

Supplemental Agenda

Fire Services Management Committee: Supplemental Agenda

Friday 6 October 2023

11.00 am

Hybrid Meeting - 18 Smith Square and Online

	Item	Page
5.	Toxicity in fires Presentation from Professor Anna Stec, Centre for Fire and Hazards Science, University of Central Lancashire.	1 - 8
14.	FSMC update	9 - 16



Associations Between Firefighters Health Risks and Their Exposures to Fire Toxins

Short summary of the UK Firefighter Contamination Survey

Firefighters are directly exposed to potentially large quantities of toxins on a regular basis when attending fires. Research has found that these toxins are unknowingly transported back to stations/homes, further increasing firefighters' exposure. This puts firefighters at an increased risk of developing adverse health outcomes and emphasises the importance of managing those risks by implementing controls which protect against exposures.

The University of Central Lancashire was commissioned by the Fire Brigades Union to conduct the UK Firefighter Contamination Survey, in order to provide an evidence base for understanding the risks and common sources of contaminant exposure, informing decontamination and future research recommendations.

The survey probed UK firefighters' experiences and behaviours on a range of topics including exposure to fire toxins (duration, frequency etc.), contamination and decontamination practices, PPE (provision, maintenance, cleaning, storage, fit etc.), health (cancer, mental health), attitude/culture, awareness and training.

All serving UK firefighters were eligible to take part in the survey, which comprised 64 questions. A total of 10,649 responses were included for analysis, accounting for roughly 24% of the UK's firefighting workforce.

A variety of statistical measures are presented in the manuscripts, including "odds ratios" (OR). Odds ratios are a measure of association between an exposure (e.g. contaminants) and an outcome (e.g. cancer, mental health disorders etc.). Using cancer as an example, an OR of 1.0 means there is no difference between people who were and were not exposed to contaminants in terms of cancer diagnosis. An OR greater than 1.0 means that people exposed to contaminants were more likely to have cancer than those who were not exposed. An OR less than 1.0 means people exposed to contaminants were less likely to have cancer than those who were not exposed. ORs are presented with their 95% confidence intervals, a measure of the OR's precision. Confidence intervals represent a range, within which the true value of the association lies. Therefore, any confidence intervals which pass through 1.0 mean the OR is not significant.

