zone. For many departments, this is an excellent approach. However, some fire stations also serve as multipurpose function halls to provide income to the fire department. The fire station facilities host weddings, memorial services, and other events where alcohol is served.

Similarly, a larger number of volunteer fire departments also function as community centers to some extent. This can be as simple as the fire department training room being available to outside groups or as complex as the fire station being built as part of a multiuse municipal community center. It is not uncommon to see the grounds of a small town fire station being used for a community Fourth of July picnic, as part of a community festival, or for a community clambake. Occasionally, the serving of beer and wine might be appropriate at these community events; community expectations will set the tone for how appropriate alcohol may be. The fire department needs to have written administrative guidelines for how alcohol will be served at these events.

When a fire department sponsors or hosts events involving alcohol, there must be clear policies on where within the fire station the alcohol is allowed and how department members are expected to behave. It is best if alcohol is limited to specific function spaces and not allowed within living quarters, office spaces, and apparatus areas so that the public and participants see a difference between the fire department’s emergency function and its community center role.

One area that gets complicated has to do with alcohol use at weddings and funerals. It is not uncommon for firefighters to participate in weddings and funerals in uniform. Can they participate in the champagne toast to the bride and groom? How about the final toast to the deceased at a memorial service? If the department does not work out a policy in advance, the chief may be reacting to a video of drunken firefighters going viral on YouTube.

Many chiefs and firefighters complain about having to create volumes of policies compared to years past, and that all of the related paperwork gets in the way of focusing on their real job of firefighting. That world of years past no longer exists. The public and legal expectations surrounding the use of alcohol have changed greatly. There is less tolerance of drunken behavior in today’s society. There are numerous examples of damage done to the careers of volunteer firefighters and chiefs, and the political damage done to fire departments, when photos of firefighters drinking alcohol are posted on social media. Do not let the fire department and firefighters fall victim to an embarrassing and potentially damaging social media post.

All of this sets the tone for how the use of alcohol is seen by the members of the fire department. Departments that do not address alcohol issues seem to have greater alcohol abuse issues within their force. It could be that creating the community impression that alcohol is not a part of the volunteer firefighter culture means that those more likely to abuse alcohol do not join the fire department. It could be that it creates a greater awareness among the firefighters that results in them self-policing alcohol abuse. It could be a bit of both.

Sometimes, a fire chief does not find out a firefighter has an alcohol or substance abuse problem until something goes wrong and a call is received from the police chief or it ends up online or in the newspaper. When this happens, the fire chief must act quickly to address the issue. The goal is to determine the facts, assess the situation objectively, and design an appropriate intervention while simultaneously protecting the fire department from distraction or scandal. This will require working with legal counsel, human resource professionals, local political leaders, and the firefighter involved.

Substance Abuse

Drug abuse among firefighters and police officers has the lowest rate of incidence of any group of workers in the United States. About 1.5 percent of firefighters and police officers report illicit drug use. This compares with alcohol abuse among firefighters and police officers running at 9.1 percent, slightly higher than the United States population in general (Bordini, 2013). While alcohol abuse in the fire and emergency services may be the greater issue, potential drug abuse issues cannot be ignored. Drug abuse among firefighters can result in firefighters, coworkers, and the public being in jeopardy.

As drug abuse rises in society, it is expected that it will rise within the fire service. According to the CDC, from 2000 to 2014 nearly half a million Americans died from drug overdoses. Opioid overdose deaths hit record levels in 2015, with an alarming 15.6 percent increase in just one year, according to data published in the CDC's Morbidity and Mortality Weekly Report (Rudd, Seth, David, & Scholl, 2016).

In addition, legalized marijuana is becoming more common. Just as the fire and emergency service has policies about alcohol use, marijuana use will also require policies. Even if the state has legalized marijuana use, it still remains illegal pursuant to federal law, and if the department is using any federal funds or resources (AFG, Staffing for Adequate Fire and Emergency Response grants, excess property) it has agreed contractually to follow and enforce federal laws. The department should have written policies about drug use that is consistent with the law. This is an area on which to seek guidance from legal counsel.

The following could be signs of problematic drug abuse or drug dependence:

- Use of prescription drugs for periods longer than intended or prescribed,
- Discontinuation of social or fire department activities,
- Failure to fulfill major obligations,
- Legal or financial problems,
- Mood swings,
- Anxiety, and
- Difficulties with or changes in communication.

From a management perspective, drug abuse is more complex than alcohol abuse because it is more likely to involve criminal activity. However, it is also a disease and health problem. This places the fire department in the difficult position of balancing drug abuse as both a legal matter and a firefighter medical condition. These two concerns may clash or create inconsistencies. The approach and obstacles to addressing firefighter drug abuse and the resources for firefighters with drug abuse problems are typically the same or similar to addressing alcohol abuse and may include support groups, medical interventions, residential treatment programs, and more.

Substance abuse is often related to one or more underlying issues, such as stress, grief, or trauma, and requires treatment for those who are addicted to recover and be successful.

Behavioral and Mental Health

This section discusses the role of behavioral and mental health in the fire and emergency services and how problems can be mitigated through the following:

- Recognition, acceptance, and support mechanisms;
- Exploring available resources, including the NVFC's Share the Load™ program; and
- Analyzing a trauma experience as a volunteer.

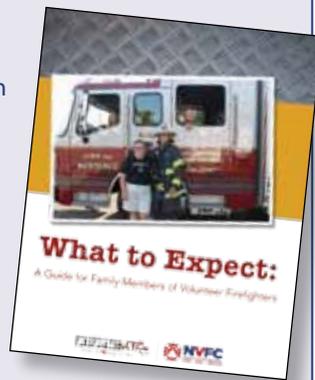
Serving as a volunteer firefighter or EMS provider can be emotionally exhausting. Exposure to trauma, death, injuries, and the destruction of lives and properties is mentally exhausting for everyone. This is true whether a person is a paid emergency responder or a volunteer.

Volunteer fire and emergency responders experience high levels of stress. This can lead to a wide range of emotional problems, such as PTSD, drug and/or alcohol abuse, burnout, depression, anxiety, or suicide.

Volunteer firefighters and EMS providers are as susceptible to stress-related illnesses and disorders as members of the general public, but the nature of their work as volunteer fire and emergency service providers increases their exposure to situations that contribute to stress-related illnesses and disorders. In addition, volunteer firefighters commonly cope with stress and grief alone. Because they respond to emergencies from home or from their primary jobs and then often return to their homes or jobs after the emergency, there is traditionally less opportunity for them to interact with others struggling with the same feelings or to participate in a formal or informal debriefing with department staff.

It is critical for fire and emergency service leaders to understand that most volunteers will return home after an incident. There they may deal with questions from family members about the incident. Their experiences as emergency responders and their family lives exist in parallel, and one can affect the other. Departments need to start looking at ways to educate family members about this and how they can best support their loved one in times of stress or need.

What to Expect: A Guide for Family Members of Volunteer Firefighters is a resource from the NVFC that aims to help families understand more about the volunteer emergency responder lifestyle and the challenges the volunteers and their families may face. The guide can be downloaded at www.nvfc.org.



Volunteer firefighters are among the first to arrive at emergency incidents. In small towns there is a higher probability that the volunteer knows the people affected by the emergency. In many cases, the volunteers are responding to the emergencies of their own family, neighbors, business associates, and friends. This is a contributing factor to volunteer emergency responder behavior health concerns.

Michael Perry's book about his experiences as a volunteer, *Population 485: Meeting Your Neighbors One Siren at a Time*, is a good read about volunteer firefighting in a small town.

In very small communities, volunteer firefighters respond to very few serious emergencies in a year, so they are less experienced at coping with the stressors. Volunteer fire and EMS departments in small towns also often lack the formal firefighter wellness and stress debriefing programs that are more common in larger departments.

A critical or stressful incident is any incident where:

- The firefighter believes his or her own health or well-being is threatened,
- A firefighter experiences another firefighter injury or death, or
- Civilians are victims of the incident.

Firefighters and EMS responders also find an incident stressful or traumatic when they believe they were unable to do enough. Maybe they think they erred or lacked the training or skills to make the outcome better. Maybe the right equipment was not available or working properly. Maybe they were simply overwhelmed with lack of staffing in the early stages of the incident. At some time in their careers every volunteer firefighter and EMS provider experiences these stresses.

Stress can also accumulate when firefighters believe inaction or improper actions by other firefighters are being tolerated or substandard departmental operations result in harm to the people they try to help. Firefighters will be stressed if they think the department allows unqualified members to respond to emergencies. Stress can also occur if departmental policies result in slow responses or shortcuts that hide deficiencies at the expense of the public.

In addition, stress can result from interactions with other firefighters. The fire and emergency services can be rife with personality conflicts, rivalry, and competition. In combination departments, these conflicts have a way of morphing into volunteer versus career issues that can cause a great deal of organizational stress and lead to unwelcome behaviors. A department in competition with another department can cause rivalries that may contribute to unhealthy behaviors and firefighter stress.

With these circumstances firefighters may experience immediate and acute stress, which tends to abate or dissipate in a few hours or a few days. When stress from incidents lingers for a few weeks or more the firefighter may be facing chronic or post-traumatic stress. The symptoms of stress can be physical, emotional, cognitive, and behavioral. It is the role of the fire chief, fire officers, and every firefighter to keep an eye out for signs of stress among their firefighter colleagues and be part of the call for help.

Common Signs & Symptoms of Mental Health Issues for Firefighters

(NVFC, 2012)

Anxiety	Depression	Substance Abuse	Post-Traumatic Stress	Suicide
Restlessness	Sadness	Frequent Intoxication	Restlessness	Sadness
Tired	Fatigue	Social Isolation	Inability to Relax	Social Isolation
Trouble Concentrating	Lack of Interest	Substance Abuse by Peers	Trouble Concentrating	Feeling Helpless or Hopeless
Mind Going "Blank"	Inability to Think	Family Problems	Mental Replays or Dreams	Substance Abuse
Irritability	Anger	Belligerence	Anger/Irritability	Anger/Rage
Muscle Tension	Feeling Worthless	Financial Problems	Shutting off Emotions	Feeling Trapped
Sleep Problems	Sleep Problems	Anger Towards Authority	Sleeplessness	Sleep Changes
			Avoids Triggers	Feeling Guilty
			Hyperactivity	Impulsive
			Fear	Eating Changes
			Startles Easily	Losing Interest
			Impulsive	Poor Performance
			Personality Changes	Personality Changes
				Giving Away Possessions
				Recklessness

Table 5.1.

In the past firefighters did not talk about feelings or mental health issues. Firefighters sucked it up and toughed it out. It is how earlier generations handled mental health and the system was self-perpetuating. Now talking about behavioral health is no longer taboo. It has become acceptable to seek help and talk about mental health problems. This is a positive development. Leaders need to encourage open discussion of behavioral health in their departments as part of the accepted culture. It is another area in which department leadership can lead by example.

Suicide

There is a growing concern in the fire and emergency services about firefighter suicide for both career and volunteer personnel and an increasing awareness of how the stress and trauma encountered by firefighters contributes to firefighter death by suicide. The Firefighter Behavioral Health Alliance (FBHA) maintains a reporting system of firefighter suicides, but since the reporting is not mandatory the numbers are likely much lower than in actuality. Even so, validated data from FBHA show more firefighter suicides annually than line-of-duty deaths.

The data specifically for volunteer firefighters are even more difficult to obtain. If a volunteer firefighter dies by suicide, the death certificate will list their primary occupation as plumber,

student, retired, realtor, teacher, or others. It will not include information identifying them as a volunteer firefighter. A reliable means of identifying and tracking suicide among volunteer firefighters is not easy to implement. There is an additional challenge in correlating the cause of suicide to volunteer firefighting activities versus their primary occupation or other life, medical, or family issues.

There are few obvious indications with many suicidal individuals. Many people who take their own lives or attempt to do so do not have easily identifiable risk factors or fit a classic profile. This means identifying firefighters at risk for suicide is difficult. Many of the signs and symptoms of suicide are similar to or commonly seen in other emotional problems, such as anxiety and depression.

Dr. Matthew Nock, an award-winning researcher and professor of psychology at Harvard University, notes, “The presence of three psychological conditions—such as depression, anxiety, and alcohol or substance abuse—is associated with a ninefold increase in suicide risk” (Shaw, 2016). With this in mind, firefighters and chiefs should be especially alert for a suicide attempt when a department member is exhibiting multiple emotional conditions.

Regardless of the lack of data, fire departments should be alert for members who show signs of suicidal behavior and have a process in place for appropriate referral and intervention. If a member of the fire department is at risk of suicide, ask them how they are feeling, if they have thought about hurting themselves, and about their mood. However, peer counselors need to know their own limits, and if the answers to these questions are worrisome, the individual needs to see a medical professional, preferably a psychiatrist. If someone expresses suicidal thoughts, keep them safe by getting them to the emergency department at a local hospital. If the individual refuses to go to the emergency department, call 911 and activate the EMS system, which may be the fire department.

When unsure about taking action, call the 800-SUICIDE national hotline for guidance. In addition, the NVFC’s Fire/EMS Helpline at 1-888-731-FIRE (3473) offers free, confidential, 24-hour assistance with issues such as stress, depression, addiction, PTSD, suicidal thoughts, and more. The Fire/EMS Helpline is available in partnership with the American Addiction Centers and is answered by firefighters who are also trained counselors.

There is a crucial need to train all personnel about behavioral health, signs to watch for, and resources available. This should be part of all training for new recruits as well as for existing members. Resources for trainings include the NVFC Virtual Classroom at www.nvfc.org/classroom and the FBHA at www.ffbha.org. Departments can also work with local counselors and employee assistance programs to host special training sessions.

A fire chief also has to be alert to the problems of depression and suicide among retired members. Putting a volunteer who has been the department’s warhorse for 40 years out to pasture can trigger emotional problems. This person’s personal identity and self-value may be so tightly connected to being a volunteer firefighter that this loss of identity as a firefighter contributes to depression. How they see themselves fitting into and contributing to the community can be turned upside down by retirement. This is another reason why having support or auxiliary positions that are suitable for retirees to continue participating with the fire department can be so important. Departments should consider having a retirement SOP, and perhaps even preretirement counseling, to help firefighters prepare for an impending retirement.

It is said that for each suicide there are at least six survivors, usually family members and friends, who will feel shock, anger, guilt, and grief (Shaw, 2016). With a firefighter suicide, every member of the fire department becomes a survivor and may share these feelings. The fire department should consider a critical incident stress debriefing whether the case is suicide or line-of-duty death.

Critical Incident Stress Debriefing

A basic and first line of defense for combating the stress facing volunteer firefighters is critical incident stress debriefing (CISD). Each and every fire department should have access to CISD services and have a policy to use complete CISD services after each and every emergency response with trauma, no more than 30 to 72 hours after the critical incident.

CISD teams consist of specially trained firefighter peers and other first responders who can work one-on-one or with a group of firefighters to help them manage stress after a critical incident. The debriefing is generally a short-term program and does not typically provide long-term or ongoing services.

CISD teams are available nationwide. An individual fire department does not have to have its own; regional teams are common. The International Critical Incident Stress Foundation has over 150 teams in the United States and Canada to reach out to emergency responders (visit www.icisf.org to find the nearest team), and it can also assist interested fire departments in forming a community or regional team.

Chaplaincy Programs

A traditional approach to helping firefighters deal with stress is through the fire department chaplaincy program. The fire department chaplain has a long history in the fire service. Fire chaplains are very often involved as members of CISD teams. Chaplains can cross over from being a single-dimensional resource, such as CISD, to being a multi-dimensional resource, providing additional services such as ongoing counseling in multiple areas from stress to addiction to family counseling. Chaplains can be an informal link between fire chiefs and management and the firefighters who are in crisis. It can be difficult recruiting and retaining a fire department chaplain. For help creating a chaplaincy program, contact the National Federation of Fire Chaplains by visiting www.firechaplains.org. The federation can provide the chaplain and department leadership with training, instructions, and information about how to implement a chaplaincy program. Even if the department already has a chaplain, the National Federation of Fire Chaplains is a good resource.

Employee Assistance Programs

Formal Employee Assistance Programs (EAPs) are another option for better-funded fire departments or those that are part of a larger municipal structure. EAPs found in small fire departments, as well as those found in small corporations and small municipalities, are typically provided by third-party vendors; larger entities may have their own in-house programs. Smaller departments can use these programs as a model for their behavioral health programs.

EAPs are a voluntary employee benefit program to assist employees with personal problems or work-related problems that impact their job performance, health, and mental well-being. Many of these programs have had a significant focus on alcohol and drug addiction but are expanding services to include financial issues, legal issues, family problems, office conflicts, as well as alcohol and substance use disorders. When a firefighter or the fire chief believes the firefighter has an addiction or stress problem, the firefighter is referred to the EAP, usually by calling an intake phone number, where he or she is referred to the appropriate professional for services. The EAP organization has paid a fee to the provider that entitles each firefighter to some defined level of benefit.

EAPs also tend to provide a suite of other services to employers to help them manage their workforce and workforce problems. They may offer pre-employment screening, training to managers and employees on how to avoid conflict and stress, Americans with Disabilities Act compliance management, family and maternity leave compliance management, workplace security consulting, employee wellness programs and seminars, conflict resolution services, and employee counseling. EAPs can be a good investment because of the regulatory compliance support they provide and because they can help reduce employer liability. The benefit to the employees (firefighters) is that the employees get prepaid consulting for a wide variety of issues from professionals.

The NVFC's Share the Load™ program has some similarities with an EAP. Share the Load provides access to resources and information to help first responders and their families manage and overcome personal and work-related problems. This includes the Fire/EMS Helpline (1-888-731-FIRE), provided in conjunction with American Addiction Centers, which offers free 24-hour assistance with issues such as stress, depression, addiction, PTSD, and suicide. More information about the NVFC's Share the Load program and the Fire/EMS Helpline is available on the NVFC web site at www.nvfc.org/help.

Retired Professionals

In addition to the services of a chaplain and an EAP, departments should explore the possible involvement of retired professionals with expertise and involvement in mental health services. For instance, finding a retired psychologist in the community who will volunteer to be the department's in-house human resource consultant can be very valuable.

While most communities have some well-qualified retired mental health professionals, recruiting and retaining them is a challenge. To be an effective resource to the firefighters and the fire department requires spending significant time with the department and its members to create relationships and trust. This person with a background in counseling would be a support or auxiliary member of the department. He or she would need to understand the typical anxieties associated with the volunteer fire and emergency services and the demands of being a volunteer firefighter. This position has the potential to be the in-house resource to the chief and firefighters regarding a full range of services, although a retired professional might be willing to remain an external resource and provide services as needed to the department when referred by the fire chief.

In addition to providing one-on-one counseling to firefighters and consultation for the fire chief, retired mental health



professionals could conduct workshops on team building, what to say when a friend or coworker wants to talk about personal problems, how to be a more effective leader, and how to deal with upset or angry individuals.

Incident Rehab

Embracing and expanding incident rehab is an effective means for providing for the health and wellness of volunteer firefighters during an emergency response. Properly implemented incident rehab is designed to prevent injury and death of firefighters and to improve incident scene performance. It touches on the firefighter's physiological and emotional stress.

When planning an effective incident rehab program, the fire department must understand the difference between rehab and traditional canteen services. Rehab provides fluids (generally water), light snacks, and medical monitoring in an environmentally controlled area for proper rest. Traditional canteen services generally provide only a variety of food and drinks to firefighters. Traditional canteen services remain a valuable asset to support emergency operations, particularly for long-term incidents when responders and support staff need meals.

Rehab must include medical monitoring in an environmentally controlled area with hydration and nutrition provided. Medical monitoring is key to caring for firefighter health and wellness.

Some of the physiologic effects of firefighting include heat stress, increased cardiac output, temperature changes, mental status changes, plasma shift, and platelet response. For example, a firefighter's resting heart rate can increase from 70 beats per minute to 192 beats per minute while firefighting. Firefighters can go from a normal oxygen consumption of 3.5 ml/kg/minute to 45.5 ml/kg/minute. Cardiac output can increase fourfold, and this places a great deal of physical stress on firefighters.

Level 1 Rehab

There are two levels of emergency incident rehab. Level 1 rehab, or informal rehab, takes place at the company level and should be part of all incidents, big and small. Level 1 rehab typically takes place at the back step of the apparatus and includes water, rest, and crew check by the company officer. Level 2 rehab, or formal rehab, is the incident rehab with a designated rehab area, a rehab manager, and rehab units. This is usually an ambulance at a minimum.

Fire departments should have a plan in place to provide for formal emergency incident rehab at all significant fire incidents. Mutual aid plans should include units designated to provide formal rehab as part of a working fire response and second alarm assignments. Firefighters and EMS providers need incident rehab training in order to provide for appropriate medical monitoring.

Level 2 Rehab

Level 2 rehab, or formal rehab, is not necessary for routine or low-intensity incidents. Formal rehab requires an area away from the incident action areas with adequate space to remove PPE, handle the number of firefighters expected, and conduct medical monitoring. The formal rehab area should be protected from environmental conditions and can be in multiple types of units. A tent; a bus; a specialty rehab truck; or a nearby house, business, or public building can be used. The formal rehab area should have controlled ingress and egress points to maintain proper accountability.

The first step when firefighters enter a formal rehab area is check in. Their name, unit number, and time entering rehab are recorded. The rehab branch should always know who is in rehab in case the incident requires a personnel accountability report. Firefighters remove PPE, including hoods; wash their hands and faces; then hydrate; and sit. The rehab staff provide medical monitoring of each firefighter.

Medical monitoring includes recording a complete set of vital signs for each firefighter. Each jurisdiction predetermines the threshold for vital signs to determine whether a firefighter remains in rehab, needs medical treatment, or can be released

Model Incident Rehabilitation Flow Chart

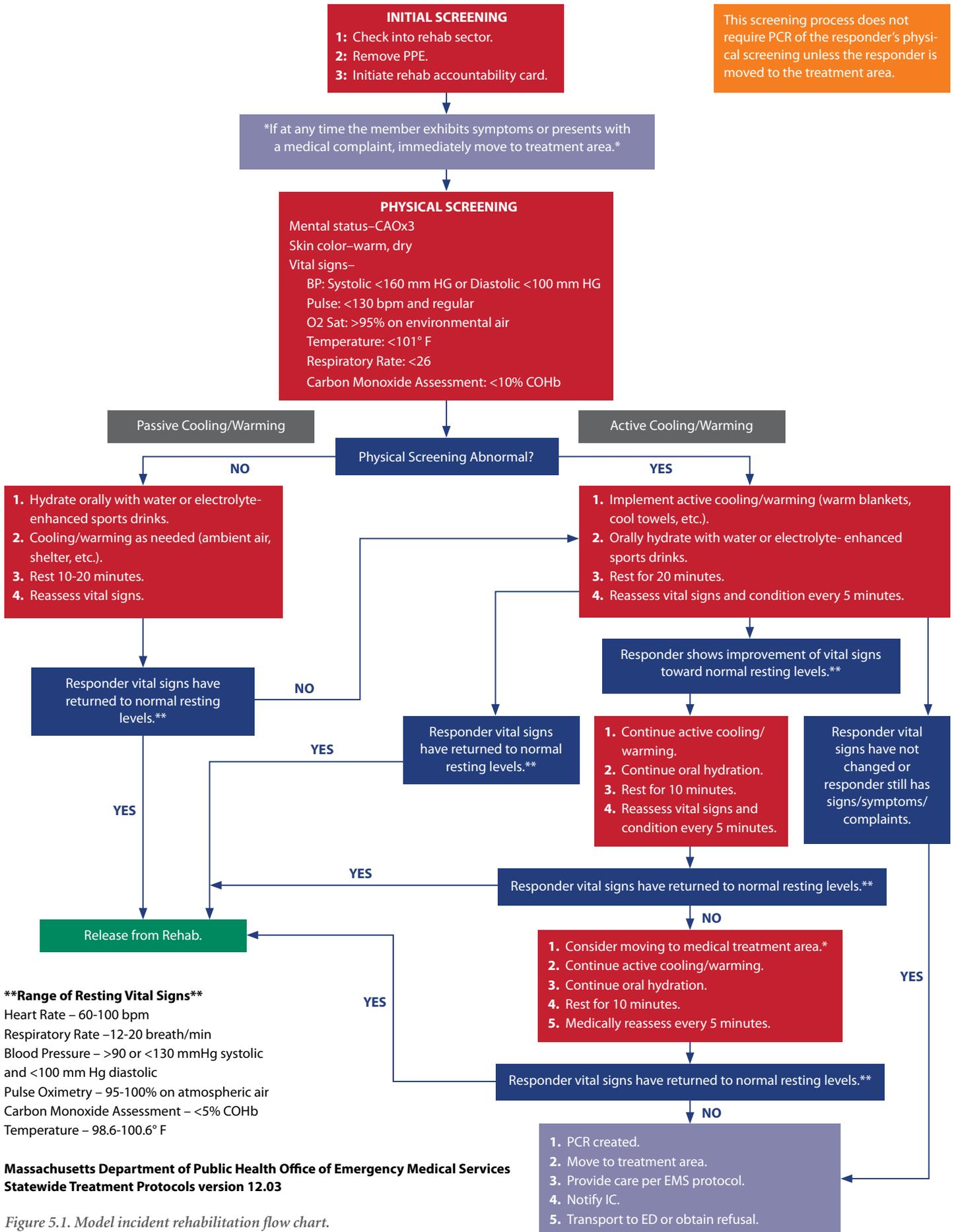


Figure 5.1. Model incident rehabilitation flow chart.

back to duty. After the initial vital signs are checked, firefighters should rest for at least 10 minutes before the next vital signs check. Vital signs are checked at 10-minute intervals to determine when the firefighter can return to service. When vital signs do not return to the established threshold to return to duty, the firefighter is moved to a treatment area.

After Rehab

Firefighters need to check out from rehab as they move from rehab to treatment or back to duty, and the rehab staff should note their time of check out and the destination in the rehab records.

Rehab records can be critical to firefighters who later (hours, days, or years) develop an injury or illness that they believe is firefighting related. Rehab records should be saved and available to firefighters so they can show a cause and connection between an illness or injury and their firefighting activities.

Rehab is an easy and low-cost way to provide for the health and wellness of firefighters. A single ambulance can provide for the medical monitoring at a small or moderate incident using a pop-up tent, a dozen folding chairs, and a cooler of bottled water.

Administrative Programs to Support Health and Wellness

Near-Miss Reporting

One technique for building awareness of and creating a positive focus on health, wellness, and safety needs within the fire department is to develop a near-miss reporting program within the department. It is a way for the fire chief to say health and safety is important. It costs no money and it is easy to administer.

A near-miss reporting program is a way for firefighters to report health and safety problems to the chief. The report can be anonymous. Firefighters use a department form to report any incident or activity they witnessed or participated in that they think was unhealthy or unsafe. A department can create its own form or use a form from the National Near Miss Reporting System (www.nationalnearmiss.org). The forms are then kept in an easily accessible location at the fire station, and firefighters who fill them out leave them for the chief, safety officers, health and wellness committee, or other designated recipient.

Once received, the department must review the incident or issue and then respond. The response can be a change in policy or procedure, training or retraining, obtaining new or improved PPE or equipment, or meeting with the firefighters involved. In a small fire department where a very few near-

miss reports are filed, the chief, safety officer, or health and wellness officer should review the reports as part of a drill or meeting.

Health and Safety Committee

Another technique for building awareness of and creating a positive focus on health and safety issues at the fire department is to create a health and safety committee. The health and safety committee can be charged with reviewing every accident and injury in the department, both on and off the fireground or emergency scene. A support member could lead this committee.

For instance, if a firefighter lacerates his or her arm on a piece of broken glass while fixing a fire station window, the health and safety committee should review the incident to see how the injury could have been avoided and what steps can be taken to prevent similar injuries. If a truck has an accident or a firefighter is injured at an incident, the health and safety committee should review.

The results of the review should:

- Be in writing;
- Include recommendations for training, equipment changes, or SOP changes; and
- Be provided to the entire department.

The review of accident and injury reports can be handled in much the same way that a department might review near-miss reports. Some departments review these incidents at quarterly or annual staff meetings.

Health and safety committee reviews do not place blame or make a legal analysis of liability; instead they help the committee find practical solutions to actual accidents and injuries. This may be to modify practices or replace equipment that was a contributing factor. This is an internal process that ensures discussion about accidents and injuries is part of the department routine, not a rare and uncomfortable confrontation.

A health and safety committee can also be responsible for initiatives to improve health and safety so that accidents, injuries, and exposures don't happen in the first place. The committee can be the motivator for the culture shift to encourage all personnel to embrace healthy and safe practices. The committee can select advocates to serve in this role using the advantage of informal leadership within the department.

