Roundtable on strengthening the human environmental health research and policy interface in the UK

Background

The use of flame retardants in furniture is both an increasingly pressing issue in its own right, and a generally instructive focal point for broader issues around the UK's approach to research and decision-making in the area of human environmental health. At the same time, the recent creation of bodies such as the UK Health Security Agency presents new opportunities for joined-up, strategic approaches to understanding and responding to scientific evidence of how the environment affects human health.

The objective of this roundtable is to provide an outline answer to five key strategic questions (listed below) that relate to defining chemical safety requirements and working with UK agencies to ensure chemical safety standards adequately protect and serve public health. The results of the round table discussion will be summarised and submitted to a major journal, and form the basis of a larger follow-up meeting with UK government agencies whose remit is in the area of human environmental health.

Agenda

Date: Monday 13th June 2022

Time: 12:30 – 16:00 BST

Video Conference via MS Teams: Click here to join the meeting

Agenda

12:30	Welcome and Objectives (Mr Jamie Page)
12:35	Tour-de-Table Introductions (all)
12:45	Specific issues relating to the use of flame retardants in furniture (Mr Jamie Page)
12:50	Overview of the general themes of discussion (Dr Paul Whaley)
13:00	2-minute participant presentations in response to the general themes (all)

1. Dr Ovnair Sepai, UK HSA
2. Prof Anna Stec, University of Central Lancashire
3. Dr Linda Birnbaum, US NIEHS (ret)
4. Prof Andrew Stirling, University of Sussex
5. Prof Andreas Kortenkamp, Brunel University
6. Delyth Fetherston-Dilke, Delyth Upholstery
7. Dr Graham Campbell, MRC
8. Prof Frank Kelly, Imperial College London
9. Prof Ruth Garside, University of Exeter
10. Prof Stuart Harrad, University of Birmingham
11. Dr Michelle Bellingham, Glasgow University
12. Prof Tom Woolley, Rachel Bevan Architects

13. Dr Olwenn Martin, University College London
14. Prof Aleksandra Cavoski, University of Birmingham

13:30 Questions

14:00 Break

14:30 Facilitated open discussion (all, facilitator PW)

15:30 Summary and next steps

- Publication of proceedings
- Next meeting

16:00 End

Key Strategic Questions

1. How do we encourage products to be designed in a way that minimises the use of chemicals that pose, or may turn out to pose, risks to human health?

Furniture is often made with innately flammable materials, to which fire retardants (FRs) are added with the intent of reducing fire risk. This results in widespread human exposure to chemicals often later discovered to pose important toxicity issues. FRs may also not be effective at preventing fires, and may make aspects of fire safety, such as smoke density and toxicity, worse. Substitute chemicals may end up being as problematic as those they replace. This speaks of a series of suboptimal design decisions that need to be addressed.

2. How do we efficiently keep abreast of the changing evidence base for human health risks posed by chemical substances?

There are hundreds of FRs. Over a thousand new studies on their potential health risks are published annually. There is exponential growth in publication of human environmental health research in general, creating a large and ever-shifting evidence base of potential health risks posed by chemical substances. Generating accurate, transparent, timely summaries of the current state of, and changes to, the evidence relating to any given substance is a significant challenge.

3. As evidence shifts and accumulates, how do we make consistent and transparent the process for prioritising chemicals for more detailed analysis?

Chemicals move from their potential toxicity being relatively poorly understood, to evidence of health risks developing over time. This evidence shifts, is unevenly distributed across substances and health end-points, and is rarely unequivocal at any given time. Thresholds for defining levels of evidence and changes in the evidence base that should result in further assessment, consideration for restrictions in use, etc. are ambiguously defined and appear to be inconsistently implemented.

4. How do we ensure the full breadth of evidence is given proportionate weight in identifying chemical substances that may present risks to human health?

The evidence base relating to understanding the toxicity of chemicals for humans is complex, consisting of human observational, animal, *in vitro*, and computational studies. Some evidence of health risks from chemical exposures comes from highly standardised, but in other ways limited, OECD protocols. Most comes from academic research. There is a tendency for different stakeholders, agencies, and disciplines to favour a given type of evidence over another, at the cost of a comprehensive, balanced view of the evidence base.

5. How do we promote a general, robust culture of human environmental health awareness and research in the UK?

In comparison to several countries in mainland Europe, and the US and Canada, the UK does not have a particularly strong culture of human environmental health research. There are few specialist researchers and low public awareness. Responsibility for environmental health policy and research is spread across multiple agencies and funders without joined-up, strategic oversight. Following Brexit and the COVID pandemic, reorganisation of the UK's approach to environmental health issues may present opportunities for enriching and re-establishing this as an active, vibrant area of research and policy in the UK.

Invited Participants

Participants			
Dr	Ovnair	Sepai	*UK Health Security Agency*
Professor	Frank	Kelly	*Imperial College London*
Professor	Tom	Woolley	*Rachel Bevan Architects*
Professor	Anna	Stec	*University of Central Lancashire*
Professor	Stuart	Harrad	*University of Birmingham*
Professor	Andreas	Kortenkamp	*Brunel University*
Dr	Michelle	Bellingham	*Glasgow University*
Professor	Ruth	Garside	*University of Exeter*
Dr	Linda	Birnbaum	*US NIEHS (ret)*
Dr	Graham	Campbell	*UKRI MRC*
Ms	Delyth	Fetherston-Dilke	*Delyth Upholstery*
Dr	Olwenn	Martin	*University College London*
Prof	Aleksandra	Cavoski	*University of Birmingham*
Organisers			
Professor Sir	Stephen	Holgate	*University of Southampton*
Mr	Jamie	Page	*Cancer Prevention and Education Society*
Dr	Paul	Whaley	*Lancaster University*
Apologies			
Professor	Andrew	Stirling	*University of Sussex*