

HB

31

HFIN

FILE

FISCAL NOTE

STATE OF ALASKA
2005 LEGISLATIVE SESSION

Fiscal Note Number: 1
Bill Version: SSHB 31
(H) Publish Date: 3/7/05

Revision Date/Time (Note if correction): _____ Dept. Affected: Commerce
Title: Workers Compensation Coverage RDU: Insurance (116)
Component: Insurance Operations
Sponsor: Anderson
Requester: House Labor & Commerce Component No.: 354

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()						
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of any current year (FY2005) cost: 0.0

Mark this box (X) if funding for this bill is included in the Governor's FY 2005 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

This is a benefits bill and has no fiscal impact on the operations of the division.

Prepared by: Linda S. Hall, Director
Division: Insurance
Approved by: Edgar Blatchford, Commissioner
Agency: Commerce, Community & Economic Development

Phone: 907 269 7900
Date/Time: 2/7/05 10:46 AM
Date: 2/7/2005

*adopted
4-21-05*

24-LS0225\Y
Craver
4/4/05

CS FOR SPONSOR SUBSTITUTE FOR HOUSE BILL NO. 31()

IN THE LEGISLATURE OF THE STATE OF ALASKA

TWENTY-FOURTH LEGISLATURE - FIRST SESSION

BY

Offered:

Referred:

Sponsor(s): REPRESENTATIVES ANDERSON, Lynn, Gatto, Croft

A BILL

FOR AN ACT ENTITLED

1 **"An Act relating to the presumption of coverage for a workers' compensation claim for**
2 **disability as a result of certain diseases in certain occupations."**

3 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

4 *** Section 1. AS 23.30 is amended by adding a new section to read:**

5 **Sec. 23.30.121. Presumption of coverage for disability from diseases for**
6 **certain occupations. (a) There is a presumption that a claim for compensation for**
7 **disability as a result of the diseases described in (b) and (c) of this section for the**
8 **occupations listed under (b) and (c) of this section are within the provisions of this**
9 **chapter. This presumption of coverage may be rebutted by a preponderance of the**
10 **evidence. The evidence may include the use of tobacco products, physical fitness and**
11 **weight, lifestyle, hereditary factors, and exposure from other employment or**
12 **nonemployment activities.**

13 **(b) For a fire fighter covered under AS 23.30.243,**

14 **(1) there is a presumption that a claim for compensation for disability**

1 as a result of the following diseases is within the provisions of this chapter:

2 (A) respiratory disease;

3 (B) cardiovascular events that are experienced within 72 hours
4 after exposure to smoke, fumes, or toxic substances; and

5 (C) the following cancers:

6 (i) primary brain cancer;

7 (ii) malignant melanoma;

8 (iii) leukemia;

9 (iv) non-Hodgkin's lymphoma;

10 (v) bladder cancer;

11 (vi) ureter cancer; and

12 (vii) kidney cancer;

13 (2) notwithstanding AS 23.30.100(a), following termination of service,
14 the presumptions established in (1) of this subsection extend to the fire fighter for a
15 period of three calendar months for each year of requisite service but may not extend
16 more than 60 calendar months following the last date of employment;

17 (3) the presumption established in (1)(C) of this subsection applies
18 only to an active or former fire fighter who has cancer that develops or manifests itself
19 after the fire fighter has served at least 10 years and who

20 (A) was given a qualifying medical examination upon
21 becoming a fire fighter or during employment as a fire fighter that did not
22 show evidence of cancer; and

23 (B) demonstrates that the fire fighter was, while in the course
24 of employment as a fire fighter, exposed to a known carcinogen, as defined by
25 the International Agency for Research on Cancer or the National Toxicology
26 Program, and the carcinogen is associated with the disabling cancer.

27 (c) The presumption in this subsection applies to fire fighters covered under
28 AS 23.30.243, peace officers, and emergency medical and rescue personnel. In this
29 subsection, "emergency medical and rescue personnel" means a trauma technician,
30 emergency medical technician, rescuer, or mobile intensive care paramedic who is a
31 paid employee of a first responder service, a rescue service, an ambulance service, or a

1 fire department that provides emergency medical or rescue services as part of its
2 duties. There is a presumption that a claim for compensation for disability as a result
3 of the following contagious diseases is within the provisions of this chapter:

- 4 (1) human immunodeficiency virus;
- 5 (2) acquired immunodeficiency syndrome;
- 6 (3) all strains of hepatitis;
- 7 (4) meningococcal meningitis; and
- 8 (5) mycobacterium tuberculosis.

9 (d) The provisions of (b)(1)(A) and (B) of this section do not apply to a fire
10 fighter who develops a cardiovascular or lung condition and who has a history of
11 tobacco product use as established under (e)(2) of this section.

12 (e) The department shall, by regulation, define

13 (1) for purposes of (b)(3) of this section, the type and extent of the
14 medical examination that is needed to eliminate evidence of cancer in an active or
15 former fire fighter; and

16 (2) for purposes of (d) of this section, the nature and quantity of a
17 person's tobacco product use; the standards adopted under this paragraph shall use or
18 be based on existing medical research.

19 * Sec. 2. The uncodified law of the State of Alaska is amended by adding a new section to
20 read:

21 **APPLICABILITY.** The presumption of coverage established by this Act applies to
22 claims made on or after the effective date of this Act, even if the exposure leading to the
23 occupational disease occurred before the effective date of this Act.

ALASKA STATE HOUSE OF REPRESENTATIVES

Labor & Commerce Committee, Chair
Administrative Regulation Review, Chair
Judiciary Committee, Vice-Chair
Health, Education and Social Services



State Capitol Suite 408
Juneau, AK 99508
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Representative Tom Anderson

Email: Representative_Tom_Anderson@legis.state.ak.us

MEMORANDUM

Date: April 21, 2005
To: House Finance Committee
From: Representative Tom Anderson
Re: Changes made to SSHB 31

Page 2 line 3

- Changes "heart problems" to "cardiovascular events"

Page 2 lines 23-26

- Adds a new subsection that states the presumption of illness for firefighters only applies if the firefighter can demonstrate that they were exposed to a known carcinogen as defined by the International Agency for Research on Cancer or the National Toxicology Program during the course of their duty.

Page 3 line 9

- Makes a change to bring the statutes into conformity with the changes made in earlier sections of HB 31

Alaska State Legislature

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Representative Tom Anderson
District 19 - Anchorage

Sponsor Statement HB 31

Title: "An Act relating to the presumption of coverage for a workers' compensation claim for disability as a result of certain diseases for certain occupations"

Firefighters and emergency response professionals are regularly exposed to dangerous chemicals, fumes and blood borne pathogens. Nationwide, emergency personnel suffer from an increased probability of contracting certain cancers and illnesses. It has been shown that after exposure to a toxic substance many of the resulting illnesses can take years to manifest.

Firefighter and emergency personnel are a valuable and necessary part of any community. They risk their lives on a regular basis in order to ensure the safety and well being of their community.

Their sacrifice, which ends up costing them so dearly, demands action on our parts. By assuming a "presumption of illness" for certain professions such as firefighters and EMTs HB 31 is just such an action. This bill would make them eligible for health benefits in the case that they are diagnosed with certain cancers or illnesses described in the bill.

By enacting HB 31 we will provide coverage and security for our at risk emergency personnel. This legislation is necessary and urgent in order to protect and preserve our State's brave men and women of the emergency response profession.

I urge your support for this bill.

ALASKA STATE HOUSE OF REPRESENTATIVES

Labor & Commerce Committee, Chair
Administrative Regulation Review, Chair
Judiciary Committee, Vice-Chair
Health, Education and Social Services



State Capitol Suite 408
Juneau, AK 99508
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Representative Tom Anderson

Email: Representative_Tom_Anderson@legis.state.ak.us

MEMORANDUM

Date: March 29, 2005
To: Representative Kevin Meyer, Co-Chair
House Finance Committee
From: Representative Tom Anderson
Re: Hearing Request for SSHB 31

I would like to request that you schedule SSHB 31 for consideration by the House Finance Committee.

Enclosed are:

1. Current Sponsor Statement
2. The most recent version of the bill
3. Appropriate backup documentation
4. Letters of support

Thank you for your consideration of this request. Please contact Jon Bittner at 465-5031 in my office if you have any questions or concerns.

FISCAL NOTE

STATE OF ALASKA
2005 LEGISLATIVE SESSION

Fiscal Note Number: 2
Bill Version: SSHB 31
(H) Publish Date: 3/7/05

Revision Date/Time (Note if correction): _____ Dept. Affected: Administration
Title: An act relating to presumption of RDU: Risk Management
coverage of w/c in certain occupations Component: Risk Management
Sponsor: _____
Requester: _____ Component No. 71

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	::	::	::	::	::	::

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()						
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FUND SOURCE (Thousands of Dollars)

FUND SOURCE	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	::	::	::	::	::	::

Estimate of any current year (FY2005) cost: 0.0
Mark this box (X) if funding for this bill is included in the Governor's FY 2006 budget proposal:

POSITIONS

POSITIONS	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)
Risk Management (RM) will be adversely affected by the changes in this legislation. RM administers the self insurance program providing workers' compensation protection for all state employees, including illness claims filed by occupations affected by this legislation.

The self insured worker's compensation claims will realize increased litigation and benefit costs. As the number of reported exposures will vary by year, it is difficult to present accurate projections.

Future Risk Management's workers' compensation assessments to those agencies with employee occupations affected will reflect actual costs incurred as premiums charged each agency are developed from actual claims expenses incurred.

Prepared by: J. Brad Thompson, Director Phone: 465-5723
Division: Risk Management Date/Time: 2/9/05 10:00 AM
Approved by: Michael Tibbles, Deputy Commissioner Date: 2/9/2005
Agency: Administration

FISCAL NOTE

STATE OF ALASKA
2005 LEGISLATIVE SESSION

Fiscal Note Number: _____
Bill Version: HB031SS-DOLWD-WC-04-21-05
() Publish Date: _____

Revision Date/Time (Note if correction): _____ Department: Labor and Workforce Development
Title: Workers' Comp: Disease Presumption RDU: Workers' Compensation
Sponsor: Representative Anderson Component: Workers' Compensation
Requester: House FIN Component Number: 344

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING

CAPITAL EXPENDITURES						
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CHANGE IN REVENUES ()						
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type—Do not abbreviate)						
TOTAL

Estimate of any current year (FY2005) cost: None
Mark this box (X) if funding for this bill is included in the Governor's FY 2006 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

The broadly applicable presumptions included in the bill could result in numerous claims. The seriousness of the covered conditions would involve large amounts of benefits, and those factors coupled with the broad scope of defenses (like heredity and other life exposures) could lead to extensive, complicated hearings.

*The costs of this proposed legislation cannot be determined in advance as there are no comparable Workers' Compensation Act provisions at present. Increased costs, if any, would consist of additional personnel needed to resolve disputed claims for benefits based upon the new presumptions.

Prepared by: Paul F. Lisankie, Director Phone: 465-6059
Division: Workers' Compensation Division Date/Time: 4/21/05 12:11 PM
Approved by: Greg O'Claray, Commissioner Date: 4/21/2005
Agency: Department of Labor and Workforce Development



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April 19, 2005

The Honorable Kevin Meyer, Chair, and
The Honorable Mike Chenault, Vice Chair
House Finance Committee
Alaska State Capitol
Juneau, Alaska 99801

RE: Oppose HB31

Dear Representatives Meyer, Chenault and committee members:

The Alaska Municipal League Joint Insurance Association (AMLJIA) opposes HB31.

The AMLJIA is a joint insurance arrangement organized under AS 21.76. With approximately 140 member municipalities and school districts pooling for workers' compensation coverage, these local government entities bear the single largest exposure to changes in workers' compensation law as it applies to employees such as firefighters, EMTs, and police.

HB31 creates a presumption of workers' compensation coverage for firefighters for cardio/respiratory problems, as well as a variety of cancers for firefighters with 10 or more years of service. All of these are chronic diseases that often have genetic and lifestyle choices as their cause.

HB31 further adds a presumption of workers' compensation coverage for several contagious diseases for employees whose jobs may include contact with bodily fluids.

The presumptions are unnecessary and potentially very costly. Present fire fighting technology and procedures call for use of personal protective equipment such as respirators and breathing dams. When following best practices and department procedures, the risk of contracting illnesses such as those listed in the bill is greatly reduced.

Currently, if a firefighter contracts a respiratory or heart disease and claims that it is work-related, it is up to the employer to demonstrate that it is not. These claims are covered by workers' compensation already. By creating a strict presumption, the claim will most often be covered by the workers' comp. system, even when it is not work-related.

The communicable disease provisions are especially problematic. When EMTs, firefighters and others properly use personal protective equipment, the incidence rate of bloodborne diseases should be lower than the general population, not higher. In addition,

PROTECT

ALASKA MUNICIPAL LEAGUE

exposures to blood and needlesticks are events that are generally indentifiable. There should be no doubt as to what day a firefighter gave mouth-to-mouth resuscitation to a victim or an EMT is accidentally stuck by a syringe. Therefore, the present system covers the work-related events just fine. Providing a presumption is unnecessary and would provide workers' compensation coverage to people who contract hepatitis, TB, HIV, AIDS or meningitis through more conventional means such as poor hygiene, unprotected sex, or even a dirty needle at a tattoo parlor.


These protections are offered once employees are cleared of pre-existing diseases by a medical screening. This presents a two-fold problem. One, the screenings may not be effective for latent diseases such as cancer. Two, depending upon the patient's age, the cost of such screenings approach \$1,000 a piece, according to the Fairbanks Fire Department. Since the municipality would be required to bear the cost of such an exam, the overall costs of initial screenings statewide are estimated at \$8 million, with annual recurring costs after that.

The National Council on Compensation Insurance (NCCI) promulgates the starting rates for all carriers and pools in Alaska. The NCCI estimates the cost to municipalities for the affected job classes to increase 10 to 20 percent, based on the presumptions in the bill. Worse yet, the bill is retroactive in nature, providing coverage for claims "even if the exposure leading to the occupational disease occurred before the effective date of this Act." These claims were never contemplated in the calculation of rates in the past and would be unfunded

There is no more expensive way to pay for an injury or illness that our current workers' compensation system. Health programs are able to control medical costs through negotiated agreements with health care providers. Workers' compensation can not. It is interesting to note that both workers' compensation and the health benefits are generally provided by the employer, at least with respect to the career firefighter.

Imagine if State employee unions suggested that we change the retirement date to 15 years for PERS benefits. How silly would that seem at a time that we are looking at a \$5.6 billion problem? As you likely know, Alaska's workers' compensation rates are the second highest in the nation. This crisis in workers' compensation costs contributes to some local governments and businesses closing their doors. Now is the time to fix our workers' comp. problem, not make it worse by expanding benefits. Please consider the negative financial impacts this legislation would have on the State's political subdivisions.

Thank you.



Kevin Smith
Executive Director

Alaska State Legislature

House of Representatives



Official Business

State Capitol
Juneau, AK
99801-1182

Sectional Analysis for SSIB 31 BY: Representative Tom Anderson

Section 1. Adds a new section to AS 23.30

- (a) Outlines the fact that there is a presumption that the illnesses listed in (b)(1)(C) and (c) are attributed to the occupations listed in other subsections of this bill. Further, the presumption may be rebutted if certain evidence is found such as tobacco use or weight problems.
- (b) Deals with the coverage specific to fire fighters
 - (1) Lists the diseases for which firefighters are covered including respiratory diseases, heart problems experienced within 72 hours of exposure to smoke, fumes or toxic substances and certain cancers.
 - (2) Extends the coverage under the presumptions of this bill for retired fire fighters for three calendar months for each year of service up to 60 calendar months after the last day of their employment
 - (3) The coverage for cancers listed under (1)(C) of this subsection apply only to firefighters with 10 or more years of service who were given a qualifying medical exam upon becoming a fire fighter that showed no evidence of cancer.
- (c) Deals with the coverage for firefighters and first response personnel
 - (1) - (5) Lists the contagious diseases this section applies to including HIV, AIDS and hepatitis
- (d) Denies the coverage provided for under (b)(1) of this section to firefighters who smoke that develop a heart or lung condition
- (e) Directs the department to define through regulation
 - (1) The type and extent of the medical examination needed to comply with (b)(3)
 - (2) The nature and quantity of a person's tobacco use based on medical research that will make them ineligible for coverage under (1)

Section 2. Amends the uncodified law of the State of Alaska by adding a new subsection

Stating that the coverage established by this act applies to claims made on or before the effective date of this Act even if the exposure happened prior to the effective date.