Accident and Injury Reporting

All injuries to firefighters should be reported to the National Fire Incident Reporting System (NFIRS). Anytime a firefight-

er suffers an injury at an emergency incident, no matter how slight, the fire and emergency service casualty section of the NFIRS report should be completed and submitted. This is important to firefighters because it creates an official report of the injury in case there is some further injury or this injury gets worse. This record will be important for qualifying for benefits should the firefighter need them. Reporting a series of slight injuries over a firefighter's career could be important for demonstrating why a current injury or illness is line of duty. Just as important to report are exposures to chemicals, blood, and hazardous materials because the injury or illness from these events might not appear for years.

If a firefighter is injured at the fire station, at training, or at some other fire department-sponsored event, then this injury should also be reported to NFIRS as a fire and emergency service casualty. The department will need to create an incident in NFIRS, typically from one of the EMS or rescue categories, to provide a place for the report.

Failure to report injuries and exposures does volunteer firefighters a disservice. The report documents the details of the event and is the first step in establishing that the injury or illness was incurred in the line of duty. Failure to collect information and document the event leaves firefighters without the information to claim benefits. Reporting injuries to NFIRS is also important to the fire and emergency services as a whole. The data are analyzed to help identify problems and improve the health and wellness for all firefighters.

The first step to achieve no injuries and no vehicle accidents in a fire department is setting the goal. The goal must be in writing and must be included in fire department policies. It is not easy to attain this goal, but the goal and the organization's commitment is the first step.

With the goal and policies in place, the fire chief should report at least annually to the firefighters, public officials, and the community on the progress in the department to achieve the goal. A simple one-page report that states the policy, states if the goal has been met, and then lists the date and nature of any accidents or injuries is sufficient. This report focuses everyone's attention on the importance of health, wellness, and safety and demonstrates the commitment of the department.

Fitness Program

There are many options for physical fitness workout locations. The fire station may have a fitness room, so motivation for more firefighters to use this benefit may be needed. The fire station may not have fitness space in-house, so finding an alternative workout location in the community or a neighboring community is an option. There is probably a YMCA,



health club, or gym in the area, and a corporate membership for the firefighters to use the facility is a good option. This can be a cost-effective approach compared to building, outfitting, and maintaining a fitness room at the fire station. The management of a fitness center may agree to donate the membership in support of the fire department.

The department can provide incentives to encourage firefighters to work out regularly. Develop a simple system for tracking how often and how long each member of the department works out. Many people use a personal activity tracker that interfaces with a smartphone. Firefighters can form a group within the app and monitor their own achievements along with their colleagues' achievements. The fire department can give out an award periodically to the firefighter who worked out the most or achieved other fitness goals, such as walking 5,000 steps the greatest number of days. The award can be something like a \$25 gift certificate for a local restaurant. A fire department can even organize a biggest loser competition for the most weight and inches lost and recognize the winner. When there are companies, stations, or other response groups of volunteers within the fire department, give an award to the group that puts in the most combined fitness hours or meets their fitness goals. This friendly competition and accountability to the team is a best practice for weight loss and physical fitness activity. Consider giving an annual fitness award at the department's annual awards dinner. These are ways to demonstrate that fitness and wellness are important and valued.

Fitness training, especially if it can be done at the fire station where it will be noticed by everyone or as part of a group reporting activity with an app, is a great opportunity to lead by example. It is a place where senior leaders of the department can demonstrate their commitment to health and wellness by making their fitness activity public. Physical fitness activity in a fire station is not inhibited because there is not a fitness room. A fitness session in the fire station parking lot or in the apparatus bay is perfect for workout routines that do not require special equipment. Functional fitness incorporates exercises that directly use movements and skills needed in an emergency response. These exercises can be done with existing equipment and tools. Think about sponsoring a Fitness Friday workout at the end of the day where volunteers and their families can stop at the fire station for a 45-minute workout together before going home for the evening. Or, start each drill jogging around the fire station a few times.

Creating a fitness program is a good project for thinking outside the box. A quick online search will turn up hundreds of easy, free, and effective workouts that can work for the department and its firefighters.

Financial Resources

To create substantial improvements in the health and welfare of volunteer firefighters, a change is needed. Some of the programs and ideas included in this chapter are low cost, but some of initiatives require significant financial resources. The common barrier to the issues facing the volunteer fire and emergency services today is funding. Funding for personal protective equipment, for apparatus and equipment maintenance, for training, and even for payment of the electric bill must be improved, and therefore, the allocation of financial resources must be strategic and undertaken with care.

Volunteer fire and emergency service leaders are faced with ongoing resource allocation choices, but keeping firefighters healthy and safe must be the primary focus. Implementing health and safety initiatives to meet department goals is a process that can begin now. Shifting the emphasis within the department to health and safety is free. With the combined efforts of the department members, leadership, and the community, a volunteer fire and emergency department can meet the goal so everyone goes home.

Although there are no easy answers to funding challenges, the United States Fire Administration addresses this topic and provides funding suggestions in the publication *Funding Alternatives for Emergency Medical and Fire Services*, available at usfa.fema.gov.

Summary

According to Jay Lorsch and Emily Tague (2016) in their article *Culture is Not the Culprit*, “Cultural change is what you get after you’ve put new processes or structures in place to tackle tough business challenges like reworking an outdated strategy or business model. The culture evolves as you do that important work.”

When the fire chief announces that it is time for culture change concerning health, wellness, and safety issues, the announced cultural change will probably fail. The fire department health, wellness, and safety initiatives must be implemented like any other fire department program that involves change—lead by example. Use informal leaders to promote the concepts. Make a short-term plan, write it down with goals that can be achieved, and include SOPs. Reward achievements. Use a long-term plan for budgeting and planning. Complaints are no reason to drop goals. Keep the department focused on safety.

Selling the idea of culture change will fail; instead, sell the goals. Sell the changes to procedures and practices. Sell the benefits of an improved, more efficient workforce. Sell the benefits with an emphasis on fewer illnesses and injuries. Sell each program on the merits that all benefit the firefighters. Tackle these issues in small bites. As changes happen one at a time, the culture will change on its own.

Have a plan that puts priorities down on paper and sets a timeline to implement each change. The smallest, most underfunded volunteer fire and emergency department can implement many of the suggestions in this chapter, but even the largest department cannot implement them all in one sweeping motion. Take it one change at a time. Make a more significant change every year and consider a smaller change every six months. Give firefighters time to adapt to the changes, and be willing to adjust based on feedback and experience with the change. Look ahead and make a timeline of the changes the department can accomplish. Revise the timeline as circumstances and resources change.

Take steps to improve the health and wellness of your volunteers. Look outside the department by making your needs known to the community and to local and state governments. Advocate for funding, and apply for grants. Ask for help from community leaders, professors, and other experts. Work at identifying a sustainable business model to support the valuable and critical work that you and your department members do each and every day.

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Courtesy of Bob Esposito

CHAPTER SIX

RESPONSE, ROADWAY, AND INCIDENT SCENE SAFETY

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CHAPTER SIX

RESPONSE, ROADWAY, AND INCIDENT SCENE SAFETY

Case Study

A 28-year-old Louisiana volunteer firefighter was the sole occupant and driver of a 1,500-gallon tanker responding to a reported brush fire. The radio in the tanker was turned off, so the firefighter did not hear a message from the dispatcher canceling the call and ordering responding units to return to quarters.

As the tanker completed a left curve in the road, the right wheels of the tanker left the paved roadway and went onto a substandard shoulder. The firefighter attempted to steer the truck back onto the road, but the tanker began to rotate counterclockwise. The tanker then rolled over, ejecting the firefighter. The tanker came to rest in the middle of the road and the firefighter landed off the left side of the road. From the point at which he was ejected to his final resting place, the firefighter traveled 141 feet.

The firefighter was pronounced dead at the scene. The cause of death was listed as multiple traumas. The firefighter was not wearing a seat belt at the time of the collision. Careless operation of the vehicle was cited as a factor related to the collision in the law enforcement report.

Introduction

Responding to emergency incidents is at the heart of what every fire department is about. The types of incidents to which firefighters respond are generally the same no matter if the firefighters serve in a volunteer, career, or combination department. The hazards that firefighters face are much the same, although the resources available to respond to an emergency vary from jurisdiction to jurisdiction. However, in the end, the results need to be the same. Victims must be treated, fires must be extinguished, and responders and resources must be readied for the next time their services are required.

Firefighter injuries and fatalities at dramatic events such as large fires or special rescue operations tend to draw significant public and fire service attention. The nature of these incidents lead people to believe that such events are the leading cause of firefighter deaths. In reality, these large-scale events account for only a small percentage of overall firefighter injuries and deaths. Between 2006 and 2015, the U.S. Fire Administration (USFA, 2017) reported 1,002 firefighter deaths, with 51.2 percent of those being volunteers. During this time period, 53.4 percent of the deaths were from stress/overexertion and 15.4 percent from vehicle collisions. As far as type of duty, 31.4 percent were on-scene at a fire, and 13.8 percent were responding

to the scene. The National Fire Protection Association (NFPA, 2016) reports that in 2015 there were 68,085 firefighter injuries—of these, 29,130 were injured at the fireground and 3,800 occurred while responding to or returning from an incident. When looking at the specifics of these deaths and injuries, it is clear that many could have been avoided by taking proactive actions in health and safety.

By its very nature, responding to fires and other types of emergency calls is dangerous. Danger begins with the actual response to the call and continues until the responders and apparatus return to their homes or stations following the conclusion of the incident. Historically, most firefighters simply accepted the related hazards as part of the job. Some firefighters actually relish the danger presented by the job as though it is a badge of courage; they may even wear damaged personal protective clothing and helmets to impress others about the dangerous conditions they have experienced. Yet, when safety is not a priority or when safety is not considered to be a factor that can be controlled, responders engage in actions that place themselves, other firefighters, and the public being served at unnecessary risk.

This danger-as-a-badge-of-courage mindset is as toxic as the smoke and gases that volunteer responders encounter at a fire. It is a cultural attitude that has been perpetuated throughout the entire fire service from its earliest days and has placed firefighters at an unacceptable level of risk for too long. The question is, how can we affect cultural change in the volunteer fire and emergency services to embrace safety measures as a valued and expected requirement of job performance?

The first major step in changing the fire service safety culture was the adoption of the first edition of *NFPA 1500: Standard on Fire Department Occupational Safety and Health Program* in 1987. It was a wake-up call for many fire departments and their members. The standard made a series of safety revelations, including the following:

- Fire departments must have health and safety programs.
- Policies and tactics need to be more firefighter safety-minded.
- Firefighters could no longer ride on the outside of the apparatus.

More advancements in firefighter safety occurred in the first 10 years following the release of NFPA 1500 than in any similar period in the history of the fire service.

More recently, groundbreaking research by the National Institute of Standards and Technology (NIST) and Underwriters Laboratories (UL) has completely changed the knowledge about safe and effective methods of performing interior structural firefighting operations. Using the recommendations from the research to make the necessary adjustments to firefighting tactics will greatly increase the safety of firefighters making a fire attack.

Equally important is the work being done by organizations such as the Firefighter Cancer Support Network, the Fire Department of New York, the International Association of Fire Fighters, the National Fallen Firefighters Foundation, the National Volunteer Fire Council, and others related to the issue of firefighter cancer. Research shows that firefighters are at a greater risk than members of the general public in suffering several types of cancers. The smoke that firefighters were breathing in during their service and the dirty protective clothing that was worn as a sign of experience was literally making firefighters very sick and killing many. There is now information on how to reduce the cancer risk, so the fire service must make changes and adopt recommended procedures to reduce the risk of exposure to cancer-causing elements.

This chapter addresses the key emergency response issues relating to health and safety. The chapter will discuss specific

hazards and provide solutions to mitigate them. In order for this information to be useful, the readers and their departments must be willing to acknowledge the need for change and have the leadership and the resolve to make the changes.

Departments should refer to *NFPA 1500: Standard on Fire Department Occupational Safety and Health Program* along with other relevant NFPA standards for guidance when developing department standard operating procedures and guidelines regarding response, roadway, and incident scene safety.

Emergency Vehicle Response Safety

Looking at the USFA firefighter fatality reports, vehicle crashes were the second leading cause of firefighter fatalities between 2006 and 2015 (USFA, 2017). In addition, from 1994 to 2013 there was an average of four privately owned vehicle (POV) response-related fatalities each year (USFA, 2016). In 2015, the NFPA reported that there were an estimated 16,600 collisions involving emergency vehicles responding to or returning from an incident, the highest single-year number since NFPA began collecting this data in 1990. Another 700 collisions occurred involving firefighter POVs as they responded to or returned from an incident (NFPA, 2016).

All public safety agencies, including volunteer departments, must develop effective standard operating procedures (SOPs) or guidelines for all areas related to vehicle operation and response safety. These SOPs must ensure that personnel operate in compliance with applicable laws and standards, such as state and federal motor vehicle codes. Personnel must be educated as to their responsibilities within these SOPs, and the SOPs must be consistently enforced to ensure that everyone is in compliance and operating in the safest possible manner.

The NVFC and the USFA released the guide *Emergency Vehicle Safe Operations for Volunteer and Small Combination Emergency Service Organizations* (2016) to help prevent first responder deaths and injuries caused by vehicle-related accidents. The guide includes best practices, sample SOPs, and behavior motivation techniques that departments can adapt and customize as part of their vehicle safety policies and training. This resource and a companion online training course can be accessed at www.nvfc.org.

The rest of this section will review the common causes of fire service emergency vehicle crashes and discuss how to avoid them.

Intersection Safety

The most likely place to be involved in a collision with another vehicle is intersections. This is because intersections are the most likely location for the emergency vehicle to come into contact with other vehicles that are directly in their path of travel. Most commonly, emergency vehicles collide with civilian vehicles when civilian drivers fail to yield to the emergency vehicle. In other cases, the driver of the emergency vehicle disregards safe practice and traffic laws when crossing an intersection, especially in a negative right-of-way situation (when the fire apparatus does not have the right-of-way). On occasion, two emergency vehicles will strike each other in the intersection. In some cases the emergency vehicles are responding to the same incident, and in other cases they are responding to separate incidents.

It is important to consider what is gained by proceeding through red lights and stop signs compared to the high hazard these practices create. In theory, emergency vehicles have the option to proceed through a red traffic signal or a stop sign after coming to a complete stop. The perceived urgency of the event does not usually necessitate this risk. In many cases firefighters are responding to incidents that do not require the urgency to proceed through a red light.

Consider also that the response time difference between slowing the vehicle and rolling through an intersection versus coming to a complete stop at an intersection is only 2-3 seconds per intersection in a fire apparatus. Assuming that a fire apparatus encounters five negative right-of-way intersections during an average response, the total response time is extended by only 10-15 seconds. Rarely, if ever, could it be identified that an additional 15 seconds during a response had a significant impact on the outcome of the incident. On the other hand, there is no doubt that any collision caused by failure to use safe intersection procedures has had a significant impact on the firefighters, any civilians involved, and the original incident scene from which they were diverted.



Courtesy of Ron Jeffers

Given that intersections are the most likely place where an emergency vehicle will be involved in a collision, it is important that SOPs and training reinforce safe intersection procedures. The application of a few basic principles will greatly increase the safety of vehicles crossing the hazard zone of an intersection. *NFPA 1500: Standard on Fire Department Occupational Safety and Health Program* (Objective 6.2.7) provides direction in what should be included in these SOPs. Most local law enforcement agencies have similar policies. A fire department should consider these a source of information as the department prepares SOPs.

Some state motor vehicle codes do not require emergency vehicles to come to a complete stop at negative right-of-way intersections. This may be granted in the state code, but it does not reduce the risk of proceeding through an intersection without stopping. Fire and emergency service departments should establish safer policies than allowed by law. Many of the motor vehicle codes have not been substantially revised for decades and are not reflective of modern traffic conditions or recognized best and safe practices for emergency responders.

Excessive Speed

In reviewing the historical records and reports on fire apparatus crashes, a large percentage of these reports list excessive speed of the vehicle as one of the primary contributing factors to the cause of the crash. A significant factor is the long-standing fire service attitude that places an emphasis on the fastest response possible. The fire service today needs to revise this mindset and emphasize safe arrival over response travel speed.

There is a direct correlation between increased speed and decreased safety when operating emergency vehicles. The same is also true of other vehicles. The problems associated with excessive speed manifest themselves in a number of ways:

- The vehicle is unable to negotiate a curve in the road.
- The vehicle is unable to stop before hitting another vehicle or object.
- The vehicle is unable to stop before entering an intersection or railroad crossing.
- A weight shift occurs when the vehicle is slowed, causing it to skid or overturn.
- Control of the vehicle is lost after hitting a pothole, speed bump, or similar defect in the driving surface.
- Control of the vehicle is lost as a result of swaying outside the lane of travel and striking a median or curb, or the tires on one side of the vehicle (usually the right side) leave the road surface.

- Tire traction is lost on wet, icy, snowy, or unpaved road surfaces.

Fire and emergency service departments must develop and enforce policies that establish maximum speed criteria for all types of vehicles, considering weather conditions, road and bridge surfaces, and other situations. Drivers must know these policies and understand that the speeds are maximums.

The policy must contain two provisions:

1. Allow a company officer or superior to demand that drivers slow down.
2. Prohibit a company officer or superior the right to force the driver to go faster than the driver's comfort level allows.

There is always the need to drive a vehicle at slower speeds when road surfaces are wet, icy, or unpaved; contain loose materials; or are banked in one direction or the other. Other weather conditions that reduce visibility also require slow speeds. Drivers must recognize these dangerous conditions and slow down. The vehicle must always be driven at a speed that allows control to be maintained on the roadway and that allows the ability to stop within a reasonable distance.

During training, the driver must develop a sense of what the safest maximum speed for operating the vehicle is under a variety of conditions. Training must begin at low speeds and increase only as the driver becomes more comfortable driving the vehicle. Difficult routes of travel within the response district must be included in road testing so that the driver has experience in how the vehicle will handle during an emergency response in that area. As a rule-of-thumb, doubling the speed of a vehicle quadruples the distance it takes to stop the vehicle on a dry surface. This distance to stop is further increased on wet, snowy, or icy roads. The greater stopping distance increases the likelihood of running into something before the vehicle can be brought to a stop.

There is little fire service tactical advantage gained by increasing the apparatus speed by 10 to 15 mph. At a constant speed, the difference between 40 mph and 50 mph on a two-mile response is only about 25 seconds. Factoring in acceleration and deceleration times, weaving through traffic, and stopping at intersections, the 25-second difference is negated. On the other hand, the chances of becoming involved in a collision significantly increase with higher speeds. Fire departments examining lower response times will have better results by improving dispatch times, station turnout times, and other factors than by increasing the speed of emergency vehicles.

Emergency vehicle reports use the term "collision" for all accidents. The vehicle collides with the road surface, the shoulder of the road, a road sign, or another vehicle.

Keeping the Wheels on the Road Surface

A significant number of emergency vehicle crashes are the result of the vehicle drifting off the right side of the road surface. These crashes occur on straight sections of road as well as around curves. This situation develops when the vehicle drifts too far to the right and the front, rear, or both sets of tires leave the paved surface. This is particularly important in the fire service where the most likely type of fire apparatus to be involved in a fatal collision is a water tanker or tender. A 2003 USFA report that focused specifically on water tanker/tender crashes found that over an 11-year period, 66 percent of fatal collisions were the result of the right-side wheels leaving the road surface. A review of case studies on all fire apparatus shows this is a frequent cause of all serious vehicle collisions. Excessive speed was also cited in most of these case studies.

Most crashes that occur when the right-side wheels leave the paved surface are the result of an overcorrection and the resulting panic by the driver when attempting to bring the right-side wheel(s) back onto the paved surface. Often, there will be a lip of 4-8 in. where the paving drops off onto the soft shoulder. When the driver attempts to bring the right-side tires over this lip back onto the paved surface at too high of a speed, the common reaction is for the vehicle to shoot quickly (in some cases violently) toward the left. This could cause the vehicle to enter opposing lanes of traffic, go completely off the left side of the road, or begin a rocking motion that results in loss of control of the vehicle. In other cases, the vehicle may stay on the roadway but the jerking action of jumping back onto the paved surface causes the rear end of the vehicle to swing out in a counterclockwise motion, causing the vehicle to slide and/or overturn.

The best way to avoid these collisions is to keep all the wheels on the road surface all the time. This is easier said than done. The driver may be faced with unpredictable civilian drivers, debris or potholes in the roadway, narrow roads, or other conditions that may force the vehicle toward the right edge of the road during a response. The following are a few tips to prevent the vehicle from drifting off the right side of the road:

- Go slowly. Operate the vehicle at a safe and reasonable speed. Lower speeds minimize swaying and drifting. Slow speeds also prevent loss of control on curves in the road.
- Eliminate driver distractions. Do not operate warning devices. Do not read map books or computer monitors. Do not use the radio or a cell phone. Distracted drivers

tend to let the vehicle drift. Keep both hands on the steering wheel and concentrate only on driving.

- Never pass slowed or stopped vehicles on the right side.

Safely Negotiating Curves

After intersections, curves in the roadway are the next most dangerous place to drive an emergency vehicle. Numerous emergency vehicle catastrophic collisions have occurred when vehicles failed to safely negotiate a curve in the roadway. The reason that a vehicle fails to make it through the curve is a combination of the two previously discussed factors: excessive speed and failure to keep the apparatus wheels on the road surface.

Entering a curve at an excessive speed is particularly dangerous for fire apparatus because of the large size and high center of gravity. The forces of gravity and inertia work against the driver and make the apparatus uncontrollable. Even when the apparatus wheels remain on the road surface, inertia and the high center of gravity cause the apparatus to slide and/or rollover once in the curve. In an effort to keep the apparatus under control, the driver may move into an opposing lane of traffic and strike another vehicle.

When the emergency vehicle enters the curve at too great a speed, either the right-side wheels or the entire vehicle leaves the road surface. Once this occurs, it is a negative outcome. It is important to realize that the vehicle must be slowed before entering the curve. Trying to slow the vehicle once it is already in the curve is too late and can add to the instability of the situation.

In many cases, the highway department posts one or more yellow signs that warn drivers of an approaching sharp curve. A smaller sign that lists a suggested reduced speed through the

curve is often located beneath the primary sign. The suggested speed on these signs is intended for passenger cars under ideal dry road conditions; therefore, the speeds on these signs are too high for safe negotiation by larger vehicles such as fire apparatus or rescue vehicles. Drivers of emergency vehicles must consider these suggested speeds as the maximum for negotiating the curves. Speeds must be reduced if the road conditions are not dry and clear.

Passing Civilian Vehicles Safely

Ideally, all civilian traffic would pull over to the right shoulder or side of the road and come to a complete stop when an emergency vehicle with activated warning devices approaches them from the rear. Unfortunately, this is not always the case. Even though this practice is required by law in virtually all jurisdictions, there are many instances when vehicles in the apparatus travel path do not clear the way. This becomes a serious issue when the emergency vehicle approaches a slower vehicle that fails to yield, requiring the emergency vehicle to pass.

Overtaking and passing other vehicles is almost always dangerous. Passing other vehicles often requires moving into opposing lanes of traffic, which is a risky move that should be done only if no other safer option exists. There are a number of situations in which passing another vehicle should never be attempted, including when the driver handling the emergency vehicle is:

- Negotiating a curve;
- Traveling through an intersection;
- Crossing railroad tracks; or
- Unable to see or account for approaching vehicles in the opposing lane of traffic, especially at night.

If the driver must pass another vehicle, there are several considerations to evaluate before making the move:

- **Is the other vehicle aware you are closing in?** In most cases the driver of the other vehicle notices the emergency vehicle and reacts appropriately. There are other times when this is not the case, and the other driver either makes a panic reaction at the last second or continues on driving unaware.
- **Are there intersections, driveways, side roads, parking lots, or other locations that might present a vehicle that is ready to turn into your path?** These are particularly dangerous because the intervening roadway is not visible to the approaching emergency vehicle. If the driver cannot account for these, passing the vehicle is ill advised.
- **Is there enough room to safely make the pass?** The driver must make sure that there is sufficient room to safely make the pass and get back in the proper lane



Courtesy of Mike Wieder

for the direction of travel before encountering other vehicles coming in the opposite direction. This will vary depending on the speed and handling characteristics of all the vehicles involved.

The driver must remain aware of both the speed of the emergency vehicle and the speed of the other vehicle. This will help estimate the time required to pass, which is the time required to be in the opposing lane of traffic. The driver should not pull up directly on the rear bumper of the vehicle to be passed, but rather should start the pass from a safe following distance. This eliminates the need for quick, jerky steering movements that could result in a loss of control, especially in high-center-of-gravity vehicles. It also allows for better vision of what may be in front of the vehicle that is about to be overtaken.

Make sure to have a safe amount of clearance between the emergency vehicle and the vehicle being passed to avoid a sideswiping situation. It is typically safe to move back to the original travel lane once the driver can see the vehicle he or she has passed in the rearview mirror.

Passing Other Emergency Vehicles Safely

Sometimes emergency vehicles are in a position to pass other emergency vehicles, especially when they are going the same direction to the same call. There is a temptation for a faster moving vehicle, such as a police vehicle or ambulance, that is approaching a slower vehicle, such as a large fire truck, to proceed around the slower vehicle. This type of passing is not advisable, particularly if multiple vehicles are going to the same incident; however, in rare instances it may be necessary, such as if the incident is a violent one where police need to first secure the scene before other responders can perform their work. In these cases, if radio contact cannot be made between the two vehicles, the lead vehicle should recognize that the approaching vehicle needs to pass by and move safely over to the right, as any civilian vehicle is required to, and allow the faster vehicle to pass.

Vehicle Unfamiliarity

A cause cited in case reports of many emergency vehicle crashes is that the driver is not familiar with the vehicle. These are some of the scenarios:

- No qualified driver is available, so an untrained member attempts to drive a vehicle to or from an incident.
- A driver trained on smaller vehicles tries to drive a larger vehicle to an incident. This usually relates to driving a tanker/tender.
- A driver trainee is placed in an over-the-road training situation without being sufficiently familiar with the handling characteristics of the vehicle.

- A department receives a new piece of apparatus, and all drivers do not complete sufficient training before it is placed in service.
- A driver is rotated into a station, is expected to drive the emergency vehicles in that station, and has not previously driven the types of vehicles stationed there.

The solution to reducing these types of incidents is rather simple: training. **Members should not be allowed to operate vehicles without completing training on that specific vehicle.** There is no scenario that justifies placing an untrained driver into an unfamiliar vehicle as the driver. This is especially true under emergency response conditions. All drivers must be trained on the vehicle they are expected to drive before being allowed to drive that vehicle; this is a requirement in NFPA 1500.

Driving in Inclement Weather

Operating a vehicle in any condition that reduces the driver's vision or the amount of traction provided by the road surface is perhaps the most dangerous response situation fire and emergency medical personnel experience. It is common to issue advisories to the public during icy or snowy weather requesting them to stay home and off the roads. Fire and emergency service departments are unable to stay off wet, icy, or snowy roads. Calls may increase during inclement weather and include emergencies such as lightning strikes,



Courtesy of Ron Moore

wires down, wind damage, traffic incidents, structural collapses, and similar situations. Inclement weather that results in extended power outages for the public can also increase the level of fire activity. People use alternative heating methods and candles, and these actions can result in more fires. In addition, carbon monoxide alarms can increase as people use generators that are not properly ventilated.

Common inclement weather conditions that emergency service personnel drive in depend on geographic location and can include fog, wind, rain, ice, and snow. The hazards associated with these conditions include:

- Reduced visibility,
- Reduced steering control,
- Reduced speed and frequent braking, and
- Civilian drivers who do not adjust their driving to the conditions.

The two keys to safe driving in slick road conditions are to reduce speed and increase the following distance. Most winter weather-related crashes are caused by spin outs and vehicles sliding off the road due to excessive speeds for the road and weather conditions.

Speed limits are set for driving passenger cars under optimal, dry conditions.

When road and weather conditions are adverse, it is reasonable and proper to drive at speeds well below the posted limit. It is better to take a little longer to arrive to a dispatched call than to not arrive at all.

Avoiding and Combating Skids

The most effective way to combat vehicle skids is to prevent them. The most common causes of skids involve driver error and include the following:

- Driving too fast for road conditions;
- Failing to properly prepare for weight shifts in larger vehicles;
- Failing to anticipate obstacles in the roadway, such as other vehicles and animals;
- Improper use of auxiliary braking devices; and
- Improper tire air pressure and inadequate tread depth.

Most vehicles are now equipped with an all-wheel, anti-lock braking system (on large trucks, this system is powered by air pressure). These systems minimize the chance of the vehicle being put into a skid when the brakes are applied forcefully.