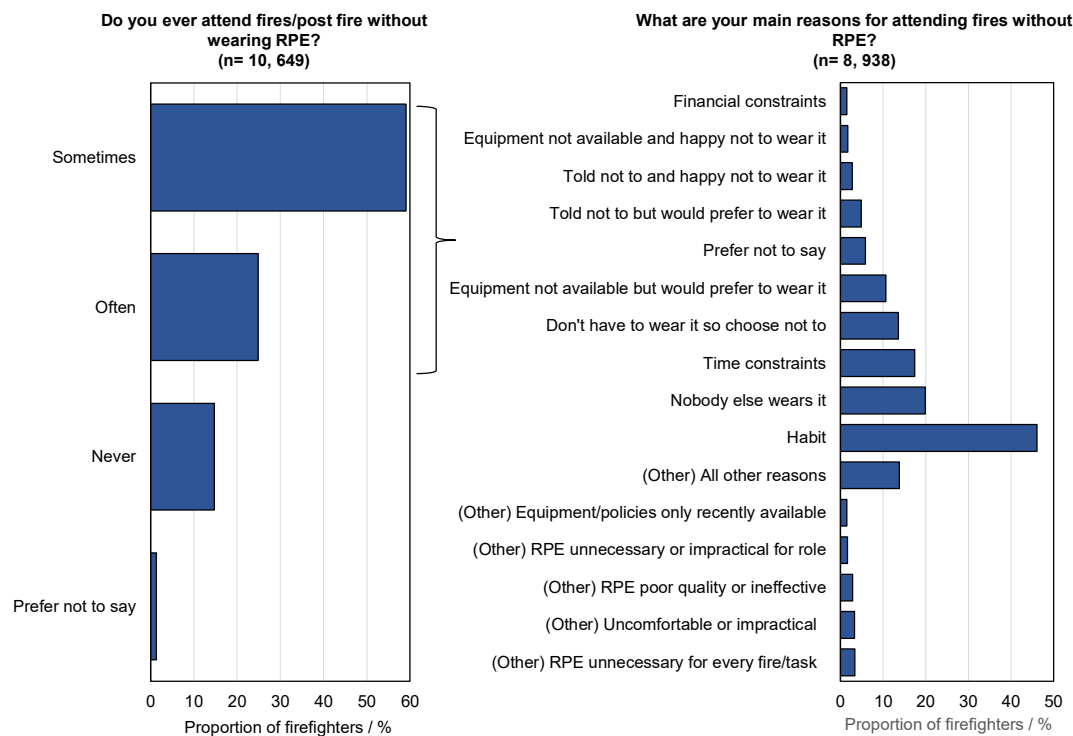


PART 1: CONTAMINATION OF UK FIREFIGHTERS PERSONAL PROTECTIVE EQUIPMENT AND WORKPLACES

Citation: Wolffe, T.A.M., Clinton, A., Robinson, A. et al. Contamination of UK firefighters personal protective equipment and workplaces. *Sci Rep* 13, 65 (2023). <https://doi.org/10.1038/s41598-022-25741-x>

The UK Firefighter Contamination Survey uncovered considerable variation in terms of PPE provision, cleaning and storage in UK Fire and Rescue Services. Results revealed that:

- Most firefighters (84%) de-robe contaminated PPE/workwear after re-entering the appliance cab.
- There is a significant decreasing tendency to send PPE for cleaning after every incident with increasing seniority of role, length of service, and fire attendance frequency.
- Around one third of firefighters clean PPE after every incident.
- A number of issues arise through external professional cleaning services, e.g. shrinkage, fit, turn-around time, and stock of reserve/pooled PPE.
- PPE storage is a potential source of cross contamination, with almost half of firefighters (45%) indicating clean and dirty PPE is not stored separately.
- More than half of firefighters (57%) store fire gloves (an item sent for professional decontamination by only 19% of firefighters, and never cleaned by 20%) within other items of PPE such as helmets, boots and tunic/trouser pockets.



Attending fires without respiratory protective equipment.

Proportion of total surveyed firefighters who attend fires without respiratory protective equipment (RPE), and their reasons for doing so.



PART 2: CANCER INCIDENCE AMONGST UK FIREFIGHTERS

Citation: Wolffe, T.A.M., Robinson, A., Dickens, K. *et al.* Cancer incidence amongst UK firefighters. *Sci Rep* 12, 22072 (2022). <https://doi.org/10.1038/s41598-022-24410-3>

Firefighters continue to suffer chronic illnesses as a result of occupational exposure to fire toxins. Research has found that carcinogens from fire incidents not only remain on firefighters' personal protective equipment (PPE), but are also tracked back to fire stations.

The UK Firefighter Contamination Survey assessed firefighters' risk of developing cancer due to occupational exposure to fire toxins. Results revealed that:

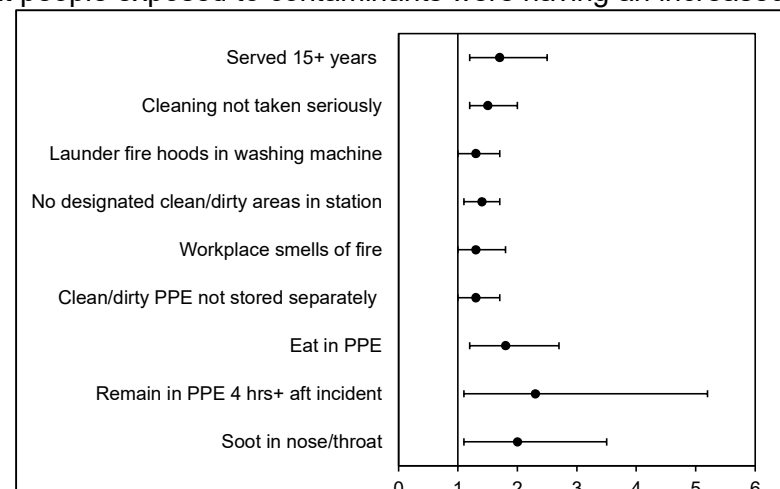
- Over 4% of surveyed firefighters have had a cancer diagnosis, with the age-specific cancer rate up to 323% higher (for 35-39 year olds) in firefighters compared to the general population.
- Firefighters who have served ≥ 15 years are 1.7 times more likely to develop cancer than those who have served less time.
- Firefighters are at least twice as likely to be diagnosed with cancer if they notice soot in their nose/throat (OR= 2.0, 1.1-3.5), or remain in their PPE for more than four hours after attending a fire incident (OR= 2.3, 1.1-5.2).
- Also associated with an increased likelihood of cancer was:
 - eating while wearing PPE (OR= 1.8, 1.2-2.7);
 - failing to store clean/dirty PPE separately (OR= 1.3, 1.0-1.7);
 - working in a station that smells of fire (OR= 1.3, 1.0-1.8)
 - not having designated (separated) clean and dirty areas (OR= 1.4, 1.1-1.7);
 - using an on-site washing machine to launder fire hoods (OR= 1.3, 1.0-1.7);
 - feeling that cleaning is not taken seriously at work (OR= 1.5, 1.2-2.0).