ALASKA STATE HOUSE OF REPRESENTATIVES

Labor & Commerce Committee, Chair
Administrative Regulation Review, Chair
Judiciary Committee, Vice-Chair
Health, Education and Social Services



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Representative Tom Anderson

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MEMORANDUM

Date: March 29, 2005
To: House Finance Committee
From: Representative Tom Anderson
Re: Changes made to SSHB 31 from original

Original language Page 2 lines 13-16:

- (2) following termination of service, the presumptions established in (1) of this subsection extend to the fire fighter for a period of three calendar months for each year of requisite service but may not extend more than 60 calendar months following the last date of employment;

New language in SS to HB 31:

- (2) notwithstanding AS 23.30.100(a), following termination of service, the presumptions established in (1) of this subsection extend to the fire fighter for a period of three calendar months for each year of requisite service but may not extend more than 60 calendar months following the last date of employment;

Original language Page 2 lines 22-24:

- (c) For an employee in an occupation involving exposure to human blood or bodily fluids, there is a presumption that a claim for compensation for disability as a result of the following contagious diseases is within the provisions of this chapter:

New language in SS to HB 31:

- (c) The presumption in this subsection applies to fire fighters covered under AS 23.30.243, peace officers, and emergency medical and rescue personnel. In this subsection, "emergency medical and rescue personnel" means a trauma technician, emergency medical technician, rescuer, or mobile intensive care paramedic who is a paid employee of a first responder service, a rescue service, an ambulance service, or a fire department that provides emergency medical or rescue services as part of its duties. There is a presumption that a claim for compensation for disability as a result of the following contagious diseases is within the provisions of this chapter:

EXCERPTS FROM THE
IAFF CANCER MANUAL

Chapter 7: Cancers Associated with Fire Fighting

Concern about the adverse health consequences of occupational exposures dates back to Hippocrates' warning to physicians to explore patients' environmental, life-style, and vocational backgrounds as determinants of disease causation and treatment.ⁱ The Italian physician Bernardino Ramazzini, respected as the father of occupational medicine, described a number of occupational diseases and their causes in his book *De Morbis Artificum*, published in 1700.ⁱⁱ

In 1775, Percivall Pott, an English surgeon, reported the first case of occupational cancer in the medical literature.ⁱⁱⁱ He attributed the development of cancer of the scrotum in chimney sweeps to their skin exposure to soot. Since then, numerous occupational exposures have been linked to cancers. Lung cancer in underground miners has been linked with ionizing radiation (radon) from uranium and radium.^{iv} The association of occupational asbestos exposure with malignant mesothelioma is an example of persuasive evidence of the relationship between occupation and cancer.^v

As discussed in Chapter 6, fire fighters are at an increased risk of exposure to certain carcinogens, and are therefore at an increased risk of developing certain cancers. Research has conclusively demonstrated that fire fighters have an increased incidence of leukemia, multiple myeloma, non-Hodgkin's lymphoma, bladder cancer, and brain cancer compared to other workers.^{vi,vii,viii} Additional research indicates that fire fighters may be at increased risk for prostate, large intestine, and skin cancers. Chapter 8 discusses cancers specific to female fire fighters as well. It is likely that better, larger studies will strengthen the link between fire fighting as an occupation and specific cancers.

Studies are likely to under count cases among fire fighters for several reasons. Fire fighters as a group may be more resistant to disease. Due to the rigorous physical demands of fire fighting, fire fighters may be healthier compared with the general population. Also, fire fighters who become ill may change to other occupations. This "double healthy worker effect"^{ix} may lead to reduced risk estimates for diseases in fire fighters. In addition, cancer may be under reported among fire fighters because many retire at age 50-55 and there is a long latency period for several cancers. As a result, fire fighters who are diagnosed with cancer after retirement from the fire service may not be included in these studies.

Many studies of causes of death among fire fighters use death certificate data as described in chapter 2. However, death certificate information is usually incomplete and may not reflect all cases of cancer. Only the immediate cause of death may be included, and other illnesses, such as cancer, may be omitted. Information on occupation is often not included on death certificates, and if included, may only reflect the current occupation at the time of death. Thus, studies that depend on death certificate information may underestimate the number of cases of cancer in firefighters.

For scientific studies to report "statistically significant" conclusions, the number of people studied must be large, and even if fire fighters from several regions are studied together, there may not be enough cancer cases to reach "statistical significance" even though there may be a relationship between exposure and disease.

Brain Cancer

Chemicals associated with an increased risk of brain cancer include vinyl chloride, benzene, PAHs, PCBs, N-nitroso compounds, triazines, hydrazines, formaldehyde, and pesticides.^{xiii,xiv} Fire fighters are routinely exposed to these chemicals alone and in combination. These chemicals are often released during combustion, with levels varying by the particular type and quantity of material burned.

Several published reports have examined the risk of brain cancer in fire fighters.^{xiii,17} One important study found that fire fighters had a forty-three percent greater risk of mortality from brain cancer than the general population.^{xiv} Researchers concluded that brain cancer fulfilled all the criteria for a causal association with fire fighting.

In 1991, researchers studied deaths from brain cancer among Honolulu fire fighters.^{xv} This study, based on three deaths in a very small population, found that the proportion of deaths due to brain cancer was almost four times as high for Honolulu fire fighters than in the general population.

A retrospective cohort study, which evaluated 5,995 fire fighters from six fire departments in Toronto, Canada and compared them to other members of the Ontario cohort population from 1950 to 1989, demonstrated that fire fighters experienced an increased risk of death from brain cancer.^{xvi} Another study evaluated Stockholm, Sweden fire fighters who worked from 1931-1983, demonstrated the existence of a dose-response relationship between incidence of brain cancer and increased age, time of employment, years since hire, and estimated number of fires fought during employment.^{xvii} Evidence that increased exposure results in increased cases of a specific disease is strong evidence that the exposure causes the disease. Rosenstock et al. concluded that there was an excess of brain cancer among fire fighters from the Northwest United States with 30 or more years of employment relative to both U.S. white males and police.^{xviii} Figure 1 summarizes the risk estimates for brain cancer from epidemiologic studies of fire fighters.¹¹²

Cancers of the Blood and Lymphatic Systems

Leukemia and lymphoma are cancers that arise from transformation of normal blood forming cells and cells in the lymphoid tissue, respectively. Cancer cells that proliferate in the bone marrow or lymphoid tissues may disturb normal immune function and blood making ability (hematopoiesis) of the body. Three types of malignancies that have been studied in fire fighters: leukemia, non-Hodgkin's lymphoma, and multiple myeloma.

Leukemia and lymphoma are known to be associated with occupational and environmental exposures to both benzene and 1,3-butadiene.^{xix,xx,xxi,xxii} Benzene is a solvent found in gasoline, and is a combustion byproduct of plastic and synthetic materials. 1,3-butadiene is a monomer that is found in synthetic rubber products and tires and is also a combustion byproduct. Benzene is a well-known risk factor for leukemia and one revealed that air monitoring conducted at a Buffalo Fire Department detected significant concentrations of benzene at fire sites.^{xxiii}

A number of epidemiologic studies have shown an increased incidence of leukemia in fire fighters.^{xxiv,xxv,xxvi} A study in New Jersey, comparing fire fighters to police officers, demonstrated a nearly three-fold greater risk of death from leukemia for fire fighters.^{xxvii} This study also demonstrated an almost two-fold increase in mortality when compared to the general population

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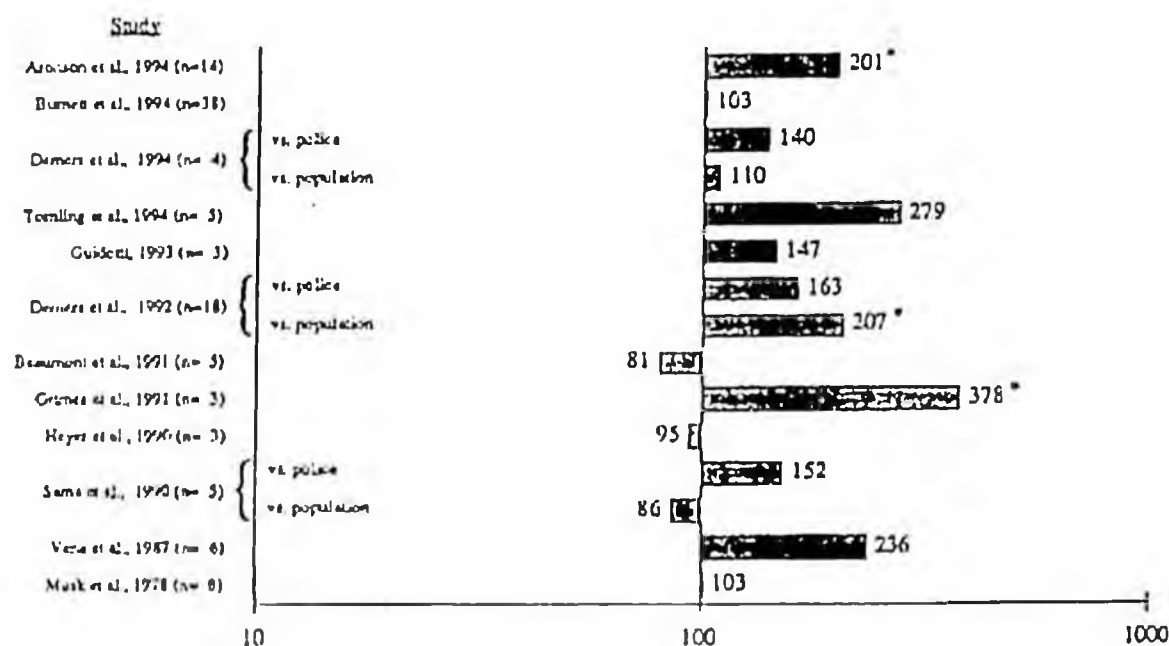


FIGURE 1. Brain cancer risk estimates for firefighters from published epidemiologic studies. Studies listed by first author and publication year (n = observed number of cancers among firefighters). Risk ratio expressed by authors as SMR, PMR, SIR, or RR, with null value (no excess risk) equaling 100 on log¹⁰ scale. *Statistically significant increase in risk ratio (p<0.05).

in New Jersey and the United States. Another study that used the Massachusetts Cancer Registry from 1982 to 1986 also found that fire fighters had three times the risk of police officers.¹⁴⁵

Several studies have demonstrated an increased risk of non-Hodgkin's lymphoma among fire fighters. One study found a three-fold increase in non-Hodgkin's lymphoma among fire fighters compared to police officers.¹⁴⁵ Studies in Melbourne, Australia¹⁴⁶ and Toronto, Ontario¹⁴⁷ reported a nearly two-fold risk of developing non-Hodgkin's lymphoma among fire fighters when compared to the general public. A recent large study of death certificates from 24 states examining the occupations of persons whose cause of death was non-Hodgkin's lymphoma found a significant association between this cause of death and fire fighting.¹⁴⁸

Multiple myeloma is the cancerous transformation of the blood's plasma cells. This cancer accounts for approximately one percent of all malignant diseases. Specific exposures associated with an increased risk for multiple myeloma include benzene, cutting oils, pesticides, and paint compounds. Fire fighters may be at higher risk for this disease, particularly given their exposure to benzene and, possibly, pesticides.

The epidemiologic studies to date have found varied results as to expected risk. A study Seattle fire fighters, demonstrated a nine-fold increased risk of mortality from multiple myeloma among fire fighters with greater than 30 years of active fire combat duty.¹⁴⁹ Another review of mortality data from 1984-1990 compiled from 27 states, found that the proportion of deaths due to multiple myeloma is 1.5 times as high when compared to all causes of death in fire fighters.¹⁴⁹ A 1989 study reported a mildly elevated risk (based on a small sample).¹⁴⁰ Figure 2 summarizes the risk estimates for leukemia from epidemiologic studies of fire fighters.¹⁴⁵

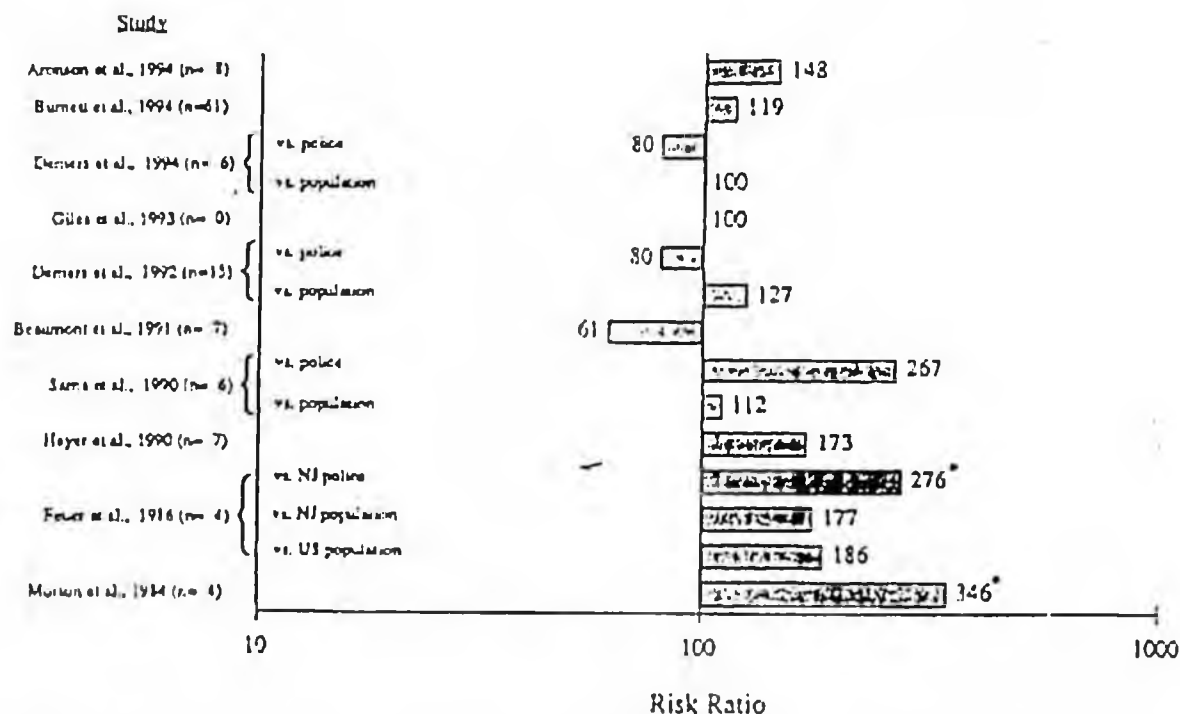


FIGURE 2. Leukemia risk estimates for firefighters from published epidemiologic studies. Studies listed by first author and publication year (n = observed number of cancers among firefighters). Risk ratio expressed by authors as SMR, PMR, SIR, or RR, with null value (no excess risk) equaling 100 on log¹⁰ scale. *Statistically significant increase in risk ratio (p < 0.05).