Drivers must be alert for hydroplaning conditions in wet weather. Driving through even a very shallow ¼-inch puddle

of water at a high speed can hydroplane a vehicle right off the road. Partial hydroplaning typically begins at about 35 mph and increases with speed. At approximately 55 mph, the tires may rest on top of the layer of water and not be in contact with the pavement. When this occurs, there is no road-tire friction, and a gust of wind, change of road grade, or a slight turn can cause a skid. If partial hydroplaning and skidding occurs, the driver can regain control by compensating for the specific type of skid. The driver should counter-steer, turning the wheel in the direction of the skid, and remove the foot from the accelerator.

Safe Vehicle Spacing

The importance of maintaining safe spacing between the emergency vehicle and other traffic in all conditions cannot be overemphasized. Appropriate spacing between vehicles allows for a margin of error if a civilian driver makes an unexpected move. Spacing increases visibility, and visibility creates time to react, time to avoid a collision, and time to stop. A four-second following distance is recommended in ideal conditions; if the conditions are not ideal, such as on wet roads or during emergency responses, increase the following distance. The easiest way to determine the following distance is to look at a fixed object that the car ahead passes and count the seconds it takes to pass the same object.

Vehicle Backing Operations

Collisions that occur when an emergency vehicle is being driven in reverse account for a large percentage of the overall number of emergency vehicle collisions. Although these are rarely serious in terms of injury or death, they do account for a high percentage of emergency vehicle crash repair costs. All fire departments must have firmly established procedures for backing the vehicle, and the driver must always follow those procedures. NFPA 1500 contains specific information on safe backing of fire apparatus and should be consulted when developing a departmental backing policy.



Courtesy of Mike Wieder

The easiest way to prevent a problem is to avoid the conditions that cause it. Whenever possible, the driver must avoid backing the vehicle. It is normally safer, and sometimes quicker, to drive around the block and start again. It is most desirable that new fire stations be designed with drive through apparatus bays that eliminate the necessity to back the apparatus into the bay.

There are situations when it is necessary to back fire apparatus, and in these cases, spotters should always be used. Other technologies that may also be helpful include angled mirrors, backup cameras, and automatic sensing devices, but none of these are a substitute for having spotters.

Driver Distractions

Driver distractions are a major factor in the causes of collisions involving police, fire, and general public vehicles. Statistics kept by the National Highway Traffic Safety Administration (NHTSA, 2017) note that approximately 25 percent of all reported collisions in the United States are caused, at least in part, by a driver distraction. It is likely that this figure will grow for general public drivers in the years to come as a result of increased usage of cell phones and texting devices that reduce the drivers' abilities to react to situations they encounter. It is very easy for fire department members to fall victim to the same types of distractions.

A report from NHTSA and the Virginia Tech Transportation Institute identified three major types of distractions (Dingus et al., 2006):

- Eyes off the road (visual),
- Mind off the road (cognitive), and
- Hands off the steering wheel (manual).

In reality, driver distractions have always been a particular problem for the fire service. There are a variety of things that can cause a distraction for the emergency vehicle driver. These include:

- Warning device controls,
- Mobile computers,
- Map books,
- Pre-incident plans,
- Emergency radios, and
- Radio/CD.

Drivers who have their attention diverted away from the road and directed toward one of these distractions are at greater risk for being involved in a collision. Whenever possible, the driver should not be operating these devices.

Siren Syndrome

Many operators of emergency vehicles have fallen prey to "siren syndrome" or "sirencide." In essence these terms are used to describe the tendency to drive faster and more aggressively when operating an emergency vehicle while en route to an incident with the siren activated. In some cases, this results in an adrenaline rush that offers the driver a sense of invincibility. The increase in adrenaline caused by this situation can result in the driver operating beyond his or her real capabilities, potentially leading to a loss of control of the vehicle and a likely crash scenario.

This condition becomes particularly dangerous when the emergency vehicle driver assumes that every motorist will hear and react appropriately to the siren warning. Motorists do not always hear the sirens of emergency vehicles. There is much risk for a collision when the emergency vehicle driver is not aware of all road conditions, is not aware of other motorists, and is driving too fast. Address this problem through effective training. Whenever possible, driver training exercises should be conducted with the siren activated and all persons using hearing protection. Experiencing these conditions in a training environment will help drivers not react to the sirens during an emergency response.

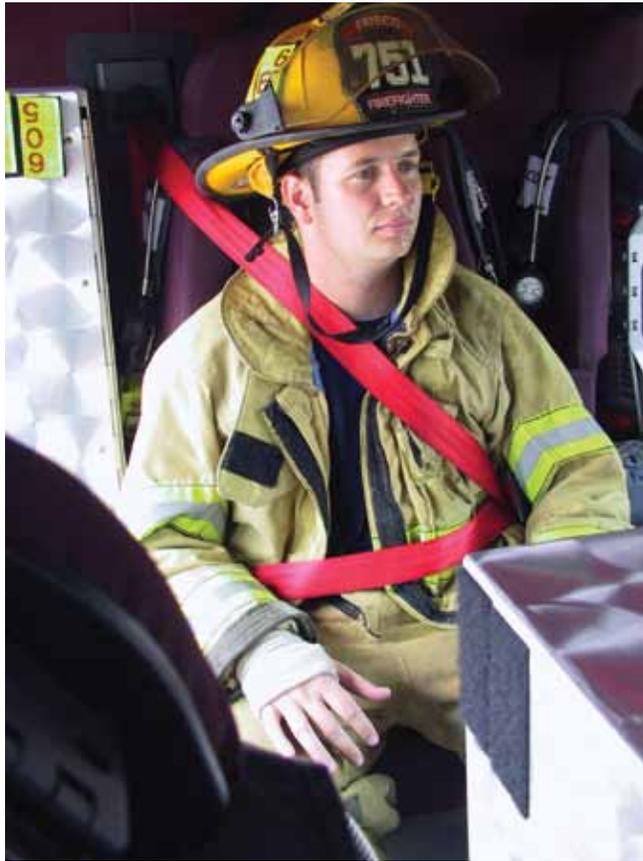
Fatigue

Fatigue has always been an issue in the fire service and poses a significant hazard to drivers because it lowers visual efficiency and increases reaction time in emergencies. Fatigue most frequently manifests itself in the form of drowsiness, which causes reflexes to slow, the mind to wander, and the eyelids to become heavy and closed for a longer period of time than is safe. Although fatigue is prevalent during the night when normal sleeping habits are interrupted, potential danger may appear anytime a member responds to an incident without being well rested. The only real method to counter fatigue is a sufficient quantity of rest and sleep.

Today's society is saturated with a variety of products that claim to increase energy and fight the effects of drowsiness. Most of these products simply provide short bursts of energy through high and potentially unsafe quantities of sugar, caffeine, or both. The use of these products only treats the symptoms, not the actual causes of fatigue.

Seat Belt Usage

The focus of this chapter so far has been the issues that contribute to emergency vehicle crashes and how to prevent these. However, vehicle safety also includes the issue of seat belt use. On numerous occasions, the failure to wear seat belts is identified as a significant factor in the serious injury or death of the emergency vehicle operator and/or occupant(s). In most of these cases, drivers and/or occupants were seri-



Courtesy of Mike Wieder

ously injured or killed after being partially or totally ejected from the vehicle following a collision. Lack of seat belt use occurs despite the fact that information and studies on the benefits of wearing seat belts have been available for more than 30 years.

According to NHTSA, in the United States seat belts are the single most effective means of reducing the risk of death in a crash (NHTSA, n.d.-a). NHTSA reports that lap/shoulder seat belts, when used properly, reduce the risk of fatal injury to front-seat passenger car occupants by 45 percent and the risk of moderate-to-critical injury by 50 percent. In light trucks, seat belts reduce the risk of fatal injury by 60 percent and moderate-to-critical injury by 65 percent. Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash (NHTSA, n.d.-b). In fatal crashes, 75 percent of passenger vehicle occupants who were totally ejected from the vehicle were killed (NHTSA, n.d.-c). While that figure is applied to all types of vehicle crashes, the most dramatic effect of seat belts on safety can be seen when rollover crash statistics are reviewed: Only one percent of properly restrained occupants are totally ejected from the vehicle in a rollover crash (USFA, 2003). Seat belts are effective in preventing total ejections.

Fire personnel have no excuse for failing to wear seat belts when driving or riding on fire apparatus. *NFPA 1901: Standard*

for Automotive Fire Apparatus requires all new fire apparatus to be equipped with a proper seat belt for each riding position. Many states that have a vehicle inspection program for fire apparatus also require seat belts to be present. NFPA 1500 requires all riders on fire apparatus to be seated and belted prior to the movement of the apparatus. Fire department leadership must enforce seat belt usage for all members of the department.

All fire departments must have in place SOPs that require all members riding on the apparatus to be seated and belted any time the vehicle is ready to begin road travel. The driver should not proceed until this fact has been verified. These policies must be enforced strictly.

Alternative Response Policies for Fire Departments

Without question, emergency personnel are in the greatest position of vulnerability when they are responding to a reported emergency with lights and siren activated. In many jurisdictions, this is referred to as an “emergency rate” or “Code 3” response. Responding without lights and siren and operating under normal traffic conditions is referred to as a “nonemergency” or “Code 1” response. When prorated for actual miles driven, the odds of being involved in a collision when operating under emergency rate conditions are significantly higher than under normal traffic flow or nonemergency conditions. To make significant reductions in the number of firefighter injuries and deaths, major cultural shifts regarding vehicle safety are required. One of these shifts is the realization that many of the calls typically responded to at an emergency rate are not justified by a risk–benefit analysis.

Historically, fire departments treated virtually every response as an emergency and sent all apparatus with lights and sirens activated. In many cases, fire apparatus were involved in serious collisions while responding to calls that had a very low probability of requiring true emergency assistance. Thus, many jurisdictions have begun looking at policies that reduce the number of emergency rate responses made by their fire companies. By reducing the number of emergency rate responses, these departments reduce the level of risk to their members and the public created by the emergency rate response.

Performing a realistic review of the types of responses the department makes and determining which ones truly constitute an emergency condition helps reduce emergency rate responses. The goal is to identify types of incidents in which the few extra seconds created by a nonemergency response will have little or no impact on life safety or property damage. This information then can be used to modify dispatch procedures and SOPs for apparatus response. Though the results of this type of study vary from jurisdiction to jurisdiction, the

following are types of calls that many departments are now treating as nonemergency responses:

- Activated fire alarm, without an additional call reporting fire conditions;
- Trash fire;
- Small brush fire inside the city limits;
- Wires down/hanging;
- Smoke/gas odor in the vicinity;
- Carbon monoxide detector activation without reported patient symptoms;
- Basic life support emergency medical services (EMS) calls;
- Company relocations;
- Water leaks; and
- Investigation of a controlled burn.

The St. Louis (Missouri) Fire Department experienced more than a 90 percent reduction in apparatus collisions within the first few of years of implementing an alternative response policy. There was no reduction in their service delivery, no higher fire losses, and no reduced patient care/mortality rates on EMS calls as a result of the alternate response policy. Similar results can be expected for departments in rural and suburban areas.

In a study of fire department responses to activated fire alarms without a secondary call reporting fire conditions, the New York State Office of Fire Prevention and Control found that only one percent of responses required the services of more than the first-arriving company to mitigate the incident. It can be assumed that those figures would probably hold true in almost any jurisdiction. Based on that information, it is difficult to justify the response of a full first alarm assignment, with all companies operating under emergency rate conditions, to every activated fire alarm. The odds of a third or fourth due apparatus being involved in a collision are greater than the chance that the crew will be needed to control an incident at the property with the activated alarm.

Safe Operation of Water Tankers/Tenders

Accident data relating to the operation of water tankers or tenders (referred to in this section as tankers) offer a clear illustration of why a cultural shift is needed with regard to vehicle safety. Much attention has been focused on the safe operation of tankers over the years, largely generated by a research project by USFA in 2002. The resulting report, *Safe Operation of Tankers* (2003), highlights the hazards associated with operating these vehicles and recommends changes to make their operation safer.

The research found that tankers accounted for an estimated three percent of the total fire apparatus in the United States. Tanker collisions accounted for about 25 percent of firefighter apparatus related fatalities. More firefighters were killed in tankers than in pumpers and aerial apparatus combined. This statistic becomes even more dramatic considering that in most departments the tanker responds only on a small percentage of incidents.

The report notes a number of primary causes for these collisions and the resulting fatalities that occurred. The primary reasons for fatal tanker crashes were:

- Eighty percent of the firefighters killed were not wearing seat belts.
- People were driving the tankers too fast.
- Drivers failed to keep all tanker wheels on the road surface.

The tanker is the most dangerous vehicle operated by the fire department. Why is it necessary to drive the tanker at an excessive rate of speed with lights and sirens activated? There is no legitimate reason for driving these vehicles at unsafe speeds and no justification to operate under emergency response conditions.

Volunteer Response in Privately Owned Vehicles

It is common practice for members of volunteer fire and emergency services departments to respond to the station or to an incident location using their private vehicles. Between 2006 and 2016, 58 volunteer firefighter on-duty deaths occurred while driving or riding in a personal vehicle, emphasizing the need for practices and policies that protect volunteer responders (USFA, 2017).

Volunteer firefighters are very committed to the service they provide to their communities. This commitment also means enthusiasm that can often be converted to adrenaline when pagers notify members about an incident. This adrenaline rush can lead to risky behaviors and reckless operation of their POVs while responding to the incident.

Each fire department has a duty to ensure that the driver of a POV has been properly trained and is capable of safely operating the vehicle in an emergency response mode. In the absence of specific state regulations, the fire chief should apply the same standards to qualify a driver to operate a POV as to operate a fire department vehicle in an emergency mode. Before being authorized to operate POVs as emergency vehicles, drivers should be required to:

- Complete Emergency Vehicle Operations Course (EVOC) training,
- Complete a medical examination,

- Successfully perform a driving skills evaluation, and
- Provide driving records

Agencies that provide insurance coverage to volunteer departments often provide EVOG training programs at little or no charge.

The department should establish SOPs that instruct members on the operation of POVs during emergency and non-emergency situations. These SOPs must be in compliance with the applicable state motor vehicle code requirements for emergency responder POV operation. The SOPs must specifically state when it is appropriate to operate in an emergency mode and when to operate the POV in nonemergency mode. The use of cell phones or other electronic devices during a response must be strictly prohibited.

A joint document released by NVFC and the International Association of Fire Chiefs – Volunteer and Combination Officers’ Section entitled *Let’s Make a Difference: Best Practices to Minimize Injuries and Deaths While Using Privately Owned Vehicles for ESO Responses* (2015) provides model policies and recommended procedures that fire departments can adopt to minimize injuries and deaths while responders are using their own vehicles during emergencies. This document can be found at www.nvfc.org.

Whether to allow POVs to have emergency warning lights and sirens is an issue when examining the safety of responding with POVs. In some fire departments, emergency warning lights and sirens have always been used, and members are very passionate about the need for the equipment. Efforts to remove them, or minimize their use, are met with much opposition. Any effort to change the policies must be based in fact and include education; there is no science to indicate that POVs that use warning devices provide an advantage in response times or incident outcomes. It must be emphasized that safe response to emergency incidents is important both to the responders and the public that they serve.

As with all aspects of fire department operations, proper training is essential for agencies that allow members to operate warning devices on their POVs. Make sure that all members have been trained on the agency’s policies and procedures before they are allowed to equip and operate their vehicles with warning devices. Recurrent training on related issues should be conducted on a regular basis.

Roadway Incident Scene Safety

[Note: The information in this section was adapted from the Improving Apparatus Response and Roadway Operations Safety in the Career Fire Service (2010) guide developed by the International Association of Fire Fighters in partnership with the USFA].

Operating at a roadway emergency has always been a hazard for firefighters, but in recent years with the increased amount and speed of traffic on the roadways, the level of hazard to firefighters operating at roadway scenes has grown proportionately. The hazards of working on the roadway are not limited to firefighters. Being struck by a vehicle while operating at roadway incidents accounts for one of the leading causes of injuries and deaths for law enforcement, EMS personnel, transportation department workers, and tow truck operators. Fortunately, in recent years the tide has begun to turn, and the fire service and other allied responders have begun to recognize the severity of the dangers faced when operating on roadways and as a result have begun to take measures to reduce the frequency and severity of these incidents.

This section will explore two critical aspects of establishing and maintaining safe roadway incident scenes. These include:

- Understanding and respecting the role of other emergency responders, and
- Establishing a safe work zone at roadway incidents.

Understanding and Respecting Each Other’s Roles

In most cases, a roadway incident will involve responders from a number of different disciplines, such as fire, EMS, law enforcement, towing agencies, and others. It is important for the members of each discipline to understand not only what their own roles are in the incident, but also to understand and respect the roles of the other disciplines at the incident; this is critical in the smooth handling of an incident. Failure to understand and respect each other’s roles frequently leads



Courtesy of Mike Wieder

to conflict, disruption of critical incident activities, negative media coverage, and long-standing interorganizational issues after the incident is over.

Fire and EMS training on responding to roadway emergencies focuses first and foremost on setting up a safe work zone before performing other tasks. Most training in this area is based on information contained in NFPA 1500 and the U.S. Department of Transportation's (DOT) *Manual on Uniform Traffic Control Devices* (MUTCD) (Federal Highway Administration, 2009). Both of these documents recommend that the lanes of traffic in which the incident has occurred should be closed to moving traffic, plus one extra lane next to the lane the incident is in. This is why fire personnel seek to close an extra lane; they are trained to do so and it is often required under department SOPs.

Most fire and EMS personnel are not trained on issues such as the effects of reduced traffic flow or the hazards of long vehicle queues—that is why they pay little attention to these issues. All they are trained in is to block as much traffic as possible to maximize their own safety, which does not sound like a bad idea without a full picture of the entire story.

Police officers also receive an extensive amount of training on roadway incidents, and scene safety is an important piece of that training. However, while the fire and emergency medical services' roadway scene safety training tends to be limited to responder and victim safety, law enforcement training is more apt to cover the broader issue of safety not only to personnel at the scene, but also for the other motorists in the vicinity of the incident. Law enforcement personnel are trained to focus on minimizing the disruption to the normal flow of traffic as much as possible. Excessive lane changes and slowing or stopping the flow of traffic will cause long vehicle queues that in extreme cases may last for many hours after the original incident has been cleared.

What police officers are trained to understand, and what is often missing from fire/EMS training, is the fact these impediments to the normal flow of traffic create a significantly dangerous situation. DOT statistics indicate that secondary collisions following an initial roadway incident are responsible in 18 percent of civilian traffic fatalities in the United States (USFA, 2012). Police officers are aware of this fact, and that is why they are driven to minimize lane closures and disruptions to the normal flow as much as possible. They are very focused not only on securing the safety of the initial incident scene, but also on preventing any additional incidents from occurring, to the extent possible.

All agencies that respond to roadway incidents must have an understanding of each other's roles so that they can develop positive working relationships on the incident scene. Waiting until an incident occurs and then trying to work these issues out spontaneously at the scene is not a productive manner to address the issue and is likely to be unsuccessful.

Developing workable procedures for responding to and working at roadway incident scenes is an activity that should be conducted well in advance of any incident. Effective pre-incident planning is the key to efficient, predictable operations. The principles of pre-incident planning can be applied to roadway scene incidents in much the same way they are applied to structure fires, tactical incidents, or the other types of incidents that historically have been planned for.

The primary difference in developing a pre-incident plan for a roadway incident as opposed to the other examples is the need for all affected agencies to be involved in developing the plan. When fire departments develop a pre-incident plan for a nursing home, they usually do it themselves. Likewise, law enforcement agencies typically do not significantly involve fire and EMS agencies in planning for barricaded suspect operations. The responsibilities at roadway incidents are much more equal for both agencies than many other types of incidents. Thus, police and fire/EMS agencies, as well as the other responders in a jurisdiction, must have a more equal role in pre-incident planning for these events.

When developing a pre-incident plan for roadway incident operations, the following summarizes some of the key issues that need to be addressed:

- Make sure that all disciplines/agencies who may respond to a roadway incident are involved in the plan.
- Ensure that the representatives from each agency have the authority of their agency to make binding decisions or commitments for the plan. If not, identify the timeline and process for the agency to adopt the plan.
- Formalize the specific role for each agency at roadway incidents.
- Establish who will be in overall command at the incidents. This may be based on local practices, regional statutes, or state laws.
- Set up a workable framework for unified command operations that can be implemented when the nature of the incident dictates that need.
- Establish basic protocols for setting up work zones or traffic incident management areas that all parties can agree on. Understand that these may need to be adjusted based on the requirements of a specific incident.

- Develop requirements for all agencies to train their personnel on the plan, and practice the plan on a regular basis to ensure it will work in real-life situations.

One of the key factors that must be considered in this planning process is that it must involve senior staff as well as the actual practitioners. It also does no good if the group develops the best plan in the world and then it is simply stuck somewhere in each respective agency's file cabinets. The plan must be designed so that it is workable and easily implemented. All responders from each agency should receive effective training on the plan and understand how it will be implemented when they respond to roadway incident scenes. If possible, have a mix of disciplines in the training sessions so that responders can develop positive relationships and identify potential conflicts before they work together at incident scenes.

Set Up a Safe Work Zone at Roadway Incidents

Historically, in many jurisdictions the establishment of a work zone on roadway incidents was limited to positioning emergency vehicles close to the incident scene and perhaps setting out a few traffic cones or road flares in a nonspecific manner. This lack of attention to detail and the hazards presented by oncoming traffic are probably the reason there have been so many injuries and deaths among firefighters and other responders while working at roadway incidents. Progressive departments now realize that these practices need to change in order to maximize the safety of responders.

One organization that has realized the need for changes is the DOT. Through its Intelligent Transportation Systems initiative, the DOT has spent a considerable amount of effort in recent years studying the effects of roadway incidents on responders who operate at them and to the motoring public that encounters them. The goals of this research have been, among other things, to increase the level of safety for responders operating on the emergency scene and to minimize traffic disruption, thus improving the flow of traffic around the incident. These goals are not mutually exclusive. Procedures can be used that will address the concerns of all those organizations involved in the incident.

There are many important aspects of setting up safe work zones at a roadway emergency. This includes following DOT requirements for temporary work zones, using apparatus warning lights effectively, and responders wearing protective clothing.

Manual on Uniform Traffic Control Devices. Title 23 of the DOT Code of Federal Regulations charges the DOT with developing a manual on uniform traffic control standards and requires each state to adopt these standards. The document that contains these standards is called the Manual on Uniform Traffic Control Devices (MUTCD). Section 6I is dedicated to "The Control of Traffic through Incident Management Areas." The MUTCD defines a traffic incident as "an emergency road user occurrence, a natural disaster, or



Courtesy of Jeff Fortney

other unplanned event that affects or impedes the normal flow of traffic” (Federal Highway Administration, 2009).

The basic purpose of the information contained in MUTCD Section 6I is to provide direction on temporary traffic control (TTC), which is defined as controlling traffic close to or around an incident or emergency scene. There are three basic goals of TTC:

1. Improving responder safety on the incident scene,
2. Keeping traffic flowing as smoothly as possible, and
3. Preventing the occurrence of secondary crashes.

Fire and emergency service departments need to understand that unlike documents such as NFPA standards, which are voluntary unless formally adopted, the requirements of the MUTCD are federal law. Fire department SOPs must reflect the requirements of the MUTCD or their equivalent state document. Some states have chosen to modify the MUTCD and make some sections more stringent. Firefighters should be familiar with the version of the MUTCD recognized in their state, and these principles must be applied to every roadway emergency. Failure to follow these requirements subjects the responders and their agencies to civil liabilities and reduced federal funding.

All roadway incident response agencies should obtain a copy of the MUTCD and/or their own state equivalent documents and use them to refine their SOPs for operating at roadway incidents. For more information on the MUTCD document and to download a free copy, go to <http://mutcd.fhwa.dot.gov>.

Effective Use of Warning Lights. The use of fire apparatus vehicle lighting is essential, especially in the initial stages of a roadway incident, for the safety of firefighters, other emergency responders, those involved in the traffic incident, and motorists approaching the traffic incident. Emergency vehicle lighting, however, provides warning only and provides no effective traffic control. It is often confusing to civilian motorists, especially at night. Historically, the fire service culture and practice was to deploy as many emergency warning lights as possible. However, this can actually have a negative effect on responder and public safety. Motorists approaching the traffic incident from the opposite direction on a divided roadway are often distracted by excessive emergency vehicle lighting and slow their vehicles to look at the traffic incident, posing a hazard to themselves and others traveling in their direction. Excessive lighting can also obscure the presence of responders working at the scene, leading to approaching motorists striking them.

The use of emergency vehicle lighting can be reduced if good TTC measures have been established at a roadway incident

scene. This is especially true for large traffic incidents that might involve a number of emergency vehicles. If good traffic control is established through the placement of advanced warning signs and traffic control devices to divert or detour traffic, then firefighters can perform their tasks on-scene with minimal emergency vehicle lighting.

In addition to warning lights, firefighters must use caution in the use of floodlights at nighttime roadway incident scenes. Floodlights are essential in providing a safe, efficient work area on nighttime incidents. However, they must be raised and deployed in a manner that is not blinding motorists passing the incident scene. When floodlights are used, they must be raised to a height that allows light to be directed down on the scene. This provides the optimum working conditions at night by improving the vision of responders, reducing trip hazards by minimizing shadows, and preventing lights from shining in the eyes of approaching motorists.

Proper Protective Clothing for Personnel Operating at Roadway Incidents. An increased interest and emphasis in wearing appropriate high-visibility garments when responders are working at roadway incidents was spurred by the enactment of the Federal Highway Administration’s Rule 634 in November 2008. This rule was amended several times, with the most current ruling being issued on June 15, 2009. The final version, Rule 634.3, states: “All workers within the right-of-way of a federal-aid highway who are exposed either to traffic (vehicles using the highway for purposes of travel) or to construction equipment within the work area shall wear high-visibility safety apparel. Firefighters or other emergency responders working within the right-of-way of a federal-aid highway and engaged in emergency operations that directly expose them to flame, fire, heat, and/or hazardous materials may wear retroreflective turnout gear that is specified and regulated by other organizations, such as the National Fire Protection Association. Firefighters or other emergency responders working within the right-of-way of a federal-aid highway and engaged in any other types of operations shall



Courtesy of Bob Esposito

wear high-visibility safety apparel.” Thus, fire departments’ SOPs must clearly dictate that all personnel wear appropriate high-visibility vests when operating on the roadway.

For all practical purposes, high-visibility vests should be used at all times at crashes on the roadway.

Incident Scene Safety

As discussed at the beginning of this chapter, firefighting is an inherently dangerous function. In many cases, response risks can be traced to poor training, ineffective response policies, and an unrealistic sense of urgency by the responder to address the incident as quickly as possible, regardless of what the conditions of the incident situation realistically require.

The same issues apply once firefighters reach the fire scene. Every type of fire scene is fraught with its own unique set of dangers. The historical focus on incident scene safety has been primarily directed at structure fires because these are high-visibility events where many firefighters have been injured or killed. Negative results of operating at these incidents can be immediately obvious, such as injuries and fatalities that occur on the scene, but what might not necessarily be so obvious are the long-term effects of the response, such as the exposure to toxic or harmful substances that the responders may be breathing, absorbing, or ingesting if proper precautions are not followed.

Research has also shown that the other types of routine fires that typically occur more frequently than working structure fires have equally severe effects on firefighters’ short- and long-term health and safety. The smoke and toxins released at vehicle, trash, brush, and other types of common fire responses are equally as dangerous as the environmental conditions at structures fires.

When examining firefighter injury data, a 2014 NFPA injury report notes that the number of fireground injuries per 1,000 fires has remained relatively constant for the past 20 years (Haynes & Molis, 2016). This is a disturbing fact when one considers that the actual number of working fire incidents has decreased significantly over the same period. When viewing these two facts from a broad perspective, more firefighters are injured now per fire than 20 years ago. These statistics do not account for the long-term health consequences from exposures at incident scenes. Despite advances in incident command procedures, improved personal protective equipment, new technologies (such as thermal imaging cameras), and other innovations, there must be other factors at work that are preventing firefighters from being safer and reducing the number of fire service injuries, illnesses, and casualties.

All incident scenes present dangers, both in immediate deaths and injuries, and in long-term health issues related to response. Establishing and following strict safety protocols is key to preventing these fatalities, injuries, and health consequences. This section looks at measures that can be taken to lessen safety and health risks on the fireground. Areas will be noted where traditional cultural mindsets are placing personnel in an inordinate amount of unnecessary danger and changes need to be made.

Structural Firefighting

The fire service’s culture of extreme urgency can be seen in many of the advances in technology over the past few decades. Larger, faster fire apparatus can get to the scene and deploy equipment faster. In days gone by, firefighters would don their self-contained breathing apparatus (SCBA) from storage locations on the outside of the apparatus. This provided the officer on the apparatus a little extra time to examine the incident and note any potential hazards. Now, firefighters don their SCBAs en route to the scene to be ready to charge into the building right after stepping off the truck. Preconnected hoselines, sometimes referred to as “speed lays,” allow firefighters to charge into the building more quickly.