Interpreting Odds Ratios (OR): Odds ratios are a measure of association between an exposure (e.g. contaminants) and an outcome (e.g. cancer, mental health disorders etc.). Using cancer as an example, an OR of 1.0 means there is no difference between people who were and were not exposed to contaminants in terms of cancer diagnosis.

OR higher than 1.0 indicates that people exposed to contaminants were having an increased occurrence of cancers when compared to those who were not exposed.

OR lower than 1.0 indicates that people exposed to contaminants were having lower rates of cancers than those who were not exposed.

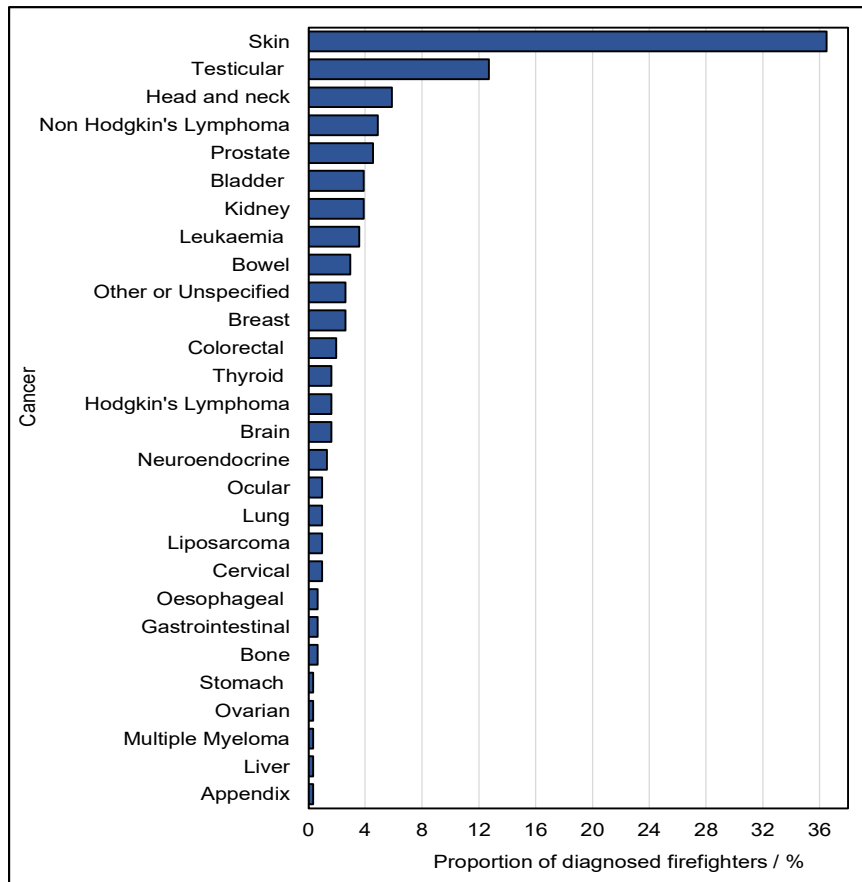
ORs are presented with their 95% confidence intervals, a measure of the OR's precision. Therefore, any confidence intervals which pass through 1.0 mean the OR is not



Sources of contaminant exposure associated with a significant, increased likelihood of cancer diagnosis



significant. If it doesn't pass though 1 results are statistically significant.



Cancer in the UK Fire and Rescue Service. (A) The range and frequency of cancers reported by surveyed firefighters who were diagnosed after joining the Fire and Rescue Service.