Bladder Cancer

Occupational risk factors, which are associated with bladder cancer, include exposure to solvents, several aromatic amines, benzidine, PAHs, soot and oils, coal tars, and pitches.¹³⁹ All of these compounds are commonly present in fires, especially those involving chemical and commercial worksites. A personal risk factor for bladder cancer is cigarette smoking. Smokers experience twice the risk of bladder cancer compared to non-smokers. Numerous epidemiologic studies have found a higher incidence of bladder cancers among fire fighters.^{140,141,142,143,144} A study of the Massachusetts Cancer Registry noted an increased risk of bladder cancer among fire fighters when compared to a police officers.¹⁴⁵ A study observing fire fighter mortality in Paris, France, found an increased number of deaths noted for genitourinary cancers (SMR=3.29) when compared to all French males.¹⁴⁶ Figure 3 summarizes the risk estimates for bladder cancer from epidemiologic studies of fire fighters.¹⁴²

Kidney Cancer

Renal cell carcinoma (kidney cancer) has been associated with exposure to asbestos, PAHs, lead, phosphate, coke oven emissions, dimethylnitrosamine, and gasoline.^{147,148,149} In a study of renal cell carcinoma in various occupational groups using a national cancer registry, researchers concluded that fire fighters may be at an increased risk of developing renal cell carcinoma.¹⁵⁰

Other studies¹⁵¹ demonstrated a significant increase in renal cell carcinoma in fire fighters using mortality data for fire fighters from 27 states in the U.S. and in Alberta, Canada.¹⁵² One of these studies reported a four-fold increased risk for dying from kidney and ureteral

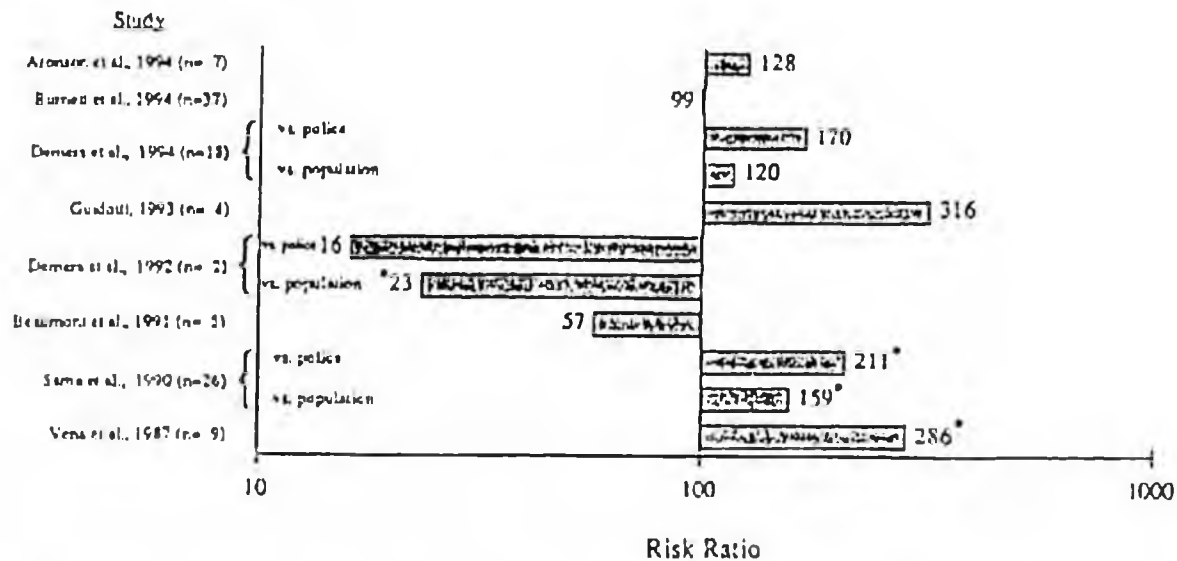


FIGURE 3. Bladder cancer risk estimates for firefighters from published epidemiologic studies. Studies listed by first author and publication year (n = observed number of cancers among firefighters). Risk ratio expressed by authors as SMR, PMR, SIR, or RR, with null value (no excess risk) equaling 100 on log¹⁰ scale. *Statistically significant increase in risk ratio (p < 0.05).

carcinoma.¹²² Another study, however, showed a lower than expected incidence and mortality of renal cell carcinoma in fire fighters.¹²³

Prostate Cancer

Workers known to have a high risk of prostate carcinoma include chemists, cadmium workers, painters, loggers, textile mill workers, and rubber industry workers.^{124,125} Research on prostate cancer in fire fighters indicates that fire fighters may also be at increased risk of prostate cancer.

In a study of Australian fire fighters between 1917 and 1989, researchers found an increased incidence of prostate carcinoma in fire fighters with a two-fold increase in the standardized incidence ratio.¹²⁶ A study of Hawaiian fire fighters performed found a three-fold increased incidence of prostate cancer mortality in Caucasian and Hawaiian fire fighters when compared to all causes of death among fire fighters.¹²⁷ A retrospective cohort study of San Francisco fire fighters employed between 1940 and 1979 found a decreased incidence in deaths due to prostate cancer.¹²⁸ Figure 4 summarizes the risk estimates for prostate cancer from epidemiologic studies of fire fighters.¹²²

Testicular Cancer

Testicular cancer accounts for less than one percent of all male cancer deaths, however, it is the most commonly diagnosed malignancy for men aged 20-34. Testicular cancer has been linked to occupational exposures to dimethylformamide (DMF) and chromate-based solvents.¹²⁹ Two studies have examined testicular cancer in fire fighters. The first, a study of Melbourne Australian males from 1917 to 1989, found no association between testicular cancer and fire fighters, however, this study included only two cases of testicular cancer.¹ The second study observed three deaths from testicular cancer over a 40-year period, constituting a two-fold

increased risk.¹¹ Further study is needed to address true fire fighter incidence and risk for testicular cancer.

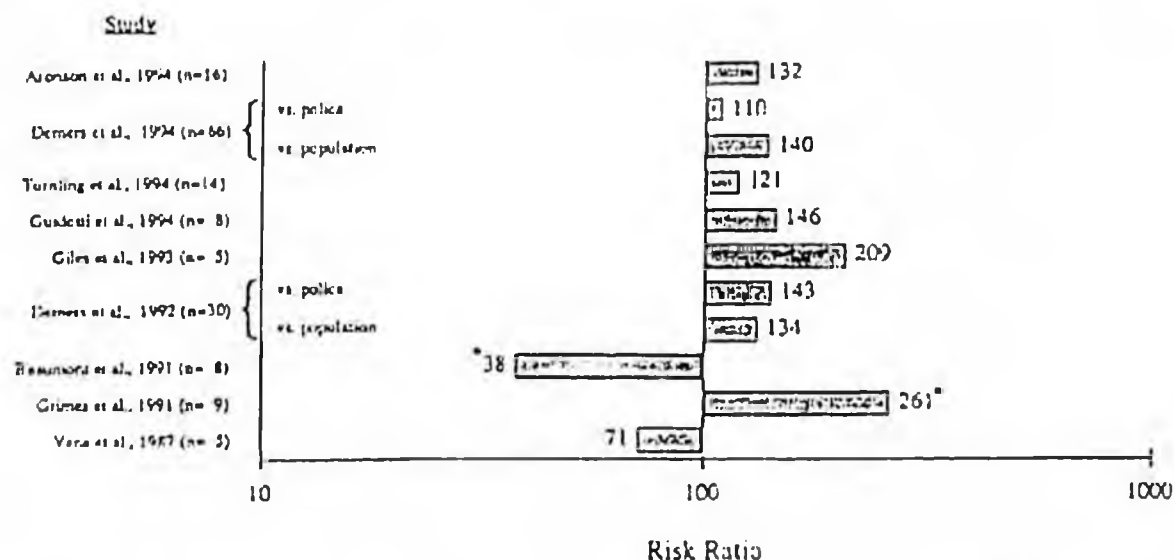


FIGURE 4. Prostate cancer risk estimates for firefighters from published epidemiologic studies. Studies listed by first author and publication year (n = observed number of cancers among firefighters). Risk ratio expressed by authors as SMR, PMR, SIR, or RR, with null value (no excess risk) equaling 100 on log₁₀ scale. *Statistically significant increase in risk ratio (p < 0.05).

Cancers of the Large Intestine, Liver, Pancreas, Stomach, and Esophagus

Chemical exposures associated with cancers of the digestive system include: asbestos, lubricating oils, dyes, solvents, and metallic compounds.¹¹² Researchers have determined that inhaled particles are transferred¹ to the gastrointestinal tract where toxic and carcinogenic substances may harm the lining of the digestive tract.¹¹³ A number of epidemiologic studies have been done that have examined the incidence of cancer of the colon, rectum, liver, pancreas, stomach and esophagus in fire fighters.

Cancers of the Large Intestine

Studies of fire fighters have demonstrated a higher incidence of rectal carcinoma compared to the general population.^{114, 115, 116, 117, 118} One study demonstrated an 86 percent excess risk of mortality from colon cancer in a group under 65 years of age.¹¹⁹ Another study demonstrated an increase in mortality from colon and rectal cancers.¹¹⁸ Two studies of northwestern U.S. fire fighters showed lower than expected mortality rates from colon and rectal cancers in fire fighters.¹⁸ In contrast, three additional studies found an increased rectal cancer mortality in fire fighters, at almost twice the expected rate, however these findings were not statistically significant.^{119, 120, 121} Higher than expected rates of colorectal cancer were also observed in fire fighters with exposure to asbestos.¹²² Figure 5 summarizes the risk estimates for rectal cancer from epidemiologic studies of fire fighters.¹²³

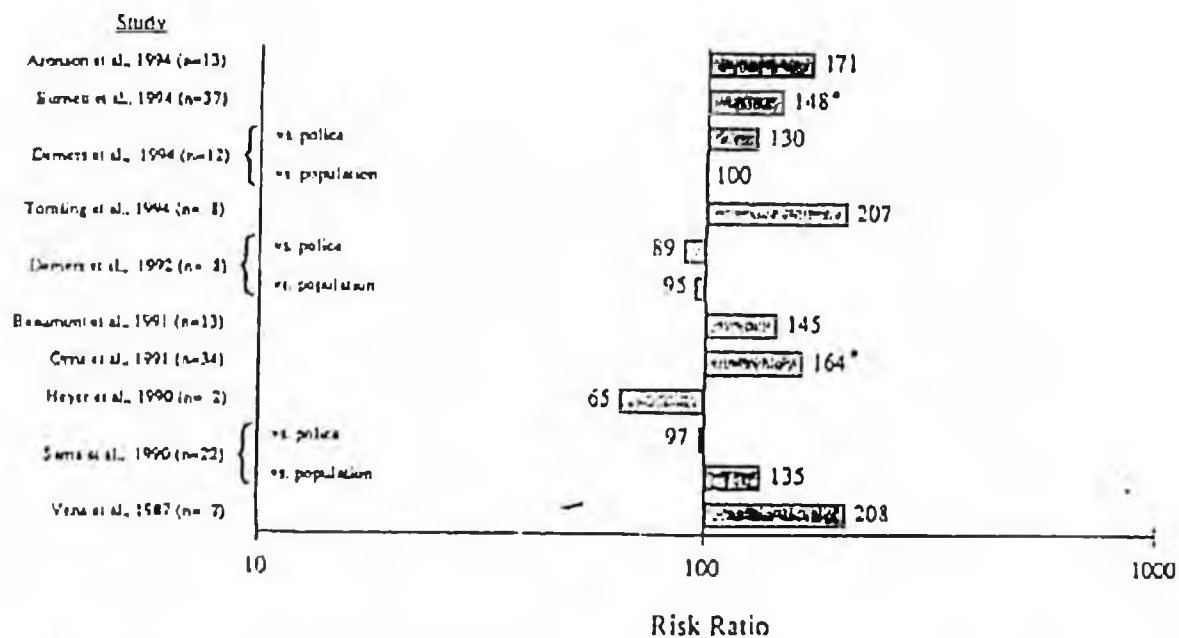


FIGURE 5. Rectal cancer risk estimates for firefighters from published epidemiologic studies. Studies listed by first author and publication year (n = observed number of cancers among firefighters). Risk ratio expressed by authors as SMR, PMR, SIR, or RR, with null value (no excess risk) equaling 100 on log₁₀ scale. *Statistically significant increase in risk ratio (p < 0.05).

Liver Cancer

Primary cancer of the liver is rare in the United States.¹³² Occupational causes of angiosarcoma of the liver include exposures to vinyl chloride, arsenic, asbestos, PCBs, diesel exhaust, pesticides, solvents, benzene, dyes, and paint, and infection with hepatitis B or hepatitis C viruses. Many of these chemicals are released during structural fires, and are present in furniture, cable insulation, water pipes, and electrical wires.¹³³ A study of fire fighters in San Francisco employed between 1940 and 1970 found a two-fold excess of liver cancer deaths (including cancer of the biliary passages and gallbladder) when compared to the general U.S. population.⁵⁴ Another study of Stockholm fire fighters employed from 1931-1983 showed an increase in mortality, however a slightly lower incidence of liver cancer.¹³⁴ It is difficult to reach statistical significance in epidemiological studies due to the small number of cases of liver cancer in the population.

Pancreatic Cancer

Pancreatic cancer has been associated with exposures to beta-naphthylamine, benzidine, and metal dusts in petrochemical workers, stationary engineers, metal workers, and chemists.^{135,136,137} Epidemiologic studies of fire fighters have not shown a significant risk of this disease.¹³² In eight studies that evaluated pancreatic cancer in fire fighters, four studies did not show any increased risk, one reported a non-significant decreased risk,¹³⁸ and three showed slightly elevated risk over the general population.^{139,140,141,54}

Stomach Cancer

A number of epidemiologic and toxicological studies have found an increased risk of stomach cancer associated with occupational exposures to benzidine, alpha-naphthylamine, and

beta-naphthylamine, dusts, asbestos and cutting oils in the chemical and rubber industries.¹³³⁰ In addition, stomach and intestinal cancers have been associated with exposure to PCBs and dioxins.¹⁷

A study of Stockholm fire fighters employed from 1931-1983¹³³¹ showed a 21 percent excess risk for stomach cancer mortality, which was noted to increase with both years of employment and number of active fires fought. A study of Australian fire fighters from 1939-1978 demonstrated a two-fold increase in mortality from gastric cancer compared to the general population.¹³³²

Esophageal Cancer

Major risk factors associated with esophageal cancer include alcohol consumption and cigarette smoking. Researchers have also found an increased risk of esophageal cancers in workers exposed to combustion by-products.¹³³³ Adenocarcinoma of the esophagus is strongly associated with asbestos exposure.¹³³⁴ A retrospective study of San Francisco fire fighters from 1940 to 1979 found a nearly two-fold increase in the expected mortality rate from esophageal cancer.⁵⁴ In this study there was no associated increase in risk with increased time of duty as a fire fighter. The study hypothesized an interaction between alcohol consumption and fire fighting, resulting in an increased incidence of esophageal cancers.

Skin Cancer

Occupational exposures associated with an increased risk of skin cancer include soot and tars, coal oven emissions, cutting oils, arsenic, PAHs, and PCBs.¹³³⁵ The most common cause of skin cancer is exposure to ultraviolet radiation from sunlight.¹⁷

A proportionate mortality study of a New Jersey fire fighter retirement system found that deaths due to skin cancer were three times the number of expected deaths when compared to the U.S. population.¹³³⁶ Fire fighters risk of death due to skin cancer was similar to that of police.¹³³⁷ A study of Massachusetts fire fighters using Massachusetts Cancer Registry data from 1982-1986 found a nearly three-fold increase in cases of malignant melanoma compared to the state population, however, no excess risk was found when compared to police officers except in the 55-74 age group.¹⁴⁵ Figure 6 summarizes the risk estimates for skin cancer from epidemiologic studies of fire fighters.¹³²

Lung Cancer

As discussed in Chapter 7, fire fighters are routinely exposed to suspected lung carcinogens such as asbestos, PAHs, arsenic, formaldehyde and vinyl chloride. Asbestos is universally recognized as a human carcinogen, occupational exposure causes an excess risk for a variety of cancers.¹³³⁸ Exposure to these cancer-causing agents can occur during active fire combat as well as during overhaul.

