

UFUA Briefing Paper on Firefighter Presumptive Cancer Rights.

The UFU of A will this week call upon all parties standing candidates in the Federal Election to pledge to improve provisions related to firefighter cancer. The changes we are seeking are as follows:

- Expand the list of cancers covered by firefighter presumptive cancer legislation from the current 12 to 19 (by adding Thyroid, Pancreatic, Skin, Cervical, Ovarian, Penile, Lung);
- Implement a mechanism for people with high levels of PFAS, who are otherwise unable to donate blood or plasma, to make therapeutic donations as an intervention to reduce their levels of PFAS;

Background: Comcare & Cancer

The Safety, Rehabilitation and Compensation Amendment (Fair Protection for Firefighters) Act 2011 (Firefighters Act) came into effect on 4 July 2011. The Bill as initially proposed contained 7 cancers, and the Senate Committee reviewing the Bill recommended a further 6 cancers, as set out below.

Initial proposal	Additional recommendations of Senate Committee
1. Brain cancer (5 years);	1. multiple myeloma, primary site:
2. Bladder cancer (15 Years);	2. primary site lung cancer in non-smokers,
3. Kidney cancer (15 years);	3. prostate,
4. Non-Hodgkin's lymphoma (15 years);	4. ureter,
5. Leukaemia (5 years);	5. colorectal &
6. Breast cancer (10 years); and	6. oesophageal cancers
7. Testicular cancer (10 years).	

Ultimately 12 cancers were included in the legislation: lung cancer was omitted despite the recommendations of the Senate Committee.

A review of the legislation commenced in 2019, and concluded on 13 November 2020, made 6 recommendations as follows:

1. The qualifying period for oesophageal cancer be reduced from 25 years to 15 years.
2. The current list of prescribed diseases at subsection 7(8) should be expanded to include malignant mesothelioma with a qualifying period of 15 years.
3. The Attorney-General's Department should continue to periodically examine the available scientific literature to ensure the list of prescribed diseases remains consistent with current science, with a particular focus on female reproductive cancers, malignant melanoma and lung cancer in non-smoking firefighters.
4. Lung cancer (whether in smokers or non-smokers) should not be included in the list of prescribed diseases.

5. The firefighter provisions of the SRC Act be extended to persons taken to be employed by the Australian Capital Territory by operation of a declaration made under subsection 5(15) of the SRC Act (volunteer firefighters).
6. Comcare should continue to investigate measures that provide more timely access to compensation for claimants under the firefighter provisions.

<https://www.ag.gov.au/industrial-relations/publications/review-firefighter-provisions-src-act-1988-final-report>

The Commonwealth has not acted on these 6 recommendations.

Of these recommendations, the UFU supports recommendations 1-3 & 6 without qualification.

The UFU opposes recommendation 4 in relation to Lung Cancer, as it conflicts with the recommendations of the Senate Inquiry (which heard from many experts), it is already covered in jurisdictions in North America and Canada and is legislated in the Northern Territory. We support the inclusion of a broader range of cancers for reasons set out below.

The UFU supports Recommendation 5, on the basis that it should be supported by an expert panel to assess claims as is legislated in Victoria, and as was recommended by the Monash cancer study.

A significant difference between the UFU and the Commonwealth was that:

“The UFUA submission further recommended that consideration be given to including female reproductive (ovarian and cervical) cancers on the list of prescribed diseases, on the basis that female career firefighters should not be disadvantaged by the lack of data that currently exists about the risks given there are too few female firefighters worldwide for conclusive scientific research to be conducted.

Comcare stated that any change should be supported by evidence.”

A simple way to summarise this difference is that the UFU advocates an approach that is risk based and evidence supported, while Comcare argues that it should be evidence based. The practical effect of this is that evidence of cancer in female firefighters will take time to develop while those women harbour life threatening cancers.

International Developments and Cancer

Scientific studies are being released frequently in relation to firefighter cancer. As a result, since the Commonwealth Review report was released in 2020 a number of Canadian provinces and territories have expanded the number of presumptive cancers to 19, including Yukon and Nova Scotia.

Other Canadian Provinces and Territories which have an expanded list of presumptive cancers include:

- Ontario (17);
- Saskatchewan, Alberta (16);
- Prince Edward Island (15)
- Manitoba (14).

Recent findings of scientific studies include that:

- After the first 3 years of a firefighter’s career, elevated cell disruption is shown (Young)
- Between recruit and experienced firefighter, a 150% increase in cancer risk can be shown through analysis of DNA Methylation (Jin Zhou)

Despite improvements in firefighter protective clothing and safer work practices, firefighter cancer is increasing. This is in part attributable to the ever increasing range of toxins that firefighters are exposed to through, for example, car fires and structure fires.

PFAS Blood Study.

The attached briefing paper sets out the detail of the PFAS blood study. In short, the levels of PFAS in firefighter blood can be reduced by 30% through therapeutic blood and plasma donations. The study can be found here:

[Effect of Plasma and Blood Donations on Levels of Perfluoroalkyl and Polyfluoroalkyl Substances in Firefighters in Australia A Randomized Clinical Trial” Gasiorowski et. al](#)

On 30 March 2022 The Australian Parliament Joint Standing Committee on Foreign Affairs, Defence and Trade published the final report of the [“Inquiry into PFAS remediation in and around Defence bases”](#). Most relevantly to this study it recommended:

“Recommendation 7

9.93 The Committee recommends that the Australian Government consider the research, with a view to examining suitable options for a mechanism for people with high levels of PFAS, who are otherwise unable to donate blood or plasma, to make therapeutic donations as an intervention to reduce their levels of PFAS.