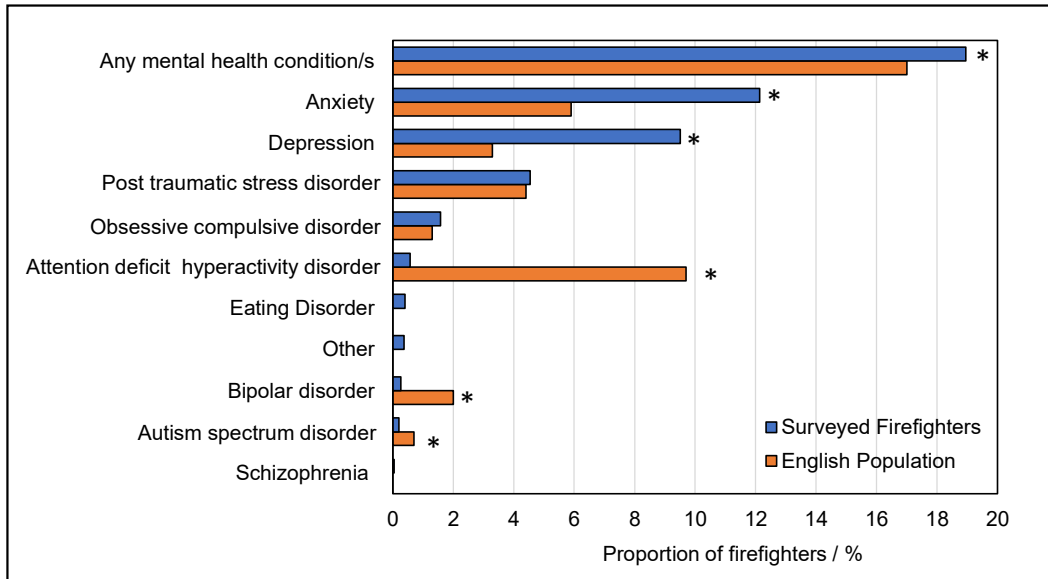
PART 3- MENTAL HEALTH OF UK FIREFIGHTERS

Citation: Wolffe, T.A.M., Robinson, A., Clinton, A. *et al.* Mental health of UK firefighters. *Sci Rep* 13, 62 (2023). <https://doi.org/10.1038/s41598-022-24834-x>

Mental health disorders can be caused by a combination of psychological, environmental, biological, and chemical factors. To date, research on firefighters' mental health has mainly focused on psychological factors such as direct exposure to trauma or occupational stress, finding firefighters to have an increased risk of depression, and post-traumatic stress disorder (PTSD). Studies have also investigated the effects of other occupational exposures, e.g. abrupt fire incident call-outs, disrupted sleep, as well as physical and/or emotional fatigue on firefighters' mental health. However, little is known about the relationship between firefighters' exposure to fire effluent and mental health.

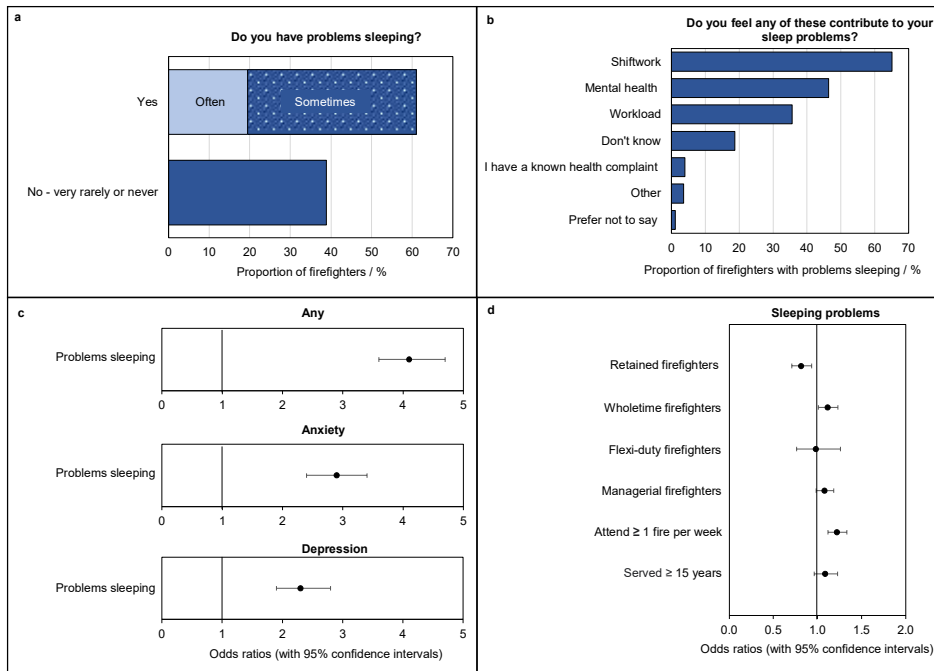
The UK Firefighter Contamination Survey explored the association between potential exposure to fire toxins and self-reported mental health disorders among UK firefighters. Results revealed that:

