

# The Invisible Risk

## The Female Firefighter Cancer Survey

September 2024

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This survey was conducted anonymously, with no personal details collected.

After attending the Fire Service College in June and conducting three workshops on contaminants at the Women in the Fire Service event, I realized the need for further exploration, based on feedback from the event.

The questions I posed, and the responses gathered are summarized here. Not all questions were fully answered, but the scope aimed to encompass all roles on a fire station during training, and not just those in local authority but across various emergency services. The risk posed by contaminants affects all responders.

It's essential that this understanding goes forward. For instance, paramedics at a fire scene are exposed to off-gassing from casualties rescued from house fires, while police officers passing by a house fire may rush in before the fire service arrives. This issue impacts everyone involved in emergency response, not just firefighters.

### **Findings and Purpose**

The results discussed in this document are not derived from a medical or scientific viewpoint but instead reflect a range of responses gathered from real people. Some respondents have lived through cancer or other serious diseases. The aim of this survey is to capture an understanding of how well responders grasp the risks posed by contaminants and cancer in as clear and simple a way as possible.

These questions and answers represent personal opinions and experiences; they do not challenge any scientific or medical findings. The objective is to foster a shared understanding of responder cancer risks and contaminants, helping to assess whether the message is being effectively communicated and understood. Furthermore, this survey aims to highlight where efforts should be directed next. We encourage individuals to honestly reflect on their actions and consider whether they address the concerns raised in this survey.

I would like to express my gratitude to the scientists, suppliers, and officers worldwide who are tirelessly working to reduce these risks through innovation, education, and support. This is not just a United Kingdom issue but a global one.

We remember all those lost to cancer during or after their service, as well as their families. This cause is my personal motivation—ensuring the safety of future generations of responders and their families, while honouring the memory of those who have died. Their loss should not be in vain.

If you'd like to discuss or need support, feel free to contact me at [john@simtrainer.uk](mailto:john@simtrainer.uk).

## Female Firefighter Cancer Survey Results

Q1. Have you ever had cancer?

- No: 91%
- Yes: 6%
- Awaiting diagnosis: 3%

Q2. What is/was your role in the fire service?

- Operational roles: 136 (51 whole-time, 29 on-call, 4 in fire investigation, 3 in USAR, 3 in training)
- Airport fire service: 10
- Military fire service: 13
- Industrial firefighters: 4
- EMT: 4
- BA/CFBT Instructors: 16
- Admin staff: 3
- Non-operational roles: 6
- Volunteers: 2

Q3. Are you serving or retired? Breakdown by service.

- Serving: 137
- Retired: 16

Q4. For BA and CFBT instructors: How many hot wears per week do you undertake?

- 1-5 wears per week: 10
- 5-10 wears per week: 5

Q5. Do you know what Rhabdomyolysis is?

- Yes: 19
- No: 137
- Maybe: 6

Rhabdomyolysis is a serious condition often caused by heat stress, and more education is needed for operational firefighters on this topic. Dr. Emily Watkins has done significant work in this area.

Q6. How long have you been in service?

- < 5 years: 55
- 5-10 years: 34
- 10-20 years: 36
- 20-30 years: 31
- > 30 years: 6

Q7. For operational staff: How busy do you feel your role is?

- Very busy: 7
- Busy: 29
- Moderate: 43
- Quiet: 42
- Very quiet (few calls): 23

Q8. Where are you located?

- England: 101
- Wales: 26
- Scotland: 10
- Northern Ireland: 2
- Ireland: 16
- Isle of Man: 6
- International: 1

Q9. What is your age range?

- 18-25: 13
- 25-35: 34
- 35-45: 65
- 45-55: 40
- > 55: 10

Q10. For operational staff: Do you wear particulate-blocking hoods?

- Yes: 102
- No: 40

Q11. If you have been diagnosed with cancer, which type?

- Breast: 4
- Ovarian: 1
- Skin: 2
- Other: 6

Q12. Further details on cancer types (if respondents felt comfortable sharing).

Breast cancer featured prominently, with other cancers also mentioned, which are increasingly noted in scientific studies.

Q13. What is your level of understanding of the cancer risks in firefighters?

- Very good: 10
- Good: 30
- Reasonable: 59
- Not good: 27
- Could be better: 38
- Unsure: 7

The fact that many respondents felt their understanding was "not good" or "could be better" suggests the need for greater awareness.

Q14. Are you aware of SNOMED codes and their use?

- Yes: 34
- No: 93
- Maybe: 18
- Would like to know more: 18

There is a clear need for increased awareness and adoption of SNOMED codes across the NHS.

Q15. Would you like to see early screening for female firefighters?

- Yes: 155 (95%)
- Maybe: 8

Q16. Do you think mental health support is important in service?

