



NCCI WHITE PAPER ON FIREFIGHTER PRESUMPTIVE COVERAGE

Executive Summary

In many states, workers compensation (WC) benefits for firefighters have been expanded in order to account for the potential increased risk inherent in the nature of employment for firefighters. As new/revised statutory provisions regarding firefighter presumptions are introduced, NCCI receives requests to estimate the probable cost impacts and potential consequences to states' WC systems of such legislative changes.

NCCI 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 the conflicting 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 states, including covered diseases and restrictions, as well as some additional considerations when determining the impact of such presumptions on a state's workers compensation system.

Note that the majority of 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.

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Background and Objectives

The idea of providing additional benefits for firefighters has been around since the 1970's; however, an increasing number of states have proposed and enacted laws over the last decade mandating that firefighters diagnosed with certain diseases be presumed to have contracted such diseases while in the course 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 was a result of the employment in order to receive workers compensation benefits. If, however, a statutory presumption of compensability exists then the employee's injury or disease is presumed to be a result of the employment. Currently, 42 states have firefighter presumption laws¹. During the 2013 legislative session, 28 states attempted to introduce or revise occupational disease laws regarding firefighters².

As new/revised statutory provisions regarding firefighter presumptions are introduced, NCCI receives requests to estimate the probable cost impacts and potential consequences to states' WC systems of such legislative changes. 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. Such approximations have proven to be quite challenging due to significant data limitations and conflicting published studies on the link between certain occupational diseases and the firefighting profession. However, despite these limitations, understanding the impact of proposed firefighter presumptive compensability is essential as it could result in a significant increase in WC costs for firefighter classifications and also result in unintended consequences to a WC system. This study will discuss the challenges that arise when pricing firefighter presumption bills and highlight the key issues that should be considered when such legislation is proposed.

Data Limitations

There are several significant data limitations that make it difficult for NCCI to explicitly quantify the cost impact of firefighter presumption legislation. For the data that NCCI collects, the main difficulty is that NCCI obtains relatively little statistical data on firefighter WC experience since firefighters are primarily employed by state municipalities and political subdivisions which are often self-insured entities. 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 20% of career firefighter payroll across all NCCI states based on BLS data for years 2009-2011^{3,4}. However, these percentages vary widely by state, ranging from a low of approximately 1% for some states to over 70% for other states.

¹ "State Presumptive Disability Laws", IAFF, <http://www.iaff.org/hs/phi/docs/PresumptiveDisabilityChart.pdf>.

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 As of 7/18/2013: AK, AZ, AR, CA, CT, DC, DE, ID, IL, ME, MD, MI, MN, MO, MT, NC, ND, NV, NJ, NM, NY, OR, PA, RI, TN, VT, VA, WV.

³ NCCI states include: AL, AK, AZ, AR, CO, CT, DC, FL, GA, HI, ID, IL, IN, IA, KS, KY, LA, ME, MD, MS, MO, MT, NE, NV, NH, NM, NC, OK, OR, RI, SC, SD, TN, TX, UT, VT, VA, and WV.

Another data limitation of the NCCI database is the inability to differentiate claims where compensability is determined based on a presumption of compensability versus claims for which compensability is determined based on general compensability standards. Even if the ability to differentiate claims existed in the database, consideration would need to be given to the possibility that a claim deemed compensable under a statutory presumption of benefits may have been granted compensability even if the presumption did not exist.

Moreover, many of the occupational diseases typically included in 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 emerge 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 attempted to quantify the expected number of newly compensable claims resulting from the introduction of a presumption by using incidence rates of certain diseases for firefighters based on external studies and data. The lack of consistently available incidence rates as well as conflicting studies on the relationship between firefighters and certain diseases creates uncertainty when considering the potential increased risk of particular diseases among firefighters. Many disease studies focus on mortality rates rather than incidence rates, and incidence rates among the general population for the disease covered in a firefighter presumption bill are not always available. In addition, incidence rates among the general population need to be adjusted to the firefighter population to account for any differences in the level of risk associated with contracting certain diseases. 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 various recent studies, with some yielding conflicting 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.”⁵
- In 2010, the International Association of Fire Fighters (IAFF) and U.S. 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”⁶.

⁴ Based on the amount of payroll (basic unit of measurement in workers compensation) collected by NCCI compared to that reported by the U.S. Bureau of Labor Statistics (BLS).