- Firefighters who notice soot in their nose/throat for more than a day after attending fires (OR=1.8, 1.4-2.4), and those who remain in their personal protective equipment (PPE) for over 4 hours after fires (OR=1.9, 1.2-3.1), were nearly twice as likely to report mental health disorders.
- Significantly increased odds ratios for all three outcomes of interest (anxiety, depression and/or any mental health disorders) were also found among firefighters who take PPE home to clean.
- Sleeping problems were reported by 61% of firefighters. These firefighters were 4.2 times more likely to report any mental health disorder (OR=4.2, 3.7-4.9), 2.9 times more likely to report anxiety (OR=2.9, 2.4-3.5) and 2.3 times more likely to report depression (OR=2.3, 1.9-2.8) when compared to firefighters who did not report sleep issues.



Firefighters’ Mental Health Conditions.

The proportion of total surveyed firefighters with any, or specific, mental health disorders (blue). The prevalence of mental health disorders in the general English population is displayed for comparison (orange). * indicates significant differences in the proportion of mental health disorders in firefighters compared to the general population.



Firefighters’ Sleeping Problems.

(A) The proportion of total surveyed firefighters who indicated whether they had sleeping problems. (B) The proportion of firefighters with sleeping problems listing the reasons for their sleep disturbances. Note that firefighters were able to select more than one reason. (C) Adjusted odds ratios (with 95% confidence intervals) for firefighters’ mental health conditions due to sleeping problems. (D) Adjusted odds ratios (with 95% confidence intervals) for firefighters’ sleeping problems due to demographic variables.



PART 4: CULTURE AND AWARENESS OF OCCUPATIONAL HEALTH RISKS AMONGST UK FIREFIGHTERS

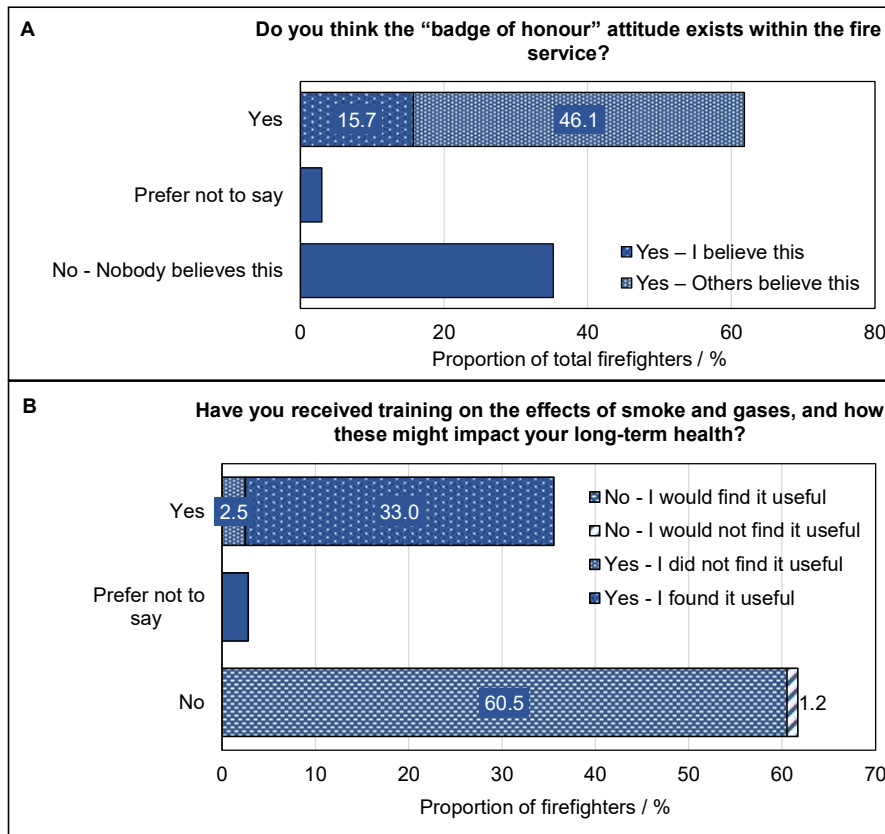
Citation: Wolffe, T.A.M., Turrell, L., Robinson, A. *et al.* Culture and awareness of occupational health risks amongst UK firefighters. *Sci Rep* 13, 97 (2023). <https://doi.org/10.1038/s41598-022-24845-8>

When firefighters are subjected to repeated similar experiences (such as fire attendances), over time, they may pay less attention or take less caution over their exposure to toxic substances. This puts them at risk of gradually resuming bad habits and routines, leading to illness or accidents.