In sixteen epidemiologic studies that addressed cancer of the respiratory tract, there was no statistically significant excess risk of lung cancer observed in fire fighters.¹³⁵ However, one study reported 12% excess in respiratory cancer deaths for fire fighters in Paris, France when compared to the general population of French men.¹³³⁹

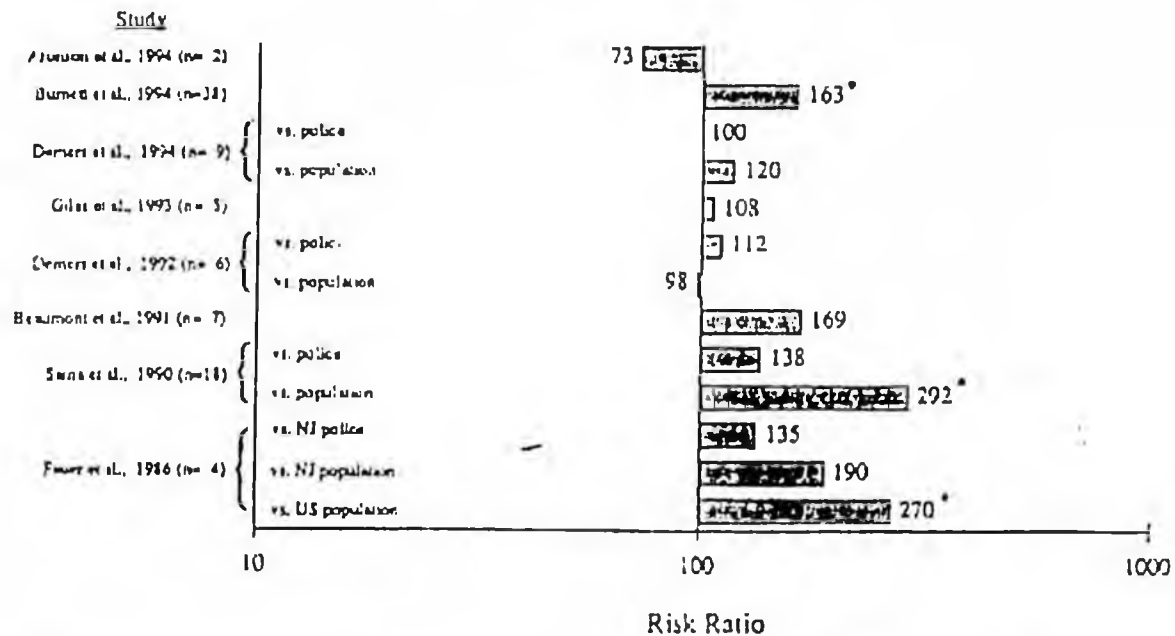


FIGURE 6. Skin cancer risk estimates for firefighters from published epidemiologic studies. Studies listed by first author and publication year (n = observed number of cancers among firefighters). Risk ratio expressed by authors as SMR, PMR, SIR, or RR, with null value (no excess risk) equaling 100 on log¹⁰ scale. *Statistically significant increase in risk ratio (p < 0.05).

Summary

Epidemiologic studies provide sufficient data that fire fighters are at increased risk of developing and dying from leukemia, non-Hodgkin's lymphoma, multiple myeloma, and cancers of the brain and bladder due to occupational exposure to carcinogens.¹³² Weaker but still credible evidence links fire fighting to elevated risk of rectal, colon, stomach, and prostate cancers and melanoma.¹³² The studies cited throughout this section reveal marked elevations in incidence of these cancers, which could not be explained by causes other than workplace exposure. Some of these studies are somewhat limited in statistical power, due to the small numbers of subjects, the differences in exposures over time, and changes in awareness of safety and type of protective equipment used during the study periods.¹³²

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I am pleased to provide you specific information regarding the claims experience of States that currently have presumptive cancer legislation.

As you are aware, I represent the 260,000 members of the International Association of Fire Fighters (IAFF) for occupational health, medicine and safety issues. I have been with the IAFF for over 24 years. Additionally, I have been personally involved in every state effort to obtain cancer compensation benefits for our members, whether through direct testimony or developing data and information to support legislative efforts.

During this vast experience, it became quite obvious to me that the fiscal impact and other financial information provided by opponents to fire fighter cancer legislation might be incomplete. This is not surprising since fire fighters throughout the United States are not universally covered by State Worker's Compensation Programs. Many states, by statute, allow fire departments to cover their employees for worker compensation benefits through the individual retirement systems. Hence, any claims made and or paid would not be recorded by the State Worker Compensation Bureau, but would be recorded by the individual retirement system. This would be the case in a number of other states that currently have cancer presumptive legislation. This data is more easily obtainable from those States that have statewide fire fighter pension systems, since the system collects and records the data. The only exception would be when the employer challenges the presumptive nature of the claim. In this case the State Worker Compensation program would record the claim.

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We believe that it is reasonable to suggest that there would be some claims experience related to this type of coverage. Therefore, we were able to obtain some additional numbers on fire fighter disabilities and cost experience from around the country.

In the State of California, which has the largest career sector of fire fighters in the country (30,000) and one of the largest volunteer sectors (33,000) the addition of cancer presumptive benefits has had "no impact" on the actuarial assumptions or funding of the state's fire fighter retirement system (Assemblyman Sal Cannella, California Legislature). An actuary for the California Public Employee Retirement System (CALPERS), the largest retirement system in the United States, has declared that the addition of presumptive cancer benefits for fire fighters has had "minimal effect" on the actuarial costs to the retirement system. In fact, the financial implications were so minimal, that CALPERS never had to perform an actuarial impact study after the implementation of the benefit by the California legislature (David DuBois, Contract Services Department, CALPERS). During the first three years, an average of 45 annuitants claims have been paid for cancer related disabilities. This is .07% of the active fire fighting workforce. The average claim for total cancer benefits was \$14,075.00.

In 1984, the State of Illinois added cancer presumption language to its worker compensation statute. The City of Chicago employs over 50% of the 10,700 career fire fighters in the State of Illinois. During the 6 year period following the implementation of the statute the average number of beneficiaries receiving occupational disability benefits was 8.3% lower than the average number of beneficiaries in the six years prior to passage. Thus the inclusion of cancer benefits in 1984 has obviously had no impact on the funding requirements for the occupational disability benefits portion of the Chicago Firemen's Annuity and Benefit Fund (Firemen's Annuity and Benefit Fund of Chicago Actuarial Statement).

In the first six years that they have had fire fighter cancer legislation in Oklahoma, they have had 22 claims paid statewide or 6% of the 378 disability claims paid. This averages to 4 claims per year for a rate of cancer claims of .03% at an average cost to the pension system of \$10,409.00 per total cancer claim (Bob

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Hollander, Executive Director, Oklahoma Firefighters Pension and Retirement System). There are 3,420 career fire fighters and 9,000 volunteer fire fighters.

In Nevada, there have been 3 cancer claims paid in the first four years since the legislation was enacted. None of these cases include lung cancer, which is covered under separate legislation (S. Mark Balen, President, Nevada Fire Fighters Association). There are 1,790 career fire fighters and 2,200 volunteer fire fighters in Nevada. This averages to less than 1 claim per year for a rate of cancer claims of .02%.

In Rhode Island, which passed the legislation in 1986, there have been 6 claims paid in the first 8 years. This averages to less than 1 claim per year for a rate of cancer claims of .02% (Theodore Scripsack, Chairman, Rhode Island Firefighter's Relief Board). There are 2,200 career fire fighters and 2,800 volunteer fire fighters in Rhode Island.

In the first four years that they have had cancer legislation in Massachusetts, there have been 34 cancer claims paid (15 disability and 19 death benefits). (Joseph Martin, Deputy Director, Public Employee Retirement Agency). This averages to less than 9 claims per year at a rate of .03% of the active fire fighting workforce. There are 14,500 career fire fighters and 11,400 volunteer fire fighters in Massachusetts.

In Alaska there are about 1,000 career and volunteer fire fighters. Using the assumption that Alaska has a rate that does not exceed the average of the above States' cancer related disabilities -- .034% of the active fire fighting workforce -- the expected number of annual cancer claims for career fire fighters would be less than 1 fire fighter.

Based on the above information on actual experience, the cost per cancer claim for those states having presumptive occupational disease statutes is substantially less than the unsubstantiated figures asserted by other parties. The reason for this, unlike benefits for other occupations, is the higher mortality rate and significantly shorter life expectancy associated with fire fighting. Fire fighters are dying too quickly from cancer and other

Mr. Michael Higgins

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occupational diseases, unfortunately producing a significant pension annuity saving for states and municipalities.

Mr. Michael Higgins

May 1, 2003

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I hope this information is helpful. I have also attached my curriculum vitae for your use. If you need any additional assistance, please do not hesitate to contact us.

Sincerely and fraternally,

Richard M. Duffy

Assistant to the General President

Members of the committee, good morning. I am here today as a representative of the IAFF and will specifically address the known associations between fire fighting and chemical-induced cancers, cardiovascular disease and infectious diseases. I will address:

- Phases of fire fighting
- Fire fighter exposure to toxins that can cause cancer
- Scientific evidence linking firefighters to increased rates of cancer

First some background

My name is Dr. Vanessa Elharrar and I am a second year Preventive Medicine resident at Johns Hopkins University who is currently working at IAFF in Washington DC. A working relationship between IAFF and Johns Hopkins has existed since 1986.

I will start my testimony today by explaining the...

Phases of Fire Fighting:

There is more than one phase of Fire Fighting

- Knockdown, which refers to active fire fighting; keep in mind that respirators and other personal protective equipment (PPE), even when worn properly, are not 100% effective in preventing exposure.
- Next is overhaul; the search for smoldering materials that might reignite. This phase may be the most hazardous for inhalation of toxins. Fire fighters are likely to remove protective gear and search through rubble for persistent fires, while surrounded by smoldering/smoking debris releasing various toxic gases.
- Clean-up after a fire, in which carcinogens in soot/residue on Personal protective equipment may be absorbed, particularly through hydrated skin.

- Lastly, there are firehouse exposures, where fire fighters spend long hours and are repeatedly exposed to diesel exhaust, an established carcinogen. Overall, fire fighters are exposed to potential carcinogens during a large proportion of their career.

Fire Fighter Exposure Studies:

Practically every emergency situation encountered by a fire fighter has the potential for exposure to carcinogenic agents. Fire fighters knowingly enter potentially toxic atmospheres, often without adequate protection or knowledge of the environment. Fire fighters in Alaska are exposed to toxic and carcinogenic substances at fire scenes as well as other emergencies such as chemical spills.

- Fire fighters are routinely exposed to complex and dynamic mixtures of chemical substances that are contained in fire smoke and building debris. The first chemical I will discuss is:

Benzene

Benzene is firmly established as a human carcinogen. Numerous studies have shown that benzene is a common airborne contaminant in fire smoke. In Boston, levels of a number of air contaminants, including benzene were measured at more than 200 structural fires. Benzene was detected in (92%) samples taken at fire scenes by air sampling units placed on the chests of fire fighters. Half of the samples showed benzene over the current Occupational Safety and Health Administration (OSHA) permissible exposure level.

In Buffalo, Benzene was detected in twelve of 14 fires. Even when the smoke's intensity was rated as low, benzene was usually present above OSHA permissible exposure levels.

The National Institute for Occupational Safety and Health studied benzene at 22 fires.

Half of the samples taken during the knockdown phase of the fire showed high benzene concentrations.

Asbestos

Asbestos is universally recognized as a human carcinogen and is responsible for an excess risk of a variety of cancers in numerous occupations. The likelihood that fire fighters have exposure to asbestos is high.

In New York City, a study looked at 212 fire fighters. Thirteen percent of fire fighters, without any documented exposure to asbestos, had abnormalities on chest x-ray that were consistent with prior asbestos exposure.

This indicates that significant asbestos exposure has occurred in this group, and it is reasonable to expect that fire fighters have an increased risk of various cancers as a result of their exposure to asbestos.

Polycyclic Aromatic Hydrocarbons

Polycyclic aromatic hydrocarbons (PAHs) are a class of organic material, found in substances such as coal tar. They are associated with excess risk of a variety of cancers, including cancer of the skin, lung, kidney, and bladder. Significant levels of PAHs have been measured at fires.

Formaldehyde

Formaldehyde is considered a probable carcinogen. It has been measured at the fire scene in more than one study, at levels above the OSHA permissible 15 minute short term exposure limit.

Other Agents

With the addition of thousands of synthetic chemicals annually, it becomes impossible to study the carcinogenic properties of each chemical. We really do not know what toxins are in the soot from every fire - chemicals can be altered by heat.

Overall, despite protective gear, fire fighters are still exposed to cancer causing agents.

Fire Fighter Cancers

A number of studies have identified and established increased risk of cancer in fire fighters and identified associations with carcinogenic occupational exposures. The majority of studies that examined these cancers found markedly elevated risks for fire fighters. Epidemiological studies in the medical literature show that employment as a fire fighter increases the risk of developing and dying from the following specific cancers.

Brain Cancer

Recent epidemiologic studies consistently have found that brain cancer is associated with fire fighting. One study found dose response relationships between brain cancer mortality and increasing age, duration of employment, and estimated number of fires fought. In other words, the more firefighting you did, the higher your risk for brain cancer.

Cancers of the Digestive System

It is known that, once cleared from the airways, inhaled particles and the carcinogens that adhere to them are transferred to the gastrointestinal tract by swallowing.

•Colon Cancer (cancer of the large intestine)

Excess rectal cancer has been found consistently in many studies of fire fighters.

A similar pattern was evident for colon, colorectal and intestinal cancer.

Asbestos exposure is a risk factor for development of colorectal cancer.

Also associated

- Bladder and Ureter Cancer

- Kidney Cancer

PAHs are known causes of urinary tract cancers and are combustion products present at fire scenes.

Hematologic Cancers

- Leukemia

The majority of epidemiologic studies have found that fire fighters are at increased risk of leukemia.

- Lymphoma

Several studies of fire fighters showed increases in risk of non-Hodgkin's lymphoma.

The study from the Massachusetts Cancer Registry found a statistically significant risk 3.3 times higher of that of police officers.

2 other studies, from Australia, and Canada, reported that fire fighters had twice the risk of non-Hodgkin's lymphoma.

Skin Cancer/Melanoma

Substances containing carcinogenic agents may be absorbed by the skin of exposed body areas and when protective clothing is permeated. Contact with these substances can occur during fire knockdown and overhaul and during the cleaning of clothing or equipment. One study found an almost three-fold increase in skin cancer mortality for New Jersey fire fighters. Another study found that fire fighters had almost three times the risk of melanoma.

In summary, there is sample data to show that fire fighters are exposed to carcinogens in their work environment.

We also know that personal protective equipment used by fire fighters is not 100% effective, and the data strongly suggest that fire fighters are at increased risk of developing and dying from cancer.

Healthy Worker Effect

Due to the selection forces at the work place, occupational groups tend to be healthier than the general population with disease incidence significantly less than the general population. An increase in the prevalence of a medical condition arising from work place exposures may therefore be missed with comparison to the general population.

Fire Fighters and Heart Disease

It has been documented in scientific studies that fire fighters are exposed to thousands of different chemical agents during the course of their duties. Studies have also documented the heart's response to fire fighting and the very high physiological demands of fire fighting. Industrial hygiene studies have measured exposures at real and simulated fires.

Some of the products of combustion are known to be associated with circulatory disease. Studies which have suggested certain chemicals can cause atherosclerosis have been performed in animals. In addition, other studies suggest combustion products may cause angina in humans. Epidemiologic studies of fire fighters have suggested an increased incidence of cardiovascular disease.

Some of the combustion products and chemicals to which fire fighters are exposed have been documented in animal studies to cause atherosclerosis. Examples of these combustion products include carbon monoxide, carbon disulfide, lead, pesticides, cadmium, and polycyclic aromatic hydrocarbon compounds. Other chemicals, carbon monoxide, and cyanide, affect the

physiologic ability of fire fighters to carry oxygen in their blood, which can directly lead to a cardiovascular event.