⁵ “Assessing State Firefighter Cancer Presumptions Laws and Current Firefighter Cancer Research”, NLC, <http://www.colofirechiefs.org/docs/PresumptionReport2009.pdf>, (April 2009).

⁶ “Respiratory Diseases and the Fire Service”, USFA & FEMA, http://www.usfa.fema.gov/fireservice/firefighter_health_safety/health_fitness/respiratory_diseases.shtm (September 2010).

- In 2013, the National Institute for Occupational Safety and Health (NIOSH) published a study which 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

Due to these data limitations and conflicting studies, it is difficult to estimate the expected number of newly compensable claims resulting from a presumption implementation/modification. Additionally, data reported to NCCI yields a very limited number of occupational disease 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. For example, NCCI obtains a small portion of statistical data on police officer classifications since police officers 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 creates difficulty in estimating the expected cost 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. Both of these aspects will influence the final impact of the firefighter presumption on states’ WC systems. This section will examine the different types of firefighter bills that have been introduced or enacted and analyze the potential impact that each aspect could have on WC costs.

Diseases Covered

The types of disease 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, and heart and vascular conditions. The frequency (how often a disease or injury occurs) and severity (how much a disease or injury costs) 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 states in which NCCI collects data, 22 states have a WC presumption available to firefighters diagnosed with various types of cancer⁸. The specific requirements needed to qualify for the presumption in each state play an important role in the ultimate cost of providing such coverage for firefighters. In general, a presumption that includes a broad definition of cancer, such as “any cancer which was not revealed by the physical examination passed by the member upon entry into the

⁷ “Mortality and cancer incidence in a pooled cohort of US firefighters from San Francisco, Chicago and Philadelphia” (1950–2009), NIOSH, <http://www.cdc.gov/niosh/updates/upd-10-17-13.html>, (October 2013).

⁸ NCCI states in which a workers compensation cancer presumption exists: AL, AK, AZ, CO, CT, IL, IN, IA, KS, LA, ME, MD, MO, NV, NH, NM, OK, OR, SD, TX, VT, and VA.

department”⁹, may result in a larger impact on WC costs as there is more room for interpretation compared to a state where the presumption provides a comprehensive list of covered diseases. Such 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 language used most often to describe the types of cancer that qualify for the presumption is cancer that is “caused by exposure to heat, radiation, or a known or suspected carcinogen”¹⁰. This language is somewhat subjective in that a physician or the court may need to use judgment to determine if a type of cancer could be caused by something other than the listed exposures if the presumption is contested. In some of the states 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”.

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 National Cancer society, “half of all men and one-third of all women in the US will develop cancer during their lifetimes.”¹¹
- Cancer is ranked as the most expensive medical condition per person according to the U.S. 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 will include lost-wage benefits, litigation expenses, and possibly survivor benefits and funeral expenses.
- Cancer tends to have a long latency period and the frequency of such claims is difficult to predict, thereby creating uncertainty regarding the number of claims expected to emerge, and the ultimate losses associated with those claims.

Lung/Respiratory Conditions

26 of the states in which NCCI collects data offer presumptive coverage for lung and respiratory conditions¹³. Lung and respiratory conditions are typically loosely defined to include any impairment of the cardiovascular system. This broad interpretation is common due to the logical connection between the inhalation of smoke and lung impairment.

The following are key considerations applicable to lung impairment presumptions:

⁹ Oklahoma Statutes, Sec. 11-49-110 (A).

¹⁰ States in which similar language exists: AL, CA, IL, IN, KS, MN, MO, NV, NH, ND, PA and TX.

¹¹ “What is Cancer”, American Cancer Society, <http://www.cancer.org/cancer/cancerbasics/what-is-cancer> (March, 2012).

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 States in which a workers compensation lung/respiratory presumption exists: AL, AK, AZ, CT, FL, HI, ID, IL, IN, IA, KS, LA, ME, MD, MO, NV, NH, NM, OK, OR, SC, SD, TX, VT, VA, and WV.

