



Presumptive Coverage for Firefighters and Other First Responders

EXECUTIVE SUMMARY

In many jurisdictions, workers compensation (WC) compensability rules for firefighters and other first responders have been expanded to account for the potential increased risk inherent in firefighters' employment. As new or revised statutory provisions regarding firefighter presumptions are introduced, NCCI receives requests to estimate the potential cost impacts and consequences of such legislative changes to jurisdictions' WC systems.

NCCI generally expects that the enactment of such presumptions will result in increases in workers compensation costs; however, the extent of such increases is difficult to estimate due to significant data limitations, which include the scope of data reported to NCCI and variation in results of published studies on occupational disease and firefighters.

This paper describes the data limitations, the variety of firefighter presumptions being introduced and/or enacted in certain jurisdictions, including covered diseases and restrictions, and additional considerations when determining the impact of firefighter presumptions on a jurisdiction's workers compensation system.

In this paper, the term "presumption" generally refers to a *rebuttable* presumption; i.e., it may be overcome by evidence to the contrary.

In addition, this paper cites some observations from firefighter cancer claim data reported to NCCI. When observing the number of firefighter cancer claims in a state along with that jurisdiction's statutes vis-à-vis other jurisdictions, it appears that the administration and judicial interpretation of statutes plays a significant role in determining how often firefighters are eligible for and receive WC benefits for cancer.

Note: Most WC presumption laws apply beyond firefighters to an array of first responders, such as police officers and emergency medical personnel. While this paper focuses on firefighters, many of the key issues discussed apply to first responders in general. A summary chart of presumptions for cancer and other diseases for firefighters and other first responders for NCCI jurisdictions is provided at the end of this paper. (For simplicity, throughout the paper we will typically reference "firefighters.") The chart is for WC presumptions only; some states have presumptions for pension and other benefits outside the WC system.

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BACKGROUND AND OBJECTIVES

The idea of providing additional workers compensation benefits for firefighters has been around since the 1970s; however, an increasing number of jurisdictions have proposed and enacted laws over the last decade mandating that firefighters diagnosed with certain diseases be presumed to have contracted such diseases in the course and scope of employment. Typically, in WC insurance, when an employee is diagnosed with a disease or injury, the employee must prove that the disease or injury arose out of and in the course of employment to receive WC benefits. If, however, a statutory presumption of compensability exists, and the worker meets certain requirements, then the employee's injury or disease is presumed to have arisen out of and in the course of employment. Currently, most jurisdictions have firefighter presumption laws for cancer and/or other diseases.¹

As new or revised statutory provisions regarding firefighter presumptions are introduced, NCCI receives requests to estimate the potential cost impacts and consequences of such legislative changes to jurisdictions' WC systems. Estimating the cost impact of a legislative change to a WC system involves two main components: an estimation of how many new claims are expected to be compensated and an estimate of how much those newly compensable claims will cost. For the estimated cost impact of firefighter presumptions, such approximations have proven to be challenging due to data limitations and varying conclusions in published studies on the link between certain occupational diseases and the firefighting profession. However, despite these limitations, understanding the potential impact of proposed firefighter presumptive compensability is essential because it could result in a significant increase in WC costs for firefighter classifications as well as unintended consequences to a WC system. This study discusses the challenges that arise when estimating the cost impact of firefighter presumption bills and highlights the key issues to be considered when such legislation is proposed.

DATA LIMITATIONS

There are several data limitations that make it difficult for NCCI to explicitly quantify the cost impact of firefighter presumption legislation. For the data that is reported to NCCI, the main difficulty is that relatively little statistical data on firefighter WC experience is reported because firefighters are primarily employed by municipalities and political subdivisions, which often self-insure their WC exposure. The self-insured market is not required to report data to NCCI, so career firefighter payroll data reported to NCCI only accounts for an estimated 24% of career firefighter (i.e., excluding volunteer) payroll across all NCCI jurisdictions.^{2,3} However, these percentages vary widely by jurisdiction.

Another data limitation is the inability to differentiate claims where compensability is determined based on a presumption versus claims where compensability is determined based on general standards. Even if a change in claim filings occurs after a presumption becomes effective, consideration would need to be given to the possibility that a claim deemed compensable under a statutory presumption of benefits may have been found compensable even if the presumption did not exist.

Moreover, many of the occupational diseases typically included in legislative proposals providing presumptive coverage to firefighters have long latency periods. Therefore, it may take a number of years before claim activity associated with firefighter occupational diseases emerges in the data available to NCCI (which is already limited given that many of these risks are self-insured and do not report data to NCCI).

Another resource often used in actuarial analysis is industry data. In the past, NCCI has aimed to quantify the expected number of newly compensable claims resulting from the introduction of a presumption by using incidence rates of certain

¹ Sources: <http://www.iaff.org/HS/PSOB/infselect.asp>, <http://client.prod.iaff.org/#contentid=48598>, and <https://www.firstrespondercenter.org/cancer/toolsresources/presumptive-legislation-firefighter-cancer-state/>. Some of the statutes regarding firefighter presumptions are located under General Provisions or Retirement/ Pension system laws rather than WC laws and may not be applicable to WC.

² NCCI jurisdictions include AK, AL, AR, AZ, CO, CT, DC, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MO, MS, MT, NC, NE, NH, NM, NV, OK, OR, RI, SC, SD, TN, TX, UT, VA, VT, and WV.