The acute exacerbation of cardiovascular disease (CVD) resulting from the increased physiological demands of wearing bunker gear and SCBA, performing the duties of fire fighters, and facing the thermal stress of fire fighting are all well accepted. Elevated carboxy-hemoglobin in a victim of acute CVD is also well accepted as a contributing factor. The above causative factors have been well studied in fire fighters.

Many mortality studies have been performed in fire fighters and demonstrate that fire fighters have an increased risk (or incidence) of CVD. Studies have also associated fire fighters' job exposures with cardiovascular disease.

It is our position that acute CVD is exacerbated by fire fighting duties and that fire fighting increases the incidence of CVD in fire fighters.

Firefighters and Infectious diseases:

Infectious diseases have become a hazard to fire fighters too big to ignore. Fire fighters and city governments need to take progressive steps towards eliminating the risks of these hazards. Fire fighters and emergency medical responders can be exposed during motor vehicle accidents in which blood and sharp surfaces often are present, by rescuing burn victims, and through the administration of emergency care. The victim may require extrication from a difficult to access accident scene, such as a motor vehicle accident or poorly accessible building. There may be broken glass or other sharp objects at the scene that are poorly visualized, and the lighting at the scene may be minimal. In addition, if the victim is exsanguinating and needs to be extricated quickly to save his life, the emergency provider may act in haste, with disregard for his or her own safety. Fire fighters also may be involved in emergency medical treatment at the scene, including intravenous line insertion and blood drawing. The infectious disease status of the victim is almost never known to the fire fighter while he or she is rendering emergency services. All of these factors combine to place the fire

fighter or first responder at increased risk of contracting a blood borne contagious disease such as Hepatitis or HIV through a puncture wound, skin abrasion or laceration that becomes contaminated with infected blood from the victim. Administering CPR exposes firefighters to oral and respiratory secretions that increase the risk of contracting tuberculosis or meningococcal meningitis.

Firefighters, health care workers and emergency responders fall under the OSHA Blood borne pathogen standard 1910.1030. The blood borne pathogens cited in this standard include, but are not limited to, HIV and Hepatitis B. Occupational exposures are defined as "...reasonably anticipated skin, eye, mucous membrane or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties."

Furthermore, studies have shown higher prevalence of Hepatitis B antibody among firefighters when compared to the general population, suggestion increased exposure and infection. Since Hepatitis B is transmitted via the same routes as HIV and Hepatitis C, there is reason to believe that firefighters are at increased risk for exposure to these pathogens as well.

Conclusions:

Although there are more questions to be answered, and more chemicals to be studied for adverse health effects, we believe that there is sufficient scientific and medical evidence to show that fire fighters are exposed to multiple carcinogens an infectious diseases, and suffer from cancer, cardiovascular disease and infection due to their exposures in performing tasks associated with fire fighting.

Currently, 20 states and New York City have adopted legislation, or revised compensation regulations, that presumes that if a fire fighter develops cancer it is occupationally induced. Even more states have presumptive legislation covering cardiovascular disease. Additionally, workers' compensation boards nationally have established a history of identifying cancer in fire fighters as employment-related.

Based on actual experience in those states that have cancer presumptive legislation, the cost per claim is substantially less than the unsubstantiated figures asserted by others. The reason for this, unlike benefits for other occupations, is the higher mortality rate and significantly shorter life expectancy associated with public safety occupations. These members are dying too quickly from cancer and other occupational diseases, unfortunately producing a significant pension annuity saving for states and municipalities.

As my testimony has indicated, we strongly believe that sufficient evidence is available that shows fire fighters suffer from cancer and cardiovascular disease and are exposed to infectious diseases due to their profession. We believe it is time for you to enact legislation to clearly indicate that cancer, cardiovascular disease and infectious diseases including Hepatitis, HIV, meningococcal meningitis and TB are occupationally related to fire fighting.

Presumptive Cancer Legislation for Professional Fire Fighters: *An Act of fairness*

Executive Summary
September, 2004

Everyone knows that fire fighting is a dangerous occupation. Fire fighters face a wide variety of hazards on the job, as they battle raging infernos, rescue people trapped in burning structures or respond to chemical fires and other emergencies. Sadly, these dangers make fire fighting among the most dangerous professions in Canada. Every year, fire fighters die in the line of duty as the result of facing these hazards.

Fire fighters are aware of these dangers from the time they first choose the profession. But there's another serious danger that fire fighters face on the job; one that is not as sudden or shocking as a fire-ground accident, but just as deadly... cancer.

In the course of their careers, fire fighters are exposed regularly to burning chemicals and other toxins. Everyday plastics and chemicals, when burning, combine to form complex and unknown chemical combinations. There are 70,000 toxic substances on file with the EPA in the United States. But in reality, when these toxins burn together, there are 70 million possible combinations - new and untested toxic chemicals that are created in a fire. Fire fighters routinely endure exposure to these burning toxins in the course of protecting the lives and property of their fellow citizens.

Even the best respiratory practices and protective equipment cannot guarantee that exposure will not occur in the midst of a blazing inferno. This is the nature of emergency response.

It used to be a sad secret among professional fire fighters, who watched shift-mates die one after another from brain cancer... or leukemia... or other cancers. In Winnipeg, there were five fire fighter funerals in 1998-1999, four of those fire fighters died from cancer. The oldest among them was just 53.

Finally, there is growing awareness and recognition in Canada of this deadly threat. In response to a landmark study that examined the mortality of Toronto fire fighters between the years 1954 and 1989, the Ontario government in 1999 enacted guidelines for handling fire fighters' brain cancer and leukemia claims before the province's Workplace Safety and Insurance Board. While this guideline stopped short of fully recognizing what the study actually said about the numerous cancers that fire fighters are suffering from, it was an important first step in the battle for fair compensation for the occupational diseases that fire fighters are dying from.

Fire fighters, using this study in combination with more recent research, have sought fair compensation for occupational cancers in provincial jurisdictions across Canada. In May

2002, the Manitoba government determined it could not ignore the evidence before it and enacted Canada's first presumptive cancer legislation for fire fighters.

This precedent-setting legislation declared that if a career fire fighter suffers a brain cancer, kidney cancer, bladder cancer, leukemia or non-Hodgkins lymphoma, it is presumed to be the result of their occupation as long as they've been on the job a specified number of years. An accompanying regulation specified the minimum duration of employment in order to qualify for automatic compensation of each cancer, ranging from five years for leukemia to 20 years for kidney cancer and non-Hodgkins lymphoma.

Looking at the same evidence, the governments of Alberta, Saskatchewan and Nova Scotia followed suit within a year, enacting their own presumptive legislation. Legislative or regulatory initiatives to address the crisis of fire fighters and cancer are also ongoing in New Brunswick, Newfoundland and Labrador, Quebec and British Columbia.

What is presumptive legislation?

What is presumptive legislation? As its name implies, presumptive legislation presumes for the purpose of worker compensation that a fire fighter's brain cancer, for example, is the result of their employment as a career fire fighter, if they have been a fire fighter for a certain number of years.

Typically, presumptive legislation amends a province's workplace compensation legislation to state that if a career fire fighter develops a certain form of cancer, it is *presumed* that the cancer is a direct result of their occupation as a fire fighter, and that compensation will be granted.

In the absence of presumptive legislation, the onus is on the worker to prove their illness is a result of their occupation. Presumptive legislation changes that onus; the claim is approved automatically if the appropriate criteria are met, unless the employer can demonstrate that the illness is not a result of the fire fighter's occupation.

Without presumptive legislation, a worker who contracts an illness as the result of their job must file a worker's compensation claim, and endure the uncertainties of the claim process. This system of claims and appeals can take years to produce a final decision. Even so, there is still no guarantee the worker's compensation claim system will recognize an occupational disease and award appropriate compensation. There are cases where a fire fighter who contracted cancer as the result of years of toxic exposures and filed a claim was asked, "At which fire did you contract this cancer?"

The latent nature of the disease poses other considerations. Many fire fighters who are currently battling cancer suffered their exposures decades ago, when less was known about the importance of respiratory and other protections and when protective equipment was built to lower standards than today. In some cases, individual fire departments didn't provide enough SCBAs to equip everyone at the scene of a fire; some were lucky to get one while others entered a fire without any respiratory protection. They may have made it

home safely at the end of their shift, week after week, month after month, not knowing the seeds of a brain cancer or a leukemia that developed 20 years later had been irrevocably planted.

Too often, fire fighters don't know what they're up against until it's too late. In Saskatoon, Sask. in the early 1980s, fire fighters responded to a fire at a landfill site. They were unaware that the University of Saskatchewan had dumped radioactive waste at the site, including carbon-14. Half of the fire fighters who fought the blaze have since died of cancer.

The same is true of a March, 1987 fire at a Kitchener, Ont. factory that manufactured a green Styrofoam product used for flower arrangements. Fire fighters at the scene reported a strange, rainbow-coloured smoke that attached itself to their skin. While there were no injuries or illnesses reported by fire fighters at the time of the fire, things began to go tragically wrong a short time afterward. Two years later, two of the fire fighters who responded to the call were diagnosed with primary liver cancer. This was only the sad beginning. In the next few years, bladder cancers, brain cancers and other diseases showed up among the fire fighters at the scene. A total of eight Kitchener fire fighters who responded to the scene have since died of cancer.

Research and "statistical excesses"

In the mid 1990s, professional fire fighters in Ontario approached the province's Industrial Disease Standards Panel (IDSP) and asked them to look at this threat. The result was a landmark mortality study of 5,000 Toronto fire fighters between the years 1954 and 1989. It confirmed what fire fighters already knew: that statistically, fire fighters develop certain cancers at a higher rate than other workers. Chief among these cancers are brain cancer, kidney cancer, colon cancer, bladder cancer, cancer of the urethra, leukemia and non-Hodgkins lymphoma.

More recently, Dr. Tee L. Guidotti, an epidemiologist with the George Washington University Medical Center, has provided research into the links between cancer and the profession of fire fighting. His March, 2002 report to the Worker's Compensation Board of Manitoba was a deciding factor in that province's decision to enact presumptive cancer legislation for its professional fire fighters.

More recently, Dr. Guidotti has authored a report for the British Columbia Professional Fire Fighters Association. This report, dated March, 2003 and titled *Evaluating the Association between Selected Cancers and Occupation as a Fire Fighter*, concludes that it is reasonable to adopt a policy of presumption for certain cancers among professional fire fighters.

About this Document

This document you are reading is designed to illustrate what a number of Canadian provinces have done or are doing in recognition of cancer as an occupational disease

among fire fighters; to show the proliferation of presumptive cancer legislation across Canada and highlight some of the research that has led to these legislative advances.

Ultimately, it's only fair that fire fighters and their survivors are compensated for cancers that they suffer as a direct result of their occupation. And that's why presumptive cancer legislation for fire fighters is... "an Act of fairness."

ALASKA PROFESSIONAL FIRE FIGHTERS LEGISLATIVE FACT SHEET

Released 1/27/2005

HB 31

FIRE FIGHTER PRESUMPTIVE DISABILITY LAW

BACKGROUND

Fire fighters are exposed on a daily basis to stress, smoke, heat, and various toxic substances. As a result, fire fighters are far more likely to contract heart disease and cancer than other workers. And as fire fighters increasingly assume the role of the state's leading providers of emergency medical services, they are also exposed to infectious diseases. Heart disease, lung disease, cancer and infectious disease are now among the leading causes of death and disability for fire fighters, and numerous studies have found that these illnesses are occupational hazards of fire fighting.

In recognition of this linkage, 38 states have enacted "presumptive disability" laws, which presume that cardiovascular diseases, certain cancers and infectious diseases are job related for purposes of workers compensation and disability retirement unless proven otherwise. No such law covers firefighters employed in Alaska.

Under Alaska workers compensation laws, fire fighters must be able to pinpoint the precise incident or exposure that caused a disease in order for it to be considered job-related. This burden of proof is extraordinarily difficult for fire fighters to meet because they respond to a wide variety of emergency calls, constantly working in uncontrolled environments under difficult conditions. As a result, very few cases of occupational disease contracted by fire fighters have been deemed to be service-connected.

HB 31, sponsored by Representative Tom Anderson (R) has been introduced that will amend workers compensation law so the cardiovascular disease, certain cancers and infectious diseases are presumed to be job related for purposes of workers compensation and disability retirement, and places the burden on the employer to prove otherwise.

APFF POSITION

The APFF supports HB 31 which provides a disability presumption for Alaska's fire fighters

APFF ARGUMENTS

- Most states have acknowledged the occupational hazards attributed to fire fighting and have presumptive disability laws for fire fighters because it is difficult for fire fighters to identify when and where they contracted an occupational disease.
- Alaska fire fighters regularly respond to HAZMAT incidents involving chemical, radiological, or biological hazards. Working in such a hazardous environment, it is virtually impossible to precisely identify when and where a fire fighter contracted a disease.
- Alaska fire fighters do not have the benefit of a presumptive disability law. Instead they are faced with a burden of proof that is nearly impossible to meet and only in extraordinary cases do fire fighters, suffering from occupational diseases, receive fair and just compensation benefits.

CURRENT STATUS

HB 31 was referred to the Labor and Commerce Committee; Other referrals – HES and Finance Committees

ALASKA PROFESSIONAL FIRE FIGHTERS

International Association of Fire Fighters, AFL-CIO, CLC

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What is Presumptive Legislation?

What is presumptive legislation? As its name implies, presumptive legislation presumes for the purpose of worker compensation that a fire fighter's brain cancer, for example, is the result of their employment as a career fire fighter, if they have been a fire fighter for a certain number of years.

Typically, presumptive legislation amends a state's workplace compensation legislation to state that if a career fire fighter develops a certain form of cancer, it is presumed that the cancer is a direct result of their occupation as a fire fighter, and that compensation will be granted.

In the absence of presumptive legislation, the onus is on the worker to prove their illness is a result of their occupation. Presumptive legislation changes that onus; the claim is approved automatically if the appropriate criteria are met, unless the employer can demonstrate that the illness is not a result of the fire fighter's occupation.

Without presumptive legislation, a worker who contracts an illness as the result of their job must file a worker's compensation claim, and endure the uncertainties of the claim process. This system of claims and appeals can take years to produce a final decision. Even so, there is still no guarantee the worker's compensation claim system will recognize an occupational disease and award appropriate compensation. There are cases where a fire fighter who contracted cancer as the result of years of toxic exposures and filed a claim was asked, "At which fire did you contract this cancer?"

The latent nature of the disease poses other considerations. Many fire fighters who are currently battling cancer suffered their exposures decades ago, when less was known about the importance of respiratory and other protections and when protective equipment was built to lower standards than today. In some cases, individual fire departments didn't provide enough SCBAs to equip everyone at the scene of a fire; some were lucky to get one while others entered a fire without any respiratory protection. They may have made it home safely at the end of their shift, week after week, month after month, not knowing the seeds of a brain cancer or a leukemia that developed 20 years later had been irrevocably planted.

The days of entering fires without respiratory protection are over, and fire departments across the country are implementing comprehensive fitness and wellness programs. Most fire departments require annual medical examinations that include screening for cancers and infectious diseases. Fire fighters have better understanding of the products of combustion and the adverse effects upon their health, yet, in spite of these improvements fire fighting is still one of the most dangerous occupations in the United States. For example, one in three fire fighters in Los Angeles is expected to develop cancer by the age of 60. The introduction of new chemicals, plastics, and building materials continue to contribute to the myriad of toxins that fire fighters will encounter in their career. As long as fire fighters are exposed to these toxins while serving the public, some will contract job-related diseases as a direct result. This makes it all the more important to pass presumptive legislation; to protect Alaska's fire fighters and their survivors.

Why Do Alaskan Fire Fighters need Presumptive Legislation?

Presumptions giving the benefit of the doubt to Alaskan fire fighters are justified because they are subjected to an occupational risk that would be intolerable in other lines of work. The nature of the work calls for fire fighters to mitigate emergencies in less than ideal conditions, including but not limited to extreme weather, natural disasters, acts of terrorism, and toxic environments. As of 2005, 38 states as well as the federal government have enacted some sort of presumptive legislation to protect their emergency responders. The men and women serving as Alaska's fire fighters need the same protection as their peers in other locations.