Recommendation 8

9.94 The Committee recommends that the Australian Government provide funding for further longitudinal studies on potential adverse health effects for firefighters and members of PFAS-affected communities.”

The Commonwealth have not responded to this report. Recommendation 7 could be easily implemented, as therapeutic blood donation (venesection) is already supported by Medicare in cases of hemochromatosis.

(<http://www9.health.gov.au/mbs/fullDisplay.cfm?type=item&q=13757&qt=item>).

The link between PFAS and cancer (non hodgkins lymphoma) was made recently through a workers compensation determination: the first of its kind in the world

(<https://www.slatergordon.com.au/blog/compensation-law/as-a-firefighter-mike-spent-24-years-helping-people-now-he-wants-to-help-other-firefighters>)

Conclusion

The two recommended initiatives would represent minimal cost to the Commonwealth, particularly insofar as the Comcare legislation covers only a relatively small proportion of firefighters employed nationally (Approx 10% or 1300 of 13,000). The recommendation in relation to PFAS has not been responded to by the Government and would resonate particularly strongly in regional communities exposed to PFAS contamination. Administratively it would be relatively simple to implement.

Greg McConville
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UFUA Summary: Firefighter Blood, Plasma, PFAS Reduction Study

On April 8 2022, the Journal of the American Medical Association (JAMA) published a landmark paper: [“Effect of Plasma and Blood Donations on Levels of Perfluoroalkyl and Polyfluoroalkyl Substances in Firefighters in Australia A Randomized Clinical Trial” Gasiorowski et. al.](#) (“The Blood & Plasma Study”). The following distills the key points of the study and contains significant excerpts.

Context

“Perfluoroalkyl and polyfluoroalkyl substances (PFASs) are synthetic compounds used in a wide variety of industrial and consumer products because of their resistance to heat and unique surfactant properties.”(p.1)

“Perfluoroalkyl and polyfluoroalkyl substances persist in the environment and accumulate in the human body, where they have a prolonged half-life (eg, 4.8 years for PFOS).” (p.1)

“Firefighters have historically been exposed to firefighting foams that contain high levels of various PFASs; previous studies have found that firefighters have higher PFAS levels in their blood, particularly of PFOS and PFHxS, than the general population.” (p.1)

While there is no safe exposure level for PFAs, a body of data continues to develop. For example:

“In 2016, the Human Biomonitoring Commission of the German Environment Agency determined human biomonitoring (HBM)–I plasma levels of 5 ng/mL for PFOS and 2 ng/mL for PFOA, below which no adverse health effects are expected.³⁴ More recently, the Human Biomonitoring Commission derived HBM-II plasma thresholds for the general population, excluding women of childbearing age, of 20 ng/mL for PFOS and 10 ng/mL for PFOA, which, when exceeded, may lead to health impairments.” (p.8)

Hypothesis

“Perfluoroalkyl and polyfluoroalkyl substances bind to serum proteins in the blood.” The Study sought to test the hypothesis that “removal of any blood containing these proteins may, over time, reduce the levels of PFASs in the blood.”. (p.1)

Methodology

The study involved 285 Fire and Rescue Victoria staff and contractors with serum levels of PFOS of 5 ng/mL or more and who:

- were eligible to donate blood;
- had not donated blood in the 3 months prior;

- were randomly assigned to 3 groups who:
 - donated plasma every 6 weeks for 12 months;
 - donate blood every 12 weeks for 12 months;
 - were observed only. (p.1)

The full methodology and results are addressed at pp 3 – 8.

Results

- a change in serum PFOS and PFHxS levels after 12 months of plasma or blood donations compared with baseline levels and with the observation group;
- Mean level of PFOS at 12 months was significantly reduced by plasma donation (–2.9 ng/mL; 95%CI, –3.6 to –2.3 ng/mL; P < .001) and blood donation (–1.1 ng/mL; 95%CI, –1.5 to –0.7 ng/mL; P < .001) but unchanged in the observation group;
- Mean level of PFHxS was significantly reduced by plasma donation (–1.1 ng/mL; 95%CI, –1.6 to –0.7 ng/mL; P < .001) but no significant change in the blood donation or observation groups.

Conclusions

- Regular blood or plasma donations result in a significant reduction in serum PFAS levels for participants with a baseline PFOS level of 5 ng/mL or more;
- Plasma donations reduced levels more quickly than blood donations. Plasma donation was most effective, resulting in a roughly 30% decrease in average blood serum PFAS concentrations over the 12-month trial period.
- Blood and plasma removal are relatively straightforward procedures, and, provided they are performed under medical supervision, the risks to the patient are minimal.
- Further research is warranted to investigate the clinical effects of reducing PFAS levels and to better define the cohorts who would benefit most from these interventions.

Opportunities

On 30 March 2022 The Australian Parliament Joint Standing Committee on Foreign Affairs, Defence and Trade published the final report of the [“Inquiry into PFAS remediation in and around Defence bases”](#). Most relevantly to this study it recommended:

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13 April 2022