- Lung disease accounts for one in every six deaths and death rates due to lung disease are currently increasing.¹⁴
- The two most common obstructive lung diseases, asthma and chronic obstructive pulmonary disease (COPD), are known to result in severe and disabling health impairment and thus claims resulting from these diseases are expected to be costly.¹⁵
- 10 states limit presumptions by including a non-smokers clause¹⁵. Under a non-smokers clause, a current or recent user of tobacco is not eligible for the presumption. 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 as smoking is a known cause of lung cancer and COPD, the two most prevalent lung diseases^{16,17}. It is estimated that smoking is the cause of 90% of all lung cancer and COPD deaths¹⁸. The extent to which such mitigation occurs would be dependent on the employer or insurers' ability to prove the use of tobacco in order to rebut the presumption.

Blood/Infectious Diseases

In addition to responding to fires, firefighters also provide assistance at the scene of traumatic events such as car accidents. Firefighters may be exposed to infectious and blood borne diseases (communicable diseases) while helping victims of such events. To recognize this increased exposure, 16 of the 38 NCCI states offer presumptive coverage for communicable diseases¹⁹. 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".²⁰
- There are standards set in place by the National Fire Protection Association (NFPA) to control the risk of exposure to communicable diseases which may reduce the frequency of communicable disease claims in states that have adopted these standards.
- Whereas other categories of disease discussed may have long latency periods, blood borne and infectious diseases generally have a much shorter incubation period. A positive diagnosis for most of these diseases can occur within weeks of exposure.

¹⁴ "Lung Disease Data: 2008", American Lung Association, http://www.lung.org/assets/documents/publications/lung-disease-data/LDD_2008.pdf

¹⁵ States with a non-smoking clause: AL, AZ, IN, MO, ND, OR, TX, VT, WA, and WI.

¹⁶ 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>

¹⁷ "Respiratory Diseases and the Fire Service", USFA & FEMA, http://www.usfa.fema.gov/fireservice/firefighter_health_safety/health_fitness/respiratory_diseases.shtm (September 2010).

¹⁸ Estimated to cause 80% of all lung cancer in women versus 90% in men. "Health Effects of Cigarette Smoking", CDC, http://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/ (August 2013).

¹⁹ NCCI states in which a workers compensation blood/infectious disease presumption exists: AL, AZ, CO, CT, FL, IL, IA, ME, MO, NV, NM, OK, TX, UT, VT, and VA.

²⁰ "Infectious Diseases", IAFF, <http://www.iaff.org/et/jobaid/InfDis/whnjs.htm>, (2004).

- Whereas other categories of diseases discussed previously have the possibility of being caused by a number of different factors, blood borne and infectious diseases typically have only one cause which is exposure to blood borne pathogens or airborne particulars from an infected individual. For this reason, it is likely that claims for these types of diseases would not be easily rebuttable by the insurer.

Heart/Vascular Conditions

26 of the states in which NCCI collects data offer firefighters presumptive coverage for heart and vascular conditions²¹. 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 pre-existing condition or a number of 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 makes the distinction that unusual physical exertion or mental stress causing the heart conditions 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 conditions to be outside of the normal duties of the occupation, linking a heart condition to employment may be less difficult for firefighters.

The presence of a pre-existing heart condition in firefighters may be less likely since firefighters are often required to pass rigorous health and physical exams in order to be hired. 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 workers compensation costs may therefore be less prominent in this disease category than in other disease categories such as cancer and lung impairments.

The following are key considerations applicable to heart presumptions:

- This category of disease is prevalent among firefighters as heart attacks are the most common cause of on-the-job fatalities in the firefighting occupation²².
- Heart-related injury presumptions in some states are limited by strict requirements, such as a requirement that the heart impairment must occur within 24 or 72 hours of service in the line of duty in order for the presumption to be applicable. While these types of claims may already be

²¹ NCCI states in which a workers compensation heart/vascular condition presumption exists: AL, AK, CT, FL, GA, HI, ID, IL, IN, IA, KS, LA, ME, MD, MO, NV, NH, NM, OK, OR, SC, SD, TX, VT, VA, and WV.

²² Bill Dedman, "Firefighters' heart attack risk soars at the scene", NBCNews.com, http://www.nbcnews.com/id/17695966/ns/health-heart_health/t/firefighters-heart-attack-risk-soars-scene/, (March 2007)

compensated through general WC provisions, the introduction of such a presumption could result in additional claims being compensated as firefighters who would not otherwise have associated their contraction of heart disease with their employment may be motivated to file a claim under WC.

The majority of 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 and infectious diseases than to cancer and lung impairments. The nature of employment for firefighters 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 impact the ultimate cost impact associated with the introduction of a presumption applicable to other first responders.