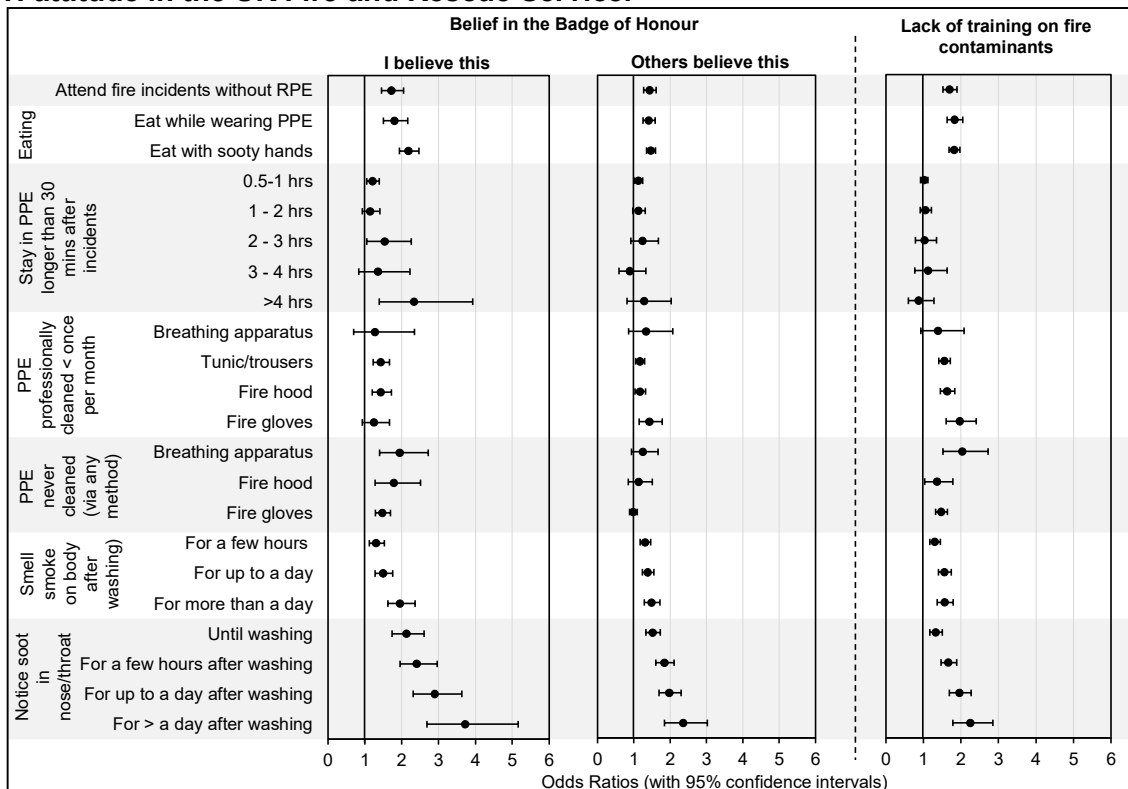
The “badge of honour” (BoH) is an attitude sometimes upheld by firefighters; whereby heavily contaminated personal protective equipment (PPE) is perceived as a mark of prestige. BoH and similar attitudes therefore have the propensity to not only increase the wearer’s exposure to fire toxins, but also that of his/her colleagues/family.

The final analysis of the UK Firefighter Contamination Survey examines the influence of cultural beliefs such as the BoH on firefighters’ exposure to contaminants and engagement in decontamination practices. Results revealed that:

- Lack of training on fire effluents and their health outcomes is strongly associated with increased fire smoke/contaminant exposure.
- Untrained firefighters were at least twice as likely to:
 - never clean personal protective equipment (PPE) (OR= 2.0, 1.5-2.7),
 - infrequently send their PPE for professional cleaning (OR=2.0, 1.6-2.4),
 - remain in the workwear (t-shirt etc.) worn while attending a fire incident (OR up to 3.6, 2.3-5.6),
 - and indicate that cleaning at fire stations is not taken seriously (OR=2.4, 2.2-2.6).
- Firefighters personally viewing contamination as a “badge of honour” (BoH) were at least twice as likely to:
 - remain in contaminated PPE after fire incidents (OR=2.3, 1.4-3.9),
 - eat with sooty hands (OR=2.2, 1.9-2.5),
 - notice soot in the nose/throat (OR=3.7, 2.7-5.2),
 - and smell fire smoke on the body for more than a day after incidents (OR=2.0, 1.6-2.4).
 - They were also more likely to indicate that cleaning at fire stations is not taken seriously (OR=2.5, 2.2-2.9) and that fire stations smell of smoke always/most of the time (OR=2.3, 2.0-2.6).
- Strong links were also found between belief in the BoH and never cleaning PPE (OR=1.9, 1.4-2.7), and eating while wearing contaminated PPE (OR=1.8, 1.5-2.2).