- Yes: 158 (98%)

Q17. Are you aware of the UCLAN/FBU DECON program?

- Yes: 47
- No: 98
- Maybe: 18

Q18. Do you clean down after fires and incidents?

- Yes: 120
- No: 6
- Maybe: 22

Q19. Do you know what Ultra Fine Particulates (UFPs) are?

- Yes: 80
- No: 43
- Not sure what UFPs are or where they are found: 42

Q20. Have you had cancer in your close family (household)?

- Yes: 47 (28.8%)
- No: 112
- Maybe: 4

This question was asked due to concerns about the possible transfer of contaminants to family members.

Q21-Q22. Understanding of SNOMED and Cancer Information Needs

- Responses can be found in Appendix 1.

Q23. Do you know enough about prostate and male cancers to help partners?

- Yes: 42
- No: 61
- Maybe: 21
- Would like to know more: 51

Q24. Do you know what the ICLE test is?

- Yes: 10
- No: 149
- Maybe: 4

The ICLE Test® is a home urine test that screens for invisible blood, a sign of potential kidney or bladder cancer.

Q25. Do you wash dirty clothes at home (same machine as family clothes)?

- Yes: 80
- No: 44
- Sometimes: 27
- Not applicable: 10

Q26. Would you wear breathable, particulate-blocking underwear if available?

- Yes: 106
- No: 14
- Maybe: 39

Q27. Do you know the high-risk areas of the body for absorbing toxins?

- Yes: 53
- No: 59
- Maybe: 26
- Would like to know more: 59

Q28. Do you know why the time soot sits on the skin matters?

- Yes: 26
- No: 89
- Maybe: 21
- Would like to know more: 55

Q29. Would you like to be trained to recognize dangerous lumps?

- Yes: 146

- No: 4
- Maybe: 11

Q30. Do you have a family history of cancer?

- Yes: 103
- No: 43
- Possibly: 17

Q31. Does your service do enough to address contaminants?

- Yes: 25
- No: 90
- Maybe: 46

Q32. Do you suffer from any of the following?

- Heart or Cardiovascular issues: 2
- Diabetes: 1
- Menopause-related issues: 47
- Lung, COPD, or Asthma: 10
- Other: 17

Q33. Does your service provide enough support for menopause/perimenopause?

- Yes: 21
- No: 78
- Maybe: 62

Q34. Would you attend a focused female firefighter seminar?

- Yes: 104
- No: 21
- Maybe: 35

Q35. Is there anything you would like to know more about?

- Responses can be found in Appendix 2.

## **Appendix 1: Responses to Question 22**

1. Concerns about the risks of contamination despite personal decontamination efforts, noting that while firefighters can take precautions, more should be done by the service to protect operational staff.
2. Questioned whether female-specific cancers are linked to fire service work, particularly regarding heat exposure and its effects on female reproduction.
3. Request for better PPE to enhance protection.
4. Interest in gaining more knowledge on risks and prevention.
5. Inquiry about effective screening options for female firefighters and whether any new research is promising.
6. General agreement with all concerns raised.
7. Questions about potential health effects related to the job, including a personal experience with rhabdomyolysis, a condition not widely known among firefighters.
8. Interest in all aspects of health risks.
9. Desire for more information on risks and increased screening opportunities.
10. Affirmation of interest in the topic.
11. Concern about the long-term cancer risks from numerous short exposures before the implementation of clean cab policies.
12. Inquired about the best products for cleaning gear and personal decontamination. Also asked if personal kit upgrades for better particulate protection are possible.
13. Interest in topics related to rhabdomyolysis, SNOMED, and DECON research from UCLan.
14. Request for general information on health risks.
15. Affirmation of interest in receiving more information.
16. Focus on the risks related to particulate exposure.
17. Desire to learn how to prevent illness and cancer throughout a firefighting career.
18. Curiosity about personal cancer risk percentages.
19. Interest in preventative measures to reduce risks.