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 which the presumption applies. The creation of such restrictions may partially mitigate the increase in compensable claims resulting from a presumption. The extent to which this mitigation may occur is dependent on the employer/insurers' ability to rebut a presumption and may lead to increased litigation.

Service Requirements & Time Limitations

Many presumptions require a firefighter to serve a minimum number of years in order 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 up to 15 years and vary by the type of disease. Approximately 39% of firefighters have less than 5 years of service so this requirement would serve to limit the number of claims filed under a presumption²³. 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 increase with age, the service requirement may only slightly mitigate an increase in the number of compensable claims due to a presumption.

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

²³"Fire Fighter Average Salary", PayScale, http://www.payscale.com/research/US/Job=Fire_Fighter/Salary, (October 2013)

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 Montana, the presumption is not applicable for prostate cancer diagnosed after age 50. This limitation could result in fewer claims being deemed compensable because the median age of diagnosis for prostate cancer is 66 and approximately 23.2% of firefighters are over age 50^{24,25}.
- In Maine, the presumption is not applicable for colon cancer diagnosed after age 70. This restriction could result in fewer claims being deemed compensable because the median age of diagnosis for colon cancer is 69²⁶.
- In New Mexico, the presumption is not applicable for testicular cancer diagnosed after age 40. This restriction could result in fewer claims being deemed compensable because 48.9% of all firefighters' are over the age of 40²⁶.
- In South Carolina, the heart and respiratory presumption is not applicable for firefighters over the age of 37. This could mitigate any increase in newly compensable claims as the risk of heart attack rises significantly in men over the age of 45 and women over the age of 55²⁷.

Health Evaluations

Many firefighter presumptions require pre-employment examinations in order to qualify for a presumption. The intent in including a pre-employment examination requirement in a presumption is to prohibit coverage for diseases that were contracted prior to employment as a firefighter.

While this requirement may limit the number of newly compensable claims, the cost of such examinations and the ability of the examination to detect the presence of an occupational disease both need to be taken into account when evaluating the advantages of requiring such evaluations. For example, a general physical exam 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 as recommended by the American Cancer Society must be conducted in order to qualify for the cancer presumption. Specialized screenings may more accurately detect diseases at an early stage which would limit the number of compensable claims subject to a presumptive law (by determining if a disease was contracted prior to employment) and may decrease the cost of compensable claims (as occupational disease diagnoses at an early stage may be less severe).

²⁴ "SEER Stat Fact Sheets: Prostrate Cancer", National Cancer Institute,

<http://seer.cancer.gov/statfacts/html/prost.html>

²⁵ Michael J. Karter Jr. and Gary P. Stein, *U.S. Fire Department Profile*, (NFPA Fire Analysis and Research, October 2012), Page 13.

²⁶ "SEER Stat Fact Sheets: Colon and Rectum Cancer", National Cancer Institute,

<http://seer.cancer.gov/statfacts/html/colorect.html>

²⁷ "What Is A Heart Attack? What Causes A Heart Attack?", MedicalNewToday.com,

<http://www.medicalnewstoday.com/articles/151444.php>, (May 2009).

On the other hand, the health screenings and physical examinations may be costly to employers and most screening tests have health risks that need to be considered²⁸. Additionally, when a presumption is introduced, the pre-employment examination requirement would likely not apply to currently employed firefighters who did not complete a physical exam prior to employment.

Additional Considerations

In addition to the issues and key considerations discussed thus far, there are a number of other factors that may directly or indirectly affect the outcome of a firefighter presumption. The remainder of this paper will discuss various topics associated with firefighter presumption bills and considerations that should be taken into account 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. The enactment of such bills may lead to increased litigation as it creates the constitutional challenge that such a bill “differentiates in its treatment of one group of individuals over other groups” (*City of Edmond v. Vernon*, Oklahoma Supreme Court 2009).

On the other hand, extending presumptive coverage to volunteer firefighters makes the pricing of a firefighter bill substantially more complicated. The following questions outline some of the complexities associated with pricing 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. In 1942, NCCI recommended that a minimum payroll basis of \$300 to be utilized for every volunteer firefighter on an insurance policy. However, due to numerous exceptions to this recommendation, 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 as 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 discussed earlier, it is difficult to estimate the potential cost impact of a firefighter presumption which 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.