Fire Fighters and Lung Disease

There are 70,000 various toxins on file with the EPA, but in reality, when these toxins burn together, they can create more than 70 million possible combinations, the effects of which are not fully understood. Studies have shown that these toxins cause irreversible pulmonary changes and lung disease in fire fighters. (1, 2) In spite of improvements to safety gear and training, fire fighters are still regularly exposed to these toxic environments when protecting lives and property

Fire fighters also have an increased risk of dying from non-malignant respiratory diseases. (3)

Fire Fighters and Heart Disease

Fire fighters exposed to carbon monoxide have increased cardiac arrhythmias during exercise. (4)

There is strong evidence of an increased risk of death overall from heart disease among fire fighters. This is particularly true because of the strong selection criteria for health in recruitment of fire fighters and, especially regarding diabetes-free individuals. (5)

Fire Fighters and Cancers

Statistically speaking, fire fighters have been shown to be at increased risk of numerous cancers, chief among them brain, kidney, colon, bladder, bone marrow, melanoma, urinary tract, leukemia, prostate, and non-Hodgkin's lymphoma. (6)

The relationship between cancer deaths and fire fighting is expressed by the Standard Mortality Ratio (SMR). An SMR greater than 100 indicates that the observed portion of deaths from a specific cancer is greater than the expected proportion. Fire fighters experience significantly elevated SMR's of 417 for benign neoplasms, 184 for colon cancer (7), 316 for bladder cancer (8) as well as 218 for brain cancer (9), to name a few.

Fire Fighters and Infectious Diseases

Fire fighters and emergency responders routinely respond to medical calls without warning, time, or medical knowledge of their patients. Because of this, fire fighters are not afforded the same precautions as other health care professionals. Compounding emergency situations are other hazards such as broken glass, sharp objects, and poor scene lighting, to name a few. These problems place fire fighters and emergency responders at an elevated risk of being exposed to infectious diseases.



Occupational Cancer and the Fire Fighter

9/1/00

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IAFF DEPARTMENT OF OCCUPATIONAL HEALTH AND SAFETY

SUMMARY OF THE VIEWS ON OCCUPATIONAL CANCER
IN FIRE FIGHTERS

Thank you for requesting information on Occupational Cancer in Fire Fighters. This document will serve to summarize and interpret the contents of the informational packet enclosed, as well as briefly state the views of the IAFF Department of Occupational Health and Safety on this matter.

L Summary of Cancer in Fire Fighters

(1) It has been documented in scientific studies that fire fighters are exposed to thousands of different chemical agents during the course of their duties. Many industrial hygiene studies performed in fire fighters have actually measured exposures at real and simulated fires.

(2) Some of these chemicals are known to be carcinogens (cancer-causing agents). Most of the studies that have suggested that certain chemicals can cause cancer have been performed in animals, but some human epidemiologic studies do exist.

(3) Some of the chemicals to which fire fighters are exposed have been documented in epidemiologic studies to increase the risk of cancer in working populations (such as workers manufacturing or applying the agent). These include vinyl chloride, asbestos, benzene, and polycyclic aromatic hydrocarbons (tars). These have been shown to cause liver cancer, lung and lung lining cancer, leukemia, and skin and lung cancer, respectively. These studies have not been performed in fire fighters, however.

(4) Several mortality studies have been performed in fire fighters (some of the reports are enclosed in this packet). When combining these studies, it appears that fire fighters have an increased risk (or incidence) of several types of cancer, including cancer of the brain, rectum and colon, skin, and leukemia. Other cancers, such as bladder cancer, have been found to be elevated in some studies but there is a lack of consistency in the findings.

The position of the IAFF Department of Occupational Health and Safety is that there is an increased incidence of some specific cancers in fire fighters.

(3) **Mortality study:** In fire fighter mortality studies, the causes of death are counted up for the fire fighters (the **observed** number of deaths) then compared to the **expected** number of deaths in the fire fighters if they had the **same rate of death** as some comparison population (usually the general U.S. population). These studies are performed in **cohorts** of fire fighters, some defined population of fire fighters with the criteria for study specified in advance (such as a minimum number of years employed, a certain city, etc.).

(4) **PMR (proportionate mortality ratio):** This is one common measure of the effect of fire fighting (or other jobs or exposures) on the incidence of disease in a fire fighter mortality study. The PMR looks at all the deaths in the population of fire fighters and calculates the **percent (or proportion)** of deaths due to a specific cause (for example, 35% of deaths were due to heart disease). This percent is then divided by the percent of deaths due to a specific cause in a comparison population. This ratio is the **PMR**. It is usually then multiplied by 100 so that PMRs above 100 mean "increased risk" (for example, a PMR of 270 is interpreted to mean that fire fighters had 2.7 times the risk of a certain cause of death). In general, the PMR is not thought to be as good an estimate of the risk of death due to a job or exposure as the SMR. PMRs are subject to many potential problems which often make them less valid epidemiologic tools.

(5) **Polycyclic aromatic hydrocarbons (PAHs):** Polycyclic means "many rings" (the molecular structure is in a ring or circle shape); aromatic means "similar to benzene in molecular structure"; and hydrocarbons means that the molecule consists of the atoms hydrogen and carbon. These chemicals, also known as tars, are known human carcinogens.

(6) **Risk:** Risk is expressed as a number between 0 and 1 (and if multiplied by 100 gives "**percent**"). It is most relevant for fire fighters in the context of cancer when expressed as the lifetime risk of developing a certain kind of cancer (for example, over the lifetime of a typical fire fighter, there is a 14% risk or chance of cancer "X"). The risk of a certain cancer in fire fighters can be divided by the risk of the same cancer in a comparison population to give a ratio of risks. If this is above 1, then there is an increased risk of this cancer in fire fighters.

(7) **SMR (standardized mortality ratio):** When the **observed** number of deaths from a mortality study (see above) is divided by the **expected** number of deaths based on the death rates in a comparison population, this ratio is called an SMR. The term "**standardized**" usually means that the effects of age (because cancer is known to increase with age, if one population is older than the other it would have an increased number of cancer deaths for this reason) have been removed by adjusting or standardizing the ages of the two populations (the two populations are the fire fighters and the comparison population).

the general population. This addresses the issue of the "healthy worker effect."

6) Lewis SS, Bierman HR, Faith MR. Cancer mortality among Los Angeles City Fire Fighters. February 1983.

This is a reasonably easy to read and contains good discussions of problems interpreting these types of studies (pages 6-7) and mortality patterns (pages 8-9).

IAFF Pamphlets

1) Occupational Cancer and the Fire Fighter. Department of Occupational Health and Safety, IAFF, 1982.

This is a useful summary of the most important issues in easily understood terms. It is strongest from the perspective of exposures.

Articles from the Lay Press

1) "Deadly Smoke", by Chuck Cook and Marla Cone. The Register, Santa Anna, CA, December 1983.

This is an emotional account of illness in fire fighters.

2) "Careers in Ashes", by Paul Rubin. New Times, Phoenix, AZ, August 1988.

Another emotional account of cancer in fire fighters which includes discussions of many important topics in the area.



Occupational Cancer and the Fire Fighter

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IAFF DEPARTMENT OF OCCUPATIONAL HEALTH AND SAFETY

SUMMARY OF THE VIEWS ON OCCUPATIONAL CANCER
IN FIRE FIGHTERS

Thank you for requesting information on Occupational Cancer in Fire Fighters. This document will serve to summarize and interpret the contents of the informational packet enclosed, as well as briefly state the views of the IAFF Department of Occupational Health and Safety on this matter.

I. Summary of Cancer in Fire Fighters

(1) It has been documented in scientific studies that fire fighters are exposed to thousands of different chemical agents during the course of their duties. Many industrial hygiene studies performed in fire fighters have actually measured exposures at real and simulated fires.

(2) Some of these chemicals are known to be carcinogens (cancer-causing agents). Most of the studies that have suggested that certain chemicals can cause cancer have been performed in animals, but some human epidemiologic studies do exist.

(3) Some of the chemicals to which fire fighters are exposed have been documented in epidemiologic studies to increase the risk of cancer in working populations (such as workers manufacturing or applying the agent). These include vinyl chloride, asbestos, benzene, and polycyclic aromatic hydrocarbons (tars). These have been shown to cause liver cancer, lung and lung lining cancer, leukemia, and skin and lung cancer, respectively. These studies have not been performed in fire fighters, however.

(4) Several mortality studies have been performed in fire fighters (some of the reports are enclosed in this packet). When combining these studies, it appears that fire fighters have an increased risk (or incidence) of several types of cancer, including cancer of the brain, rectum and colon, skin, and leukemia. Other cancers, such as bladder cancer, have been found to be elevated in some studies but there is a lack of consistency in the findings.

The position of the IAFF Department of Occupational Health and Safety is that there is an increased incidence of some specific cancers in fire fighters.

(3) **Mortality study:** In fire fighter mortality studies, the causes of death are counted up for the fire fighters (the **observed** number of deaths) then compared to the **expected** number of deaths in the fire fighters if they had the **same rate of death** as some comparison population (usually the general U.S. population). These studies are performed in **cohorts** of fire fighters, some defined population of fire fighters with the criteria for study specified in advance (such as a minimum number of years employed, a certain city, etc.).

(4) **PMR (proportionate mortality ratio):** This is one common measure of the effect of fire fighting (or other jobs or exposures) on the incidence of disease in a fire fighter mortality study. The PMR looks at all the deaths in the population of fire fighters and calculates the **percent (or proportion)** of deaths due to a specific cause (for example, 35% of deaths were due to heart disease). This percent is then divided by the percent of deaths due to a specific cause in a comparison population. This ratio is the **PMR**. It is usually then multiplied by 100 so that PMRs above 100 mean "increased risk" (for example, a PMR of 270 is interpreted to mean that fire fighters had 2.7 times the risk of a certain cause of death). In general, the PMR is not thought to be as good an estimate of the risk of death due to a job or exposure as the SMR. PMRs are subject to many potential problems which often make them less valid epidemiologic tools.

(5) **Polycyclic aromatic hydrocarbons (PAHs):** Polycyclic means "many rings" (the molecular structure is in a ring or circle shape); aromatic means "similar to **benzene** in molecular structure"; and hydrocarbons means that the molecule consists of the atoms hydrogen and carbon. These chemicals, also known as tars, are known human carcinogens.

(6) **Risk:** Risk is expressed as a number between 0 and 1 (and if multiplied by 100 gives "**percent**"). It is most relevant for fire fighters in the context of cancer when expressed as the lifetime risk of developing a certain kind of cancer (for example, over the lifetime of a typical fire fighter, there is a 14% risk or **chance** of cancer "X"). The risk of a certain cancer in fire fighters can be divided by the risk of the same cancer in a comparison population to give a ratio of risks. If this is above 1, then there is an increased risk of this cancer in fire fighters.

(7) **SMR (standardized mortality ratio):** When the **observed** number of deaths from a mortality study (see above) is divided by the **expected** number of deaths based on the death rates in a comparison population, this ratio is called an SMR. The term "**standardized**" usually means that the effects of age (because cancer is known to increase with age, if one population is older than the other it would have an increased number of cancer deaths for this reason) have been removed by adjusting or standardizing the ages of the two populations (the two populations are the fire fighters and the comparison population).

the general population. This addresses the issue of the "healthy worker effect."

6) Lewis SS, Bierman HR, Faith MR. Cancer mortality among Los Angeles City Fire Fighters. February 1983.

This is a reasonably easy to read and contains good discussions of problems interpreting these types of studies (pages 6-7) and mortality patterns (pages 8-9).

LAFF Pamphlets

1) Occupational Cancer and the Fire Fighter. Department of Occupational Health and Safety, IAFF, 1982.

This is a useful summary of the most important issues in easily understood terms. It is strongest from the perspective of exposures.

Articles from the Lay Press

1) "Deadly Smoke", by Chuck Cook and Marla Cone. The Register, Santa Anna, CA, December 1983.

This is an emotional account of illness in fire fighters.

2) "Careers in Ashes", by Paul Rubin. New Times, Phoenix, AZ, August 1988.

Another emotional account of cancer in fire fighters which includes discussions of many important topics in the area.

Alaska State Legislature

House of Representatives



Official Business

State Capitol
Juneau, AK
99801-1182

States That Have Enacted Presumptive Cancer Laws

<u>State</u>	<u>Statute</u>
Alabama	11-43-144
Arizona	38-642
California	Labor Code 3212.1
Illinois	5/6-151.1
Louisiana	33:2011
Maryland	Labor 9-503
Massachusetts	32-94B
Minnesota	176.011
Nevada	617.453
New Hampshire	281-A:17
New York	Labor 207-K
North Dakota	65-01-02
Oklahoma	49-110
Rhode Island	45-21.2-9
Tennessee	50-6-301
Texas	Labor 401.001
Virginia	65.2-402

NATIONAL CONFERENCE OF STATE LEGISLATURES

Workers Compensation Coverage for Hepatitis C, Cancer, Heart Disease

Alabama § 11-43-144 (f), Compensation for illness due to hepatitis C infection for firefighters. Includes Hypertension, Heart Disease, Respiratory Disease, AIDS, Cancer, and Hepatitis.

Colorado § 8-41-208, Coverage for job related exposure to hepatitis C. The exposure to or contraction of hepatitis C by a firefighter, emergency services provider, or peace officer. Shall be presumed to be within the course and scope of employment if conditions are satisfied.

Arizona § 23-1043.03 Compensation for illness due to hepatitis C infection for firefighters, EMT's, police officers, paramedics, corrections officers, forensics lab techs/scientists, or any other person who regularly handles blood or bodily fluids.

California Labor Code § 3212.8 Compensation for illness due to hepatitis infection (presumably all forms) for firefighters and police officers, whether volunteer or employed.

Florida § 112.181 Compensation for illness due to hepatitis C infection for firefighters, paramedics, EMT's, police officers, and corrections officers employed full-time by the state or other political subdivisions of the state.

Idaho § 72-438 Compensation for illness due to all forms of hepatitis for all employees; for exceptions see 72-212. Including silicosis, cardiovascular or pulmonary or respiratory disease and AIDS.

Kansas § 44-510 (e) Compensation for illness due to hepatitis infection (presumably all forms) for police officers, ambulance attendants, and mobile intensive care technicians or firefighters, including volunteers.

Maine

39-A § 609; Compensation limits; Includes cancer.

Maryland General Health Code § 18-213.1 Compensation for illness as a result of any form of hepatitis infection for police officers, ambulance attendants, and mobile intensive care technicians or firefighter, including volunteers.

Michigan 418.405; Firemen, policemen, etc.; respiratory and heart diseases or illness as personal injuries

Missouri 287.067; Occupational disease defined--loss of hearing, radiation injury, communicable disease, others; Disease of the lungs or respiratory tract, hypotension, hypertension, or disease of the heart or cardiovascular system, including carcinoma, may be recognized as occupational diseases for the purposes of this chapter and are defined to

be disability due to exposure to smoke, gases, carcinogens, inadequate oxygen, or psychological stress of firefighters of a paid fire department if a direct causal relationship is established.

New York General Municipal Law § 24-207-N, O, P Compensation for illness as a result of hepatitis infection for corrections officers, EMTs or advanced EMTs, police officers, and firefighters.

Nevada

N.R.S. 617.453 Cancer as occupational disease of firemen

N.R.S. 617.455 Lung diseases as occupational diseases of firemen and police officers

N.R.S. 617.457 Heart diseases as occupational diseases of firemen and police officers

Pennsylvania

77 P.S. § 27.1 Includes some cancers and heart diseases

South Carolina § 42-11-30. Presumption that heart or respiratory diseases occurring in fire fighters arose out of and in course of employment.