Training on fire contaminants and their associated health outcomes, and belief in the BoH attitude in the UK Fire and Rescue Service.



Crude odds ratios for engaging in practices/behaviours which increase contaminant exposure for firefighters who believe in the badge of honour, or who have not received training on fire contaminants and their associated health outcomes.

Fire Services Management Committee Update

Purpose of Report

For information.

Is this report confidential? No

Summary

The report outlines issues of interest to the Fire Services Management Committee not covered under other items on the agenda.

LGA Plan Theme: Other service specific support

Recommendation(s)

That the Committee comment on proposals around the Fire Conference, including suggestions for sessions and potential themes.

Contact details:

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Fire Services Management Committee

HMICFRS Spotlight Report

1. The LGA has responded to HMICFRS's Spotlight report on culture and values. The LGA was particularly asked for feedback on Recommendation 2, regarding the use of Independent Reporting Lines. Alongside the NFCC and National Employers, who were also named in the recommendation, we conducted a survey to ascertain how many services had independent reporting lines in place and if not, when they expected to have one set up by. We heard back from all authorities in England, the majority of whom (32) had already got an independent reporting line in place, with the rest working towards having one, with the latest being expected to be in place by December 2023.
2. We will continue to engage with the Spotlight Review's recommendations and wider culture work.

Fire Conference 2024

3. The next LGA Annual Fire Conference is to be held on 12-13 March 2024 at the Delta Hotels (Bristol Marriott) City Centre. The event is an important part of the annual fire industry calendar. In recent years, the conference has attracted an average of 230 delegates and a range of exhibitors and sponsors.
4. With an upcoming general election, we are seeking member's views on whether, in addition to the Fire and Policing Minister, we should invite the shadow ministers. We welcome discussion on this point.
5. Lead Members have had an initial discussion on potential sessions for the conference. These included:
 - 5.1. Community risk planning into the longer term
 - 5.2. Toxicity in building materials and building safety
 - 5.3. Funding of the sector
6. Lead Members emphasised the importance of making plenary sessions interactive, with more opportunities for questions and discussion with attendees. We are seeking members views for other issues that would be of interest for the sector.
7. Last year's conference was dominated by discussions around culture within the sector. We encourage members to state if they would like a theme for this year's conference and if so, share their ideas for a theme. A blank programme is included at **Appendix A**.

Audit in the fire and rescue service

8. In July 2023 the Government published a [ministerial statement on financial reporting and audit in local authorities](#). The statement outlines the deterioration in

the timeliness of local audit since 2017/18, and how the National Audit Office, CIPFA, the Financial Reporting Council (FRC) and the Department for Levelling Up, Housing and Communities will work together to address the backlog.

9. The LGA has been responding to this work through the Economy and Resources Board who held a discussion on it at their meeting in September and will continue to engage with DLUHC and the FRC as this work progresses. The NFCC has engaged with it through Mark Hemming and other finance officers within the sector. The Department are planning further engagement on this issue.

LGA Local Government White Paper

10. At LGA Annual Conference this year, Councillor Shaun Davies (LGA Chair), announced our intention to produce a Local Government White Paper ahead of the next election. Work is now underway on the white paper, which will set out a central-local partnership in which local government can work to its full potential for our people, our places and our planet.
11. The LGA is consulting member councils, professional associations, stakeholders and the public to inform the White Paper.
12. At its September meeting the LGA's Executive Advisory Board (EAB) considered how the White Paper is developed. It agreed the aim of the White Paper should be to *demonstrate how stronger and more empowered local government could deliver the public's priorities more effectively and strengthen the value that the public place on the UK's democratic structures.*
13. The EAB also agreed that each of the LGA's boards use their policy work to make specific offers from the sector to a new/returning minister in their policy area. In particular the EAB wants boards to consider and make proposals on:
 - 13.1. How public services should be reformed in their policy areas to deliver the ambitions set out in paragraph 5; and
 - 13.2. How local government, and central government should change to deliver the public's priorities in their policy areas.
14. Officers will therefore work up a range of proposals setting out how a stronger and more empowered fire and rescue sector can deliver more effectively than central government on the public's priorities around fire safety. This will then be used to bring some proposals to the Committee for discussion at its next meeting.