A timely entry into a fire building may make a difference in the event that a living victim is still located inside the structure, although these situations are rarely encountered. More commonly, it is the fire service culture that creates the sense of urgency to get off the truck and deploy the hoseline to the seat of the fire as fast as possible. The truth is that this old cultural mindset needlessly endangers firefighters.

Most volunteer firefighters in small or rural jurisdictions will never respond to a structure fire with entrapped victims during the entire course of their service to their departments. These are rare events, even for many career fire departments. It is far more common to arrive at the scene of a working structure fire and be told by citizens on the scene that everyone is out of the structure or that the building is vacant.

In spite of this, the existing fire service culture leans toward the thought that there could still be someone inside the fire building. Thus, firefighters assume the worst case scenario and take a significant risk by making an aggressive entry into the structure to search for victims, or because they think that is the best way to find the seat of the fire. That mindset needs to change in order to better ensure crew safety. On arriving at the scene, firefighters’ first actions should be based on the more likely scenario that the structure is unoccupied, and then taking the inherent risk approach to attacking the incident, unless there is information to the contrary.

Most fire departments follow a risk management model to guide their emergency operations. There are various versions of these models, but they are all similar to the following:

- We will take significant, calculated risks to save savable lives.
- We will take only inherent risks to save salvageable property.
- We will take no risks in attempt to save lives or property that have already been lost.

There are a number of scenarios that may justify, within the boundaries of reason, taking the considerable risk approach. Some of these include:

- Dispatch information advising possible entrapment,
- Civilians on-scene advising that they believe someone is in the structure,
- Vehicles parked in the driveway, and
- Information that the occupants are elderly or disabled.

In cases that warrant taking the considerable risk approach, the method of attack should follow established procedures that require the safest course of action possible. Members must be wearing all of the required personal protective equipment, charged hoselines must be deployed, and a personal accountability system and the Incident Command System must be used.

Lacking any credible information regarding occupant life safety concerns, the primary attack plan should follow the inherent risk approach. The inherent risk approach recognizes that there is some level of risk associated with any operations at an emergency scene. Firefighters may trip and fall, hoselines may burst, structures may collapse, and many other similar risks may present themselves. The point is to not go beyond these typical fireground hazards to make an unnecessarily aggressive, interior attack on the fire that places personnel in an inordinate amount of danger.

In recent years, there has been more credible, scientific research on structural fire behavior and attack methods than at any other time in modern history. Research being conducted by UL and NIST is requiring the fire service to take a serious look at how it has attacked structure fires in the past, as well as identifying more effective and safer approaches to consider in the future. This research has included an extensive number of live-burn tests in single-family homes, apartments, townhouses, and other multiple-occupancy structures. The results of these tests have dispelled a number of common beliefs about fire behavior in structures and appropriate attack methods that the fire service has been entrenched in for many decades.

Initiating a fire attack from the inside of the structure places firefighters at a considerable level of risk. There is little control over the atmosphere, and some tactics might actually disturb the atmosphere and further endanger the firefighters making the attack. Modern research shows that an appropriately applied initial attack from the exterior of the structure stabilizes the atmosphere and makes conditions safer for firefighters entering the structure. The research also dispels the commonly held belief that a quick exterior attack further endangers any victims who might be inside the burning structure. On the contrary, the research shows that stabilized atmosphere created by the exterior attack also improves conditions for any occupants of the structure.

There are numerous sources that personnel can go to for information on fireground research and how it can be applied to daily operations. These include the UL, NIST, and USFA web sites, as well as from traditional providers of fire service training information, such as the International Fire Service Training Association and other training materials providers.

The main point is that the fire service now has compelling evidence that previous methods of fire attack possibly placed firefighters at an unacceptable level of risk when the situation clearly did not warrant that risk. All agencies need to review the modern research and thoughtfully analyze how it can be used to modify their procedures and increase the safety of their personnel. Failure to take advantage of this information and be locked into “the way we have always done it” is not a professional or ethical approach to running a volunteer fire organization. It places the members in an unnecessary level of danger at fire scene operations.

Other Types of Fire Incidents

In most jurisdictions, structure fires are the least common type of fire incidents to which volunteer departments respond. More common types of fire responses include vehicles, trash containers, and wildland/brush incidents, among others. A lackadaisical response to these types of incidents



Courtesy of Bob Esposito

may be as hazardous to the health of the firefighters as those presented at structure fires. Regardless of the type of fire incident, firefighters must wear full personal protective equipment appropriate for that type of incident, and appropriate tactical procedures must be employed.

The following are brief descriptions of some of the issues associated with nonstructural fires.

- In addition to the obvious fuel (gasoline or diesel), automotive fluids, and rubber tire hazards, modern automobile construction incorporates all types of plastics and synthetic materials that produce highly toxic smoke and vapors when they burn. They also burn more aggressively than older vehicles did and include the use of various types of pressure cylinders that may explode under fire conditions. It is essential that full personal protective clothing, SCBA, and a hoseline of at least 1½ -in. diameter be used whenever attacking passenger vehicle fires. Larger hoselines and additional equipment may be required to safely attack larger vehicle fires.
- Trash fires, whether they are in piles or some type of collection container, have the potential to be extremely hazardous for firefighters. Depending upon the location from which the trash is being collected, it could contain any combination of toxic, poisonous, flammable, reactive, biohazard, explosive, or otherwise hazardous substances. This includes typical residential trash cans as well. It is essential that full personal protective clothing, SCBA, and a hoseline of at least 1½ -in. diameter be used whenever attacking any type of sizeable trash fire.
- Wildland fires are extremely common in rural and sparsely populated areas, and they are becoming increasingly common in populated areas, typically referred to as the wildland–urban interface. The fire and smoke hazards associated with any wildland fire are significant in and of themselves. The level of hazard to firefighters increases in areas where herbicides, insecticides, and fertilizers have been applied to the fuel surfaces and when the fires reach structures and other things found in populated areas. Personnel must wear the appropriate personal protective equipment (PPE) for the conditions in which they are operating. Some type of approved respiratory protection should be worn when operating in any type of smoke.

Hazardous Material Incidents

Firefighters must understand the role they play at hazardous materials incidents. They must know their limitations and realize when they cannot proceed any further. In part, this role is established in government laws and national consensus standards that set forth the training requirements and response limitations imposed on firefighters responding to



Courtesy of Mike Wieder

these emergencies. These regulations affect how hazardous materials are transported, used, stored, and disposed. Additionally, firefighters need a basic understanding of how hazardous materials can harm people and the environment.

NFPA 1001: Standard for Fire Fighter Professional Qualifications requires that all firefighters certifying to that standard must also meet the requirements for Hazardous Materials First Responder Awareness and Operations levels contained in *NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*. Some volunteer firefighters may not be certified to the NFPA 1001 standard, but this does not absolve them from being trained in hazardous materials incident response procedures. OSHA 1910.120 requires that all emergency responders who respond to incidents that may involve hazardous materials be trained to the Awareness and Operations levels as well.

Hazardous materials incidents do not only include large incidents such as tanker rollovers, railway incidents, storage tanker failures, and hazardous releases from chemical plants. Routine responses such as automobile crashes involving spilled vehicle fuel and fluids or carbon monoxide calls within structures are examples of incidents that fall within the hazardous materials definition. There is a misconception in many fire departments, particularly in rural and volunteer departments, that “we don’t do hazmat.” Nothing could be further from the truth.

West, Texas, is a town of approximately 2,800 people protected by a volunteer fire department. On April 17, 2013, an ammonium nitrate explosion occurred at the West Fertilizer Company storage and distribution facility. Prior to the explosion, the West Volunteer Fire Department had been dispatched to a reported fire at the plant. The explosion occurred after responders arrived on the scene. Fifteen people, including 10 volunteer firefighters, were killed; more than 160 were injured; and more than 150 buildings were damaged or destroyed. The lesson from this incident is that these types of disasters are not limited to large communities and industrial facilities.

All departments need to assess their response district for locations that could pose a hazardous materials threat. The hazards found at these locations must be documented, and plans must be developed for an appropriate response to any emergency that occurs at those sites. The response plan must realistically reflect the capabilities of the agency responding to the incident. The typical fire service culture is to believe that they need to launch an immediate attack on the situation. This is a dangerous assertion when applied to a hazardous materials situation. In many cases, the initial responders do not have the equipment, training, or operational plans to control such an incident. In these cases, it is better to stand back, assess the situation, and call for the necessary resources or expertise to safely and effectively contain and control the incident.

Response to Terrorist and Active Shooter Incidents

The need for fire departments to be prepared to respond to acts of both domestic and international terrorism has increased markedly in the past few decades. The rise in these incidents began with the 1995 truck bombing of the Alfred P. Murrah Federal Building in Oklahoma City. These concerns increased exponentially with the attack on the World Trade Center in New York City in 2001. Even though these incidents occurred in large cities protected by career fire departments, many believe that it is just a matter of time before they start occurring in smaller communities that may be protected by combination and volunteer fire departments.

When an agency is dispatched to an incident that may be the result of a terrorist action, resist the fire service cultural response to immediately rush right in and start to work. Make an accurate assessment of the situation before taking any direct action. Identify the hazards that firefighters and emergency responders will be facing. Consider the possibility of secondary explosive devices or a toxic atmosphere, and take the necessary steps to mitigate their potential impact. Do not initiate any actions for which the firefighters are not trained or equipped to perform. Call the necessary resources

to provide the services needed at the incident and be ready to assist, as required.

A more likely event that could occur in smaller communities is an active shooter incident. These incidents can occur at any location in which people gather, including churches, schools, and other places of public assembly. One such example is the shooting incident at the Sandy Hook (Connecticut) Elementary School. The Sandy Hook Volunteer Fire and Rescue Department was the first-due agency at that incident. Similar incidents occurred in an Aurora, Colorado, movie theater and a church in Charleston, South Carolina, among others.

Again, rushing into the scene of this type of incident could result in tragic consequences for firefighters, especially if the shooter is still active. Responding fire units should stage well away from the incident scene until further directed by the incident commander or lead law enforcement agency official that is on the scene. Once on the scene, be alert for any explosives or other hazardous devices that the shooter may have placed within the facility.

Much like roadway incident scene safety, terrorist or active shooter incident scene safety often involves multiple disciplines from fire and EMS to police, federal agencies, and more. It is important that departments have the capability to work with other disciplines, and pre-incident planning and preparation can go a long way in understanding each other's roles and building these relationships.

On-Scene Health Risks

Regardless of the level of precautions that are taken, firefighting is a hazardous occupation. The hazards are generally the same for both career and volunteer firefighters. Much focus has been placed throughout the years on traumatic deaths and injuries, like burns, sprains, strains, fractures, cuts and bruises, and others. Although the fire service will never be able to completely eliminate traumatic injuries, every effort must be made to reduce them. Firefighters should not be put into uncontrolled situations that have a high likelihood of resulting in an injury. Some agencies report the number of firefighters injured at a fire as if it was something to be proud of or as an indication of how difficult the incident was to control. In reality, having injuries at an incident is often an indication that unnecessary risks were taken or that personnel are in need of additional training.

Although traumatic casualties and injuries tend to gain the most public and responder attention, two of the most serious threats facing firefighters are cardiac- and cancer-related illnesses.

Cardiac Issues. According to data on firefighter fatalities from the USFA (2017), cardiac-related events accounted for an annual average of 48.7 percent of firefighter fatalities in the years 2006-2015. The percentage is even higher when all fatalities caused by stress/overexertion (which includes heart attacks) are considered. Each year, heart attack is consistently the leading cause of on-duty firefighter fatalities. These reports do not factor in the firefighters who survive heart attacks, have heart attacks while not on duty, or have heart-related illnesses that could impact their ability to perform their job as a firefighter.

Regardless of the type or size of a fire department, the department has an obligation to ensure that all members who respond to emergencies are in a medically sound physical condition. *NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments* requires all firefighters to have annual medical and physical examinations, but many volunteer departments may find this requirement difficult to achieve due to costs and other considerations. In addition, many volunteer firefighters may be resistant to the exams. Departments should contact local physicians or medical facilities to see if they can assist with meeting this critical standard. Department leadership must also stress the importance of medical exams to its members and make it a requirement for service.

When examining the cardiac fatality statistics, one issue that becomes readily apparent is the age of many of the firefighters who were stricken at the scene or within 24 hours following their service. A significant percentage (62 percent) of the

deceased individuals were over 55 years of age (NFPA, 2016). Volunteer firefighters who died had a much higher average age than their career counterparts. It is unlikely that many of these members would have passed an appropriate medical exam. This is a very sensitive issue in the volunteer fire service. It is extremely difficult to tell a person who has dedicated a significant portion of their life that it is best that they no longer respond to emergencies, and it gets more complicated in jurisdictions where there are declining numbers of younger people joining or remaining on volunteer fire departments and these older individuals account for a significant percentage of their responders. In these circumstances, it is highly recommended that department leaders require these personnel to get annual medical exams and that the individuals follow any limitations that their doctors impose on them.

Cancer. It is becoming increasingly clear that cancer is the most dangerous threat to firefighter health and safety today. While USFA's firefighter fatality statistics do not yet include cancer-related deaths, it has come to the forefront of the North American fire service. Many national fire service organizations have committed to doing the research and program development needed to ensure that today's firefighters are better aware of these hazards and, more importantly, know how to minimize the risks.

According to the International Association of Fire Fighters, cancer causes about 60 percent of line-of-duty deaths for career firefighters (Roman, 2017). The number is likely similar for volunteer firefighters, although getting accurate data on them is difficult, largely due to the fact that firefighting

Many departments may consider it cost-prohibitive or administratively challenging to implement annual medical or physical examinations. The NVFC offers several options for departments to consider in developing a firefighter medical assessment program, including the following. See Chapter 5 for more information on firefighter medical evaluations.

- 1. Preventive care/wellness check assessment:** A preventive care/well check assessment is generally available at no charge through employer-provided health insurance, Medicare, or Medicaid. Individual coverage purchased through health insurance exchanges typically includes a free annual preventive care/well visit. It is important to note that this type of assessment is not designed to assess the ability of a person to perform the job duties of a firefighter.
- 2. DOT medical assessment:** A DOT medical assessment is designed to confirm that someone is healthy enough to safely perform the job of commercial motor vehicle driver. A DOT assessment must be conducted by a licensed medical examiner listed on the Federal Motor Carrier Safety Administration National Registry. It is important to note that this type of assessment is not designed to assess the ability of a person to perform the job duties of a firefighter.
- 3. Department-specific assessment:** Many fire departments develop a medical assessment for their candidates and members that includes components of the NFPA 1582 assessment but is based on the specific job duties and expectations of the agency.
- 4. NFPA 1582-compliant assessment:** The NFPA 1582 standard presents descriptive requirements for a comprehensive occupational medical program for fire departments. Provisions are applicable to fire department candidates and members whose job descriptions are outlined in NFPA 1001, NFPA 1002, NFPA 1003, NFPA 1006, NFPA 1021, and NFPA 1051.

is not recorded as their primary profession. Multiple studies, including a major study on firefighter occupational cancer conducted by the National Institute for Occupational Safety and Health (NIOSH, 2017), have demonstrated significantly higher rates of cancer in firefighters compared to the general population. This includes testicular cancer (2.02 times greater risk), multiple myeloma (1.53 times greater risk), non-Hodgkin lymphoma (1.51 times greater risk), skin cancer (1.39 times greater risk), prostate cancer (1.28 times greater risk), malignant melanoma (1.31 times greater risk), brain cancer (1.31 times greater risk), colon cancer (1.21 times greater risk), and leukemia (1.14 times greater risk). Preliminary results from the San Francisco Fire Department indicate elevated incidence of breast cancer in female firefighters.

It is clear that all fire departments, including volunteer departments, need to take immediate action to reduce the risk of cancer among their members.

In a white paper titled *Taking Action against Cancer in the Fire Service*, the Firefighter Cancer Support Network (FCSN, 2013) recommended a series of steps to reduce the risk of cancer for firefighters:

1. Use SCBA from initial attack to finish of overhaul. (Not wearing SCBA in both active and post-fire environments is the most dangerous voluntary activity in the fire service today.)
2. Perform gross field decontamination of PPE to remove as much soot and particulates as possible.
3. Use wet-naps or baby wipes to remove as much soot as possible from head, neck, jaw, throat, underarms, and hands immediately and while still on the scene.
4. Change clothes and wash them immediately after a fire.
5. Shower thoroughly after a fire.
6. Clean PPE, gloves, hood, and helmet immediately after a fire.
7. Do not take contaminated clothes or PPE home or store it in personal vehicle.
8. Decontaminate fire apparatus interior after fires.
9. Keep bunker gear out of living and sleeping quarters.
10. Stop using tobacco products.
11. Use sunscreen or sun block.

This issue exposes one of the major fire service cultural mindsets that needs to change: the idea that dirty, scorched, or otherwise damaged personal protective clothing is some sign of experience or a badge of honor. In reality, gear in this condition may fail to protect the person wearing it in a critical situation. Of equal concern is that the contaminants on the gear are greatly increasing the wearer's chance of devel-

oping some type of cancer. Agencies must ensure that these practices are not allowed to continue and that gear is always decontaminated after exposure to hazardous contaminants. All gear must be repaired or replaced when it has damage that compromises the integrity of the piece.

Volunteer and combination firefighters have some specific challenges that are different from most career firefighters. Many volunteers carry their PPE in their personal vehicle, often in the trunk or even in the vehicle's passenger compartment. Handling PPE in this manner facilitates the off-gassing of toxins and carcinogens, especially when the PPE is heated by elevated temperatures from the sun. This exposes them and their family members to carcinogens. They may also return home or go back to work directly after a fire continuing to wear their personal clothing, which will stay contaminated. In order to reduce the risk of carcinogenic exposure to the firefighter, their family, coworkers, and others they come in contact with, gear must be cleaned, clothing must be washed, and showers must be taken before returning to work or family activities.

If it is necessary to carry PPE in personal vehicles, actions need to be taken to protect from off-gassing into the passenger compartment. These protective actions include keeping PPE in closed, zippered duffle bags or large, sealed plastic storage bins, or taking contaminated PPE back to the fire station on the fire apparatus for washing, cleaning, and decontamination. It is most desirable to send contaminated PPE to the proper facilities that can quickly clean and decontaminate PPE according to the current edition of *NFPA 1851: Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*. They may also purchase washer-extractors for use in the fire station. At a minimum, all firefighters should follow the 11 steps recommended by FCSN, which are listed earlier in this section.

Exposure Tracking Systems. An individual may not develop a fire-related cancer until many months or years following exposure, or multiple exposures, to a carcinogenic substance. This is one reason why it is critical to record exposures to these potential toxins as soon as possible. Currently, there is no national guidance for the collection and reporting of exposures to toxicants, including carcinogens or tumor-promoting agents. Exposure reporting guidelines exist for hazmat incidents, but guidelines need to be developed and implemented for exposure to chemicals, toxicants, and carcinogens from incidents other than those covered by traditional hazmat guidelines. It may be possible to tailor a hazmat tracking system to include data from fire incidents.

Establishment and maintenance of an exposure tracking system is the responsibility of the fire department. The system can be relatively simple, depending on the department's level of resources. It could be a paper-based form that is completed directly after an incident and filed in a retrievable filing system (see Appendix F for a sample tracking form). There are also a number of computer-based systems that can be employed to record and track the information.

Regardless of what type of system is used, the information recorded should include, at a minimum, the following:

- Date and time of the incident,
- Location of the incident,
- Type of incident,
- Names of all personnel at the incident,
- Potential contaminants at the incident, and
- Any noticeable health effects to responders during or immediately following the incident.

Whether or not the department has an exposure tracking program, individual firefighters need to ensure that they are also tracking their own exposures. Firefighters need to establish their own personal methods of capturing this type of information, for example, using personal computers, mobile devices, or even index cards, if for no other reason than having a backup. Any record of exposure is better than no record.

The information gathered in this database may become crucial down the road when a current or former member is diagnosed with cancer, particularly if it is a type of cancer that firefighters are known to be at a higher risk of contracting. Admittedly, it might be difficult to determine at what incident a firefighter might have been exposed to contaminants that cause the cancer. However, the data might become extremely important if additional members also develop similar cancers. The database can be used to determine at which incidents the stricken members operated together. This could become crucial in identifying the specific agent/mechanism that caused the illnesses and may be helpful in filing claims for workers compensation or in states with presumptive cancer laws. It also allows the agency to alert other members who operated at the same incident of the concern and allows them to get examined by a physician to determine if they are showing any early cancer signs. Regular checkups are also key to ensuring early detection in the event a cancer does develop.

Training

Having an effective training program is perhaps the most crucial aspect of operating an effective, efficient, and, most importantly, safe fire department—this is one basic tenet that is true regardless of whether the department is career, com-



ination, or volunteer. It is inexcusable to allow individuals who have not been properly trained to operate at emergency scenes. All agencies must ensure that they provide appropriate training for all the duties that their members are expected to perform. The real challenge is how to manage a training program that best supports the needs of the department and its members.

While even career fire departments struggle with integrating training functions into their operations, they do have one advantage that most volunteer departments do not: a captive audience. Career firefighters are on duty on set calendar days, and their training can be scheduled on those days. Volunteer fire departments generally do not have that luxury and must use more creative means of providing training to their members, who are juggling work and family time with the time they have to serve the fire department. As society has evolved in recent decades and those personal demands have consumed a larger portion of people's time, it clearly has had a negative impact on the volunteer fire service. These issues are at the crux of today's struggles to recruit and retain volunteer firefighters. Volunteer firefighters typically do not have the same amount of time to commit to their departments as they did in days gone by. Departments need to recognize this fact and make the most efficient use of members' time as possible when they are available. That includes finding time to appropriately train their members.

There are other changes in society that have impacted how to train volunteer firefighters. In the past, many volunteer firefighters possessed trade skills related to equipment, construction, and operating large vehicles. Fire training could begin with certain assumptions as to the student's mechanical aptitude, ability to use various kinds of tools, or ability to drive large trucks. Many of today's candidates or members may not know how to operate basic tools and machinery, and they may lack experience driving a large truck or operating manual transmissions. These widely divergent backgrounds

may require fundamental training in the simple mechanical and technical skills necessary for some basic firefighting operations.

The consequences of failing to train personnel to perform the duties that they may be assigned to carry out at an emergency scene are obvious. First, it is likely that a crucial task may not be completed correctly or at all. This could have a significant impact on the outcome of the incident. Of greater concern is the possibility of the person trying to perform the task being injured or killed because they were not trained on how to complete it safely and properly.

This issue is of particular concern for volunteer fire departments that, for whatever reason, may have personnel responding to emergency calls who have little or no formal training. In many cases, departments that are struggling to maintain a sufficient membership level may be lenient on training just to have an available number of people to respond to incidents. Their concern is if they require their personnel to complete a significant amount of training, that the personnel will leave the department rather than take the time to get trained. In other cases, departments may have a culture of not emphasizing, or even requiring, any type of formal training as a requirement for membership. Given the increasing hazards of the fire service profession, along with today's litigious society, this is a dangerous way to operate an emergency response organization and should not be acceptable in today's fire service.

Fire department leaders must make an honest assessment of the training levels of each of their members. Under no circumstances should they allow members to perform tasks that they are not trained to do or that they are not in an acceptable level of physical condition to perform. This is a difficult issue to address because these practices may have been allowed for many years within the department.

The NVFC recommends that all volunteer fire departments in the United States set a goal that personnel attain, at a minimum, a level of training that meets or exceeds *NFPA 1001: Standard for Fire Fighter Professional Qualifications* or an equivalent state standard in order to engage in fire suppression.

Despite past leniencies, today's leaders must draw the line and mandate an appropriate level of training and physical fitness for all response personnel. Personnel who refuse to comply with required training must be restricted from performing those duties at an emergency incident. Realistically, this may alienate some members, who then may choose to no longer participate in the department. Even though this may have a greater impact on departments struggling with staffing issues,

it is better than struggling to explain to family members or a lawyer why their injured or deceased loved one/client was performing a dangerous task that they had no formal training to handle or were not in a physical condition to perform.

Necessary Training

State-mandated levels and types of training required of volunteer firefighters and departments vary from state to state. These requirements range from states that have no minimum level of required training to states that mandate training specific requirements, such as meeting the requirements for Firefighter I contained in *NFPA 1001: Standard for Fire Fighter Professional Qualifications*.

Regardless of what state a volunteer fire department is located in, federal law mandates through OSHA 1910.120 that all emergency responders who respond to incidents that may involve hazardous materials be trained to the Awareness and Operations levels.

Each volunteer fire department must develop a list of needed training programs based on the services they provide. At a minimum, all departments do basic firefighting and use fire apparatus to deliver the service. Beyond those basics, many agencies deliver additional services, including functions such as emergency medical services, wildland firefighting, vehicle extrication, technical rescue, and hazardous materials operations. There are NFPA standards that provide minimum criteria for each of these roles. Although complying with NFPA standards is not law, unless formally adopted by an authority having jurisdiction, they serve as an excellent guide for developing training programs. In addition to NFPA 1001, which was mentioned earlier, the following other standards may be helpful:

- *NFPA 1002: Standard for Fire Apparatus Driver/Operator Professional Qualifications*,
- *NFPA 1006: Standard for Technical Rescuer Professional Qualifications* (this includes vehicle extrication),
- *NFPA 1051: Standard for Wildland Firefighting Personnel Professional Qualifications*, and
- *NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications*.

If the department also provides emergency medical services, all states have minimum training and certification requirements for EMS personnel, and the department must comply with these requirements.

Before setting out to develop an in-house training program, departments should explore what training options are already available to them. The vast majority of states in the United

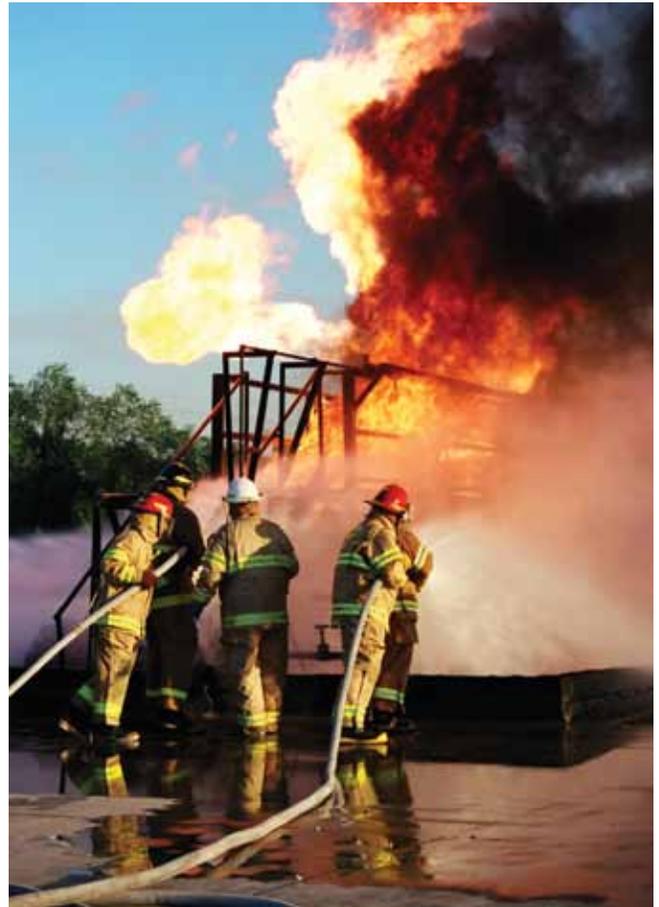
States have state-, regional-, and county-level fire training programs. How and where they deliver their training courses varies widely. Depending where the department is located, there may be training organizations, other than state-level training, that can provide the same quality of training. These include local, county, or regional fire service training academies and community/junior colleges. In many cases, these types of organizations are the primary provider of local-level training. These programs offer the same training courses and certification opportunities as the state program, but are often more locally accessible to most firefighters.

While many larger career fire departments have full-time staff dedicated to developing and delivering training programs for their agencies, most small volunteer departments do not have that luxury. One option that volunteer departments may choose to explore is the use of training materials developed by publishers that specialize in providing these resources. They are able to provide both print and eBook versions of the training manuals for students as well as a wide array of instructor resources, including teaching outlines, visual presentations, skill sheets, and quizzes and tests. Some of these publishers also have online resources that allow for electronic course delivery, testing, and management. Make sure that the products meet the particular standard for the topic that the course is addressing.

There are a number of benefits to using publisher-developed training materials. Perhaps the key benefit for volunteer departments is that it greatly reduces or eliminates the time that it would take to develop a similar program from scratch. Some modification of these programs may be required to ensure they address local policies and practices, but it takes much less time and effort to make these modifications than it would to develop an entirely new program. A second benefit is that these training materials may provide alternative methods to those currently used by the department that could be adopted to improve the department's level of service delivery. An additional advantage is knowing that the training being delivered is in line with the professional qualification standards for that topic.