²⁸ “What is Cancer Screening”, National Cancer Institute, <http://www.cancer.gov/cancertopics/pdq/screening/overview/patient#Keypoint3> (June 2013).

A similar argument regarding the fairness of a presumption could be made for non-first responder occupations which may bear a greater risk for contracting certain occupational diseases compared to firefighters. The introduction of a presumption could result in increased litigation costs associated with attempts to extend the applicability of the presumption to occupations other than first responders.

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 may not be able to find coverage through the voluntary marketplace. As a result, fire departments and the municipalities who 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. The Workers' Compensation Institute reported that shortly after Act 46 went into effect, 21% of the municipalities surveyed reported having their WC policies cancelled²⁹. Based on data collected by NCCI, a similar effect appears to have occurred in Vermont and Connecticut as there was a substantial increase in the number of firefighters insured in the residual market after the enactment of firefighter presumptions³⁰.

Impact of the Judicial Environment

The impact of a firefighter bill is also heavily leveraged by the judicial environment in a state and the statutory interpretation of the presumption by the court system. Following the enactment of the firefighter bill and before case law is established, there is often an increase in litigation as employers and insurers attempt to rebut the presumption where appropriate. Insurers commonly use the argument that there is no strong indication that the firefighting contributed to the disease. This defense has been found insufficient in court as "testimony which merely refutes the premise of such a legislatively enacted presumption does not constitute proper evidence in rebuttal"³¹. However, insurers have been successful in rebutting a presumption in limited instances. The following cases illustrate the varying standards that courts have established in order to overcome a presumption:

- *Town of Castle Rock v. Industrial Claim Appeals Office* (July 3, 2013): In this recent Colorado case, the court ruled in favor of the employer and determined that an "employer may overcome the statutory presumption of compensability with specific risk evidence demonstrating that a particular firefighter's cancer was probably caused by a source outside work."

²⁹ Joan E. Collier, "Pennsylvania's Firefighter Cancer Presumption Law: A Second Look", Workers' Compensation Institute, <http://www.wci360.com/blog/pennsylvanias-firefighter-cancer-presumption-law-a-second-look>, (November 2012).

³⁰ Presumptions enacted in VT and CT were S 194 on January 1st, 2007 and HB 5629 on July 1st, 2009, respectively.

³¹ *Bristol City Fire Department v. Maine* (Virginia Court of Appeals; March 13, 2001). Similar case law has been established in *Municipality of Anchorage v. Adamson* (Supreme Court of Alaska; May 3, 2013), and *In the Matter of the Compensation of Leonard C. Damian, II* (Oregon WC Board; filed October 26, 2012).

- *City of Tarpon Springs and Florida League of Cities v. Vaporis* (March 12, 2007): In this Florida case, a firefighter's claim for presumptive coverage was denied as the court concluded that the employer had overcome the presumption by supplying evidence that "the disease was caused by some non-work-related factor." Furthermore, the employer was not required to prove the disease was caused by a "specific hazard or non-occupational hazard" in order to rebut the presumption.
- *Bass v. City Of Richmond Police Department* (June 11, 1999): In this Supreme Court of Virginia case, the court stated that the employer may overcome the statutory presumption of benefits by showing that "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, whereas in Virginia the burden of proof is much higher as the employer must show that a specific non-work related factor caused the disease. 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 determining premiums for a given policy period, the statutory benefits in place during the policy period are taken into account. When a firefighter presumption is established, original premiums for previous policy periods will not have contemplated benefits associated with the presumption when a firefighter presumption is subsequently established. Due to the cumulative nature and long latency periods of many occupational diseases covered by firefighter presumptions, coverage for claims made after the enactment of a bill may stem from exposure during a prior policy period. Since premiums from prior policy periods cannot be adjusted, an unfunded liability for insurance carriers and self-insureds is created.

Conclusion

The widespread introduction of statutory firefighter presumptions has created the need to understand the role that these presumptions play on the WC systems in which they are proposed. The limited scope of the data collected by NCCI and the conflicting results of published studies on the link between certain occupational diseases and firefighting affect the degree of accuracy that can be used when estimating the cost impact associated with enacting a firefighter presumption. 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 does not fit a one-size-fits-all format. However, there are two key elements common to all firefighter presumptions that affect WC costs: the diseases which are covered and the restrictions which apply to the presumptions. First, the types of diseases covered and the subjectivity used to define those diseases play an important role on 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 impact.