³ Based on the amount of payroll (basic unit of measurement in workers compensation) collected by NCCI compared payroll derived from data reported by the US Bureau of Labor Statistics (BLS). Annual payroll was calculated by multiplying the Occupational Employment Statistics published hourly mean wage by 2,080 hours, consistent with the method used by the BLS. Note that volunteer firefighters, who make up the majority of firefighters in some states, are not included in the analysis.

diseases for firefighters based on external studies and data. The lack of consistently available incidence rates, as well as the variation of conclusions in published studies on the relationship between firefighters and certain diseases, creates uncertainty when considering the potential increased risk of particular diseases among firefighters.

Numerous studies have examined the relationships between the job duties of firefighters, exposure to certain toxins, and contraction of specific occupational diseases. The conclusions of several studies, with varying results, are summarized below:

- In 2009, a study on cancer among firefighters published by the National League of Cities (NLC) found that “there is a lack of substantive scientific evidence currently available to confirm or deny linkages between firefighting and an elevated incidence of cancer.”⁴
- In 2010, the International Association of Fire Fighters (IAFF) and US Fire Administration (USFA) jointly published a study focusing on respiratory diseases in firefighters. According to the study, respiratory disease among firefighters “is the result of a career of responding to fires and hazardous materials incidents; it is caused by breathing toxic smoke, fumes, biological agents, and particulate matter on the job.”⁵
- A review of literature of non-cancer occupational health risks in firefighters concluded that “none of the sets of papers reviewed showed any consistent association between the occupation of firefighter and any of a number of non-cancer disease and ill-health outcomes.”⁶
- In 2013, the National Institute for Occupational Safety and Health (NIOSH) published a study that analyzed cancer in career firefighters and concluded that there is a “small to moderate increase in risk for several cancer sites and for all cancers combined.”⁷
- A 2017 study of wildland firefighting found increased mortality for lung cancer, ischemic heart disease, and cardiovascular disease.⁸

Due to these data limitations and varying study conclusions, it is difficult to reasonably estimate the expected number of newly compensable claims resulting from a presumption implementation or modification. Additionally, data reported to NCCI yields a very limited number of cancer claims for all occupations, thereby creating further uncertainty with respect to the average cost associated with such claims.

The aforementioned data limitations also apply to other first responder classifications, e.g., police officers who are primarily employed by local governments, which are often self-insured. Moreover, other factors such as the lack of a statistical indicator for claims where compensability is determined based on a presumption, long latency periods of certain covered diseases, and the lack of information on incidence rates create difficulty in estimating the costs associated with enacting a presumption for many first responder classifications.

VARIETY OF FIREFIGHTER BILLS

Firefighter bills introduced and enacted to date vary significantly with respect to the types of covered diseases and the restrictions that apply to the presumption of compensability. Both aspects will influence the final impact of the firefighter presumption on jurisdictions’ WC systems. This section examines the different types of firefighter bills that have been introduced or enacted and analyzes the potential impact that each aspect could have on WC costs.

Diseases Covered

The types of diseases defined as occupational diseases for which the firefighter presumptive coverage applies most often fall into the following categories: cancer, lung and respiratory conditions, blood and infectious diseases, heart and vascular

⁴ “Assessing State Firefighter Cancer Presumptions Laws and Current Firefighter Cancer Research,” NLC, April 2009, <http://tkolb.net/firereports/presumptionreport2009.pdf>.

⁵ “Respiratory Diseases and the Fire Service,” USFA and FEMA, September 2010. Accessible through <https://ohsonline.com/Articles/2010/09/16/Report-Examines-Firefighter-Lung-Diseases.aspx>.

⁶ “Non-cancer occupational health risks in firefighters,” Institute of Occupational Medicine, <https://academic.oup.com/occmed/article-pdf/62/7/485/4392951/kqs116.pdf>, 2012.

⁷ “Mortality and cancer incidence in a pooled cohort of US firefighters from San Francisco, Chicago and Philadelphia” (1950–2009), NIOSH, <https://oem.bmj.com/content/71/6/388> (October 2013).

⁸ “Wildland Fire Smoke Health Effects on Wildland Firefighters and the Public,” FIRESCIENCE.GOV, <https://wildfiretoday.com/documents/FirefighterSmokeHealthRisk.pdf> (June 2017).

conditions, and mental injuries. The frequency (how often a disease or injury occurs) and severity (WC cost for a disease or injury) of each of these conditions vary significantly, with each playing an important role in the ultimate cost impact associated with such legislation.

CANCER

Of the 38 jurisdictions in which NCCI is a rating or advisory organization, approximately 19 have a WC presumption available to firefighters diagnosed with various types of cancer.⁹ The specific requirements needed to qualify for the cancer presumption in each jurisdiction play an important role in the ultimate cost of providing such coverage for firefighters.

Several jurisdictions use a broad definition of cancer, such as a cancer that develops when a “person was exposed, while in the course of employment, to a known carcinogen....”¹⁰ The language sometimes used is cancer that is “caused by exposure to heat, radiation, or a known or suspected carcinogen.” This language may be considered as somewhat subjective in that a physician or an adjudicator may need to use judgment to determine whether a type of cancer could be caused by something other than the listed exposures if the presumption is contested. In some of the jurisdictions utilizing this language, a determination must be made by the International Agency for Research on Cancer as to the potential for cancer resulting from “suspected carcinogens.” Other jurisdictions list the types of cancers presumed to have been related to firefighting.