Alternative Training Methods

Historically, the training of volunteer firefighters took place in the back of the apparatus bay or in meeting/classrooms, if the department had that luxury. Live training exercises were (and continue to be) conducted at a fixed training facility or any suitable location within the jurisdiction. This required all of the members to be at the same location, at the same time. As societal demands on time have increased for most current or prospective volunteers, it has become increasingly difficult to get all the members at the same place and at the same time. This is yet another challenge to volunteer recruitment and retention.



While there is no substitute to replace necessary live drills and practical training exercises, today's technology offers many alternatives to in-person lectures, theoretical-based training programs, and written testing. The benefits of these electronic training programs include members being able to complete the training and/or testing at a time that fits their schedule and the department being able to monitor and manage their progress and success. Rather than requiring firefighters to be at a certain place and time for training, training officers can simply set a deadline by when it must be completed.

There is a rapidly growing number of fire service online-based/electronic training and training program resources available to volunteer fire departments and their members. These resources may be divided into two basic categories: training courses and course/program management. The courses are programs that can replace information that was traditionally delivered in a classroom setting. The lengths of these courses will vary depending on the subject matter. Depending on the provider, they can be either set courses, or customized courses to meet an agency's specific needs.

Course or program management services allow the fire department to post training classes, tests, or other information for their members to view and complete online. The members then sign in to the department site on their com-

puters and complete their assignments. These services are described by a variety of different monikers, including content management systems, course management systems, and learning management systems. While the various proprietors of these programs often tend to cite subtle differences by the products using these names, they generally provide the same types of services. They can be populated with courses developed by a training provider, and most also allow the individual departments to add agency-specific training or information resources. They also typically allow individuals to take their tests online, providing the test results back to the department.

There are an increasing number of sources from which fire departments may acquire online training courses and course/program management services. Each of the traditional fire service training manual/textbook providers offers these services. Depending on the publisher, there may be a charge for these products, or they may be offered free of charge. They also offer various levels of customer service and system support once an agency has chosen to use their product. There are also numerous fire service trade organizations and independent online providers of these types of products and services. Departments interested in moving to e-based training should look at all of the various options prior to selecting the one(s) that best meets their needs.

Scheduling Training

Even if an agency chooses to use the latest technologies to manage a portion of their training activities, there will always be a need for in-person meetings and skills-based training activities or drills. It is best to have a regular schedule for these events so that members can plan them into their personal schedules well in advance. Department tradition

typically dictates how training is scheduled; it may always be scheduled on a certain day of the week and at a certain time. Depending on the agency, the frequency of training sessions will also vary from weekly to bi-weekly to monthly training. The schedule must accommodate the needs of the agency and its members. If the department is located in a state or region that sets minimum requirements for the number of training sessions or hours for the department and/or its members, then the department needs to ensure that the training schedule meets those requirements.

If resources allow, alternative training sessions may be scheduled for members who are unable to make the primary session. For example, if the primary weekly training session is conducted at 7:00 p.m. on Wednesday evenings, a secondary session may be scheduled on Saturday mornings for members who have work or family obligations that prohibit them from coming on Wednesday evenings. This additional training opportunity could be one way to address and improve recruitment and retention issues. It makes it easier for members to meet their obligations and remain active with the department.

Training Safety

Despite all of the training and department operating procedures, trying to control fires or other emergency incidents may result in firefighter casualties—uncontrolled environments can be unpredictable. On the contrary, properly designed and conducted training exercises should be completely controlled and predictable environments. They should minimize the chance of any serious injuries to those involved in the training process. To conduct training exercises in any other manner is inexcusable.



Courtesy of Mike Wieder

Historically, live fire training exercises have accounted for a significant percentage of training-related firefighter injuries and fatalities. Many of these events occurred because of misguided cultural attitudes of the training facilitators conducting the exercises. Some common attitudes included:

- Creating dangerously hot fire environments that instructors used to show how tough or seasoned they are,
- Creating dangerously hot fire environments with the philosophy that the training fires will be hotter than what the students will face in actual responses, and
- Instructors using the exercise to “weed out” trainees who they believe are not suitable firefighters.

Obviously, none of these examples have any legitimacy whatsoever. Properly conducted training exercises should be designed to educate and instill confidence in the trainees, not to scare or injure them. Furthermore, training exercises provide an ideal opportunity to practice and enforce safe practices and procedures, making it more intuitive for responders to implement these same safe practices on the fireground. Departmental or training officers must ensure that the members responsible for conducting training exercises are appropriately trained and operating within policies and standards for safe training practices.

One of the ways that departments can ensure that live fire training exercises are managed appropriately is to follow the requirements contained in *NFPA 1403: Standard on Live Fire Training*. NFPA 1403 was developed after a training incident in 1982 that resulted in the deaths of two firefighters. Since the standard’s development, compliance with NFPA 1403 has helped improve safety during live fire training, and the number of casualties from these exercises has dropped. Investigations on subsequent incidents where injuries or fatalities did occur usually revealed that NFPA 1403 was not being followed at the time of the incident.

The potential for training-related injuries and fatalities is not limited to live fire training exercises. There is some level of hazard associated with every type of practical or skill-based training activity. From simple activities like raising a ladder or forcing entry through a door to learning to drive a piece of fire apparatus, the students, instructors, and other personnel who are present are operating at some level of hazard—these hazards can be reduced by following accepted standards of practice. Some departments may develop their methods and techniques internally. In these cases, it is the department’s responsibility to ensure that the procedures are in compliance with the associated NFPA or other applicable standards.

Most departments find it much easier to conduct their training exercises using the information found in fire service training manuals and curriculums that are developed by professional fire service training material publishers. These materials are designed to ensure compliance with the appropriate NFPA and related standards. Committees of subject matter experts review and validate the material to ensure that the information is safe, effective, and in compliance with acceptable practices and the standard that is being addressed.

Summary

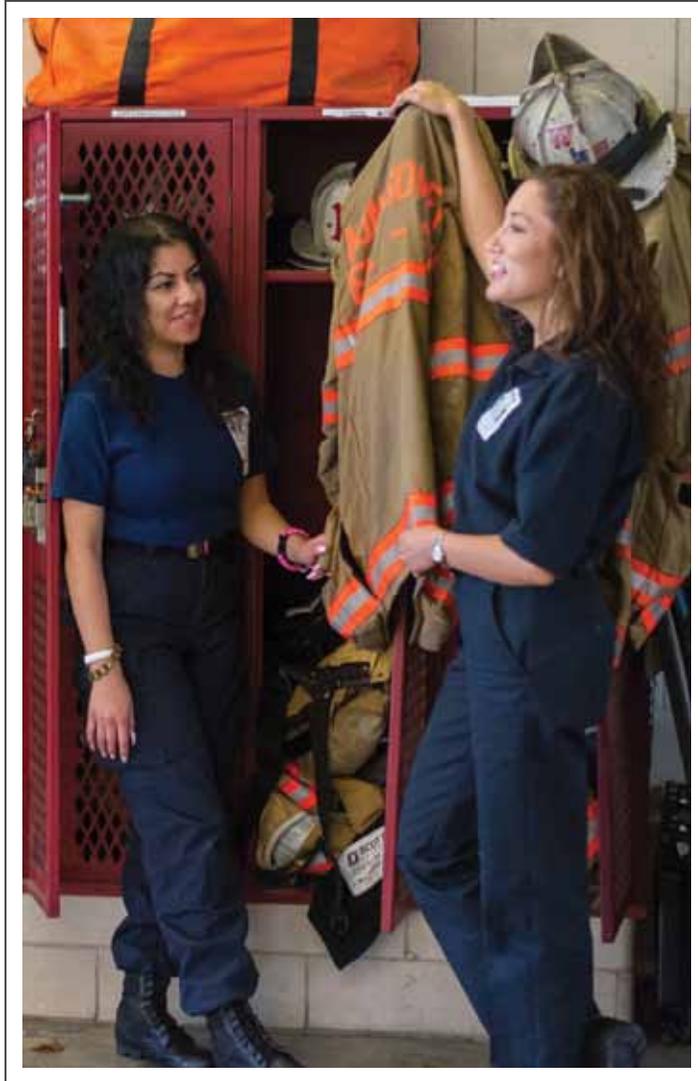
Firefighting and emergency response is an inherently dangerous profession. From responding to and from emergency scenes and operating emergency vehicles to performing on the fireground or at the scene of other hazards, the risks faced are multiple and can be life-threatening. Risks exist whether the call is a large-scale incident or a smaller, routine one. The good news is that the risks can be significantly reduced if the proper safety precautions are followed. Understanding the common causes of injuries and deaths and implementing safe practices and policies to mitigate them are imperative to preserving the health and well-being of firefighters and emergency responders.

Practicing safety during response and while on-scene goes beyond having good policies in place. In many cases, it requires taking a critical look at the way things have been done and marrying techniques and practices with current technology and research. Rather than rushing to perform an interior attack for a fire where the risk to life and property are minimal, considering an exterior attack may be the more prudent choice. When it comes to roadway incident scene safety, working with other disciplines to speed clearance time and minimize the risk of secondary accidents can have a dramatic impact on safety not only of first responders, but also others who travel those roads.

It is important that response, roadway, and scene safety become a priority in the fire service culture. Injuries and deaths can be avoided through effective and enforced policies, timely and relevant training, and a willingness to change tactics and practices based on current research and technological advances.

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CHAPTER SEVEN

RECRUITMENT AND RETENTION

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CHAPTER SEVEN

RECRUITMENT AND RETENTION

Case Study

The Donnelly Rural Fire Protection District (DRFPD) in Idaho serves 156 square miles, with a handful of grassroots, year-round residents and a population of roughly 2,800. The majority of the fire district's residents do not live in the area full time, but instead are owners of second or third homes in the four-season resort community. Over the years, it became increasingly difficult to find potential firefighters and emergency medical technicians (EMTs)—a reality that encouraged the department's administrators to change the way of approaching how they recruit volunteers. The main challenge for DRFPD has been the generational and traditional gap within the ranks. They have found that the biggest obstacle in recruiting new members is the fear of change and tradition of the veteran volunteers.

Over the past few decades, the number of volunteers has declined, and the average age of the volunteer has increased. There are many reasons for these trends, including increased time demands placed on firefighters and EMTs; more rigorous training requirements; the proliferation of two-income families, whose members have less available time; and the fact that many younger people are moving out of the small community. Like many rural departments, DRFPD relies on the younger demographic to fill the volunteer membership ranks within the department, but many young people are leaving rural communities to pursue better job opportunities in larger cities. Living in a resort community where business owners have adopted a "feast or famine" mentality, many employers are reluctant to allow volunteers to leave their posts to attend an emergency incident or training. Likewise, employees and volunteers are reluctant to leave their jobs when every missed hour takes a considerable chunk out of their paychecks.

DRFPD's administrators have addressed these obstacles by understanding the needs of the volunteers as well as raising awareness among community members that volunteers are needed and valued. In addition, they made community members aware that volunteering can include more than donning turnout gear and responding to fires or EMS incidents. For those members of the community who expressed interest in helping DRFPD in a less hands-on way, the administrators suggested positions for volunteers in nonoperational support roles, such as fundraising, public safety education, reporting, bookkeeping, and maintenance.

The administration also took the following additional steps to counteract recruitment and retention problems:

- Helped their veteran volunteers recognize the importance of succession planning;
- Became more assertive in communicating the department's need for volunteers to the community; and
- Determined that the department needed to become more diversified and started to proactively include women and minorities in recruitment efforts.

This type of planning allowed for a more diversified department with a current combined staff and volunteer force consisting of 49 percent women and minorities. DRFPD currently recruits anywhere from 4 to 10 members a year, with the ages of new volunteers ranging from 18 to 35.

To recruit and retain new volunteers, DRFPD found that a cultural shift within their mentoring, leadership, and training needed to take place. DRFPD began its cultural shift with administration, working from the chief through the ranks to the recruit candidate to ensure continued growth and buy-in into the new strategic planning for recruitment and retention. As the process moved forward, it became apparent that a cultural shift within the leadership ranks would be a difficult transition. With tradition weighing heavily on how day-to-day business was con-

ducted within the fire department, the veteran volunteers had to be retrained and educated to encourage them to find and recruit potential volunteers, as well as to accept new candidates into their ranks. The veteran volunteers found themselves having to adjust their mentoring, leadership, and training tactics. In the past, mentoring had always been a laid out plan for furthering someone's fire service career. However, in the present climate and with the culture shift, mentoring not only addresses aspects of the fire service but also incorporates aspects of the individual's personal and paid work life.

Introduction

Recruitment and retention are directly related to health and safety. A department needs to have an adequate number of properly trained firefighters and emergency responders in order to successfully fulfill its mission of service to the community as well as to ensure that personnel can effectively and safely do their jobs. In addition, if a member of the department is taken out of service due to an injury or illness, then there are fewer responders available to serve the department and community.

Department culture plays a critical factor when it comes to recruitment and retention. Departments need to make recruitment and retention a priority in all aspects of their operations. This includes creating a culture that welcomes new members, that embraces the differences in its members, that appropriately trains and mentors its members, that listens to the needs of its members, and that values its members. People want to belong to organizations in and of which they can be proud and feel a vital part.

Part of making sure each member feels valued is by placing an emphasis on health and safety. Leaders who care about members want them to avoid injury, illness, and harmful interactions. Another component of valuing members is to create a diverse and inclusive environment that respects each member.

This chapter will look at key concepts needed to successfully recruit and retain volunteers and the impact a department's culture has on recruitment and retention.

Diversity and Inclusion in the Volunteer Fire Service

Any discussion about recruitment and retention should include a strong focus on diversity and inclusion. Diversity and inclusion are simply about being fair to everyone. To quote Orville Wright, "If we all worked on the assumption that what is accepted as true is really true, there would be little hope for advancement" (Khamhaeng, n.d.). Although many people think there is a certain type of person that is best suited to be a volunteer firefighter, this limits the field of potential recruits tremendously and erroneously assumes

that those who do not meet this stereotype are uninterested or incapable of volunteering. Imposing such limitations on recruitment and retention initiatives does a major disservice to the department and the fire service as a whole, as it immediately discounts qualified people and closes the door on new ideas and fresh perspective. Stereotyping different groups—whether based on culture, ethnicity, race, gender, or other factors—is based on assumptions; but, assumptions often turn out to be wrong or misleading. It is important not to assume.

To be successful in recruiting and retaining personnel, it is important to create a culture in the department that takes into account the different backgrounds, goals, and strengths of its members. This chapter examines the significant impact of a department's culture, including its attitudes toward diversity and inclusion, on recruitment and retention.

Culture, Race, and Ethnicity

To better understand why diversity and inclusion are essential to successful recruitment and retention, a few key words will be defined as they are used in this chapter.

Culture: A set of values, practices, traditions, or beliefs that a specific group shares, whether due to age, race or ethnicity, religion, gender, or sexual orientation. Culture is who people are because of their family make-up and the lives they have lived. People are constantly shaped by everything around them (good and bad), and this contributes to their culture.

Race: A person's physical characteristics.

Ethnicity: Belonging to a group tied together by cultural factors such as nationality, ancestry, and language.

Race and ethnicity are often mistaken for culture. Culture is molded by an individual's surroundings and life experiences, and race and ethnicity are what a person is born with or into.

Diversity and Inclusion

Whereas culture defines whom people become, the concept of diversity encompasses acceptance and respect of different

cultures. Being diverse means operating with the understanding that each individual is unique, and recognizing and valuing everyone's individual differences. Practicing a diverse way of thinking allows people to acknowledge and accept those differences in people while continuing to work productively as an effective team. Being diverse requires acknowledging differences in others, and inclusion is defined as an environment in which all individuals are treated fairly and respectfully, have equal access to opportunities and resources, and contribute fully to the organization's success.

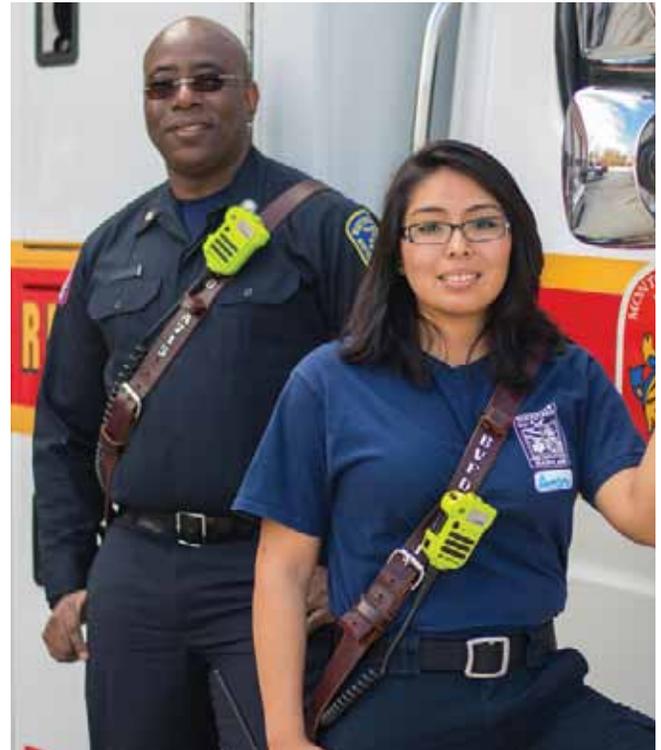
Diversity and inclusion in the volunteer fire service are important for many reasons. They bring different personality types, attributes, traits, skills, and experience to the department team dynamic.

When building a recruitment and retention plan, the volunteer leadership must understand, educate, and train the membership and themselves to accept a cultural shift that values diversity and inclusion. The first step is to make sure the membership understands what is meant by "diversity and inclusion," the positive impact incorporating these concepts will have on the department, and that a plan incorporating diversity and inclusion will allow for enhancement of membership and viability in the department's programs.

It is important for the department to develop a personnel policy that includes a diversity and inclusion statement (see Appendix G for a sample statement), which must be consistently and actively followed and not just acknowledged or included in training once a year. It is something that every member of the department must continually practice, every hour of every day.

Within the Donnelly Fire Department membership, being entirely inclusive has provided for a diverse group of individuals participating in the services the department provides. The department's diversity and inclusion statement laid the groundwork to practice what they preached. By following through on these practices, it made potential volunteers feel at ease and accepted and gave them buy-in as members. In addition, it created ambassadors for future recruitment who could attest to the efficacy of the department's diversity and inclusion policy.

It is often the case that people are stereotyped into different categories or classifications with other individuals based on a common culture, ethnicity, or race, but forming preconceptions or assumptions about a person often turns out to be wrong or misleading. To truly understand and appreciate each person's similarities and differences, including the strengths and perspectives they can provide to the fire service, it is vital to not make conclusions based on assumptions. This



holds true regardless of the person's race, ethnicity, nationality, age, gender, or sexual orientation.

The next sections further discuss some of these factors. Also see Chapter 1 for additional information.

Generational and Age Differences. Generational and age differences can often lead to misunderstandings that can interfere with a diverse and inclusive membership. In the fire and emergency medical services industry, age has always been a contributing factor that can inhibit recruitment and retention efforts. Older generations may discount or disregard the input, value, or ideas of the younger generations. However, reaching the next generation of firefighters is especially important in today's fire service because volunteers are getting older and the number of younger recruits entering the volunteer fire service is getting smaller. Many small and rural departments are struggling to find enough younger volunteers to fill the ranks as the older generation nears retirement.

In most departments, members range in age from the decades-long veteran to the brand-new rookie who just signed up at age 18. Rather than being a detriment to the department, the age and generational differences should be seen as an asset. While the older members provide expertise, tradition, and experience, the younger members bring new ideas and technologies, fresh perspectives, and new enthusiasm. The different traits and characteristics each demographic brings to the table—whether it be hardworking, innovative thinking, or adaptability—are all beneficial to the fire and emergency services.

Millennials are a key demographic for the volunteer fire service and EMS as there are more than 80 million people in this generation. That is a lot of potential volunteers and future successors of the fire and EMS sector. This generation has received a lot of bad press as having a “NOW” attitude and feelings of entitlement, yet these are stereotypes that do not delve further into the qualities and attributes of most people of this generation. This particular demographic wasn’t raised to automatically respect an individual simply because the person is their elder. Fire service leaders have to prove themselves to millennials and earn their respect. Once that respect is earned, millennials are loyal and will give credit where credit is due. Looking beyond the stereotypes and understanding the perspective millennials have benefits the entire department and will help in the recruitment and retention of this demographic.

Volunteer fire officers may find themselves in a training environment with millennials and feel as if no one is listening. More likely, it is not because the trainees are not paying attention—it is because they have already looked up everything pertaining to the training and have watched a video on YouTube that explains the content much faster and in more detail than an instructor is able to actually teach it.

Millennials are looking for a more streamlined approach to becoming a member of a fire department and getting the education needed to understand what the job entails. Training is one area in which younger volunteers and veteran volunteers may be at odds. Veterans are used to traditional methods of training and expect a certain amount of minutes, hours, days, weeks, months, and even years to train and participate fully as a member of their department. Conversely, when asked where they would like to be career-wise in five years, many recruits responded that they see themselves in the position of an officer or even chief officer. This sort of confident admission can be surprising to veteran volunteers, whose training took years as they worked their way up.

It is important to note that departments should always look forward to the next generations coming down the pike. They are the future of the fire service, and it is incumbent on current generations of fire service volunteers to generate interest in volunteering, welcome new volunteers into the fold, and recognize and value the strengths and talents they bring with them.

Gender. While the fire service is traditionally a male-dominated field, women are just as capable of serving. They comprise half the population, which is a significant source of new recruits for many departments. By creating a culture that accepts women and values the different strengths each gen-



der brings, the volunteer service will more successfully engage this key volunteer demographic.

Gender Identity and Sexual Orientation. To further understand the differences in people, it is important to understand the concepts of gender identity and sexual orientation. Western culture generally recognizes two basic gender biological roles: a masculine and feminine type. When addressing gender identity, it can be the same or different from the sex assigned at birth. Studies have found that individuals are conscious of gender identity between the ages of 18 months and three years. Gender expression also works the other way, as people tend to assign gender to others based on their appearance, mannerisms, and other gendered characteristics. The gender and sex role played as a boy or a girl, as a man or a woman, in response to the conventional norms vary from culture to culture.

One’s sexual orientation determines one’s primary emotional, physical, and sexual attraction. Not everyone engages in sexual behavior, and people sometimes engage in behaviors that are not consistent with their sexual orientation, for reasons ranging from experimentation to social pressure or obligation.

Personnel should be conscious of the differences a diverse membership may have and be accepting of these differences,

including those relating to gender identity and sexual orientation. Devaluing, bullying, or otherwise discriminating against a member based on any physical, biological, social, or other difference cannot be tolerated.

Impact of Inclusion on Retention

Being inclusive means making everyone feel part of the team, regardless of his or her differences. Every recruit, new member, and veteran volunteer is a vital part of the department and must work together to fulfill the department's mission as well as their own need to contribute to their community. That sense of fulfillment needs to be remembered and reinforced. At the same time, it is important to allow for each person's individual differences and let members be their own person. This kind of inclusivity results in a better team dynamic, better leaders, and more involvement in all aspects of the department's service requirements.

Diversity and inclusion create a win-win situation. Departments that are diverse and inclusive create an environment that potential recruits want to join and existing members want to continue to be a part of. A culture of diversity and inclusion also encourages members from different backgrounds and perspectives to learn from each other and work together more effectively to get the job done. In addition, these practices enhance how volunteers treat constituents in diverse communities and raise the reputation of the department.

When setting up shifts and events and in the everyday business atmosphere, fire departments need to show how diverse and inclusive they are. For instance, pair people on shifts with different backgrounds and encourage teamwork among members of different generations. The more members that feel included, the more productive they will be, and in turn they will be more eager to promote the department to other potential volunteers. The volunteer fire service is beginning to realize that diversity is needed in daily operations to ensure retention of skilled, experienced staff and to prepare for succession planning for the future. The fire and EMS sector needs to create and promote a welcoming, inclusive environment in which to conduct business. To quote a phrase from Chief Kenneth W. Richards of Old Mystic, Connecticut, "When those we want to keep leave, we have failed" (Richards, 2014).

Unfortunately many departments lose members or new recruits because they have not felt included, accepted, or respected. Many of these recruits would have stayed to become seasoned veterans if the department had created a culture of diversity and inclusion through policies, statements, trainings, and actions. Establishing a mentoring program is also beneficial so that new members have someone to guide them as they acclimate to the department. Listen to

what new volunteers have to say and make sure they realize that they are assets to the community and to the department. Show appreciation for the diverse team dynamic and the values and skills these new volunteers bring to the table. Judge people by who they actually are—their actions, attitudes, and dedication—rather than by preconceived notions based on stereotypes. Embracing individuality while working toward common goals will create an environment where people feel they belong and that they are just as much part of the team as everyone else.

Having discussions, creating policies, conducting trainings, and practicing diversity and inclusivity every day are the best ways to take recruits and volunteers where they need to be. It sets the tone for team building and creates cohesiveness within departments. Leaders in the fire service need to lead volunteers by example and show respect for people and the differences in departments. The veteran volunteers need to show a posture that continually demonstrates executive commitment to diversity and inclusiveness on an ongoing and regular basis. This is an every-hour-of-every-day commitment. For leaders, body language, facial expressions, and voices need to be positive. A positive attitude and acceptance of others allows for all members to have the same positive attitude and acceptance. This also allows for regular, effective, and open communication. In a sense, the practice of being diverse and inclusive will help to empower volunteer membership. Department leaders need to be mentors, teachers, and friends. They need to practice what they preach because everyone is watching them, watching not only what they do, how they speak, and how accepting they are, but also how they become allies to the other members of the department and stand up for their individualism.

Every member of the department should be able to ask him- or herself, the administration, and each other a simple question: Do I bring my full self to the station? Additional thoughts to ponder include: Do I bring my ideas, my personality, my opinions, my uniqueness, and my background? Those who can answer yes are bringing their full selves. This positive affirmation is the desired outcome. If every member can answer those questions honestly and without fear of rebuff or disdain, then the department is allowing for a truly diverse and inclusive atmosphere. In the long run, this will create a better team dynamic, solid cohesiveness, and a more productive membership.

Putting Diversity and Inclusion into Practice

Creating a culture that embraces diversity and inclusion starts with leadership. As covered above, diversity and inclusion are about more than just being nice. They are about fairness, acceptance, respect, and recognizing and valuing individual differences. They are about seeing a person as just that, a per-

son. Officers must lead by example, which can be as simple as demonstrating respect for the people within the station and acceptance of their differences. Leaders need to set the tone because everyone else in the department watches their actions, attitudes, and behaviors. More times than not, a person's actions, demeanor, posturing, and facial expressions speak louder than words. Leaders who present themselves as accepting and treat everyone as though they are equally important can make an immediate and positive impact.

Department growth toward diversity requires creating a welcoming environment in which to work. Leaders should spend time with the members and listen to what they have to say, which can help the members realize that they are valuable assets and that their efforts and skills are appreciated. When members feel as though they belong to a department unit, not because they are the same as everyone else but because of their worth as unique individuals, the result is a safe work environment with a highly productive team.

Leadership also establishes and enforces the policies and expectations that all members are required to follow, and it is up to leadership to make diversity and inclusion a part of everyday business. In addition to having a diversity and inclusion statement, it is important to incorporate diversity practices into policies, strategic planning, and guidelines. Creating change through education and practice and demonstrating this commitment on an ongoing and regular basis will empower the department membership to embrace the changes. It will create a better recruitment outreach, promote career development, and help with coaching and mentoring skills. A department that has embraced diversity and inclusion and integrated them into the culture will find it has much more success in recruiting and retaining volunteers.

Diversity and inclusion are areas in which people need to practice what they preach.

Recruitment

Once the foundation has been set for a diverse and inclusive membership of which people want to be a part, the focus can shift to developing a full recruitment and retention strategy. It is critical that a department has enough members to fulfill its mission in a safe and effective way. Maintaining department cohesion and retaining trained and knowledgeable members are additional key components to a healthy and safe department.

When building a recruitment plan, it is important to consider the following: how to actively recruit, barriers to recruitment, keeping members once they join, assessing why members join, and addressing how important it is to have the right leaders in place.

With many volunteer departments across the country struggling to meet staffing needs, fire departments must practice good recruitment and retention efforts every day.

There are several steps departments should take to develop an effective recruitment plan. These steps do not need to be complicated or difficult, but it is important to place thought and effort into the recruitment process. By following these steps, departments can be more effective in meeting their needs and successfully recruiting more volunteers.

Step 1: Analyze and Review Department Needs

The process of building a recruitment plan begins with a departmental review and analysis. When reviewing the individual department's needs, look at the activities the members will participate in. That includes all activities, operational and nonoperational. Establish the types and numbers of individuals needed to carry out departmental activities and consider developing position descriptions that define the roles and expectations of each position (see Appendix H for a sample volunteer firefighter job description). It is important to truly understand the needs of the department in order to most effectively implement a recruitment plan.