Lastly, some additional considerations should be noted as 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 as to 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 as 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 shifting from the voluntary to the residual market which could put 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 we hope that this document provides insights into the key issues associated with such a legislative change.

First Responder Presumptions by State³² (as of 11/22/2013)

State	Cancer	Lung/Respiratory Conditions	Blood/Infectious Diseases	Heart/Vascular Conditions
Alabama	Firefighters	Firefighters	Firefighters	Firefighters
Alaska	Firefighters	Firefighters	-	Firefighters
Arizona	Firefighters, Police Officers	Firefighters, Police Officers	Firefighters, Police Officers, EMT, Paramedics, Others	-
Colorado	Firefighters	-	Firefighters, Police Officers, EMT, Paramedics	-
Connecticut	Firefighters, Police Officers, Volunteer Ambulatory Personnel	Firefighters, Police Officers, Volunteer Ambulatory Personnel	Firefighters, Police Officers, Volunteer Ambulatory Personnel	Firefighters, Police Officers, Volunteer Ambulatory Personnel
District of Columbia	Emergency Medical Service Personnel	Emergency Medical Service Personnel	Emergency Medical Service Personnel	Emergency Medical Service Personnel
Florida	-	Firefighters, Correctional Officers, Police Officers, EMT, Paramedics	Firefighters, Correctional Officers, Police Officers, EMT, Paramedics	Firefighters, Correctional Officers, Police Officers, EMT, Paramedics
Georgia	-	-	-	Firefighters
Hawaii	-	Firefighters, Police Officers	-	Firefighters, Police Officers
Idaho	-	Firefighters	-	Firefighters
Illinois	Firefighters, EMTs, Paramedics	Firefighters, EMTs, Paramedics	Firefighters, EMTs, Paramedics	Firefighters, EMTs, Paramedics
Indiana	Firefighters, Police Officer, Paramedic, EMT, Other	Firefighters, Police Officer, Paramedic, EMT, Other	-	Firefighters, Police Officer, Paramedic, EMT, Other
Iowa	Firefighters, Police Officers	Firefighters, Police Officers	Firefighters, Police Officers	Firefighters, Police Officers

³² Based on NCCI states where additional presumptive provisions may be applicable to workers compensation; applicable First Responder occupations listed.

State	Cancer	Lung/Respiratory Conditions	Blood/Infectious Diseases	Heart/Vascular Conditions
Kansas	Firefighters, Police Officers, EMT	Firefighters, Police Officers, EMT	-	Firefighters, Police Officers, EMT
Louisiana	Firefighters	Firefighters	Police Officers	Firefighters
Maine	Firefighters	Firefighters, Police Officer, Paramedic, EMT, Correctional Officers	Firefighters, Police Officer, Paramedic, EMT, Correctional Officers	Firefighters
Maryland	Firefighters, Others	Firefighters, Others	-	Firefighters, Police Officers, Correctional Officers, Others
Missouri	Firefighters	Firefighters, Peace Officers	Firefighters	Firefighters, Peace Officers
Nevada	Firefighters	Firefighters, Police Officers	Firefighters, Police Officers, EMTs	Firefighters, Police Officers
New Hampshire	Firefighters	Firefighters	-	Firefighters
New Mexico	Firefighters	Firefighters	Firefighters	Firefighters
Oklahoma	Firefighters	Firefighters	Firefighters	Firefighters
Oregon	Firefighters	Firefighters	-	Firefighters
South Carolina	-	Firefighters	-	Firefighters, Police Officers
South Dakota	Firefighters	Firefighters	-	Firefighters
Texas	Firefighters, EMTs	Firefighters, EMTs	Firefighters, EMTs	Firefighters, EMTs
Utah	-	-	Firefighters, Police Officers, EMTs, Paramedics	-
Vermont	Firefighters	Firefighters, Ambulatory Personnel, Rescue Squad Members	Firefighters, Ambulatory Personnel, Rescue Squad Members	Firefighters, Police Officers, EMTs, Paramedics
Virginia	Firefighters, Hazardous Material Officers, Others	Firefighters, Hazardous Material Officers	Firefighters, Police Officers, EMTs, Paramedics, Hazardous Material Officers	Firefighters, Police Officers, Hazardous Material Officers
West Virginia	-	Firefighters	-	Firefighters