20. Affirmation of the importance of the subject.
21. Stressed the importance of continual learning.
22. Firefighters based in airport fire and rescue stations expressed concern about risks related to fumes, radiation from aircraft fuels and engines, hazardous materials incidents, and security screening. Specific mention of possible risks from carrying firearms for wildlife management, which causes black stains on hands that are hard to remove before eating.
23. Noted several colleagues who developed breast cancer and a desire to understand possible links to firefighting.
24. Questioned why decontamination efforts for gear worn around the head and neck are not prioritized and raised concerns about insufficient time allowed for post-incident cleaning.
25. Suggested that while information is available, what firefighters need is regular screening for both men and women.
26. Interest in learning which detergents or disinfectants are most effective for cleaning after incidents.
27. Request for more information on screening options.
28. Desire for a brief on cancer risks in firefighting, with female representation during such sessions.
29. Focus on understanding cancer risks specific to women in the fire service.
30. Raised concerns about whether medical practices understand and implement the SNOMED coding system, particularly in relation to treatment advantages.
31. Expression of interest in receiving more information.
32. Called for the introduction of training on health risks for all firefighters, not just fire managers, emphasizing the importance of awareness without instilling fear.
33. Interest in findings related to cancer risks in the aviation fire service.
34. Expression of agreement with the need for more information.
35. Request for information on early signs and symptoms of cancer, and common cancer types affecting women in operational firefighting roles.
36. Desire to learn more about all potential risks.
37. Request for information on the dangers of contaminated fire kit, how to handle it, and at what point contamination becomes hazardous.

38. Interest in the cleaning process for contaminated PPE.
39. Affirmed that more information, including courses and in-house training, would be beneficial.
40. Interest in learning more about rhabdomyolysis, SNOMED, UCLan DECON research, and the dangers of ultra-fine particulates.

## Appendix 2: Responses to Question 35

1. Effect of the role on fertility.
2. Interested in being informed about future seminars, especially as a Fire Brigades Union (FBU) women's representative.
3. Expressed lack of awareness on the topics mentioned and sought guidance on how to assist others.
4. Shared experience of her husband, a firefighter, developing skin cancer. She believes her high cortisol levels due to stress, while serving as a Principal Officer, led to increased oestrogen levels, which may have contributed to her oestrogen-fuelled cancer.
5. Raised issues regarding mental health and well-being.
6. Would like more information on questions 19, 24, 26, 27, and 29.
7. Interested in ways to enhance personal safety, such as nutrition, hydration, improved decontamination (Decon) of self and personal items (e.g., phone, helmet), access to early screening, potential impacts on fertility, and ways to mitigate these risks.
8. Concerned about menopause symptoms and how to manage them while working in PPE.
9. Questioned whether a male version of this survey exists and if women are at greater risk than men.
10. Raised concerns about thermoregulation during menopause.
11. Highlighted general health and well-being issues for female firefighters, noting that women may be more vulnerable to health problems during their menstrual cycle. Recalled fainting after returning from maternity leave too soon, due to service pressure.
12. Suggested more focus on female health issues, such as menopause, and recommended that male colleagues receive training to better understand what women may experience. This could also benefit their personal lives by helping them support their wives/girlfriends.
13. Called for tangible action in the service, focusing on people rather than dividing by gender. Suggested that instead of investing in one state-of-the-art station, funds should be distributed to make all stations functional and safe, including on-call stations.
14. As a former non-operational staff member in fire safety and the wife of a firefighter, stressed the importance of education and training on hidden risks for

both current and retired personnel, as this could save lives and prevent the heartbreak her family is currently facing.

15. Raised concerns about maternity's effects on employment within the service, health and safety implications of attending calls while pregnant, and the support available after the baby is born.
16. Emphasized the importance of continual education and staying updated with current trends and analysis.
17. Identified as a firefighter spouse.
18. Highlighted the need for more information and support for pre- and post-natal care for female firefighters and for planning pregnancies while serving.
19. As a retained firefighter with 23 years of experience, questioned how firefighters can remain clean after a call, as current practice involves storing dirty BA sets in the cab. Raised concerns about having clean uniforms but being unable to respond properly to an emergency on the way back to the station.
20. Stated that on-call firefighters face additional challenges compared to wholetime firefighters, particularly when called out in the middle of the night. Expressed concerns about the professional image when changing out of fire kit in public spaces and standing exposed.
21. Pointed out that male colleagues and officers lack knowledge of female issues, such as periods and menopause.
22. Suggested more training on female firefighter issues, particularly menopause, and expressed interest in attending a seminar for women. Noted that it can be difficult to be the only female and called for workplace procedures to support women.

## **About the Author:**

My name is John Lord, and I served with the Lancashire Fire and Rescue Service from 1979 to 2011, retiring as a flexi-duty officer after spending 27 years operationally on appliances. In 2011, I founded my training company, SimTrainer UK, and have since worked with 62 airports, 5 refineries, and multiple fire and rescue services.

My involvement in cancer-related work is entirely voluntary. Both my wife and I are cancer survivors: I've battled prostate cancer and had five benign tumours removed from my left hand, undergoing 10 operations over the last 11 years. My wife fought non-Hodgkin's lymphoma, a journey my daughter Becky and I endured with her. This personal history has given us deep insight into the physical and mental challenges cancer poses to both patients and their families.

My goal is not to alarm anyone or point fingers, but simply to raise awareness and encourage positive change.