In general, broad definitions may result in a larger impact on WC costs because there is more room for interpretation compared to a jurisdiction where the presumption provides a comprehensive list of covered diseases. Such potentially subjective language could also lead to increased litigation costs and a possible broadening of the definition of occupational diseases to include diseases that are less likely to result from employment.

The following are key considerations applicable to cancer presumptions:

- The prevalence of cancer varies widely depending on the type of cancer but, in general, cancer is relatively common. According to the American Cancer Society, the risks of developing and dying from cancer are 40% and 22%, respectively, for males and 38% and 19%, respectively, for females.¹¹
- Cancer is ranked as one of the most expensive medical conditions per person according to the US Department of Health & Human Services, although the cost of a cancer claim varies widely depending on the type of cancer and the stage of diagnosis.¹² In addition to medical costs, a WC claim may include lost-wage benefits, litigation expenses, and possibly survivor and burial benefits.
- Cancer tends to have a long latency period, and the frequency of such claims is difficult to predict. This creates uncertainty regarding the number of claims expected to emerge and the ultimate costs associated with those claims.

Data available to NCCI contains approximately 100 cancer claims occurring since 2004 for firefighters. Approximately three quarters of these cancer claims come from Colorado, Maryland, and Oregon. The following are some of the potential differences in these states that may result in them having the vast majority of cancer claims in NCCI’s data.¹³

- In Colorado, C.R.S. 8-41-209, enacted in 2007, is similar to several other presumption statutes regarding restrictions on cancer presumptions. For example, the firefighter must have worked for at least five years and was not known to have cancer when they began work. The presumption could be rebutted if it could be shown by a preponderance of medical evidence that the condition did not occur on the job. However, it has been suggested that Colorado courts interpreted the presumption law inconsistently after its implementation.¹⁴ In 2016, the Colorado Supreme Court opined that the

⁹ NCCI jurisdictions in which a WC cancer presumption exists for at least one type of first responder as of 11/1/2018: AK, AZ, CO, DC, ID, IL, LA, MD, ME, NH, NM, NV, OK, OR, TX, UT, VA, VT, and WV.

¹⁰ Nevada NRS 617.453.

¹¹ “Lifetime Risk of Developing or Dying From Cancer,” American Cancer Society, <https://www.cancer.org/cancer/cancer-basics/lifetime-probability-of-developing-or-dying-from-cancer.html> (Last Revised: January 4, 2018).

¹² “The High Concentration of U.S. Health Care Expenditures,” Agency for Healthcare Research and Quality, <http://www.ahrq.gov/research/findings/factsheets/costs/expriach/index.html>

¹³ The high frequency of claims in data available to NCCI for these states does not necessarily imply that these states have the majority of such claims since, as previously noted, data from certain states is of limited availability.

¹⁴ Flewelling, Harvey, “Colorado Supreme Court Clarifies Standard for Firefighter Cancer Claims,” <https://www.pinnacol.com/news/colorado-supreme-court-clarifies-standard-firefighter-cancer-claims> (June 1, 2016).

town of Castle Rock was not required to establish an alternate cause for the cancer to overcome the presumption.¹⁵ As a result of this decision, the rate of cancer claims may begin to decline in Colorado; however, this is an area for future research.

- Maryland LE §9-503 provided firefighters a presumption for certain cancers since 1985, and in 2012 the list of cancers was expanded by five, for a total of nine cancers. The presumption of coverage applies even if the cancer manifests itself after retirement.¹⁶ While there is a presumption, it is rebuttable.¹⁷ However, there is anecdotal evidence that in practice, the presumption is very difficult to overcome in Maryland.¹⁸
- Oregon statute 656.802 as of 2010 provides non-volunteer firefighters employed for five or more years presumptions for twelve types of cancer, and denial of a claim must be based on “clear and convincing medical evidence” or proof that tobacco use “is the major contributing cause.” The burden of proof thrust onto employers may be great in practice, since in a non-cancer WC case, the Supreme Court of Oregon decided in *SAIF Corp. v. Thompson* that merely producing medical testimony, i.e., meeting the “burden of production,” was not enough; it had failed to meet the “burden of persuasion.”¹⁹ In another case, *In the Matter of the Compensation of Leonard C. Damian, II, Claimant*, the Workers’ Compensation Board ruled that employer/insurer was unable to rebut the presumption of compensability when there was evidence of some association of cancer and work.

While Texas has a firefighter cancer presumption law, “Over the past six years, more than 90 percent of the 117 workers compensation claims filed by Texas firefighters with cancer have been denied, according to the Texas Department of Insurance.”²⁰ Types of cancer are not enumerated in the statutes, and some critics allege that employers rely on a memo by the Texas Intergovernmental Risk Pool and only presume that three types of cancer are caused by firefighting: testicular, prostate, and non-Hodgkin’s lymphoma.²¹

LUNG/RESPIRATORY CONDITIONS

Approximately 18 of the jurisdictions in which NCCI is a rating or advisory organization offer presumptive coverage for lung and respiratory (or “pulmonary”) conditions, which often include tuberculosis.²²

The following are key considerations applicable to lung impairment presumptions:

- Chronic lower respiratory diseases are the fourth leading cause of death in the United States, accounting for 5.6% of deaths,²³ and death rates due to lung disease increased by nearly 30% between 1980 and 2014.²⁴
- Approximately 9 NCCI jurisdictions limit lung cancer presumptions by explicitly including a non-smokers clause in their statutes.²⁵ Under a non-smokers clause, in some jurisdictions, a current or recent user of tobacco may not be eligible

¹⁵ 2016 CO 26 Supreme Court Case No. 13SC560, *Industrial Claim Appeal Office and Mike Zukowski v. Town of Castle Rock and CIRSA*.