Virginia § 65.2-402 Presumption as to death or disability from respiratory disease, hypertension or heart disease, cancer

Washington 51.32.185 Includes cancer and some respiratory and heart diseases

Chaptered Bills

MD S.B. 633, Chaptered APRIL 22, 2003; Extends the presumption of a compensable occupational disease under the workers' compensation law to include Baltimore City deputy sheriffs who suffer from heart disease or hypertension resulting in partial or total disability or death; requires that workers' compensation benefits in addition to retirement benefits; requires Baltimore City deputy sheriffs to submit medical reports to the Baltimore City Sheriff

NV A.B. 451, Chaptered MAY 30, 2003. Relates to occupational diseases; clarifies provisions governing compensation for certain firemen who develop disabling cancer as an occupational disease.

NV S.B. 184, Chaptered JUNE 12, 2003. Relates to public employees; expands the definition of accident benefits for purposes of industrial insurance to include preventative treatment for hepatitis administered as a precaution to certain local police officers; creates a statutory presumption that hepatitis is an occupational disease for certain local police officers.

NM H.B. 840, APRIL 11, 2003; Pocket Veto by GOVERNOR. Relates to worker's compensation; removes silicosis and asbestosis exemptions in the New Mexico occupational disease disablement law.

NY S.B. 7367, Chaptered JANUARY 30, 2003, Provides a presumption of that a disease of the heart was incurred in the performance of duty for EMTs and advanced EMTs in certain cities.

VA H.B. 757, Chaptered APRIL 8, 2002, Relates a presumption that hepatitis, meningococcal meningitis, tuberculosis, herpes or HIV causing the death or disability of firefighters, paramedics, emergency medical technicians, members of the State Police Officers' Retirement System, members of county, city or town police departments, sheriffs and deputy sheriffs, city sergeants or deputy city sergeants of certain cities, and the Capitol Police shall be occupational diseases

VA H.B. 1237, Chaptered APRIL 6, 2002; Provides that medical evidence contesting the relationship between employment and disease shall not be considered substantial competent medical evidence sufficient to overcome the respiratory disease, heart disease, or cancer presumptions for the purpose of workers' compensation; defines firefighter as any firefighter, paramedic or emergency medical technician employed by any public or private employer.

VA H.B. 1877, Chaptered MARCH 22, 2003; Eliminates the provision in Workers' Compensation that delays the application of the presumption that certain diseases causing the death or disability of a firefighter or certain other employees who have a documented occupational exposure to blood or body fluids are presumed to be occupational diseases until 6 months after the employee has undergone a preemployment physical examination.

AZ S.B. 1197, Chaptered JANUARY 29, 2003, Concerns workers' compensation and peace officers assigned to hazardous duties

July 2003



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February 21, 2005

The Honorable Tom Anderson
Alaska House of Representatives
State Capitol Building
Juneau, Alaska 99801-1182

RE. Support for HB31, original version, Presumption of Injury/Blood-born Pathogens

Dear Representative Anderson;

Thank you for your sponsorship of House Bill 31, relating to presumption of coverage for worker's compensation claims for certain diseases. The original version of the bill provides an important protection for health care employees infected with a blood borne pathogen during the course of their employment.

I am a registered nurse on the Progressive Care Unit at Providence Alaska Medical Center and am the President of AaNA's Providence Registered Nurses Bargaining Unit, the largest nursing union in the state of Alaska. I also serve as the state representative for our national union the United American Nurses Association. At the National Labor Assembly in Washington D.C. this March, I plan to announce Alaska's HB31 to the assembly - This bill deserves national attention for its protection of RNs and other first responders in their care of our citizens.

Your leadership is in good company. In 2001, the State of Nevada adopted legislation (Assembly Bill 279) that provides a worker's compensation claim presumption for any employee exposed to blood borne pathogens "during the course and scope of his employment that results in a temporary or permanent disability or death." The presumption is provided for contagious diseases, which is defined as hepatitis A, hepatitis B, hepatitis C, tuberculosis, and HIV/AIDS.

In speaking with Mr. Bittner in your office, he informed me of a proposed amendment that would limit the blood borne diseases presumption to police, fire fighters, and emergency responders. To institute this limitation denies the fact that healthcare providers also face accidental and critical exposure to blood and bodily fluids in their everyday work - it would be as though the patient care stopped at the emergency room door.

HB31, in its original version, is good legislation and good policy for the State of Alaska. The presumptions offered should be afforded to all care providers who face accidental exposure to blood borne pathogens.

Sincerely,

Kathleen A. Gettys, RN, BSN, BA
President, Providence Registered Nurses Bargaining Unit

LEGAL SERVICES

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FAX (907) 465-2029
Mail Stop 3101

State Capitol
Juneau, Alaska 99801-1182
Deliveries to: 129 6th St., Rm. 329

MEMORANDUM

December 15, 2004

SUBJECT: Establishing a presumption of coverage in Workers Compensation for occupational diseases. (Work Order No. 24-LS0225\A)

TO: Representative Tom Anderson
Attn: Josh Applebee

FROM: Barbara R. Craver *BRC*
Legislative Counsel

You asked for a bill to provide a broad presumption of coverage in workers compensation for public safety employees and other first responders. You attached several state laws and some articles. Enclosed is a draft bill. Your attachments indicated that the primary concern was the unique risks for disease suffered by fire fighters and by persons engaged in occupations involving exposure to human blood or bodily fluids.

In regard to fire fighters, I defined the term "fire fighters" as those who are covered by workers compensation under AS 23.30.243.¹ This would cover volunteer fire fighters serving regularly organized volunteer fire departments. The Washington law (RCW 51.32.185) defines fire fighters by reference to the definitions in its public employment retirement system. The Texas bill (not enacted) applies the presumption to fire protection personnel who are various kinds of permanent fulltime employees. You could limit the application of this bill to fire fighters covered by the Public Employees Retirement System (PERS), but that would not include the numerous volunteer fire fighters who are not employees of PERS members. Because AS 23.30.243 extends workers compensation coverage to volunteers as well as employees, I incorporated that

¹ Sec. 23.30.243. Extending coverage to certain fire fighters.

(a) For the purposes of workers' compensation any injury, disability or death incurred by a fire fighter by reason of the fire fighter's participation in authorized training, proceeding to or engaging in a fire suppression or rescue operation, or the protection or preservation of life or property, anywhere in the state is considered to have arisen out of and been sustained in the course of employment, and the fire department or regularly organized volunteer fire department of the fire fighter's primary employment or registration is considered to be the employer, except when the injured, at the time of injury or death, is acting for compensation from another.

(b) Nothing in this section requires the extension of benefits to a fire fighter employed by a municipality which by law or regulation expressly prohibits the activity giving rise to the injury, disability, or death.

section to define the scope of fire fighters covered. Please let me know if you would like a different definition.

This bill only allows the presumption of work-related cancer for fire fighters who had a "qualifying medical exam" upon becoming a fire fighter or during employment as a fire fighter if the exam showed no sign of cancer. This is derived from the Washington code, RCW 51.32.185(3) and the Texas bill. The Texas bill you provided extends the presumption to a person who has an exam during employment as a fire fighter to rule out pre-existing cancer. I cannot find a definition in those laws and bills for "qualifying exam." In the bill draft, I have directed the department to define by regulation what a "qualifying exam" would be, because a medical exam might not be thorough enough to detect cancer. Because this bill includes volunteers with regularly organized fire departments, it is possible that those departments do not require medical exams, so you may wish to consider whether this limitation unfairly exempts those fire fighters from the presumption. Because of this medical exam requirement, it is possible that many current fire fighters will not qualify for the presumption either because their employer won't pay for a qualifying exam or because the fire fighter has already developed cancer.

In regard to the presumption established for workers exposed to human blood or bodily fluids, I did not limit that to "first responders." We do not have any current definition in the statutes for "first responders", or any other term that covers all the occupations you had listed: fire fighters, airport police, corrections officers, trooper and other first responders. Because contagious diseases transmitted through exposure to human blood and bodily fluid were covered specifically for fire fighters in the Washington code section (RCW 51.32.185(4)), and generally for any occupation in the Idaho law (I.C. 72-436), I took the more general approach and provided a presumption for any occupation involving exposure to human blood or bodily fluids. If you would like that presumption applied more narrowly, please let me know.

Section Two provides that claims may be made based on exposure which occurred prior to the effective date of the law.

If I may be of further assistance, please advise.

BRC:lmb
04-195.lmb

Enclosure



National
Council on
Compensation
Insurance, Inc.

March 1, 2005

NATIONAL COUNCIL ON COMPENSATION INSURANCE, INC.

ANALYSIS OF ALASKA HOUSE BILL 31

The enactment of House Bill 31 could produce a significant increase in loss costs for the relatively few class codes directly impacted (particularly firefighters). Note that the proposed language allows for coverage of claims made after the effective date of the proposal, regardless of whether or not the exposure leading to the occupational disease occurred before the effective date. Therefore, it is expected that there would be a significant impact on total system costs due to the retroactive nature of this proposal.

Summary of Bill

HB 31 creates a presumption of workers compensation coverage for firefighters for the following occupational diseases:

Respiratory disease

Heart problems that are experienced within 72 hours after exposure to smoke, fumes, or toxic substances

After 10 years experience:

Primary brain cancer

Malignant melanoma

Leukemia

Non-Hodgkin's lymphoma

Bladder cancer

Ureter cancer

Kidney cancer

HB 31 would also create a presumption of workers compensation coverage for employees in occupations involving exposure to human blood or bodily fluids for the following diseases:

Human Immunodeficiency virus

Acquired Immunodeficiency syndrome

All strains of hepatitis

Meningococcal meningitis

Mycobacterium tuberculosis

Currently, the employee has the burden of proof for compensability of a workers compensation disability claim. This proposal establishes a presumption of coverage, which must be overcome by a preponderance of evidence to the contrary. This would now place the burden of proof on the employer (and insurer.)

Additionally, this proposal could increase the frequency and total cost of claims in some classes (i.e. firefighters) significantly. It should also be noted that much of the impact for some of these classes would be felt by governmental entities as the employer of many of those being impacted by this proposal.

March 1, 2005

Potential Impact

Information about Alaska cancer rates and research on the relationship between cancer rates and firefighters suggest that **cost of prospective claims in this classification could increase loss costs by 10% to 20%, with potentially greater impacts due to the retroactive nature of this proposal.** If HB 31 becomes law, respiratory diseases, heart problems, and cancer cases for firefighters previously covered under health insurance would more likely be covered under WC due to the exclusive remedy feature of WC, the lack of medical cost sharing under WC, and the proposed presumption of compensability for firefighters.

The above scenario assumes that current practice is not to provide WC coverage for such ailments (respiratory disease, heart ailments, certain cancers) for most claims. On the other hand, if most of the claimants with such ailments were currently being accepted for WC coverage, then the codification of this practice would not have much impact on system costs.

In situations where employees file claims as a result of their occupation and associated exposure to human blood or bodily fluids, the impact on WC costs for such classes is not expected to be significant. Such employees could include law enforcement officers, firefighters, nurses and emergency medical technicians, among others. Based on claims data available from NCCI's unit statistical plan (USP), there are several claims in Alaska that have resulted from exposure to AIDS or other contagious diseases. Thus, it appears that the enactment of HB 31 will result in the codification of current practice. Any additional impact will be reflected in subsequent data that is collected and used in future rate filings. However, due to the retroactive coverage provided by this proposal, the overall costs could be significant. Since coverage for such claims may not have been contemplated in previous loss cost filings, such retroactive costs would be unfunded.

Other potential impacts not explicitly priced but expected to offset one another to some degree are:

- a) Decrease in attorney costs due to fewer cases where an attorney needs to be involved as a result of the presumptive clause for firefighters, emergency responders, which could be easily offset or more by...
- b) Additional claim filings and disputes over other related diseases or occupations, filed in the spirit of this proposal.

Estimated Fiscal Impact of HB 31

Although the Alaska DCED gave a zero cost fiscal note associated with this legislation, and the Dept of Administration estimated the fiscal note to be indeterminate, we believe that it is reasonable to suggest that there would be some claims experience related to this type of coverage. Therefore, we were able to obtain some additional numbers on fire fighter disabilities and cost experience from around the country.

In the State of California, which has the largest career sector of fire fighters in the country (30,000) and one of the largest volunteer sectors (33,000) the addition of cancer presumptive benefits has had "no impact" on the actuarial assumptions or funding of the state's fire fighter retirement system (Assemblyman Sal Cannella, California Legislature). An actuary for the California Public Employee Retirement System (CALPERS), the largest retirement system in the United States, has declared that the addition of presumptive cancer benefits for fire fighters has had "minimal effect" on the actuarial costs to the retirement system. In fact, the financial implications were so minimal, that CALPERS never had to perform an actuarial impact study after the implementation of the benefit by the California legislature (David DuBois, Contract Services Department, CALPERS). During the first three years, an average of 45 annuitants claims have been paid for cancer related disabilities. This is .07% of the active fire fighting workforce. The average claim for total cancer benefits was \$14,075.00.

In 1984, the State of Illinois added cancer presumption language to its worker compensation statute. The City of Chicago employs over 50% of the 10,700 career fire fighters in the State of Illinois. During the 6 year period following the implementation of the statute the average number of beneficiaries receiving occupational disability benefits was 8.3% lower than the average number of beneficiaries in the six years prior to passage. Thus the inclusion of cancer benefits in 1984 has obviously had no impact on the funding requirements for the occupational disability benefits portion of the Chicago Firemen's Annuity and Benefit Fund (Firemen's Annuity and Benefit Fund of Chicago Actuarial Statement).

In the first six years that they have had fire fighter cancer legislation in Oklahoma, they have had 22 claims paid statewide or 6% of the 378 disability claims paid. This averages to 4 claims per year for a rate of cancer claims of .03% at an average cost to the pension system of \$10,409.00 per total cancer claim (Bob Hollander, Executive Director, Oklahoma Firefighters Pension and Retirement System). There are 3,420 career fire fighters and 9,000 volunteer fire fighters.

In Nevada, there have been 3 cancer claims paid in the first four years since the legislation was enacted. None of these cases include lung cancer, which is covered under separate legislation (S. Mark Balen, President, Nevada Fire Fighters Association). There are 1,790 career fire fighters and 2,200 volunteer fire fighters in Nevada. This averages to less than 1 claim per year for a rate of cancer claims of .02%.

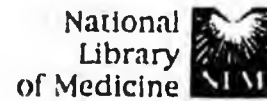
In Rhode Island, which passed the legislation in 1986, there have been 6 claims paid in the first 8 years. This averages to less than 1 claim per year for a rate of cancer claims of .02% (Theodore Scripsack, Chairman, Rhode Island Firefighter's Relief Board). There are 2,200 career fire fighters and 2,800 volunteer fire fighters in Rhode Island.

In the first four years that they have had cancer legislation in Massachusetts, there have been 34 cancer claims paid (15 disability and 19 death benefits). (Joseph Martin, Deputy Director, Public Employee Retirement Agency). This averages to less than 9 claims per year at a rate of .03% of the active firefighting workforce. There are 14,500 career fire fighters and 11,400 volunteer fire fighters in Massachusetts.

In Alaska there are roughly 1,000 career and volunteer firefighters. However, this would assume that every firefighter would pass through the various restrictions and requirements written into HB 31. For example, not every firefighter who begins a career will make it through 10 years, which is the minimum time on the job to be eligible for presumptive cancer coverage. Smoking, fitness, and heredity are other factors that might make employees ineligible for presumptive coverage. These factors could narrow the range of employees qualifying for presumptive coverage considerably. However, even when using the original number of 1,000 fire fighters and making the assumption that Alaska has a rate that does not exceed the average of the above States' cancer

related disabilities -- .034% of the active fire fighting workforce -- the expected number of annual cancer claims for career fire fighters would be less than 1 fire fighter.

Based on the preceding information on actual experience, the cost per cancer claim for those states having presumptive occupational disease statutes is substantially less than the unsubstantiated figures asserted by other parties. The reason for this, unlike benefits for other occupations, is the higher mortality rate and significantly shorter life expectancy associated with fire fighting. Fire fighters are dying too quickly from cancer and other occupational diseases, unfortunately producing a significant pension annuity saving for states and municipalities.