This first step in the recruitment planning process is similar to an incident resource needs assessment. The process ensures that the department has the right equipment and personnel to carry out the department's activities throughout the year. This will allow for targeting specific volunteers and more productive recruitment methods.

Step 2: Review the Challenges to Recruitment

The second step is to review the department's past, present, and future recruitment challenges. In the case study, DRFPD identified the following challenges, which are similar to what many rural volunteer departments experience:

- Increased time demands placed on firefighters and EMTs, including more rigorous training requirements;
- The proliferation of two-income families, whose members have less available time;
- The emigration of many younger people out of small communities to pursue better job opportunities available in larger cities;
- The need for younger volunteers as many older members age and head toward retirement;
- Living in a resort community where many employers are reluctant to allow volunteers to leave their posts to attend an emergency incident or training;



- Volunteers who are reluctant to leave their paid jobs for fire department duties when every missed hour takes money out of their paychecks; and
- Leadership who are initially hesitant to adapt to changing circumstances, such as the need to promote recruitment and adjusting to different mentoring and training tactics.

There are probably many more challenges to review within each individual department. Bringing these challenges to light may make recruitment seem impossible, but do not fight the challenges. Accept them for what they are and look for solutions. Use the challenges to move forward in a positive direction to obtain the desired outcome of the recruitment and retention plan.

Remember that there are civic-minded individuals within demographics that a department may be inadvertently overlooking as a recruitment target. For instance, is there a college nearby whose students need to fulfill volunteer requirements or may volunteer in exchange for housing at the department? Is there a church or community group whose members may be looking to give back to the community? Are there “empty nesters” (both men and women) whose children have just moved away and so they have more time on their hands? Is there a way to reach out to people who have just moved to the area and are looking for a way to connect to the new com-

munity? Are there opportunities for flexible training schedules or supplemental online training that makes meeting training requirements easier for individuals with less time? Are there opportunities to include the family in department activities, such as junior firefighter programs or support/auxiliary programs? There are many people who see the value of volunteering but may not know what opportunities (both operational and nonoperational) exist in the department. In order to recruit these potential volunteers, a personal invitation to become a volunteer and a willingness to work within that person’s availability might be all that is needed.

Step 3: Raise Community Awareness

In 2014, the National Volunteer Fire Council (NVFC) conducted a national study as part of its Make Me A Firefighter recruitment campaign. One key finding of this research is that community members are largely unaware of their local fire department’s need for volunteers. Furthermore, many people do not even know that volunteers comprise their fire department. Departments need to make the community aware of the continual need for fully committed individuals to serve as volunteer fire and EMS members.

Typically, awareness of the need for fire service volunteers is extremely low. The NVFC study showed that 79 percent of respondents did not know if their department was seeking volunteers (NVFC, 2015). Departments throughout the country have failed to portray their continual need for new volunteers. Because of volunteers’ ability to adapt to, overcome, and tackle adversity, departments might have portrayed themselves as having a solid membership base that does not need new volunteers. Potential volunteers may make the assumption that their services are not needed by their local fire departments, or they may not even realize that volunteering with their local department is even an option.

Another misconception is that departments are only looking for volunteers who are or want to be a firefighter or EMT. Many departments need help with activities and positions that are nonoperational. There is a portion of the population in every community that does not want to be on the front lines but that would be willing to participate in other ways, even on emergency incidents, in some type of support function.

It is important to impress on community members and current staff that support roles are of just as much value and as necessary to the department as that of firefighters.

Departments have to look at all of their activity functions, the types and skillsets of individuals needed for those functions, and at what levels those individuals can fill the ranks. These

individuals can help the department with mission-critical activities such as administration, fundraising, rehab, and fire prevention education without overextending operational volunteers to do these tasks.

To be successful at recruitment, it is important that a department raises awareness in the community that they need volunteers, what it takes to become a volunteer, and the different types of volunteers that are needed.

A simple information flyer can have a huge impact. A successful informative flyer might describe who the department is, the types of services or activities it provides, what it takes to be a member, and some of the benefits for members, both tangible (like paid training and any tax or education benefit) and intangible (like camaraderie, skill building, and giving back to the community). Also use social networks and local media, such as Facebook, Twitter, web pages, and local newspapers and radio programs, to raise awareness of the need for volunteers.

Step 4: Employ the Marketing Funnel

NVFC research has identified a five-phase process for recruiting a potential volunteer. The process begins with raising awareness in the community of the need for volunteers. Once the community is aware of the need, departments need to move potential recruits down the marketing funnel to increase the likelihood that they will successfully become volunteers. The phases of the marketing funnel are:

- Interest,
- Invite,
- Sample,
- Commit, and
- Train.

This approach to reach and retain new audiences shows critical values to each stage of the recruitment process.

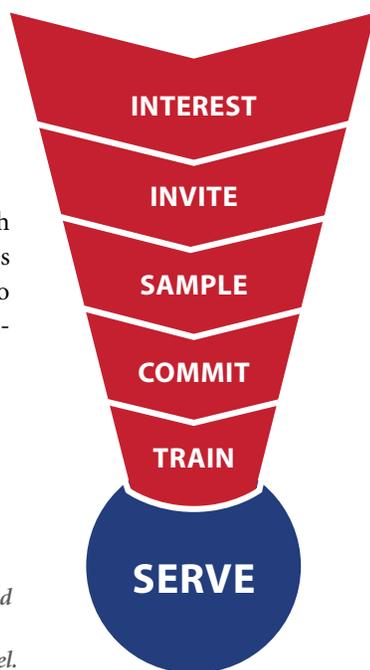


Figure 7.1. Departments need to move potential recruits through the marketing funnel.

Interest. During the interest phase, the department begins to market to those civic-minded individuals who may have an interest in becoming volunteers but are unaware that the department is in need. Many of these may be audiences the department has not tried to reach out to in the past. The 2015 NVFC research study referenced earlier showed high levels of fire service volunteer interest among 18-34 year olds, women, and minorities. These are all audiences underrepresented in the fire service and thus have the potential to serve as new target audiences for recruitment campaigns. A department should be representative of its community; look at the demographic make-up of the community (age, race, ethnicity, gender, etc.) and identify populations that are currently underrepresented in the department. These are potential growth areas for recruiting new volunteers.

Millennials

The millennial age group comprises more than 80 million people and makes up a key demographic for fire department outreach. These individuals will serve as the next generation of firefighters, EMTs, and leaders. This demographic has many qualities that are beneficial to the fire service. Traits that characterize the millennial generation include:

- Their ability to work hard and learn fast,
- Their desire to advance and become leaders,
- Working efficiently to meet their many time commitments and balance their busy lives, and
- Their hunger for education and skill building.

Millennials do not automatically give respect; they expect respect to be earned. They are looking for more streamlined training and education methods with set goals and a clear path to advancement through a climbing-the-ladder approach. This ladder approach gives them a sense of accomplishment and an idea of where they need to be moving to become a productive member of the department.

To reach millennials, outreach needs to be digital. The department's web site alone will not be enough; efforts must also include outlets such as Facebook, Twitter, and Instagram.

Women

The 2015 NVFC research study showed women are just as interested in volunteering in the fire and emergency services as men. However, a National Fire Protection Association (NFPA) study reported that this demographic represents only 11 percent of the volunteer fire service (NFPA, 2016), meaning there is significant room for growth. Women are often good multitaskers and problem solvers, and they excel at team dynamics, all traits that are assets for firefighters and EMTs. As with any demographic, women will want to be part of a department only if they feel accepted and that they belong there. As part of the department's diversity and inclusion efforts, it is important that the department facilities and membership are ready to welcome female members; that the physical facilities are appropriate, such as bathroom and living quarters; and that accommodations for the physical differences between men and women are made by having the proper personal protective equipment available. When women show interest in joining the department or enter as new recruits, they should be paired with welcoming staff. Getting and retaining female members requires a foundation of inclusivity from leadership as well as a welcoming atmosphere among all personnel.

Being unprepared for women recruits can impact the health and safety of members. DRFPD's training officer stated, "We were not prepared with their personal protective equipment needs. The turnout gear was not close enough to the sizes that they needed, and the SCBA masks inventory was predominantly medium and large." This deficiency left his recruits in tent-like clothing and with masks that could never get a proper seal because of the women's smaller faces. These are just some of the things that the department failed to consider. It is also important that the women recruits be accepted among the membership as all personnel need to be able to trust and rely on each other during emergency response in order to effectively and safely complete operations. In preparation for recruiting female members, prepare the department and make sure everyone is onboard. This may take some education and training, conversations with leadership, and implementing changes in the personnel policy.

Invitation to Become a Member. Many potential recruits simply need an invitation. A large percentage of recruits join because they were specifically asked, either by friends or family members or at a recruitment event or elsewhere. While a potential volunteer may be reluctant to make the initial contact with the department, receiving an invitation to join or learn more breaks down that barrier and opens the door to the individual

taking the next step. There are many opportunities to extend the invitation, whether through current members reaching out to their personal networks, at fundraising events or community activities, at department open houses, via email or mailing lists, through social media, and even at emergency scenes.

The more personal the invitation, the more success the department will have in recruitment efforts. The invitation should inspire potential recruits to serve.

Recruitment efforts and invitations should not be limited to current members' social circles or traditional demographics and target audiences. Look for ways to reach the untapped resources of individuals within the community. Recruiting to new demographics and audiences requires a necessary change in recruitment methods, but the potential for gaining possible new members is extremely high.

Look back at the DRFPD case study. Department members changed their focus with the recruitment plan to include individuals in previously untapped demographics, and the outcome has been successful. In addition to attaining a continual stream of new recruits, the department has created a more diverse and inclusive setting for a better team dynamic and productivity as a fire and EMS service for their community.

Sampling. Once people are interested in volunteer opportunities available with a department, they often want to learn more about the department, what it means to be a volunteer, and the types of responsibilities they will have before they make the commitment to join the department. Holding sampling events gives potential volunteers an opportunity to experience a little bit of what it is like to be a volunteer. These events help interested individuals connect with the department and build confidence and excitement about the possibility of joining. Some of these events include, but are not limited to:

- Community fundraisers held at the department,
- Booths at local community events and fairs,
- Department open houses,
- Educational events at local schools and colleges,
- Community education and training held at the department,
- Ride-along programs, and
- Presentations to community groups or at homeowner association meetings.

Junior firefighter or Explorer programs can also be considered as sampling activities because they can get youth interested in and connected to the department so that they may join as full members as adults. Try to involve the local community business owners in outreach efforts; many are willing to make a donation to support department events.

The NVFC's Make Me A Firefighter™ campaign's department portal at <http://portal.nvfc.org> has free, ready-to-use recruitment materials, including customizable outreach materials, public service announcements, sample social media posts, sample event ideas and tips, a recruit tracker, an online volunteer opportunity database, and more.

The Idaho Volunteer Fire and EMS Association used televised commercials showing everyday people of all work types and social backgrounds balancing their volunteerism within their lives. This not only raised awareness that volunteers were needed, but also showed that anyone can participate as a member of his or her community volunteer fire and EMS agencies.

Commitment. Once a volunteer is interested and has learned more about the department, the next step is to get him or her to commit. This phase requires that the department and the potential recruit agree on and commit to the terms of volunteering. The department commitment includes the responsibility of accepting the recruit; guiding the recruit; setting expectations for the recruit; and preparing the recruit to be a full, active member of the department. The recruit commitment includes agreement on the department's training and time commitment requirements, sacrifice from family and friends, a discussion with the recruit's employer, and an understanding of what the volunteer commitment entails. There should be in-depth discussions between leadership, veteran volunteers, and the individual recruit. These discussions should encompass the commitment requirements of the department and the individual recruit so that everyone understands each other's responsibilities and expectations from the beginning. It is an investment to take on a new recruit, so it is important everyone is on the same page to prevent losing the recruit further along in the process once time and resources have been spent.

The recruit needs to understand the full process of becoming a member. Recruits should be provided with a complete description of requirements, necessary training, member expectations (such as time commitment or costs not paid by the department), position responsibilities, and the timeline to complete the probationary period. During the commit phase, it is important to keep the line of communication open for continued follow-ups to retain the recruit's interest and assure the recruit of the department's interest in having him or her participate as a volunteer member. Many potential recruits slip through the cracks because the department forgets to follow up or keep the conversation going. Following the stated timeline is also important as prolonged recruitment processes

and probationary periods can sometimes be detrimental to keeping a recruit.

For leadership and recruit mentoring teams, the ongoing commitment process can be challenging and very time-consuming. However, the outcome from these efforts is seeing those potential recruits move forward to become fully committed and valuable members of the department.

Recruit Training. It is important for departments to put in place the right person for leadership in training efforts. Training can be a barrier for retaining new recruits. It is essential that the department explain very clearly the expectations and the timeline for achieving training requirements. The training leadership should understand the needs of a diverse recruit class, such as generational differences in learning styles and different techniques needed for those with varied physical attributes, such as height. Training schedules may need to be reviewed and revised to meet the needs of the recruit population.

The more flexible the department's training activities can be, the more inviting the commitment will be. The better recruits are treated from the start, the easier it will be to reach the ultimate goal of a recruitment plan: a diverse group of volunteers committed to the department.

Make training fun. Invite recruits' family and friends to observe their training, growth, and acceptance in the department. Including family and friends may also result in a few more family members and friends wanting to participate. Many rural departments have survived for years and have great membership because of family and friends participating together. Encourage it. This is an excellent example of sampling. That type of support and encouragement could extend a recruit's time and effort devoted to the department by years.

Retention

Retention is the act of keeping something or someone. This essential component of fulfilling staffing needs goes hand in hand with recruitment. Unfortunately, retention takes a back seat to recruitment in many fire department plans, and this is a mistake because retention is just as important. Without a good retention program, departments waste time, money, and resources training a revolving door of volunteers. They also risk losing the knowledge and expertise that their seasoned members provide. Creating a work environment people want to be a part of is a key component of successful recruiting. In addition, a good retention program raises the profile of a department and its perception in the community.

Rather than refer to “recruitment and retention,” a case can be made that it should actually be “retention and recruitment.” In many ways recruitment efforts are futile without a retention program to keep volunteers committed, involved, and active with the department.

An effective retention program is the best positive branding and marketing for the department. Members who are satisfied with their department participation become effective ambassadors for the department. With positive motivators and continual revision of the retention program, the department will see a positive outcome for its recruitment effort.

Part of successful retention is continuing to let volunteers know they are valued and that the department needs their participation. Understand why the volunteers joined in the first place, and nurture these objectives. Also recognize that volunteers have lives outside of the department, with their own personal obligations and commitments. Do not force too much responsibility onto volunteers who are already stretched to the limits. Helping members achieve their goals, such as moving up the department ladder or finding a better balance between work, family life, and serving the community through the department, is beneficial for all involved. Members will know they are valued, and departments will retain qualified people who may otherwise have felt the need to quit.

Motivation as a Retention Tool

There should be constant effort put towards of motivating and engaging volunteers. They need to be treated as individuals. Give them praise whenever possible, continually review and revise the department’s teamwork efforts, and praise those who continually give above and beyond in their participation. Build their self-esteem and their confidence. Make volunteers feel secure as vital members of the department. Make sure the leadership respects all members. Solicit input and take suggestions and recommendations seriously. And likewise, ensure that the volunteer membership respects those in leadership roles. The leadership should be giving constant feedback to the members about what they are doing right and what needs improvement. This shows the volunteers that leadership is truly interested in their individual growth within the department. See Chapter 1 for more on this subject.

Team Building

A component of retention is to ensure a positive team dynamic and cooperation within the membership. Cliques are natural but can be detrimental to team building, for example, firefighter versus EMT, higher certification versus lower certification, or seasoned volunteers versus new recruits. Fragmenting the membership inhibits teamwork building and cooperative efforts in service of the department.

As part of the performance audit of the recruitment and retention plan, the department should periodically check the types of team-building issues experienced as well as the plans to resolve them. It is always better to resolve issues with discussion and an understanding of common courtesy and respect. Adopting department standards is common, but be mindful that sometimes they can be unnecessary and more can be achieved simply through open discussion and allowing for a cooperative of teamwork building. Working through a potential policy issue with discussion may alleviate the need for an actual written policy.

Individual Recognition

Continued support and recognition are important to the individual volunteer’s wants and needs. Leadership and peer group recognition aids in the volunteers’ reassurance of continued participation. In most cases, a simple pat on the back is all that is necessary, but when addressing efforts that are above and beyond the call of duty the recognition may need to be “stepped up.” Press releases, acknowledgments, awards banquets, an article in the department’s newsletter, a personal thank-you note from the chief, and a challenge coin or certificate of recognition are all ways to make volunteers feel important and their efforts acknowledged. Being mindful to give credit where credit is due with some of these simple recognition tools will go a long way to show the individual volunteer the department’s appreciation of his or her continued participation.

Need for Fun and Family

With the everyday struggles of the serious business of fire-fighting and providing EMS patient care, volunteer departments need to remember to make fire department activities fun and enjoyable when possible, for example, by including family and friends in appropriate activities. They, too, are essential to retaining volunteer participation. Volunteers who have the support of their loved ones are more likely to continue volunteering than those whose family and friends are pressuring them to leave the department. Essentially, the department becomes a home for its members and their family and friends.



Through the cultivation of a strong team dynamic, department members should have the sense that they, too, are a family. This sense of brotherhood and sisterhood is a traditional value of fire and EMS departments and creates ties and bonds that can last a lifetime, even outside the circle of department membership. It helps with growth and the productivity of department efforts and aids the recruitment and retention plan by creating a positive and motivated department direction for sustainability.

Help with a Volunteer's Challenges

Leadership should be flexible and understanding regarding the stresses and challenges its members face. This goes beyond the department to include the everyday life of the volunteer member. Individuals are often struggling to balance conflicting time demands, workload, family responsibilities, and department participation. Leadership should recognize these issues and work with volunteers to better balance all of these demands. Be respectful of volunteers' time, such as starting and ending trainings at the correct times and using volunteers' time at the station efficiently, and be cognizant of the department asking too much.

It is easy for the demands of the department to overwhelm a volunteer member. Make sure there is a support system for personnel who are feeling overwhelmed or are struggling with chronic stress or anxiety. The emotional weight of the job can take a toll on volunteers, so it is important to have resources available for those who have a rough call, experience post-traumatic stress disorder or depression, are burned out, or are struggling with other behavioral health issues.

In addition to emotional support, departments should provide support to personnel facing on-the-job challenges. Make sure to provide adequate training when expanding a volunteer's responsibilities. A mentor program is a great tool to help volunteers who are learning new skills or taking on new roles within the department.

Remember, volunteer members are very committed to serving and may have a hard time saying no to participation. This could easily allow for leadership to keep adding to the volunteers' plates until they are spread very thin. This can result in volunteers feeling overwhelmed and burned out, leading them to question their participation in the department. This is where constant feedback is important. Department leadership should create open door policies for volunteers and make sure volunteers know they can speak up if they are feeling overburdened or need help with challenges they are facing.



Leadership's Role in Retention Programs

Understanding, training, and mentoring by leadership are of high importance to retaining volunteers. The department's leaders set the tone, policies, expectations, and ultimately the culture under which the department operates. Many times the loss of a volunteer stems back to poor leadership. Poor leadership can create issues such as inconsistency, mismanagement, inability to perform, inability to accept individuals, and a culture that is unwelcoming or hostile to members or where members do not feel respected or valued. As the direct liaisons to the department membership, leaders aid in looking toward and setting the direction for the future of the organization.

Communication as a Retention Tool

Communication plays a huge role in a department's efforts to keep morale and participation high. The inability to clearly share information will lead to communication problems; therefore, information has to be disseminated openly and through multiple outgoing sources. Listening is an important factor to dissolving problems when they are small rather than waiting until they become department-wide issues. Fostering an atmosphere of openness and continued feedback among members and cultivating a team dynamic that allows for positive support, recognition, and healthy criticism are essential.

Department Image

In order to retain volunteers, gain new recruits, and foster community support, it is imperative that a department has and projects a positive image, including through its community outreach efforts. Let the public know the good things the department and its volunteers are doing. Participate in community events so people get to see the department members as vital parts of the community. Consistently practice good customer service, and always treat members of the public respectfully, even when dealing with frustrating onlookers at an emergency scene. Establish a social media policy and make

sure all members adhere to its requirements, because one negative post can tarnish the entire department's image. Step up in the community by opening the department for public meetings, providing education and training, and hosting homeowner association gatherings. The department's hospitality will provide an opportunity for membership to engage with community members. Continued interaction with community members outside the department gives them insight into the department makeup as well as operational and non-operational activities.

Tangible Benefits

Although many of the benefits people get from volunteering in the fire and emergency services are intangible, such as a sense of purpose, the feeling of belonging to a community, helping one's neighbors, and building lifesaving skills, many departments also offer specific tangible benefits that may provide incentive for volunteers to stay with the department. However, it is not likely that tangible benefits will keep someone in a department if the environment is hostile, leadership is ineffective, family members are not supportive, or the pathway to success is blocked.

When determining what tangible benefits to offer, the department should obtain input from current members and new recruits to reflect what the membership wants and values. There are many types of benefits that may be considered (keep in mind some of them have a tax implication), but some include the following:

- Education/tuition assistance;
- Live-in programs or housing assistance;
- Reimbursement for gas and food while on duty;
- Retirement, pension, or length of service plans;
- Pay per call;
- Health insurance;
- Annual reimbursement or bonus;
- Gym memberships; and
- Local business discounts.

No matter what benefits are provided, they should be reviewed and revised annually.

Nonoperational Roles

There are many reasons a firefighter or emergency responder may no longer be able to perform operational functions, including age, health, or time factors. However, if these individuals still want to volunteer with the department, there are other roles they can perform that are not directly related to emergency response. Engage these volunteers in nonoperational tasks that benefit the department but do not endanger the individual or other personnel. This is a great way to retain

experienced members to continue assisting the department in a variety of needed ways. Be sure to have ongoing tasks for nonoperational personnel and make them feel like a valued part of the team, or they may lose interest and, subsequently, the department may lose valuable volunteers.

Summary

Present recruitment and retention efforts are falling short, and many volunteer departments are struggling to maintain adequate staffing levels to fulfill their missions safely and effectively. Departments need to evolve and take the time to develop recruitment and retention plans that meet today's needs. A cultural shift in how volunteer departments execute their recruitment and retention plans is essential for future success. Making this shift is an exercise in which every member of the department has a part; this exercise is necessary to nurture and grow diversity and inclusion efforts and create an environment people want to join and remain part of.

Part of the cultural shift is building relationships within the community outside the normal circle of recruitment—women, young adults, and minorities are just as interested, and sometimes more interested, in becoming involved in the volunteer fire and emergency services as the stereotypical recruit. It is imperative that the department works toward a diverse and inclusive membership in order to fully succeed. Gaining a thorough understanding of the department's functions and activities will help in finding and fitting the right volunteers with the right roles and responsibilities.

Taking the time to build the right foundation will create a thriving department for the long run. With proper leadership and the right efforts to create positive change, success will come. Developing personal relationships and creating meaningful interaction with department members and members of the community will lead to strong retention and successful recruitment; a first step may take only a simple personal invite and informing the community of the department's constant need to add new recruits to the ranks. Constant dedication to and recognition of volunteers will keep them engaged and committed. The future of the volunteer fire service is tied to the creation of out-of-the-box thinking when it comes to recruitment and retention plans. Nonparticipation or inaction cannot be an option for the future of the department.

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APPENDIX A

SAMPLE COMMUNITY RISK REDUCTION PLAN

Community Risk Reduction for Longview, Washington

June 2015

Introduction

Through a grant received by the Washington State Association of Fire Marshals (WSAFM) that was made available through the Assistance to Firefighters Grant (AFG) funds, the City of Longview has prepared a community risk assessment and reduction plan with the goal of improving public safety. The community risk reduction (CRR) plan for Longview will be implemented in two phases. The first phase will execute strategies identified by incident data collected by the Longview Fire Department (LFD) administration and deliverables identified in the grant for smoke alarm installation in homes. The second phase of the CRR plan will require each LFD engine company to assess risks in their first-due areas of response and develop a CRR plan to mitigate them. Phase one will begin approximately July 30, 2015, and end approximately December 30, 2015. Phase two will begin January 1, 2016, and be implemented indefinitely.

Community Risk Assessment

About Longview

Longview is located in Southwest Washington in Cowlitz County. It has a population of approximately 36,000 and is 14.5 square miles in size. The following is a list of land uses:

- Single family residential: 35%
- Multi-family residential: 4%
- Manufacturing/Industrial: 5%
- Commercial: 9%
- Transportation/Communication/Utilities: 7%
- Public: 10%
- Undeveloped/Vacant: 30%

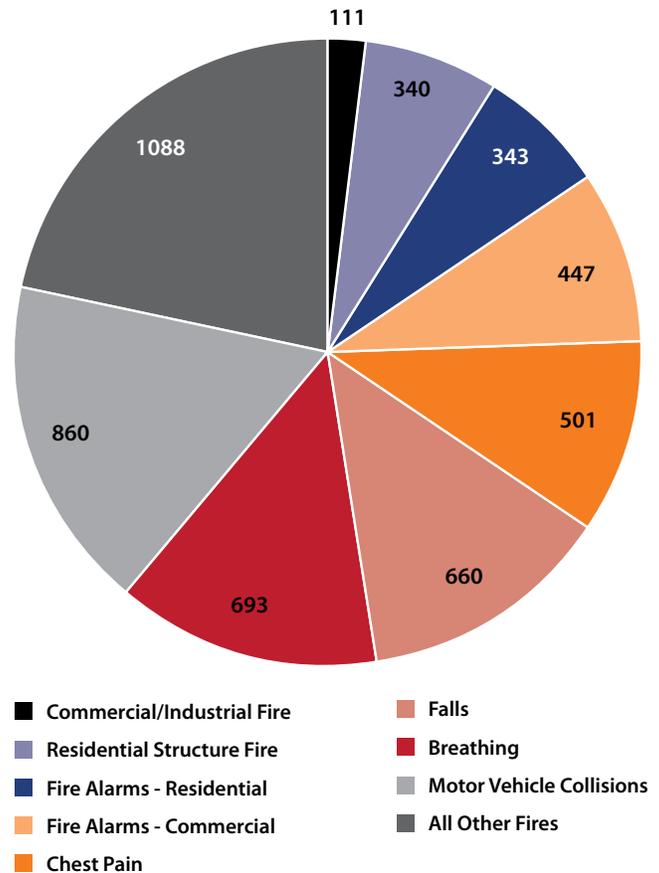
The total assessed valuation is approximately two billion dollars, and the median family income is \$44,000. The racial makeup is approximately 90% white, 6% Latino, and all others less than 2% each.

LFD serves the City of Longview with fire, EMS, special operations, and injury and fire prevention services. LFD has 49

full-time positions, including administration. There are two fire stations normally staffed with two engine companies and a ladder truck. Daily minimum staffing is 10 first responders (three per apparatus and a battalion chief) 24/7 per day with additional staff officers available. Our mission is: Maximize the safety and well-being of our community by reducing risk to life and property. Our essential priorities are prevention and education, preparedness, and emergency response.

Incident Analysis

Over the period between 2012-2014, LFD responded on average to 4,769 incidents per year. The most frequent incident responses types were as follows:



The top three causes for fire incidents were accidental cooking-related fires, intentionally set dumpster fires, and intentionally set alley debris/garage fires. Dumpster and alley debris fires are classified in the “All Other Fires” category. The top three fire incidents occurred most often in residential occupancies or property. A disproportionate amount of the dumpster and alley debris/garage fire incidents occurred in or adjacent to a neighborhood known as the Highlands.

Falls contributed to a significant amount of “preventable” EMS incidents.

The Highlands Neighborhood

2010 census statistics for the Highlands neighborhood shows the following information:

- Population: 4,858 (13.5% of the city)
- Housing units: 1,778
- Youth under age 18: 33% (city’s highest)
- Elderly persons: 6% (city’s lowest)
- Latino population: 21% (city’s highest)
- Family households with children: 47% (city’s highest)
- Single parent households: 24% (city’s highest)
- Poverty rate: 44% (city’s highest)
- Median household income: \$24,000 (city’s lowest)
- Unemployment rate: 18% (city’s highest)
- 25+ years old without a high school diploma: 36% (city’s highest)

The majority of the properties in the Highlands are one-story, single-family, residential homes built in the mid 1920s and less than 1,000 square feet in size. Most of the properties have a detached garage located on a rear alley. The alley is also the location for garbage dumpster collection. Because there were no code requirements for smoke alarms in the 1920s, LFD is assuming that most homes are provided at a minimum with a single battery-operated smoke alarm in the area outside the sleeping rooms, which was required by code in Washington State (RCW 43.44.110) since approximately 1981 for retroactive homes with no original smoke alarms.