¹⁶ *Montgomery County v. Pirrone*, 674 A.2d 98 (Maryland Ct. Special Appeals 1996).

¹⁷ This was made clear in *City of Frederick v. Shankle*, 785 A.2d 749, n.4 (Maryland Ct. Appeals 2001).

¹⁸ Calvert, Scott and Luke Broadwater, “New firefighter benefits stoke workers’ comp debate,”

<http://www.baltimoresun.com/news/maryland/investigations/bs-md-workers-comp-presumptions-20140222-story.html>

(February 22, 2014).

¹⁹ Robinson, Thomas A., “Oregon: To Rebut Firefighter’s Presumption, Employer Must Meet Both Burden of Production and Burden of Persuasion,” <https://www.lexisnexis.com/LegalNewsRoom/workers-compensation/b/recent-cases-news-trends-developments/posts/oregon-to-rebut-firefighter-s-presumption-employer-must-meet-both-burden-of-production-and-burden-of-persuasion> (August 11, 2016).

²⁰ “Firefighters With Cancer Often Denied Workers’ Comp in Texas,” *Insurance Journal*, <https://www.insurancejournal.com/news/southcentral/2018/08/15/498134.htm> (August 15, 2018).

²¹ *Ibid*.

²² NCCI jurisdictions in which a WC lung/respiratory presumption exists for at least one type of first responder as of 10/31/2018: AK, AZ, DC, FL, IL, LA, MD, ME, NH, NM, NV, OK, OR, SC, TX, VA, VT, and WV. Also, UT grants a presumption for lung cancer.

²³ Heron, Melonie, “Deaths: Leading Causes for 2016,” Centers for Disease Control and Prevention, *National Vital Statistics Reports*, Volume 67, Number 6 (July 26, 2018), https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_06.pdf.

²⁴ “Large increase in recent decades in rate of death from chronic respiratory diseases in US,” Institute for Health Metrics and Evaluation” (September 26, 2017), <http://www.healthdata.org/news-release/large-increase-recent-decades-rate-death-chronic-respiratory-diseases-us>.

²⁵ NCCI jurisdictions with a non-smoking clause as of 10/31/2018: AK, AZ, IN, NH, NV, OR, TX, UT, and VT. WV enacted a non-smoking clause in 2018, but it is for leukemia, lymphoma, and multiple myeloma.

for the presumption, while in others, there is an absolute bar to eligibility. Although firefighters have a substantially lower smoking rate than the general population, such a clause may serve to mitigate any increase in the frequency of lung disease claims because smoking is a known cause of lung cancer and chronic obstructive pulmonary disease (COPD), the two most prevalent lung diseases.^{26,27} It is estimated that smoking is the cause of 90% of all lung cancer and COPD deaths.²⁸ The extent to which such mitigation in lung cancer claim frequency occurs would likely be dependent on the employer's or insurer's ability to prove the use of tobacco in order to rebut the presumption.

BLOOD/INFECTIOUS DISEASES

In addition to responding to fires, firefighters aid at the scene of traumatic events such as car accidents. Firefighters may be exposed to infectious and bloodborne diseases (communicable diseases) while helping victims of such events. To recognize this increased exposure, approximately 12 of the jurisdictions in which NCCI is a rating or advisory organization offer presumptive coverage for communicable diseases.²⁹ These presumptions most frequently cover HIV or AIDS, hepatitis, tuberculosis, and meningococcal meningitis.

- In a survey conducted in 2000, the IAFF reported that "1 out of every 50 firefighters was exposed to a communicable disease."³⁰
- There are standards set in place by the National Fire Protection Association (NFPA) to control the risk of exposure to communicable diseases,³¹ which may reduce the frequency of communicable disease claims in states that have adopted these standards.
- Whereas other diseases may have long latency periods, bloodborne and infectious diseases generally have a much shorter incubation period. A positive diagnosis for most of these diseases can occur within weeks of exposure.
- Whereas other diseases may be caused by any of several factors, bloodborne and infectious diseases typically have only one cause, which is exposure to bloodborne pathogens or airborne particulates from an infected individual. For this reason, it is likely that claims for these types of diseases would not be easily rebuttable by the employer/insurer.

HEART/VASCULAR CONDITIONS

Approximately 19 of the jurisdictions in which NCCI is a rating or advisory organization offer firefighters presumptive coverage for heart and vascular conditions.³² These presumptions typically cover hypertension and heart disease.

In general, determining work-related compensability of a heart condition is a complex issue because heart conditions are progressive in nature and can be caused by a preexisting condition or several other non-work-related factors, such as personal lifestyle and family history. It is even more difficult to connect a heart condition with employment if an event or series of events requiring unusual physical exertion or causing mental stress did not immediately precede the heart condition.

The statutory requirement in a handful of states also includes a restriction that unusual physical exertion or mental stress causing the heart condition must be outside of the normal duties of the occupation for the condition to be deemed compensable. Therefore, much of the physical exertion and stress associated with firefighting may not qualify as being outside of the normal duties of the occupation. In states that do not require the events that cause the heart condition to be outside of the normal duties of the occupation, linking a heart condition to employment may be easier for firefighters.