Equality, Diversity and Inclusion Champions Network

15. On Friday 22 September the EDI Champions Network held its first meeting of this political cycle. Cllr Jane Hugo, in her role as Equalities Advocate for the FSMC, chaired the meeting.

16. Rob McDougall, People, Culture and Leadership Lead for the NFCC, presented on the work of the NFCC in responding to cultural issues, including their culture action plan. Members asked a number of questions around the action plan and sought further joint work between the LGA and NFCC on these issues. Officers will continue to engage with the NFCC.
17. Members also discussed the terms of reference for the group and future work. The next meeting of the group is scheduled for 17 January 2024.
18. We encourage all authorities to make sure that they have a representative on the Committee's Member Champions Network. Please get in touch with Marshall Scott for further information (Marshall.Scott@local.gov.uk)

HMICFRS External Reference Group

19. Members continue to be a part of the External Reference Group for HMICFRS. The most recent meeting, which took place in August, was given the opportunity to discuss the Misconduct Review that HMICFRS are currently conducting.

The Firefighters Memorial Trust Annual Service of Remembrance

20. On 4 September 2023, Councillor Frank Biederman (Chair of FSMC) attended the Firefighters Memorial Trust's annual service of remembrance and wreath laying at the National Memorial Arboretum.

Fire Performance Oversight Group

21. On 19 October 2023, Councillor Frank Biederman (Chair of FSMC) is due to attend the Fire Performance Oversight Group (FPOG) to provide support to our members.

Events

Fire and Rescue Leadership Essentials

22. We are holding a Fire and Rescue (Leadership Essentials) course between Wednesday 1 November and Thursday 2 November 2023 at Warwick Conference Centre. Sessions will include information on culture, climate change, governance and building safety.

Implications for Wales

23. None

Financial Implications

24. None

Equalities implications

25. HMICFRS's inspection reports highlighted a range of issues that impact on equality, diversity and inclusion within the fire and rescue sector. The LGA's Fire Diversity and Inclusion Champions Network has been specifically established to assist authorities in improving equality, diversity and inclusion in fire and rescue services.

Next steps

26. Members to discuss the Fire Conference 2024, including any conference sessions and themes. Members are asked if they would wish to invite the Shadow Ministers for Crime, Policing and Fire to speak at the Conference.

Appendix A

LGA Fire Conference 2024

Tuesday 12 March – Wednesday 13 March 2024



Tuesday 12 March 2024

09.00	Registration, refreshments and exhibition viewing
10.30	Conference opening and Chair's welcome
10.35	Keynote session 1. Ministerial address
11.20	Keynote session 2.
12.05	Refreshments and exhibition viewing
12.30	Workshops – session 1 An opportunity to attend a workshop from the list below. These sessions will be repeated. 1. Workshop 1 2. Workshop 2 3. Workshop 3 4. Workshop 4 5. Workshop 5
1.15	Lunch, exhibition viewing and networking <i>[Lunchtime fringe sessions to be announced]</i>
2.20	Plenary session 3.
3.15	Workshops – session 2 An opportunity to attend a workshop from the list below. These sessions will be repeated. 1. Workshop 1 2. Workshop 2

3. Workshop 3**4. Workshop 4****5. Workshop 5**

4.05 Refreshments and exhibition viewing

4.35 **Workshops – session 3**

An opportunity to attend a workshop from the list below. These sessions will be repeated.

1. Workshop 1**2. Workshop 2****3. Workshop 3****4. Workshop 4****5. Workshop 5**

5.30 **Political group meetings**

Conservative Group Meeting

Labour Group Meeting

Liberal Democrat Group Meeting

Independent Group Meeting

7.30 Drinks reception

8.00 Conference dinner

Wednesday, 13 March 2024

08.45 Registration for new delegates, refreshments and exhibition viewing

09.30 **Welcome to day two**

9.35 **Plenary Session 4.**

10.35 **Plenary Session 5.**

11.35 Refreshments and exhibition viewing

12.00 **Plenary Session 6.**

1.00 **Conference close**

1.15 **Lunch, exhibition viewing and networking**