Smoke and Carbon Monoxide Alarms

The lack of properly working smoke alarms poses a serious threat to public safety. The death rate per one hundred reported fires is twice as high in homes without working smoke alarms as it is in homes with working smoke alarms. The National Fire Protection Association (NFPA) statistics indicate that 94% of households in the United States have smoke alarms, but 30% of those alarms are inoperable primarily due to dead or missing batteries.

Often called the silent killer, carbon monoxide is an invisible, odorless, and colorless gas created when fuels (such as gasoline, wood, coal, natural gas, propane, oil, and methane) burn incompletely. According to the Centers for Disease Control and Prevention, during the period from 1999-2010, a total of 5,149 deaths from unintentional carbon monoxide poisoning occurred in the United States; an average of 430 deaths and several thousand injuries per year. A working carbon monoxide alarm can greatly reduce the chance of death or injury from carbon monoxide poisoning. Because of the lower-income demographics in the Highlands neighborhood, having the electrical power turned off to homes is common. When this occurs occupants tend to use non-conventional heating devices that increase the chances for carbon monoxide poisoning.

Community Risk Reduction Plan: Phase I

Overview: Based on risk assessment data and grant deliverables, phase one of the LFD CRR plan is to conduct home safety visits in the Highlands neighborhood beginning on approximately July 30, 2015. The home safety visits will focus on smoke and carbon monoxide alarm inspection and/or installation, preventing cooking fires, mitigating alley dumpster/debris fires, fall prevention, and ensuring visible address numbers are posted. All home safety visits will be performed by LFD engine company crews. The goal of the plan is to improve life safety, reduce property loss, and engage our first responders with our most at-risk community members in a positive way. Phase one of the plan will end on approximately December 1, 2015.

Smoke and carbon monoxide alarms: Existing home smoke alarms will be inspected for expiration dates and tested for functionality. If they are found to be defective, a new battery-operated, long-life, tamper-resistant combination smoke and carbon monoxide alarm will be installed in the area outside of the sleeping rooms. The occupants will be educated on the type of alarm they have, how it functions, how and when to test it, and its expiration date.

Cooking fires: Occupants will also receive information about cooking fires being the number one cause of accidental home fires, have the area where they cook inspected for hazards, be encouraged to watch what they fry, and be given instructions about what to do if they have a cooking fire.

Alley dumpster/debris fires: An inspection of the exterior alley-side of the home will be conducted to evaluate potential mitigation strategies for reducing intentionally set fires. These will include debris cleanup, vegetation management, dumpster storage location, and security measures.

Fall prevention: Fall prevention activities will be evaluated based on an occupant risk analysis such as age and mobility. If it appears the occupant could be at risk for falls, prevention strategies such as identifying home hazards, adding assistive devices, and shoe selection will be discussed.

Visible address numbers: An inspection will be conducted on both the street and alley sides of the home to ensure visible address numbers are posted. If address numbers are missing or deficient, the occupant will receive information about proper address identification for emergency response purposes.

Implementation Steps

- The first step for implementation will be educating our first responders about CRR, sharing risk assessment data with them, and getting organizational buy-in for executing the CRR plan.
- The second step will be organizing the logistics of the plan to include areas of responsibility and timeframes, program marketing, training, and starting the home safety visit activities.
- The third step will be to monitor progress, collect data, record and compare relevant program data, and make adjustments to the plan as needed.

Community Risk Reduction Plan: Phase 2

The second phase of the CRR plan will require each LFD engine company to assess risks in their first-due areas of response and develop a CRR plan to address them. This will be done at the grassroots level of the organization with administrative support and assistance.

Implementation of the engine company plans will be similar to phase one implementation and will be evaluated and executed based on each plan's specific needs. Phase two will begin on approximately January 1, 2016, at the conclusion of phase one and be implemented indefinitely.

APPENDIX B

NVFC POSITION ON FIREFIGHTER MEDICAL ASSESSMENTS

The National Volunteer Fire Council (NVFC) supports annual medical assessments for all firefighters. Firefighter health and safety is essential to the protection of citizens and property in our communities. Firefighting is a physically demanding occupation. Health-related injuries including heart attack, stroke, and cancer are the leading causes of firefighter duty-related death.

It is important that firefighters have an annual medical assessment, but many do not. In some cases firefighters may not have health insurance or even a personal physician to conduct or consult with regarding the results of the assessment. Additionally, it can be cost-prohibitive or administratively challenging for many departments to implement an assessment program. The following are options for departments to consider in developing a firefighter medical assessment program.

Preventative Care Check

Preventive care/well check assessments are generally available at no charge through employer-provided health insurance, Medicare, or Medicaid. Individual coverage purchased through health insurance exchanges typically includes a free or low-cost annual preventive care/well visit. It is important to note that this type of assessment is not designed to assess the ability of a person to perform the job duties of a firefighter.

All Marketplace health plans and many other plans must cover the following list of preventive services without charging you a copayment or coinsurance. This is true even if you haven't met your yearly deductible.

IMPORTANT: These services are free only when delivered by a doctor or other provider in your plan's network.

1. Abdominal aortic aneurysm one-time screening for men of specified ages who have never smoked
2. Alcohol misuse screening and counseling
3. Aspirin use to prevent cardiovascular disease for men and women of certain ages

4. Blood pressure screening
5. Cholesterol screening for adults of certain ages or at higher risk
6. Colorectal cancer screening for adults over 50
7. Depression screening
8. Diabetes (Type 2) screening for adults with high blood pressure
9. Diet counseling for adults at higher risk for chronic disease
10. Hepatitis B screening for people at high risk, including people from countries with 2% or more Hepatitis B prevalence, and U.S.-born people not vaccinated as infants and with at least one parent born in a region with 8% or more Hepatitis B prevalence
11. Hepatitis C screening for adults at increased risk, and one time for everyone born 1945-1965
12. HIV screening for everyone ages 15 to 65, and other ages at increased risk
13. Immunization vaccines for adults—doses, recommended ages, and recommended populations vary:
 - Diphtheria
 - Hepatitis A
 - Hepatitis B
 - Herpes Zoster
 - Human Papillomavirus (HPV)
 - Influenza (flu shot)
 - Measles
 - Meningococcal
 - Mumps
 - Pertussis
 - Pneumococcal
 - Rubella
 - Tetanus
 - Varicella (chickenpox)

14. Lung cancer screening for adults 55-80 at high risk for lung cancer because they're heavy smokers or have quit in the past 15 years
15. Obesity screening and counseling
16. Sexually transmitted infection prevention counseling for adults at higher risk
17. Syphilis screening for adults at higher risk
18. Tobacco use screening for all adults and cessation interventions for tobacco users

Wellness Exam Frequently Asked Questions

The following is from the Primary Care Medical Center web site (www.primarycareeverywhere.com):

What is a wellness exam? An annual exam is a comprehensive preventative exam with your primary care provider for the sole purpose of preventative care. An annual exam does not include discussion of new problems or detailed review of chronic conditions. Annual exams may also be called routine check-ups, yearly exams, an annual pap, or preventive visit.

Will my insurance pay for a wellness exam? Most health plans will pay for one wellness or preventative exam per year. Your insurance provider may consider this to be once per calendar year or one year and one day since the date of your last wellness exam. If you have had any other visit billed as preventative during this time period your plan is likely to deny your wellness exam. This would include a well-woman exam or annual pap smear. Your plan may not pay for all testing and/or labs ordered during your wellness exam. If your provider has a concern and orders diagnostic testing and/or labs during your exam you may be held financially responsible. It is the patient's responsibility to check with their insurance provider to see what is covered under their wellness benefit and to ensure they are eligible prior to scheduling their annual wellness exam.

What is the difference between a wellness exam and a problem visit? Preventative visits and tests ordered by your provider can help you stay healthy and catch problems early. Diagnostic visits and testing are used to diagnose a current health problem. Diagnostic tests are ordered by your provider when you have symptoms and they want to find out why. For example, if your provider wants you to have a test because of your age or family history, that's preventative care, but if it's because you're having symptoms of a problem, that's diagnostic care.

Can I have a wellness exam and problem visit at the same time? No. Billing issues prevent your provider from doing a wellness exam and a diagnostic visit on the same day. This is for your protection as your insurance carrier may deny one

of these visits, forwarding the financial responsibility to you. This does not prevent you from asking a simple question or requesting refills of any maintenance medications; however, we ask that you please schedule a separate appointment, on a different day, if you have any new concerns or other ongoing health problems that need more attention. Should your wellness exam turn into a diagnostic or problem-oriented visit, we will bill accordingly.

DOT Physicals

A Department of Transportation (DOT) medical assessment is designed to confirm that someone is healthy enough to safely perform the job of commercial motor vehicle (CMV) driver. A DOT assessment must be conducted by a licensed medical examiner listed on the Federal Motor Carrier Safety Administration (FMCSA) National Registry. It is important to note that this type of assessment is not designed to assess the ability of a person to perform the job duties of a firefighter.

The term "medical examiner" includes, but is not limited to, doctors of medicine (MD), doctors of osteopathy (DO), physician assistants (PA), advanced practice nurses (APN), and doctors of chiropractic (DC). A DOT physical exam is valid for up to 24 months. The medical examiner may also issue a medical examiner's certificate for less than 24 months when it is desirable to monitor a condition, such as high blood pressure.

The FMCSA has very strict guidelines on what the DOT physical must include. To help simplify the process, here is a brief overview of what you should bring with you to the exam, and what to expect once you get there.

Bring the following items with you to the DOT visit:

- Your last medical exam card, if applicable.
- A list of your current medications with dosages.
- Glasses if you have a prescription.
- Yearly clearance letter from a cardiologist for heart conditions or from your personal physician for other chronic conditions may be required before clearance.

Having these items on hand will greatly speed up the approval process.

It's also recommended that you fill out the health history section of the medical examination report before coming to the office, even though the examiner may ask you more questions about it after you arrive.

The exam itself will cover the following.

1. Vision

Drivers are required to have at least 20/40 acuity in

each eye with or without correction. They are also required to have at least 70” peripheral in the horizontal meridian, measured in each eye.

2. Hearing

Drivers must be able to perceive what is known as a “forced whisper” at a distance of five feet or less with or without a hearing aid. This standard equates to an average hearing loss in the better ear of less than 40 db.

3. Blood pressure/pulse rate

The medical examiner will check your blood pressure and pulse to look for high blood pressure and irregular heartbeats.

4. Urinalysis

A urinalysis is required. The test looks for indications of underlying medical conditions such as diabetes.

5. Physical examination

The physical exam will cover a dozen different categories.

- General appearance
- Eyes (cataracts, glaucoma, macular degeneration, etc.)
- Ears (scarring of tympanic membrane, perforated ear drums, etc.)
- Mouth and throat (to look for problems breathing or swallowing.)
- Heart (murmurs, extra sounds, pacemaker, etc.)
- Lungs and chest, not including breast examination (abnormal breathing, impaired respiratory functions, cyanosis, etc.)
- Abdomen and viscera (enlarged liver, viscera, muscle weakness)
- Vascular (abnormal pulse, carotid, varicose veins)
- Genito-urinary (hernias)
- Extremities-limb impaired
- Spine and other musculoskeletal (previous surgery, limitation of motion, tenderness, etc.)
- Neurological (impaired equilibrium, coordination, or speech pattern; ataxia; asymmetric deep tendon reflexes)

It is up to medical examiners to determine if a candidate will meet all the requirements and to mark the report to the best of their knowledge.

Department-Specific Assessment

Many fire departments develop a medical assessment for their candidates and members that is based on the specific job duties and expectations of the agency. Chief Jeff Cash with

the Cherryville (NC) Fire Department explains the medical examinations that firefighters in his department receive:

“Our firefighters’ health and safety come first. To ensure that the men and women who serve our community are physically able to perform their duties, we have implemented a rigorous medical screening program. Our program is medically and academically verifiable to meet the OSHA regulations 1910.156, 1910.134, and 1910.120. It also takes into consideration our firefighters’ job descriptions, including each individual’s job responsibilities. The focus of the program is the electrocardiogram and any abnormalities that occur while the heart is under stress of exercise or physical work.

This type of program is attractive because it is affordable and provides me, as chief of the department, with the documentation that I need to ensure that the firefighters who undergo the screenings are duty ready. We contract with a medical services provider who comes to the fire station annually at a time that we schedule to conduct medical examinations for all of our firefighters. Because of the convenience, we are able to have all of our firefighters examined in one day.

Another outstanding feature is that I can tailor or customize the type of screening that my firefighters receive. I typically add two areas to our screenings, which is of great benefit to our firefighters. I add the Prostate Specific Antigen (PSA) (blood work results) and the Hepatitis B Antibody Screening (Titer test). Both of these screenings are added at a very minimal cost to our organization.”

Sample Department Specific Exam

Medical exams for firefighters shall be scheduled bi-annually for those under age 40, and annually for those age 40 and over. Members assigned to the hazardous materials team shall be scheduled annually regardless of age. The department will appoint a physician or physicians to conduct fire department medical exams. The fire department (or fire department insurance company) shall process the billing directly. The individual firefighter (or firefighter insurance company) will not be billed.

The physical exam should include: height, weight, blood pressure, heart rate, percentage body fat, near and far vision, skin, HEENT, neck, lymph glands, thyroid, lungs, heart, genitalia, rectum, extremities, distal pulses, spine, neurological exam, and emotional status. Additional specific laboratory and diagnostic/screening tests will be conducted.

The exam should also focus on occupational risk factors: heart disease, cancers secondary to toxic exposures, muscular/skeletal injuries, infectious diseases, and current medical

problems. Any recent exposure to smoke, toxic chemicals, infectious diseases, etc., should be documented and followed up with appropriate tests. Preventative health care should be stressed with emphasis on physical fitness, weight control, etc.

Review immunization status as part of the examination (this record should be part of the employee's medical file). Baseline immunization and/or boosters will be arranged as necessary. Emphasize to the employee that it is their responsibility to update their vaccination record with the department physician should they receive vaccinations somewhere other than the department physician's office.

NFPA 1582-Compliant Assessment

The NFPA 1582 standard presents descriptive requirements for a comprehensive occupational medical program for fire departments. Provisions are applicable to fire department candidates and members whose job descriptions are outlined in NFPA 1001, NFPA 1002, NFPA 1003, NFPA 1006, NFPA 1021, and NFPA 1051.

For more information, visit www.nvfc.org or www.nfpa.org.

APPENDIX C

SAMPLE HEALTH AND CANCER STANDARD OPERATING GUIDELINE

Any City Fire Department (ACFD) Standard Operating Guideline

Operational Guideline # _____

SUBJECT: Firefighter Health & Cancer

DATE: January 2017

PURPOSE: To provide for best practices in preventing cancer and other illnesses due to the toxic effects of firefighting.

A. AREAS OF APPLICABILITY

This guideline applies to all responses to fires and other incidents involving toxic smoke or toxic chemicals.

B. CLEANING PPE

1. Whenever ACFD firefighters engage in firefighting activities, PPE shall be decontaminated by rinsing it off at the incident scene to remove as much soot, smoke, toxic chemicals and debris as possible. This includes hoods, gloves, helmet liners, boots, coats and pants.
2. PPE should be cleaned at least annually, and after each working structure fire or any hazmat incident, in accordance with NFPA 1851 and NFPA 1500.
3. PPE that is contaminated by spilled chemicals shall be gross decontaminated at the incident scene by rinsing it off with water. The PPE shall be bagged (in plastic trash bags) and returned to quarters for determination of its fitness for continued use.

C. PERSONAL CLEANING

1. Firefighters will wipe off their faces, necks, and hands with baby wipes (or similar products) while in rehab and before getting into a vehicle or returning to quarters from any fire or hazmat incident.
2. Firefighters shall wash hands after firefighting and before they eat any food to avoid ingesting any toxins. This also applies to EMS, hazmat, and all other incidents.

3. Firefighters shall take a hot shower as soon as possible after returning from firefighting in order to remove toxins from their bodies. Firefighters should strive to accomplish this within an hour of returning to quarters.

D. STATION, EQUIPMENT, AND APPARATUS CLEANING

1. All tools and equipment shall be rinsed off at the incident scene to remove chemicals, smoke/soot, debris, and contaminants before they are put back on the apparatus to return to quarters.
2. Hose shall be rinsed and washed after each use at a fire.
3. The seats and interior of each cab shall be cleaned if firefighters wear potentially contaminated PPE back to quarters from an incident.
4. PPE shall not be worn in the living quarters or administrative areas of the fire station, except after cleaning if part of a training exercise [it is necessary for many small fire departments to use their administrative and living quarters as training props because they do not have regular and easy access to a training facility].

E. FIRE OPERATIONS

1. SCBA will be worn during overhaul. It will not be removed until the debris is cold to the touch and there is no steam or smoke rising.
2. Hoods will be removed promptly after firefighting activities. Hoods will not be worn in rehab or during pickup or while returning to quarters. Firefighters should avoid wearing their hood around their neck when unnecessary.
3. Do not rely upon multi-gas meters to declare the air safe at fire incidents.

F. TWO HOODS

1. All firefighters will be issued two hoods. One hood shall be retained as a clean spare. After each fire, firefighters will switch to their clean hood upon returning to quarters. Contaminated hoods will then be washed and become the spare hood.

G. PPE in Vehicles

1. All gear following a fire shall be placed in a hermetically-sealed container, such as a gear bag or plastic tub, prior to transport to prevent contamination of the vehicle's interior.
2. If possible, PPE stowed in personal vehicles shall be stowed in the trunk or other space away from the passenger compartment.

APPENDIX D

SAMPLE DEPARTMENT NO TOBACCO POLICY

Department No Tobacco Policy

Because we recognize the hazards caused by tobacco use and exposure to environmental tobacco smoke, it shall be the policy of [Department Name] to provide a smoke-free environment for all employees and visitors. This policy covers the smoking of any tobacco product and the use of smokeless tobacco products, and it applies to volunteers, employees, and visitors of [Department Name].

Definition

1. **No smoking of tobacco products or use of smokeless tobacco products will be allowed within the facilities at any time.**

The decision to provide or not provide designated smoking areas outside the building will be at the discretion of management or other decision-making body.

If an outdoor smoking area is designated, it will be located at least 20 feet from the main entrance. All materials used for smoking in this area, including cigarette butts and matches, will be extinguished and disposed of in appropriate containers. Supervisors will ensure periodic cleanup of the designated smoking area. If the designated smoking area is not properly maintained (for example, if cigarette butts are found on the ground), it can be eliminated at the discretion of management or other decision-making body.

(For a policy that extends tobacco free to include all department property, substitute the following: No smoking of tobacco products or use of smokeless tobacco products is permitted within the facilities or on the property of [Department Name] at any time.

2. **No smoking or tobacco use in any company vehicle.**

There will be no smoking or tobacco use in [Department Name] vehicles at any time.

There will be no tobacco use in personal vehicles when transporting persons on [Department Name] authorized business.

3. **Breaks**

Supervisors will discuss the issue of smoking breaks with their staff. Together they will develop effective solutions that do not interfere with the productivity of the staff.

Procedure

1. Personnel will be informed of this policy through signs posted in [Department Name] facilities and vehicles, the policy manual, and orientation and training provided by their supervisors.
2. Visitors will be informed of this policy through signs, and it will be explained by their hosts.
3. The [Department Name] will assist employees who want to quit smoking or other tobacco products by helping them access recommended smoking/tobacco cessation programs and materials.
4. Any violations of this policy will be handled through the standard disciplinary procedure.

This model policy is based on “Making Your Workplace Smoke-free: A Decision Maker’s Guide,” from the Centers for Disease Control and Prevention, the American Cancer Society, and the Wellness Councils of America. www.cdc.gov

APPENDIX E

SAMPLE DRUG AND ALCOHOL POLICY

Administrative Policy Regarding Drugs and Alcohol

No department member shall consume any intoxicating beverage or use any narcotic, controlled substance, or other toxic drug while on duty, except at the direction of a physician for the treatment of a disease or illness.

Department members who are taking any drug for the treatment of an illness that has side effects which could impair the member's mental or physical abilities shall notify the chief or duty officer before reporting for duty, and the chief or duty officer shall determine the member's fitness for duty.

No department member shall report for duty while under the influence of any intoxicating liquor, controlled substance, or intoxicating drug.

No department member shall report for duty with the odor of alcohol or other intoxicants on his/her breath or person.

While off duty, department members shall not drink any intoxicating beverage in uniform. (For the purposes of this section, a uniform is any clothing issued or provided by the department that identifies the wearer as a member of the department.)

No department member shall bring or keep or permit to be brought into any department building or vehicle any intoxicating beverage or narcotic drug or controlled substance, except as duty may require, as required by department practices and procedures, or as allowed by the chief or the chief's designee.

APPENDIX F

SAMPLE TOXIC EXPOSURE TRACKING FORM

City of Phoenix, Arizona Fire Department Fire Personnel Toxic Exposure Form

(1) NAME: _____ (2) SOCIAL SECURITY #: _____

(3) INCIDENT #: _____ (4) INCIDENT DATE: _____

(5) OCCUPANCY / BUSINESS NAME: _____

(6) INCIDENT TYPE: (CHECK OFF)

- | | | |
|--------------------------|-------------------------------|-------------------------|
| (a) STRUCTURE FIRE _____ | (d) TRASH / DEBRIS FIRE _____ | (h) OTHER _____ |
| (b) VEHICLE FIRE _____ | (e) BRUSH FIRE _____ | (i) EMS / RESCUE _____ |
| (c) DUMPSTER FIRE _____ | (f) EXPLOSION _____ | (j) INVESTIGATION _____ |
| | (g) SPILL / LEAK _____ | (k) INSPECTION _____ |

(7) ACTIVITY AT TIME OF EXPOSURE: (CHECK OFF)

- (a) EXTINGUISHMENT
- (b) VENTILATION
- (c) SEARCH / RESCUE
- (d) OVERHAUL
- (e) SUPPORT ACTIVITIES
- (f) STAGING / REHAB
- (g) INSPECTION
- (h) INVESTIGATION
- (i) SUBSTANCE CONTAINMENT
- (j) EMS

<1HR	1HR	1-2HRS	2-3HRS	>3HRS

(8) SMOKE DENSITIES AT TIME(S) OF EXPOSURES (CHECK OFF)

- (a) NONE _____ (b) LIGHT _____ (c) MODERATE _____ (d) HEAVY _____

(9) SMOKE COLOR(S) _____

(10) CHEMICAL(S), PRODUCT(S), SUBSTANCE(S), EXPOSED TO: (LIST IF KNOWN; LEAVE BLANK IF UNKNOWN)

(11) ROUTES OF EXPOSURE: (CHECK OFF ROUTE, IF SKIN LIST AREA EXPOSED)

- RESPIRATORY _____ EYE _____ INGESTION _____ SKIN _____

(11a) BODY PARTS EXPOSED: (I.E. RIGHT HAND, LEFT KNEE, RIGHT SIDE OF FACE) _____

(12) LIST SYMPTOMS EXPERIENCED: (I.E. SORE THROAT, EYES BURNING, LUNGS IRRITATED) _____

(13) PPE WORN AT TIME OF EXPOSURE (CHECK OFF)

- | | | |
|----------------|---------------------|------------------------------|
| TURNOUTS _____ | BRUSH GEAR _____ | GLOVES: LATEX, NITRILE _____ |
| SCBA _____ | GOGGLES _____ | FIRE FIGHTING _____ |
| LEVEL A _____ | PARTICLE MASK _____ | WORK GLOVES _____ |

(14) PPE MALFUNCTION (MECHANICAL) (CHECK OFF) yes _____ no _____ BARRIER BREACH (CLOTHING) (CHECK OFF) yes _____ no _____

(15) LIST WHAT PPE WAS INVOLVED AND DESCRIBE CIRCUMSTANCES OF FAILURE: _____

(16) DECONTAMINATION: (CHECK OFF) AT INCIDENT _____ AT STATION _____ NOT DONE _____

(17) MEDICAL TREATMENT RENDERED: (CHECK OFF) AT INCIDENT _____ AFTER INCIDENT _____ AT HOSPITAL _____

SUPERVISOR NAME (PRINT) _____

SUPERVISOR SIGNATURE _____

COMPANY ASSIGNED TO AT TIME OF EXPOSURE _____ SHIFT _____

EMPLOYEE SIGNATURE _____ DATE _____

ARCHIVED DATE _____

DISPOSITION: WHITE—EMPLOYEE HEALTH FILE YELLOW—ARCHIVES PINK—EMPLOYEE

91-38D Rev. 10/01
61582252849

Fire Personnel Toxic Exposure Form Instructions

LINE:

- (1-4) Self explanatory
- (5) Write in name of business or type of business if name not known.
EX: paper recycling facility
- (6) Put a check mark next to incident type.
- (7) Put a check mark next to activity and time spent doing that activity.
- (8) Self explanatory
- (9) Describe smoke color(s) at time of activity during exposure.
- (10) List all substance(s), chemical(s), product(s) exposed to with attention to correct spelling. **If the substance(s), chemical(s), product(s) is unknown then leave this section blank. The Toxic Exposure Officer will complete this section.**
- (11) Check off route of exposure. If skin is involved then list body parts exposed.
(I.E. right hand, left knee, right side of face)
- (12) List any symptoms experienced due to the exposure.
(I.E. nausea, eyes burning, sore throat, lungs irritated)
- (13,14) Self explanatory
- (15) List what PPE was involved with the exposure and describe the circumstances of the failure causing the exposure.
- (16) Check off
- (17) Check off where the medical treatment was rendered.

APPENDIX G

SAMPLE DIVERSITY AND INCLUSION STATEMENT

NVFC Diversity and Inclusion Statement

In principle and in practice, the National Volunteer Fire Council (NVFC) values and encourages diverse and inclusive participation within the fire and emergency services of its member organizations. As a network of fire and emergency services providers, we must take positive steps to promote diversity and inclusion by eliminating any vestiges of discrimination or unequal treatment including, but not limited to, on a basis of race, color, religion, sex, gender identity, sexual orientation, national origin, age, disability status, citizenship, genetic information, protected veteran status, or any other legally protected characteristic. To allow such discrimination or unequal treatment to persist, whether through active or passive facilitation, weakens our abilities to respond to our varied customer base and to act effectively as an organization.

It is important to maintain a fire and emergency service network where all member organizations are morally committed to ensuring the equality of opportunity and inclusivity for every individual. We all assume a personal responsibility that this equality of opportunity and inclusivity transcends throughout the fire and emergency services.

The words we speak and write as well as our actions play a significant role in the ability to achieve an inclusive environment. We must practice inclusive behaviors and educate others regarding the benefits and wisdom of inclusive behaviors while carrying out our missions. To gain the maximum benefit from our increasingly diverse communities and organizations, we must make first responders feel welcome and motivated to work their hardest and rise through the ranks, regardless of their individual characteristics. We must affirm that we work better together because of our differences, not despite them.

APPENDIX H

SAMPLE FIREFIGHTER/EMT POSITION DESCRIPTION

Firefighter/EMT Position Description

Nature and Scope

The firefighter/emergency medical technician (FF/EMT), as a fire district employee for the [Department Name], shall be able to perform all aspects of fire and EMS activities and operations of incidents.

The FF/EMT shall report to the fire chief, assistant fire chief, and the deputy fire chief and shall perform his/her duties under the deputy fire chief's general direction. In addition, the FF/EMT shall assume responsibility for the duties delegated to him/her by ordinances and/or policies and guidelines of the fire district.

Under general direction of the fire chief, assistant fire chief, and the deputy fire chief, the FF/EMT assists in the functions related to any of the following disciplines: fire suppression, emergency medical services, hazardous materials, fire prevention, training, and special projects or programs assigned.

The FF/EMT acts on behalf of the fire chief, assistant fire chief, and the deputy fire chief as required in supporting the overall objectives of the fire district and maintaining confidentiality of privileged information.

Supervision Received/Exercised

Guidance and direction will be provided by the fire chief, assistant fire chief, and the deputy fire chief. The FF/EMT exercises supervision of fire district personnel when assuming responsibilities of command on incidents.

Essential Duties and Responsibilities

The FF/EMT represents the fire district at various meetings including fire and county board meetings, county and state committees, community groups, and others.

The FF/EMT shall be able to perform the essential duties and possess the skills and qualifications of a firefighter's and EMT's job.

In addition, the duties and responsibilities of the position of the FF/EMT shall include, but are not limited to, the following:

- May assume command as the incident commander under the National Incident Management System and Incident Command System;
- Assist in developing short and long term objectives designed to protect life and property within the community;
- Provide monthly reports to the assistant fire chief and deputy fire chief regarding the fire operation activities and prepare a variety of other reports as appropriate, including the quarterly and annual report of activities;
- Attend meetings and training sessions both locally and outside the area to maintain and/or enhance knowledge, skills, techniques, management, or methodologies on all areas of fire operations and activities;
- Enforce the policies, guidelines, rules, and regulations of the fire district;
- Assist in the determination of origin and cause for all fires;
- Respond to alarms and may direct activities at the scene of major incidents; and
- Maintain a proactive working relationship with other county agencies, other fire and EMS agencies, and state committees to ensure the fire district is a leader in the fire and emergency medical services.