²⁶ Poston et al., "A national qualitative study of tobacco use among career firefighters and department health personnel," *Nicotine & Tobacco Research*, June 2012 Issue, <http://www.ncbi.nlm.nih.gov/pubmed/22180587>.

²⁷ "Respiratory Diseases and the Fire Service," USFA and FEMA, September 2010.

²⁸ "Health Effects of Cigarette Smoking," CDC, http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/ (August 2013).

²⁹ NCCI jurisdictions in which a WC blood/infectious disease presumption exists as of 10/31/2018: CO, DC, FL, IL, LA, ME, NM, NV, OK, TX, VA, and VT. UT's presumption is only for emergency medical services providers. In AL, the presumption is implied, and the firefighter must demonstrate that he or she was exposed to AIDS or hepatitis while in the line and scope of his or her employment.

³⁰ "2000 Death and Injury Survey," IAFF, <http://www.iaff.org/hs/PDF/2000%20D&I.pdf>.

³¹ "NFPA 1581," National Fire Protection Association, http://www.iaff.org/hs/Resi/infdis/Infectious_Diseases.htm (2004).

³² NCCI jurisdictions in which a WC heart/vascular condition presumption exists for at least one type of first responder as of 10/31/2018: AK, AZ, CT, DC, FL, IL, LA, MD, ME, NH, NM, NV, OK, OR, SC, TX, VA, VT, and WV.

Firefighters may be less likely than other employees to have preexisting heart conditions because, in order to be hired, they are often required to pass rigorous health and physical examinations. The introduction of a heart presumption will make it easier for firefighters to receive heart-impairment-related benefits by shifting the burden of proof from the employee to the employer. However, due to the physical exertion and stress associated with the firefighting profession, heart-related injuries may already have been compensated through general WC compensability standards, and an impact to WC costs may therefore be less prominent in this disease category than in other categories such as cancer and lung impairments.

The following are key considerations applicable to heart presumptions:

- This category of disease is prevalent among firefighters. Sudden cardiac death (usually from a heart attack) was the most common cause of on-the-job fatalities in the firefighting occupation in 2017, accounting for about half of the fatalities.³³
- Heart-related injury presumptions in some jurisdictions are restricted, such as a requirement that the heart impairment must occur within 24 or 72 hours of service in the line of duty for the presumption to be applicable. While these types of claims may already be compensated through general WC provisions, the introduction of such a presumption could result in additional claims being compensated because firefighters who would not otherwise have associated their heart disease with their employment may be motivated to file a claim under WC.

MENTAL INJURIES (PTSD AND OTHER)

Post-traumatic stress disorder (PTSD) and other mental injuries are not commonly compensable in WC but may be on the rise.³⁴ At least 23 NCCI jurisdictions currently recognize “mental-mental” injuries (a mental injury or disability that arises without a physical injury) as being compensable. Two states currently recognize such injuries only for certain occupations—firefighters and police officers in Connecticut and first responders in Florida.

Maine³⁵ and Vermont recognize mental-mental injuries for all occupations, but offer presumptive coverage only to firefighters, police officers, and EMTs.

In the last three years, several states have considered adding first responder presumptions for mental injuries, including Missouri, New Hampshire, and Utah (although the word “presumption” does not appear in the various versions of the failed legislation, Utah House Bill 209).³⁶

In 2018, Florida changed the evidentiary standard for a first responder PTSD injury from “clear and convincing evidence” to “a preponderance of the evidence,” but did not grant a presumption.

Presumptions Amongst the Types of First Responders

Most states that offer presumptive coverage to firefighters also offer similar coverage to other first responders. Presumptive compensability for other first responders is more often applicable to heart conditions, lung impairments, and infectious diseases than to cancer. The nature of employment for firefighters generally differs from that of other first responders and, as such, the risk of contracting certain occupational diseases may differ between firefighters and other first responders.

However, unless explicitly stated in relation to firefighters, the key factors addressed above regarding the frequency and severity of covered diseases and the mitigating effect of restrictions on the frequency of compensable claims would also affect the ultimate cost associated with the introduction of a presumption applicable to other first responders.

³³ “Firefighter Fatalities in the United States—2017,” National Fire Protection Association, <https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Emergency-responders/osFFF.pdf> (June 2018).

³⁴ Spidell, Bruce, “Post-Traumatic Stress Disorder in Workers Compensation,” NCCI, https://www.ncci.com/Articles/Pages/II_Insights-PTSD-Injuries.aspx (June 14, 2018).

³⁵ Maine’s statute implementing the presumption states that it is repealed on 10/1/2022.

³⁶ The introduced and amended versions of HB 209 proposed adding first responder language to 34A-2-402. Meanwhile, the substitute version would have established a working group to study first responder WC mental stress claims.

Restrictions

Many states place limitations on the applicability of a presumption or allow for a presumption to be rebutted under certain circumstances. Restrictions that are placed on a presumption, such as tenure requirements and age limitations, serve to narrow the scope of firefighters to whom the presumption would apply. The creation of such restrictions may partially mitigate the expected increase in compensable claims resulting from a presumption. The extent to which this mitigation may occur is dependent on workforce demographics and the employer's or insurer's ability to rebut a presumption, though it may also lead to increased litigation.