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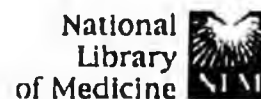
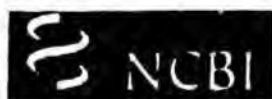
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Mortality of urban firefighters in Alberta, 1927-1987.

Guidotti TL.

Occupational Health Program, University of Alberta Faculty of Medicine, Edmonton, Canada.

The mortality experience of firefighters has been an active topic of investigation. Collateral toxicological evidence suggests that certain causes of death are likely to be associated with firefighting: lung cancer, heart disease, and obstructive pulmonary disease. To date there has not been a clear and consistent demonstration of excess risk due to occupational exposure for these outcomes, but certain types of cancers, including genitourinary, colon and rectum, and leukemias, lymphomas, and myeloma, appear to be consistently elevated. A major unproven hypothesis is that risk increased following the introduction, in the 1950s of combustible plastic furnishing and building materials known to generate toxic combustion products. Mortality by cause of death was examined for two cohorts totalling 3,328 firefighters active from 1927 to 1987 in Edmonton and Calgary, the two major urban centers in the province of Alberta, Canada, examining associations with cohort (before and after the 1950s) and years of service weighted by exposure opportunity. The study attained 96% follow-up of vital status and over 64,983 person-years of observation, yielding 370 deaths. Mortality from all causes was close to the expected standardized mortality ratio (96; 95% confidence limits (CL) 87, 107) as was that for heart disease (110; 95% CL 92, 131), and neither was statistically significant at the $p < 0.05$ level (N.S.). Excesses were observed for all malignant neoplasms (127; 95% CL 102, 155, $p < 0.05$) and for cancer of lung (142; 95% CL 91, 211, N.S.), bladder (315; 95% CL 86, 808, N.S.), kidney and ureter (414; 95% CL 166, 853, $p < 0.05$), colon and rectum (161; 95% CL 88, 271, N.S.), pancreas (155; 95% CL 50, 362, N.S.) and leukemia, lymphoma, and myeloma (127; 95% CL 61, 233, N.S.); obstructive pulmonary diseases (157; 95% CL 79, 281, N.S.). Fire-related causes showed a marked excess (486; 95% CL 233, 895, $p < 0.01$), but external causes overall showed a significant deficit (66; 95% CL 49, 87, $p < 0.05$). The lung cancer excess was confined to Edmonton; there was no consistent association with duration of employment, exposure opportunity, or cohort of entry (before or after the 1950s) except that the highest risk was observed among Edmonton firefighters with over 35 weighted years. The excess of cancers of the urinary tract was observed mostly among firefighters entering service after 1950, appeared to increase with length of service and exposure opportunity, and was observed in both cities. An occupational association with heart disease and chronic pulmonary disease is not supported in this study on this population. (ABSTRACT TRUNCATED AT 400 WORDS)



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Cancer incidence among firefighters in Seattle and Tacoma, Washington (United States).

Demers PA, Checkoway H, Vaughan TL, Weiss NS, Heyer NJ, Rosenstock L.

School of Public Health and Community Medicine, University of Washington, Seattle.

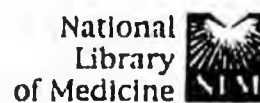
In order to determine if exposure to carcinogens in fire smoke increases the risk of cancer, we examined the incidence of cancer in a cohort of 2,447 male firefighters in Seattle and Tacoma, (Washington, USA). The study population was followed for 16 years (1974-89) and the incidence of cancer, ascertained using a population-based tumor registry, was compared with local rates and with the incidence among 1,878 policemen from the same cities. The risk of cancer among firefighters was found to be similar to both the police and the general male population for most common sites. An elevated risk of prostate cancer was observed relative to the general population (standardized incidence ratio [SIR] = 1.4, 95 percent confidence interval [CI] = 1.1-1.7) but was less elevated compared with rates in policemen (incidence density ratio [IDR] = 1.1, CI = 0.7-1.8) and was not related to duration of exposure. The risk of colon cancer, although only slightly elevated relative to the general population (SIR = 1.1, CI = 0.7-1.6) and the police (IDR = 1.3, CI = 0.6-3.0), appeared to increase with duration of employment. Although the relationship between firefighting and colon cancer is consistent with some previous studies, it is based on small numbers and may be due to chance. While this study did not find strong evidence for an excess risk of cancer, the presence of carcinogens in the firefighting environment warrants periodic re-evaluation of cancer incidence in this population and the continued use of protective equipment.

PMID: 8167259 [PubMed - indexed for MEDLINE]

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Cohort mortality study of Philadelphia firefighters.

Baris D, Garrity TJ, Telles JL, Heineman EF, Olshan A, Zahm SH.

Division of Cancer Epidemiology and Genetics, National Cancer Institute, Rockville, Maryland 20892, USA. barisd@mail.nih.gov

BACKGROUND: Fire fighters are exposed to a wide variety of toxic chemicals. Previous studies have reported excess risk of some cancers but have been limited by small numbers or little information on employment characteristics. **METHODS:** We conducted a retrospective cohort mortality study among 7,789 Philadelphia firefighters employed between 1925 and 1986. For each cause of death, the standardized mortality ratios (SMRs) and 95% confidence intervals were estimated. We also compared mortality among groups of firefighters defined by the estimated number of career runs and potential for diesel exposure. **RESULTS:** In comparison with U.S. white men, the firefighters had similar mortality from all causes of death combined (SMR = 0.96) and all cancers (SMR = 1.10). There were statistically significant deficits of deaths from nervous system diseases (SMR = 0.47), cerebrovascular diseases (SMR = 0.83), respiratory diseases (SMR = 0.67), genitourinary diseases (SMR = 0.54), all accidents (SMR = 0.72), and suicide (SMR = 0.66). Statistically significant excess risks were observed for colon cancer (SMR = 1.51) and ischemic heart disease (SMR = 1.09). The risks of mortality from colon cancer (SMR = 1.68), kidney cancer (SMR = 2.20), non-Hodgkin's lymphoma (SMR = 1.72), multiple myeloma (SMR = 2.31), and benign neoplasms (SMR = 2.54) were increased among firefighters with at least 20 years of service. **CONCLUSIONS:** Our study found no significant increase in overall mortality among Philadelphia firefighters. However, we observed increased mortality for cancers of the colon and kidney, non-Hodgkin's lymphoma and multiple myeloma. There was insufficient follow-up since the introduction of diesel equipment to adequately assess risk.

PMID: 11333408 [PubMed - indexed for MEDLINE]

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FIREFIGHTERS WANT WCB TO RECOGNIZE WORK-RELATED CANCERS

VANCOUVER – The British Columbia Workers' Compensation Board has been asked to examine a request that firefighters who develop certain cancers be presumed to have contracted them through work, said Labour Minister Graham Bruce.

In a meeting with the B.C. Professional Firefighters' Association Thursday, Bruce and Burnaby-Edmonds MLA Patty Sahota heard that firefighters are up to three times more likely to develop cancers of the brain, bladder and kidney, as well as leukemia and non-Hodgkin's lymphoma, from breathing in toxic fumes.

"Clearly the firefighters strongly believe their concerns about work-related cancers should be recognized by the WCB," said Bruce, "and I believe they should have an opportunity to meet with the WCB."

Bruce said he has asked the WCB to consider the firefighters' request. The WCB is already looking into this matter, the minister added, and has advised him it will consult with firefighters as part of its process.

The Workers Compensation Act lists a number of occupational diseases where there is a presumption that the disease was caused by work unless proved otherwise. Currently, firefighters who develop cancers must make their case on an individual basis in order to get workers' compensation.

Bruce noted the WCB had been revamped with a new board of directors and a new mandate, "and we have to give the process a chance to work. If the WCB determines that the science supports a causal relationship between firefighting and these cancers, then we will make the appropriate changes."

Sahota said Manitoba, Alberta, Nova Scotia and Saskatchewan have either enacted or are in the process of enacting legislation providing firefighters with the benefit of a presumption for specific types of cancers including brain, bladder, kidney, non-Hodgkin's lymphoma, leukemia and colon.

The effect of such legislation is that a firefighter who develops the particular cancer will be entitled to workers' compensation benefits without having to prove a link between exposures at work and the cancer.

-30-

Visit the province's Web site at <http://www.gov.bc.ca/> for online information and services.

Media Betty Nicholson
contact: Communications Director
 250 387-2699

MAR 17 2005



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March 16, 2005

Representative Peggy Wilson, Chair
House Health, Education & Social Services Committee
State Capitol Building Room 108
Juneau, Alaska

Subject: HB31, Presumption for Certain Illness/Work Comp Claims

Dear Representative Wilson:

Thank you for meeting with Patricia Senner and myself in Juneau on Thursday, March 3.

Among the issues we discussed was House Bill 31, an Act establishing a presumption regarding certain illnesses for workers compensation claims. You requested information so you could assess how these presumptions might impact worker compensation insurance premiums.

A summary analysis to HB31 was done by the National Council on Compensation Insurance (NCCI) on March 1, 2005. NCCI manages the nation's largest database of workers compensation insurance information, and prepares recommendations for rates.

NCCI reports that HB31 could increase the frequency and total cost of claims in some classes (i.e., firefighters) significantly. However, in situations where employees file claims as a result of their occupation and associated exposure to blood borne pathogens, the impact on costs is not expected to be significant.

A presumption of coverage for blood borne pathogens is needed due to the many experiences nurses have had by being stuck with contaminated needles from HIV/Hepatitis C patients. It has been reported that in some states without such presumptions, nurses and other health care workers have been subjected to private investigations to try and prove that the blood borne infection they acquired was due to their "lifestyle" and not the hazards of their job.

The original version of the HB31 provided an important protection for health care employees infected with a blood borne pathogen during the course of their employment, and would be good policy for the State of Alaska. The presumptions offered should be afforded to all care providers who face accidental exposure to blood borne pathogens and not just those on one side of the emergency room door or the other.

2118-214

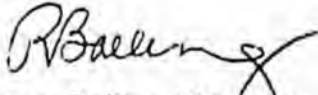
The Sponsor Substitute House Bill 31 limits the presumption for blood borne pathogens to firefighters, peace officers and emergency responders. This entirely deletes the same coverage for all other health care workers. It is as if the care of the patient stopped at the emergency room door.

As you know, the continuation of the care of patients with blood borne diseases starts in the field and continues on through the emergency room door where the care continues for that same patient for many hours, days and sometimes weeks.

Earlier this month, HB31 was announced at a national nurses meeting for the American Nurses Association. It drew the attention of the American Nurses Association national delegates as well as the President Barbara Blakney, who responded by stating that the sponsor substitute had the appearance of being discriminatory given that health care workers are predominately female.

Thank you for the opportunity to meet and speak with you on this issue. The Alaska Nurses Association appreciates all the hard work you do as representatives of your constituents in protecting health care workers of Alaska.

Sincerely,



Rebecca Bolling, RN, BSN
President, Alaska Nurses Association
2928 Baranof Ave.
Ketchikan, AK 99901
907.225.4087

IAFF LEGISLATIVE FACT SHEET

Revise J: 4/11/2003

FEDERAL FIRE FIGHTERS PRESUMPTIVE LAW

BACKGROUND

Fire fighters are exposed on a daily basis to stress, smoke, heat, and various toxic substances. As a result, fire fighters are far more likely to contract heart disease, lung disease and cancer than other workers. And as fire fighters increasingly assume the role of the nation's leading providers of emergency medical services, they are also exposed to infectious diseases. Heart disease, lung disease, cancer and infectious disease are now among the leading causes of death and disability for fire fighters, and numerous studies have found that these illnesses are occupational hazards of fire fighting.

In recognition of this linkage, 38 states have enacted "presumptive disability" laws, which presume that cardiovascular diseases, certain cancers and infectious diseases are job related for purposes of workers compensation and disability retirement unless proven otherwise. No such law covers fire fighters employed by the federal government.

Under the Federal Employee Compensation Act (FECA), federal fire fighters must be able to pinpoint the precise incident or exposure that caused a disease in order for it to be considered job-related. This burden of proof is extraordinarily difficult for fire fighters to meet because they respond to a wide variety of emergency calls, constantly working in different environments under different conditions. As a result, very few cases of occupational disease contracted by fire fighters have been deemed to be service-connected.

CURRENT LEGISLATION

H.R. 1101, sponsored by Reps. Rodriguez (D-TX) and JoAnn Davis (R-VA), and S. 530, sponsored by Sen. Kerry (D-MA), have been introduced that will amend the FECA so that cardiovascular disease, certain cancers and infectious diseases are presumed to be job related for purposes of workers compensation and disability retirement, and places the burden on the employer to prove otherwise.

IAFF POSITION

The IAFF supports H.R. 1101 and S. 530 which provide a disability presumption for federal fire fighters.

IAFF ARGUMENTS

- Federal fire fighters, like all fire fighters, regularly respond to HAZMAT incidents involving chemical, radiological, and biological hazards. Working in such a hazardous environment, it is virtually impossible to precisely identify when and where a fire fighter contracted a disease.
- Most states have acknowledged the occupational hazards attributed to fire fighting and have presumptive disability laws for fire fighters because it is so difficult for fire fighters to identify when and where they contracted an occupational disease.
- Federal fire fighters do not have the benefit of a presumptive disability law. Instead they are faced with a burden of proof that is nearly impossible to meet and only in extraordinary cases do federal fire fighters, suffering from occupational diseases, receive fair and just compensation or retirement benefits.
- It is only fair that the federal government should provide parity for federal fire fighters who are exposed to the same occupational hazards as other professional fire fighters. There is no legal or rational reason why federal fire fighters do not have the same right as fire fighters in 38 states.

CURRENT STATUS

On 3/5/2003 H.R. 1101 was introduced and referred to the House Committee on Education and the Workforce.

On 3/5/2003 S. 530 was introduced and referred to the Senate Committee on Governmental Affairs.

FISCAL NOTE

STATE OF ALASKA
2005 LEGISLATIVE SESSION

Fiscal Note Number: _____
Bill Version: HB031-DOLWD-WC-02-04-05
() Publish Date: _____

Revision Date/Time (Note if correction): _____
Title: Workers' Comp Coverage

Department: Labor and Workforce Development
RDU: Workers' Compensation
Component: Workers' Compensation

Sponsor: Representative Anderson
Requester: House L&C

Component Number: 344

Expenditures/Revenues (Thousands of Dollars)

Note: Amounts do not include inflation unless otherwise noted below.

OPERATING EXPENDITURES	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Personal Services						
Travel						
Contractual						
Supplies						
Equipment						
Land & Structures						
Grants & Claims						
Miscellaneous						
TOTAL OPERATING	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0

CAPITAL EXPENDITURES						
-----------------------------	--	--	--	--	--	--

CHANGE IN REVENUES ()						
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FUND SOURCE (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1037 GF/Mental Health						
Other (Specify Type--Do not abbreviate)						
TOTAL	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0	* 0.0

Estimate of any current year (FY2005) cost: None

Mark this box (X) if funding for this bill is included in the Governor's FY 2006 budget proposal:

POSITIONS

Full-time						
Part-time						
Temporary						

ANALYSIS: (Attach a separate page if necessary)

The broadly applicable presumptions included in the bill could result in numerous claims. The seriousness of the covered conditions would involve large amounts of benefits, and those factors coupled with the broad scope of defenses (like heredity and other life exposures) could lead to extensive, complicated hearings.

*The costs of this proposed legislation cannot be determined in advance as there are no comparable Workers' Compensation Act provisions at present. Increased costs, if any, would consist of additional personnel needed to resolve disputed claims for benefits based upon the new presumptions.

Prepared by: Paul F. Lisankie, Director
Division: Workers' Compensation Division

Phone: 465-6059

Date/Time: 2/4/05 3:22 PM

Approved by: Greg O'Claray, Commissioner

Date: 2/4/2005

Agency: Department of Labor and Workforce Development