Required Knowledge, Skills, and Abilities

Knowledge

The FF/EMT shall have knowledge of the following:

- Geography of service area and surrounding areas, including hydrant locations, public utilities, and potentially hazardous occupancies;
- The Incident Command System;

- Current fire suppression and firefighting techniques, strategies and tactics, and safety practices involved in the fire suppression and all EMS and rescue operations;
- The principles and practices of effective supervision as it applies to the fire service; and
- Other agency operations and protocols.

Skills

The FF/EMT shall:

- Be skilled in performing firefighting/EMS duties and use of all equipment;
- Be skilled in performing basic vehicle and equipment maintenance;
- Be skilled to deal effectively with district patrons at all levels, vendors, representatives from various organizations, and the general public;
- Be effective in analytical and problem solving, decision making, and negotiations skills;
- Maintain effective stress and time management skills; and
- Be skilled in computers to produce reports, store data, and do filing.

Abilities

The FF/EMT shall have the following abilities:

- Ability to secure and maintain in-house and state certifications in fire and EMS services;
- Ability to command firefighters and equipment in emergency situations;

- Ability to make determinations as the best course of action responding to emergency situations;
- Ability to stay calm when working under extremely stressful and chaotic situations;
- Ability to understand written policies, procedures, and instructions;
- Ability to prepare and present accurate and reliable reports containing findings and recommendations regarding fire operations;
- Ability to set priorities both at the office and during emergency situations; and
- Ability to communicate well both orally and in writing.

Qualifications

The FF/EMT must meet the following prerequisites:

- Firefighter in-house/state certification;
- Nationally-registered emergency medical technician or higher;
- [State] registered emergency medical technician or higher;
- Vehicle extrication certification;
- Hazardous materials operations;
- National Incident Management System 700 certification;
- Incident Command System 100, 200, and 300 certifications;
- High school diploma or equivalent; and
- Possession of a valid [State] Class D driver’s license.

The job description which appears above is intended to be sufficient merely to identify the position and be illustrative of the kinds of duties that may be assigned to the positions allocated and should not be interpreted to describe all duties that may be required of employees holding a position assigned to this job description.

I certify that I have read and understand the responsibilities assigned to this position.

Volunteer/Employee Signature

Date

Printed Name

Approval: Commissioner

Effective Date

Approval: Commissioner

Approval: Commissioner

ADDITIONAL RESOURCES

Each individual has the responsibility for changing the safety culture of the fire service and reducing line-of-duty injury, occupational health risk, and death. National fire service organizations provide training and resources concerning safety and how to effect safety culture change. However, without individual effort, these resources remain just tools in the toolbox. This listing provides an overview of some of the resources available to assist in changing the fire and emergency services culture.

Organizations

International Association of Fire Chiefs (IAFC)

www.iafc.org

The IAFC is the national organization representing the leadership of firefighters and emergency responders.

International Code Council (ICC)

www.iccsafe.org

The ICC develops model codes and standards to keep people safe in the built environment. The family of codes includes the *International Building Code*, the *International Fire Code*, the *International Mechanical Code* (where fireplaces are regulated), and others.

National Fallen Firefighters Foundation (NFFF)

www.firehero.org

The NFFF honors America's fallen firefighters, provides resources for dealing with a line-of-duty death, and works within the fire service community to reduce firefighter deaths and injuries. The NFFF also worked with representatives of the major fire service constituencies to develop the 16 Firefighter Life Safety Initiatives to provide a pathway for changing the culture of the fire service with regard to safety (www.everyonegoeshome.com/16-initiatives).

National Fire Protection Association (NFPA)

www.nfpa.org

The NFPA has over 300 consensus-based codes and standards related to the fire service industry. All NFPA standards can be accessed online for free. The NFPA also provides outreach and educational materials on fire prevention and life safety topics.

National Institute of Occupational Safety and Health (NIOSH)

www.cdc.gov/niosh/firefighters

NIOSH provides many resources and research pertaining to the health and safety of structural and wildland firefighters.

National Volunteer Fire Council (NVFC)

www.nvfc.org

The NVFC represents the interests of the volunteer fire, emergency medical, and rescue services and provides resources, education, advocacy, and programs to support volunteer emergency responders and departments.

U.S. Fire Administration (USFA)

www.usfa.fema.gov

The USFA provides leadership, research, and resources to fire and emergency service stakeholders pertaining to prevention, preparedness, and response. The National Fire Academy (NFA) is also part of the USFA.

Vision 20/20

www.strategicfire.org

Established by the Institution of Fire Engineers USA Branch, Vision 20/20 guides a national strategic planning process for fire loss prevention.

Leadership

Executive Fire Officer Program

NFA

www.usfa.fema.gov/training/nfa/programs/efop.html

This training program provides senior fire officers with a broad perspective on various facets of fire and emergency services administration. It includes four graduate and upper-division baccalaureate equivalent courses taken over four years.

Firefighter Safety Through Advanced Research (FSTAR)

IAFC

www.fstaresearch.org/about-fstar

The FSTAR program uses scientific research to develop tools to positively impact firefighter health, safety, fire prevention efforts, training, and community safety efforts.

Funding Alternatives for Emergency Medical and Fire Services

USFA

www.usfa.fema.gov/downloads/pdf/publications/fa_331.pdf

Many fire and EMS departments do not receive adequate funding through traditional methods such as local government budgets and donations. This guide looks at alternate sources for funding department operations, equipment, and initiatives.

Life Safety Initiative #1 – Culture Change

NFFF

www.everyonegoeshome.com/16-initiatives/1-cultural-change

Life Safety Initiative #1 is to define and advocate the need for a cultural change within the fire service relating to safety by incorporating leadership, management, supervision, accountability, and personal responsibility.

National Safety Culture Change Initiative

IAFC and USFA

www.ffsafetyculture.org

Led by the IAFC in partnership with USFA, the National Safety Culture Change Initiative advocates for the need for a health and safety culture change within the fire service. The initiative identifies individual behaviors and organizational factors that adversely impact firefighter safety and health and strategies to mitigate these effects. A report, training materials, videos, and other resources are available.

NFPA Standards

NFPA

www.nfpa.org

The NFPA develops consensus standards for the fire service. Included are many standards for leadership, such as *NFPA 1521: Standard for Fire Department Safety Officer Professional Qualifications* and *NFPA 1021: Standard for Fire Officer Professional Qualifications*.

Understanding and Implementing Standards

NVFC and NFPA

www.nvfc.org

The NVFC and NFPA developed a series of guides to help departments understand and implement NFPA standards. These include *NFPA 1851: Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting*; *NFPA 1407: Standard for Fire Service Rapid Intervention Crews*; *NFPA 1021: Standard for Fire Officer Professional Qualifications*; *NFPA 1500: Standard on Fire Department Occupational Safety and Health Program*; and *NFPA 1720: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments*.

Volunteer Firefighter Health and Safety Priorities

NVFC

www.nvfc.org/b-e-s-t-practices-for-health-and-safety

These priorities for volunteer firefighter health and safety are divided into four main focus areas of behavior, equipment, standards and codes, and training. The resulting B.E.S.T. practices should be followed by all departments to keep their personnel healthy and safe.

Vulnerability Assessment Program

NFFF and USFA

<https://www.firevap.org>

The NFFF and USFA, with support from Honeywell, developed this tool to help departments evaluate risk and reduce the threat of firefighter injuries and deaths.

Personal Accountability

Courage to be Safe®

NFFF

www.everyonegoeshome.com/training/courage-safe-training

This training program, which includes online, in-person, and train-the-trainer options, is designed to change the culture of the fire service so that loss of firefighters is no longer accepted as a normal occurrence. The focus is on changing fundamental attitudes and behaviors in order to prevent line-of-duty deaths.

Everyone Goes Home Program®

NFFF

www.everyonegoeshome.com

The Everyone Goes Home Program® provides free training, resources, and programs to prevent firefighter line-of-duty deaths and injuries.

E.V.E.N.T. Reporting System

Center for Leadership, Innovation, and Research in EMS

<http://event.clirems.org/>

The E.V.E.N.T. tool collects data involving EMS safety events in order to develop policies, procedures, and training programs that will improve the safe delivery of EMS.

Firefighter Fatality Investigation and Prevention Program

NIOSH

www.cdc.gov/niosh/fire

Through this program, NIOSH conducts independent investigations of firefighter line-of-duty deaths and provides recommendations to prevent future deaths and injuries.

Fire Safety Culture: Who Protects Firefighters from Firefighters?

NFA

<https://apps.usfa.fema.gov/nfacourses/catalog/details/10471>

This two-day NFA course is designed to assist emergency services personnel in defining and advocating organizational change relating to safety within the fire service.

Life Safety Initiative #2 – Accountability

NFFF

www.everyonegoeshome.com/16-initiatives/2-accountability

Life Safety Initiative #2 is to enhance the personal and organizational accountability for health and safety throughout the fire service.

Life Safety Initiative #4 – Empowerment

NFFF

www.everyonegoeshome.com/16-initiatives/4-empowerment

Life Safety Initiative #4 states that all firefighters must be empowered to stop unsafe practices.

Life Safety Initiative #9 – Fatality, Near-Miss Investigation

NFFF

www.everyonegoeshome.com/16-initiatives/9-fatality-near-miss-investigation/

Life Safety Initiative #9 is to thoroughly investigate all firefighter fatalities, injuries, and near misses.

Leadership, Attitude, Culture, and Knowledge (LACK)

NFFF

www.everyonegoeshome.com/training/leadership-accountability-culture-knowledge-lack-training/

This course examines the root causes of firefighter deaths; the role of leadership, attitude, culture, and knowledge that are contributing factors; and what can be done to address these factors and create change in the safety culture of the fire service.

National Firefighter Near Miss Reporting Program

IAFC

www.firefighternearmiss.com

Launched in 2005, this program collects and shares firefighter near-miss experiences so that all members of the fire service can use the lessons learned to improve their safety and prevent injury and death.

Safety Stand Down

IAFC and NVFC

www.SafetyStandDown.org

Cosponsored by the IAFC and NVFC, Safety Stand Down annually takes place the third week of June and encourages fire departments to suspend all nonemergency activities for the week and focus on training and education related to safety.

Community Risk Reduction

Community Risk Reduction

NFFF and Vision 20/20

www.everyonegoeshome.com/training/community-risk-reduction-crr

The NFFF and Vision 20/20 created this training to present a model community risk reduction management program, including the development of strategic goals, that any fire department can adapt to local situations.

Community Risk Reduction

Vision 20/20 and International Fire Service Training Association (IFSTA)

<http://strategicfire.org/community-risk-reduction/ifstavisision-2020-training/>

This online training provides an overview of community risk reduction as a way to create a safer community, including the basic elements to prepare a plan and an understanding and motivation for implementing community risk reduction practices.

Community Risk Reduction Portal

Vision 20/20

<http://strategicfire.org/crr>

Vision 20/20 provides a series of tools and resources to help with community risk reduction programs, including the community risk reduction logo, a fire safety materials generator, a home safety visit guide and app, community risk reduction assessment and planning guides, videos, and more.

Educational Messages Desk Reference

NFPA

www.nfpa.org/public-education/resources/educational-messaging

This reference guide provides educators with consistent language to use with the public.

Fire Adapted Communities

Fire Adapted Communities Coalition

www.fireadapted.org

Fire Adapted Communities offers information and specific actions to reduce the risks of wildfire.

Fire Corps Guide to Fire and Life Safety Education

NVFC

www.firecorps.org

This guide provides information on utilizing nonoperational volunteers to provide fire and life safety education in the community. A course entitled Fire Corps in Public Education is also available in the NVFC Virtual Classroom (www.nvfc.org/classroom).

Fire Corps Home Safety Checklist

NVFC

www.firecorps.org

Fire Corps provides a home safety checklist as well as smoke alarm installation resources to help departments and Fire Corps teams implement a smoke alarm and home safety check program. A course entitled Conducting Home Safety Checks is also available in the NVFC Virtual Classroom (www.nvfc.org/classroom).

Fire Is Everyone's Fight

USFA

www.usfa.fema.gov/prevention/outreach/fief

This national initiative is designed to unite the fire service, life safety organizations, and other stakeholders in an effort to reduce home fire injuries, deaths, and property loss by changing how people think about fire and fire prevention.

Fire Prevention and Public Education

USFA

www.usfa.fema.gov/prevention

The USFA provides outreach materials and campaigns that local departments can use in their efforts to educate the public on fire prevention and life safety issues.

Fire Prevention and Public Education Exchange

USFA

www.usfa.fema.gov/data/library/collections/exchange.html

USFA has collected and cataloged a series of model prevention programs that can provide examples of a variety of community risk reduction programs that have produced measurable results. Local community risk reduction planners can browse through real programs that have been implemented by fire departments.

Fire Safety Trailer Curriculum

USFA

www.usfa.fema.gov/downloads/pdf/publications/fire_safety_trailer_curriculum.pdf

The USFA developed this curriculum in cooperation with the Centers for Disease Control and Prevention to provide age-appropriate methods to lead educational tours through a fire safety trailer.

Firewise Communities

NFPA

www.firewise.org

The Firewise Communities program encourages local solutions for safety by asking homeowners to take individual responsibility for preparing their homes before the next wildfire.

Home Fire Sprinkler Coalition

www.homefiresprinkler.org

The Home Fire Sprinkler Coalition is made up of a group of fire service and industry representatives to provide model educational and promotional materials for home fire sprinklers. The coalition provides a wide variety of resources, including instructions for developing side-by-side fire demonstration modules that show how effective fire sprinklers can be at controlling fires.

Learn Not to Burn® Curriculum

NFPA

www.nfpa.org/public-education/resources/education-programs/learn-not-to-burn

NFPA created the Learn Not to Burn® programs to reach preschool through second grade students using proven educational strategies.

Life Safety Initiative #14 – Public Education

NFFF

www.everyonegoeshome.com/16-initiatives/14-public-education

Life Safety Initiative #14 states that public education must receive more resources and be championed as a critical fire and life safety program.

Life Safety Initiative #15 – Code Enforcement and Sprinklers

NFFF

www.everyonegoeshome.com/16-initiatives/15-code-enforcement-sprinklers

Life Safety Initiative #15 states that advocacy must be strengthened for the enforcement of codes and the installation of home fire sprinklers.

Model Performance Measurement and Evaluation

Vision 20/20 and IFSTA

<http://strategicfire.org/community-risk-reduction/ifstavision-2020-training/>

This online learning program is available to help practitioners understand how to improve evaluation measures for community risk reduction programs.

NFPA Standards

NFPA

www.nfpa.org

The NFPA develops consensus standards for the fire service. Included are standards for community risk reduction programs, such as *NFPA 1452: Guide for Training Fire Service Personnel to Conduct Community Risk Reduction* and *NFPA 1300: Standard on Community Risk Assessment and Community Risk Reduction Plan Development*.

Ready, Set, Go!

IAFC

www.wildlandfirersg.org

This program is designed to help residents in the wildland–urban interface better understand the threat of wildfire, be prepared, and act early when a fire starts.

Senior Falls and Fire Prevention – Remembering When™

NFPA

www.nfpa.org/public-education/resources/education-programs/remembering-when

This model program for seniors combines essential fire and fall prevention messaging. Aging populations are at higher risk for fires and falls, and the *Remembering When* program improves safety for older adult audiences when delivered as designed.

Understanding and Utilizing the International Fire Code

NVFC and ICC

www.nvfc.org

This guide is intended for use by volunteer fire chiefs, officers, and firefighters to create a basic understanding of how to use a model fire safety code to ensure an acceptable level of safety for the public and firefighters.

Wildland Fire Assessment Program

NVFC

www.nvfc.org/wfap

A joint effort with the U.S. Forest Service, this program provides fire service volunteers with the training and tools they need to effectively conduct safety assessments for homes located in the wildland–urban interface and provide residents with recommendations to protect their property from wildfire.

Health and Wellness

A Fire Department’s Guide to Implementing NFPA 1582

IAFC

www.iafc.org

This guide helps departments understand and implement *NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments*.

A Healthcare Provider’s Guide to Firefighter Physicals

IAFC

www.fstaresearch.org/resource/?FstarId=11591

This guide assists healthcare providers in evaluating, treating, and monitoring the unique health and wellness needs of firefighters. Firefighters should provide this checklist to their primary care providers at their physical exams.

Critical Health and Safety Issues in the Volunteer Fire Service

NVFC and USFA

www.usfa.fema.gov/operations/ops_volunteer_fire_service.html

This report looks at the specific issues facing the volunteer fire service in terms of health and safety and identifies resources, tools, and best practices to help departments improve firefighter safety, well-being, and survival.

Fire Service Joint Labor Management Wellness-Fitness Initiative

IAFC and International Association of Fire Fighters (IAFF)

www.iaff.org/hs/Well/index.htm

This initiative provides a holistic and educational approach to fire service health and wellness programs. Components include a candidate physical ability test, a fire service peer fitness trainer certification, and an online resource that allows departments to learn from other departments that have created successful health, wellness, and fitness programs.

Firefighter Behavioral Health Alliance (FBHA)

www.ffbha.org

FBHA provides training to fire and EMS organizations focusing on behavioral health awareness and suicide prevention. Other resources include a firefighter/EMS suicide reporting system and a self-screening for suicidal ideations.

Firefighter Cancer Support Network (FCSN)

www.firefightercancersupport.org

FCSN provides resources to help raise awareness of firefighter cancer, actions for preventing or limiting the risks for cancer, and support to fire service members and their families in the event of a cancer diagnosis.

Fire Corps Guide to Providing Rehab

NVFC

www.firecorps.org

This guide provides information about utilizing nonoperational volunteers to provide incident rehab. An online course is also available in the NVFC Virtual Classroom (www.nvfc.org/classroom).

Heart-Healthy Firefighter Program

NVFC

www.healthy-firefighter.org

Because heart attack is the leading cause of on-duty deaths for firefighters, this program provides information, tools, and resources to help fire and emergency service personnel get and stay heart healthy.

Health and Wellness Guide for the Volunteer Fire and Emergency Services

NVFC and USFA

www.nvfc.org

This guide is designed to help department leaders overcome the barriers to health and wellness and develop and implement a successful department health and wellness program.

Life Safety Initiative #6 – Medical and Physical Fitness

NFFF

www.everyonegoeshome.com/16-initiatives/6-medical-physical-fitness

Life Safety Initiative #6 is to develop and implement national medical and physical fitness standards that are equally applicable to all firefighters, based on the duties they are expected to perform.

Life Safety Initiative #13 – Psychological Support

NFFF

www.everyonegoeshome.com/16-initiatives/13-psychological-support

Life Safety Initiative #13 states that firefighters and their families must have access to counseling and psychological support.

Local Assistance State Team (LAST) Program

NFFF

www.firehero.org/resources/department-resources/programs/local-assistance-state-team

The LAST program provides trained personnel on the ground to assist departments and families in the immediate aftermath of a line-of-duty death.

NFPA Standards

NFPA

www.nfpa.org

The NFPA develops consensus standards for the fire service. Included are many standards for responder health and wellness, such as *NFPA 1500: Standard for Occupational Safety and Health Program*, *NFPA 1582: Standard on Comprehensive Occupational Medical Program for Fire Departments*, *NFPA 1583: Standard on Health-Related Fitness Programs for Fire Department Members*, *NFPA 1584: Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises*, and *NFPA 1851: Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Firefighting and Proximity Firefighting*.

Securing Sponsors for Department Health and Wellness Programs

NVFC

www.nvfc.org

This toolkit goes through the steps needed to identify, reach out to, and follow-up with potential sponsors and donors of a department health and wellness initiative.

Serve Strong

NVFC

www.nvfc.org/ServeStrong

Firefighters are tough, but so are the challenges they face. The NVFC wants all firefighters, emergency medical providers, and rescue personnel to serve strong for themselves, their crew, and all who depend on them. Resources and training are available on a variety of health and safety topics.

Share the Load™

NVFC

www.nvfc.org/help

Behavioral health is just as important as physical health. This program provides resources to help departments and responders proactively address behavioral health. The Fire/EMS Helpline, administered by American Addiction Centers, is a free, confidential resource available to all firefighters, EMS personnel, and their families struggling with behavioral health issues: 1-888-731-FIRE (3473).

The Effects of Sleep Deprivation on Fire Fighters and EMS Responders

IAFC

www.iafc.org/topics-and-tools/resources/resource/sleep-deprivation

Supported by the USFA and with assistance from the faculty of the Oregon Health and Science University, this report and corresponding computer-based educational program presents background information on sleep physiology, health and performance consequences of sleep deprivation, and countermeasures for sleep deprivation.

The First Twenty

www.thefirsttwenty.org

This holistic program addresses the unmet performance, safety, and health needs of firefighters. It includes fitness, wellness, and educational components to overcome the unique physiological and psychological challenges that firefighters face.

Vault Exposure Tracker

www.vaultexposuretracker.com

Vault Exposure Tracker is a service that provides an easy, online platform for firefighters to keep track of their exposures. Options are available at both the individual level and the department level.

Emergency Response and Incident Scene Safety

Emergency Responder Safety Institute (ERSI)

Cumberland Valley Volunteer Firemen's Association

www.respondersafety.com

ERSI provides educational materials and training to improve the safety of emergency responders while they are working on roadway incidents. This includes a learning network with online courses relating to traffic incident management and safe roadway incident operations.

Emergency Vehicle Safe Operations for Volunteer and Small Combination Emergency Service Organizations

NVFC

www.nvfc.org

This guide is designed to prevent first responder deaths and injuries caused by vehicle-related accidents; it includes best practices, example standard operating procedures/guidelines, and behavior motivation techniques.

Emergency Vehicle Safety Initiative

USFA

www.usfa.fema.gov/operations/ops_vehicle.html

This report provides the results of a study of public safety emergency vehicle and roadway operations as well as best practices and recommendations for safer emergency vehicle and roadway incident response.

Fire Service Operational Safety

USFA

www.usfa.fema.gov/operations/ops_safety.html

The USFA provides research, guides, and other resources to help create safer operational environments for firefighters.

Hazardous Materials Fusion Center

IAFC

www.hazmatfc.org/alert

Supported by the Assistance for Local Emergency Response Training (ALERT) grant, this web site provides hazmat training and resources for volunteer or remote emergency responders. Specific focus areas include emergency response activities involving the transportation of crude oil, ethanol, and other flammable liquids by rail.

Improving Apparatus Response and Roadway Operations Safety in the Career Fire Service

IAFF

www.iaff.org/hs/EVSP/home.html

This training program and corresponding instructor guide and resources, created through a cooperative agreement with USFA, provides basic strategies to safeguard emergency responders' health and safety while they are responding to and returning from incidents and operating on roadways.

International First Responder Seat Belt Pledge

NFFF

www.everyonegoeshome.com/seatbelts

Initially developed by Dr. Burt Clark of the National Fire Academy, the International First Responder Seat Belt Pledge challenges firefighters and emergency personnel to improve their safety by wearing seat belts.

Let's Make a Difference: Best Practices to Minimize Injuries and Deaths while Using POV for ESO Responses

IAFC and NVFC

www.nvfc.org

This guide provides model policies and recommended procedures that fire departments can adopt to minimize injuries and deaths while responders are using their own vehicles during emergencies.

Life Safety Initiative #3 – Risk Management

NFFF

www.everyonegoeshome.com/16-initiatives/3-risk-management

Life Safety Initiative #3 is to focus greater attention on the integration of risk management with incident management at all levels, including strategic, tactical, and planning responsibilities.

Life Safety Initiative #5 – Training and Certification

NFFF

www.everyonegoeshome.com/16-initiatives/5-training-certification

Life Safety Initiative #5 is to develop and implement national standards for training, qualifications, and certification (including regular recertification) that are equally applicable to all firefighters based on the duties they are expected to perform.

Life Safety Initiative #11 – Response Policies

NFFF

<https://www.everyonegoeshome.com/16-initiatives/11-response-policies/>

Life Safety Initiative #11 states that national standards for emergency response policies and procedures should be developed and championed.

NFPA Standards

NFPA

www.nfpa.org

The NFPA develops consensus standards for the fire service. Included are many standards for emergency response and incident scene safety, such as *NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, *NFPA 1001: Standard for Fire Fighter Professional Qualifications*, *NFPA 1002: Standard for Fire Apparatus Driver/Operator Professional Qualifications*, *NFPA 1006: Standard for Technical Rescuer Professional Qualifications*, *NFPA 1051: Standard for Wildland Firefighting Personnel Professional Qualifications*, *NFPA 1072: Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications*, *NFPA 1091: Standard for Traffic Control Incident Management Professional Qualifications*, and *NFPA 1500: Standard for Occupational Safety and Health Program*.

National Institute of Standards and Technology (NIST)

www.nist.gov/topics/resilience

NIST conducts research in a multitude of areas, including resilience research that focuses on the impact of multiple hazards on buildings and communities and on post-disaster studies that can provide the technical basis for improved standards, codes, and practices. Fire topics include fire dynamics and science, firefighting, fire risk reduction, structural fire resistance, wildland–urban interface fire, and others.

National Traffic Incident Management Responder Training

Federal Highway Administration

www.nhi.fhwa.dot.gov

As a part of the Strategic Highway Research Program (SHRP2), this online training enhances quick clearance efforts and improves the safety of responders and motorists. An in-person version of the training is also available, as is a course through the National Fire Academy. Learn more about SHRP2 and access additional program resources at www.fhwa.dot.gov/goshrp2.

United Laboratories (UL)

<http://industries.ul.com/fire-suppression>

UL conducts fire safety testing for manufacturers, regulatory agencies, the fire safety community, and other stakeholders.

Recruitment and Retention

Fire Corps™

NVFC

www.firecorps.org

Fire Corps connects community volunteers with their local fire department to perform nonoperational functions, such as administration, fire prevention education, community risk reduction, fundraising, vehicle and equipment maintenance, rehab and canteen services, and any other nonemergency task the department needs.

Make Me A Firefighter™ Campaign

NVFC

<http://portal.nvfc.org>

Departments can register for this free campaign to post their volunteer opportunities in a national, searchable database and access a variety of ready-to-use volunteer recruitment tools, including customizable recruitment materials, social media tools, an event planner, a recruit tracker, training, and more. Potential volunteers can visit www.MakeMeAFirefighter.org to find a local volunteer opportunity in the database.

National Junior Firefighter Program

NVFC

www.nvfc.org/juniors

Departments looking to attract the next generation of firefighters can use this program to start, expand, or manage a local junior firefighter program. Youth can use the program to find a local program, track their hours of service, and access additional resources.

Staffing for Adequate Fire and Emergency Response (SAFER) Grants

Federal Emergency Management Agency

www.fema.gov/staffing-adequate-fire-emergency-response-grants

The federal SAFER grant is designed to increase the number of trained, frontline firefighters available in communities. Grant funds can be used to hire personnel and recruit and retain volunteer personnel.

What to Expect: A Guide for Family Members of Volunteer Firefighters

NVFC

www.nvfc.org

Joining the volunteer fire service impacts not only the individual, but also their entire family. This guide helps spouses, children, parents, siblings, and significant others of firefighters navigate the lifestyle changes that come with having a volunteer in the family. It provides information and guidance to help all involved keep family relationships strong and adapt to the fire service lifestyle.

Training

The Fire and Emergency Services Higher Education (FESHE) Initiative

USFA

www.usfa.fema.gov/training/prodev/about_feshe.html

The FESHE curriculum is offered at colleges and universities across the United States. Of particular relevance to this guide is the FESHE course *Principles of Fire and Emergency Services Safety and Survival*, which introduces the basic principles of the 16 Firefighter Life Safety Initiatives and the need for changing the culture of the fire service to focus on safety.

IAFC Academy

IAFC

www.iafcacademy.org

The IAFC Academy provides online courses on a variety of topics, including the National Safety Culture Change Initiative.

National Fire Academy (NFA)

USFA

www.usfa.fema.gov/training/nfa

The NFA provides free training to members of the fire and emergency services online; on campus in Emmitsburg, Maryland; and throughout the nation. Courses cover a wide range of topics, including those covered in this guide.

NFPA Standards

NFPA

www.nfpa.org

The NFPA develops consensus standards for the fire service. Included are many standards for developing training programs, such as *NFPA 1403: Standard on Live Fire Training* and *NFPA 1451: Standard for a Fire and Emergency Service Vehicle Operations Training Program*.

NVFC Virtual Classroom

NVFC

www.nvfc.org/classroom

The NVFC Virtual Classroom provides dozens of courses on a variety of topics, including health and wellness, safety, recruitment, retention, leadership, preparedness and prevention, and more.



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