SERVICE REQUIREMENTS AND TIME LIMITATIONS

Many presumptions require a firefighter to serve a minimum number of years to qualify for presumptive coverage. The most typical service requirement is that the firefighter must have served a minimum of 5 years to qualify for the presumption, but the service requirement can range from 2 to 12 years and vary by the type of disease. To the extent that firefighters have less than the required number of years of service at the time such a disease manifests, these requirements could serve to limit the number of claims filed under a presumption. It is expected, however, that age is correlated with years of service; and since the risk for many of the occupational diseases covered by presumptions increases with age, the service requirement may only slightly mitigate an increase in the number of compensable claims due to a presumption. The long latency period of many diseases may also mitigate the impact of a service requirement.

Another way that states seek to limit the applicability of a presumption is by placing time limitations on the number of years following retirement or termination in which a firefighter can file a claim, for which a presumption of coverage would otherwise apply. This restriction can be specified as a set number of years or can fluctuate depending on the tenure of a firefighter.

AGE RESTRICTIONS

Some presumptions place age restrictions on the applicability of certain diseases. Age restrictions can significantly influence the number of newly compensable claims resulting from a presumption because the general risk of contracting many occupational diseases tends to increase with age.

The following are a few examples of age restrictions on firefighter presumptions:

- In Maine, the presumption is not applicable for cancer in retired firefighters diagnosed beyond 10 years of their last active employment or after age 70, whichever occurs first.³⁷ This restriction could result in fewer cancer claims being presumed compensable.³⁸
- In New Mexico, the presumption is not applicable for testicular cancer diagnosed after age 40.³⁹ This restriction could result in fewer claims being presumed compensable because about half of all firefighters are over the age of 40.⁴⁰
- In Oregon, the presumption is not applicable for prostate cancer diagnosed after age 55.⁴¹ This restriction could result in fewer claims being presumed compensable because the median age of diagnosis for prostate cancer is 66.⁴²
- In South Carolina, the heart and respiratory presumption is not applicable for firefighters over the age of 37.⁴³ This could mitigate any increase in newly compensable claims based on the presumption since the risk of heart attack rises significantly in men over 45 and women over 55.⁴⁴

³⁷ Title 39-A, §328-B:5.

³⁸ For example, the median age for diagnosis for colorectal cancer is 67. See "Cancer Stat Facts: Colorectal Cancer," National Cancer Institute, <http://seer.cancer.gov/statfacts/html/colorect.html>.

³⁹ 52-3-32.1.B.8.

⁴⁰ "US Fire Department profile 2012," National Fire Protection Association (October 2013), http://tkolb.net/FireReports/2013/US_DeptProfile2012.pdf.

⁴¹ 2017 ORS 656.802(5)(d).

⁴² "Cancer Stat Facts: Prostate Cancer," National Cancer Institute, <https://seer.cancer.gov/statfacts/html/prost.html>.

⁴³ §42-11-30.(A).

⁴⁴ Nordqvist, Christian, "How to Spot and Treat a Heart Attack," MedicalNewsToday.com, <http://www.medicalnewstoday.com/articles/151444.php> (July 26, 2017).

HEALTH EVALUATIONS

Many firefighter presumptions require a preemployment health examination to determine the employee's eligibility for those presumptions. The intent of this requirement is to prohibit coverage for diseases that were contracted prior to employment as a firefighter.

While this requirement may limit the number of claims eligible for the presumption, the examination's cost and its ability to detect the presence of an occupational disease both need to be considered when weighing the advantages of the requirement. For example, a general physical examination may not be successful in identifying cancer or heart disease at an early stage.

In Vermont, initial cancer screenings prior to employment, and any subsequent cancer screenings recommended by the American Cancer Society, must be conducted to be eligible for the cancer presumption.⁴⁵ Specialized screenings may more accurately detect diseases at an early stage, which would limit the number of compensable claims eligible for a presumption (by determining if a disease was contracted prior to employment) and may decrease the cost of compensable claims (because occupational disease diagnoses at an early stage may be less severe).

On the other hand, the health screenings and physical examinations may be costly to employers, and some screening tests have health risks that need to be considered.⁴⁶ Additionally, when a presumption is introduced, the preemployment examination requirement would likely not apply to currently employed firefighters who were not required to complete a physical examination prior to employment.

REBUTTING A PRESUMPTION

Presumptions for cancer and other diseases for firefighters and other first responders are generally rebuttable. The following are a few examples of statutory language concerning rebuttals:

- In Alaska, "This presumption of coverage may be rebutted by a preponderance of the evidence. The evidence may include the use of tobacco products, physical fitness and weight, lifestyle, hereditary factors, and exposure from other employment or nonemployment activities."⁴⁷
- In Indiana, the statute simply states, "The presumption ... may be rebutted by competent evidence."⁴⁸
- Similarly, in Louisiana, "This presumption shall be rebuttable by evidence meeting judicial standards."⁴⁹
- In Texas, "A presumption ... may be rebutted through a showing by a preponderance of evidence that a risk factor, accident, hazard, or other cause not associated with the individual's service as a firefighter or emergency medical technician caused the individual's disease or illness."⁵⁰

ADDITIONAL CONSIDERATIONS

In addition to the issues and key considerations mentioned thus far, there are several other factors that may directly or indirectly affect the outcome of a firefighter presumption. The remainder of this paper discusses various topics associated with firefighter presumption bills and additional matters to be considered when evaluating the impact of such presumptions.

Applicability to Volunteer Firefighters and Non-First Responder Occupations

In certain states that have enacted firefighter bills, the statutes explicitly exclude volunteer firefighters from the presumptive coverage that is offered to career firefighters.

⁴⁵ 21 V.S.A §601.(11)(E)(i).

⁴⁶ For example, colon cancer screening can cause tears in the lining of the colon. See "Cancer Screening Overview (PDQ®)–Patient Version," National Cancer Institute, <http://www.cancer.gov/cancertopics/pdq/screening/overview/patient#Keypoint3> (April 25, 2017).

⁴⁷ §23.30.121.(a).

⁴⁸ IC 5-10-15-9.(b).

⁴⁹ RS 33:2011.A.

⁵⁰ §607.058.

Also, extending presumptive coverage to volunteer firefighters makes quantifying the cost impact of a firefighter bill substantially more complicated. The following questions outline some of the complexities associated with quantifying an impact to volunteer firefighter classifications:

- How many volunteers are covered under WC insurance? WC coverage is not always required for volunteer firefighters as it is for most other occupations. Industry benchmarks on the number of volunteer firefighters cannot be relied upon in states where coverage is optional. Historically, a minimum payroll basis of \$300 was generally utilized for volunteer firefighters on an insurance policy. However, due to exceptions to this imputed value, lack of consistent application, and the possibility that actual volunteer payroll may exceed the minimum, this measure cannot always be used to estimate the number of volunteer firefighters covered under WC insurance.
- Are volunteers exposed to the same level of risk as career firefighters? Volunteer firefighters may have lower levels of exposure to carcinogens and occupational diseases in general if they work a smaller number of fires than career firefighters. The number of hours worked by volunteers is difficult to estimate because this information is not well-defined and is inconsistently tracked.

In general, there may be sizeable characteristic differences between the volunteer and career firefighter populations in a state. As mentioned earlier, it is difficult to reasonably estimate the potential cost impact of a firefighter presumption that covers career firefighters. For the reasons shown above, it is increasingly more difficult to estimate the impact of a bill that extends coverage to volunteer firefighters as well.

Potential Shifts in Coverage

A potential unintended consequence of enacting a firefighter presumption bill is that because of the uncertainty of future losses, fire departments that don't self-insure their WC exposure may not be able to find coverage through the voluntary insurance marketplace. As a result, fire departments and the municipalities that employ them may have to seek insurance through the residual market or through an alternative insurance mechanism such as a state WC fund.

An example of this unintended effect is the 2011 establishment of a cancer presumption for volunteer and career firefighters in Pennsylvania known as Act 46. Testimony by the Pennsylvania State Association of Township Supervisors indicates that "most providers had announced that they were dropping workers' compensation coverage for firefighters due to the potential cost and liability exposure imposed by Act 46."⁵¹ Based on data collected by NCCI, a similar effect appears to have occurred in Vermont because there was a substantial increase in the number of fire departments insured in the residual market after the enactment of firefighter presumptions in that state.⁵²

Impact of the Judicial Environment

As noted in the discussion of the prevalence of firefighter cancer claims from certain states in NCCI's database, the impact of a firefighter bill may also be influenced by the judicial environment in a state and the interpretation of the statutory presumption by adjudicators. Following the enactment of a firefighter presumption bill and before case law is established, an increase in litigation is often anticipated because employers and insurers attempt to rebut the presumption where appropriate. Insurers and self-insured employers may use the argument that there is no strong indication that the firefighting contributed to the disease. This defense has been found insufficient by some courts; for example, the Virginia Court of Appeals found that "testimony which merely refutes the premise of such a legislatively enacted presumption does not constitute proper evidence in rebuttal."⁵³ However, insurers and self-insured employers have been successful in rebutting a presumption in some instances, as was previously noted with respect to the Texas firefighter cancer presumption law. The following cases illustrate the varying standards that courts have established to overcome a presumption:

⁵¹ "Testimony by the Pennsylvania State Association of Township Supervisors on Act 46 of 2011," <http://laborindustry.pasenategop.com/wp-content/uploads/sites/25/2017/03/herr-032917.pdf> (March 29, 2017).

⁵² Presumptions enacted in Vermont were contained in S 194, effective January 1, 2007.

⁵³ *Bristol City Fire Department v. Maine* (Virginia Court of Appeals; March 13, 2001). Similar case law has been established in the previously noted, *In the Matter of the Compensation of Leonard C. Damian, II, Claimant* (Oregon WC Board; filed October 26, 2012).

- *Industrial Claim Appeals Office v. Town of Castle Rock* (May 2016): In this Colorado case, the Colorado Supreme Court affirmed the appellate court, ruling that, “To meet its burden of proof, the employer is not required to prove a specific alternate cause of the firefighter’s cancer. Rather, the employer need only establish, by a preponderance of the medical evidence, that the firefighter’s employment did not cause the firefighter’s particular cancer because the firefighter’s particular risk factors rendered it more probable that the firefighter’s cancer arose from a source outside the workplace.”
- *City of Tarpon Springs and Florida League of Cities v. Vaporis* (March 2007): In this Florida case, a claim for WC benefits by a firefighter who passed the physical examination upon entering service but later suffered a heart attack, was denied as the court concluded that the employer had overcome the statutory firefighter presumption and that the employer was not required to prove the disease was caused by a “specific or non-occupational hazard” to rebut the presumption.
- *Johnston v. Illinois Workers’ Compensation Commission* (April 2017): The appellate court found that clear and convincing evidence was not standard of proof necessary for firefighter’s employer to rebut the WC statutory presumption that coronary artery disease suffered by firefighter that caused him to suffer near-fatal heart attack while removing snow at station arose out of and in the course of employment; rather, the WC Act simply required employer to offer some evidence sufficient to support finding that something other than firefighter’s occupation caused his condition.
- *Bass v. City of Richmond Police Department* (June 1999): In this Supreme Court of Virginia case, the court stated that the employer may overcome the statutory presumption of benefits by showing that, by a preponderance of the evidence, that both “1) the claimant’s disease was not caused by his employment, and 2) there was a non-work-related cause of the disease.”

These cases highlight how the burden of proof required from the employer to successfully rebut a presumption can vary among states. For example, in Colorado, showing that an occupational disease was probably caused by something other than firefighting is sufficient to rebut a claim,⁵⁴ whereas in Virginia, the burden of proof is much higher because the employer must show that a specific non-work-related factor caused the disease.⁵⁵ The level of proof required of the employer will impact the number of claims that are compensated due to a firefighter presumption; therefore, until case law is established, there is uncertainty as to the actual impact on WC due to the enactment of a presumption.

Retroactive Impact

When a firefighter presumption is established, claims may be filed that resulted from exposures prior to the implementation of the presumption, particularly due to the cumulative nature and long latency periods of many occupational diseases covered by firefighter presumptions. As such, original premiums for previous policy periods would not have contemplated the increased costs associated with the presumption when a firefighter presumption is subsequently established. Since premiums from prior policy periods cannot be adjusted, an unfunded liability for insurance carriers and self-insureds may be created.

CONCLUSION

The widespread introduction of statutory presumptions for firefighters and other first responders has created the need to understand the role that these presumptions play on the jurisdictions’ WC systems in which they are proposed. Two factors affect the degree of accuracy when estimating the cost impact associated with enacting a firefighter presumption: the limited scope of the data reported to NCCI and the variation in results of published studies on the link between certain occupational diseases and firefighting. However, NCCI expects that the enactment of such presumptions will result in an increase in WC costs.

A review of the current enacted firefighter presumptions reveals that statutory language varies by jurisdiction. However, there are three key elements common to all firefighter presumptions that affect WC costs: the diseases that are covered,

⁵⁴ At least as of 2016, when the decision was rendered; as previously noted, prior to *Castle Rock*, the lower courts tended to interpret the statute in practical terms as an irrebuttable presumption.

⁵⁵ One may have expected many firefighter cancer claims to appear in NCCI’s database; however, this was not the case. This may be due to the extremely low percentage of firefighter exposure in the insured market, roughly 2% in Virginia versus 24% in combined NCCI states.

the restrictions that apply to the presumptions, and the ability of the employer to rebut the presumption. First, the types of diseases covered and the elements used to define those diseases play an important role in both the frequency and severity of newly compensable claims. Next, restrictions such as tenure, age requirements, health evaluations, and non-smoker clauses can also affect the ultimate cost. Finally, the wording of statutes regarding the rebuttal itself (e.g., simply “rebuttable” or “rebuttal by a preponderance of the evidence”) will influence claim frequency.

Lastly, some additional considerations must be noted because they could influence the application and ultimate impact of a firefighter presumption:

- Whether or not the bill is applicable to volunteer firefighters and other non-first responder occupations could raise questions about the fairness of the bill or further complicate the cost impact analysis
- The judicial environment in which a newly established presumption is enacted will impact its overall cost to the WC system because the lack of established case law will leave a degree of interpretation to the courts
- With the enactment of the bill, there may also be the unexpected consequence of the availability of WC coverage for firefighters, resulting in a shift from the voluntary or self-insured market to the residual market, which could exert a strain on the entire WC system
- Moreover, the enactment of a firefighter presumption will most likely result in an unfunded liability if the presumption is applied retroactively

In conclusion, there are many factors that could affect the ultimate cost impact of a firefighter presumption on a state’s WC system, and this document is intended to provide insights into the key issues associated with such a legislative change.

FIRST RESPONDER PRESUMPTIONS FOR WORKERS COMPENSATION IN JURISDICTIONS IN WHICH NCCI IS A RATING OR ADVISORY ORGANIZATION (AS OF 11/1/2018)

State	Type of Injury, Disease, or Condition				
	Cancer (incl. leukemia)	Lung/ Respiratory	Blood/ Infectious	Heart/ Vascular	Mental- Mental
Alabama					
Alaska					
Arizona					
Arkansas					
Colorado					
Connecticut					
District of Columbia					
Florida					
Georgia					
Hawaii					
Idaho					
Illinois					
Indiana					
Iowa					
Kansas					

State	Type of Injury, Disease, or Condition				
	Cancer (incl. leukemia)	Lung/ Respiratory	Blood/ Infectious	Heart/ Vascular	Mental- Mental
Kentucky					
Louisiana					
Maine					
Maryland					
Mississippi					
Missouri					
Montana					
Nebraska					
Nevada					
New Hampshire					
New Mexico					
North Carolina					
Oklahoma					
Oregon					
Rhode Island					
South Carolina					
South Dakota					
Tennessee					
Texas					
Utah					
Vermont					
Virginia					
West Virginia					



Firefighters (may include volunteer and/or non-volunteer)



Police or peace officers (may include sheriffs and other law enforcement employees)



Correctional officers



Emergency medical personnel, which includes Emergency Medical Technicians (EMTs) and paramedics, who generally are advanced providers of emergency medical care (may include related occupations)