
Article:
Holmes, J. orcid.org/0000-0001-9283-2151 and Sumnall, H. (2017) On risk in addiction science, policy and debate. Addiction, 112 (11). pp. 1895-1897. ISSN 0965-2140

https://doi.org/10.1111/add.13962

On risk in addiction science, policy and debate

John Holmes[1]; *Harry Sumnall*[2]

[1]*School of Health and Related Research, University of Sheffield, UK*

[2]*Public Health Institute, Liverpool John Moores University, UK*

Running head: Risk in addiction science, policy and debate

Word count: 1,022

Declaration of competing interest: JH was involved in the review of the UK low risk drinking guidelines as a commissioned researcher providing a key report on alcohol-related risks and as a member of (and, after commissioning, an advisor to) the expert committee who proposed revisions to the guidelines.

HS is a member of the UK Government Advisory Council on the Misuse of Drugs (ACMD). This editorial represents his personal opinions only.

Stand-first: *The concept of risk should be used carefully in addiction science, policy and debate due to its complexity and its potential to inform, distort or otherwise shape the perspectives of stakeholders, including the general public. Recent high profile examples from the UK demonstrate such care is often not being taken.*

On risk in addiction science, policy and debate

The concept of risk should be used carefully in addiction science, policy and debate due to its complexity and its potential to inform, distort or otherwise shape the perspectives of stakeholders, including the general public. Recent high profile examples from the UK demonstrate such care is often not being taken.

The concept of risk plays a central role in addiction science, policy and debate. Risk is critical to our understanding of the harmfulness of addictive substances and behaviours and the design of appropriate preventative policies. However, risk is a complex concept. Its statistical malleability means presentation of risks in absolute or relative terms, or in comparison to potential harms of everyday activities, can inform, distort or otherwise stimulate debate [1]. Risks also do not exist only in numerical form. They are embodied through sensations of fear, apprehension, excitement and success. They are interpreted differently depending upon the communicator's credibility in the eyes of the recipient, such that past behaviours or institutional identities (e.g. industry or government) may undermine even robustly evidenced and appropriately communicated messages [2]. Professional and lay decision-making engage with risk but are subject to numerous biases and often limited statistical understanding [3]. Finally, risk is socially constructed through discourse, with reference to everyday activities, past experience and anomalous cases such as 'the old lady who smoked every day but lived to a hundred' [4].

Risk then, is to be treated carefully, perhaps more so in an age where political processes, journalism and scientific authority face major threats. Risk messages should be proportionately compelling and informed by an awareness of the likely and desired responses of recipients and conduits, such as news and social media. However, three high profile UK-based examples illustrate common failings:

1. **E-cigarettes**: Debate around e-cigarettes is partly a disagreement in good faith about how to respond to an external shock to tobacco control policy. The stakes are heightened by threats to professional identity as influence partially shifts from public health actors to vapers, markets and the tobacco industry. Nonetheless, claims about the risks of e-cigarettes have been starkly inconsistent. For example, the consensus-based statement by Public Health England that e-cigarettes are '95% safer' than traditional cigarettes [5] has been attacked and defended in the Lancet and BMJ, with the dispute reported prominently in UK news outlets [6, 7].
2. **Alcohol and cancer**: In widely reported remarks, the Chief Medical Officer (CMO) for England told a UK parliamentary committee that people should decide each time they drink alcohol, "do I want my glass of wine or do I want to raise my risk of breast cancer?" [8] Setting aside the incorrectly stated choice and poor correspondence with evidence on the automatic and heuristically-driven processes by which behavioural choices are typically made [9], similarly abstemious advice is offered by the World Cancer Research Fund (WCRF) who recommend 'Don't drink alcohol' as 'any amount increases your [cancer] risk' [10].
3. **New psychoactive substances (NPS):** The UK's Psychoactive Substances Act, 2016 subjects all non-exempt NPS to control due to their psychoactivity rather than their potential harmfulness. While we acknowledge there are gaps in scientific data, the Act also presents risks from a diverse range of drugs (e.g. novel opioids and nitrous oxide) as equivalent [11].

These examples illustrate four problems with contemporary addiction-related risk discourse.

First, there is a lack of attention to absolute levels of risk. Neither the CMO nor WCRF quantify risks alongside their statements. However, Cancer Research UK estimate that drinking a small glass of wine each day (approximately 12g of alcohol) increases the average UK adult's absolute lifetime risk of being diagnosed with mouth cancer from 0.5% to 0.6%, while the equivalent breast cancer risk for women would increase from 11.1% to 11.7% [12]. Given that a large proportion of drinkers consume less than this, that alcohol consumption at these levels may benefit cardiovascular health (albeit to a lesser extent and more selectively than some studies suggest) and that alcohol epidemiology is highly imprecise [13], the justification for alarmist or proscriptive guidance is unclear.

Second, risk acceptability is rarely explicitly discussed despite its importance for judging when risks are adequately managed and campaigns for additional controls should stop [14]. For example, the World Health Organisation has noted that e-cigarettes are 'unlikely to be harmless' [15], but unquestioned everyday activities, such as sports, travel and showering, also entail risks, so the value of harmlessness as a standard for judging risks is questionable [16]. For illicit drugs, discussion of risk acceptability is limited by poor understanding among the public and policy-makers of their potential pleasures and harms, alongside often narrow frames for considering risks (e.g. overdose, addiction). In contrast, alcohol drinking guidelines have recently been set with reference to levels of risk apparently accepted for other activities (e.g. driving), but little direct evidence on acceptable risks from alcohol is available [13, 17].

Third, a tension exists between population- and individual-level risk. Rose's influential prevention paradox demonstrates that small behavioural changes among low risk individuals can produce large health gains for populations [18]. However, this logic of pooled risk reduction sits uneasily with the increased responsibility for health placed on individuals by policy-makers in many high-income countries [19]. If individuals are to engage in, and be judged on, the active, life-long self-management of their health, it is unclear how they should make use of often contradictory and incomplete information about small and uncertain risks associated with particular patterns and levels of addictive substance use.

Finally, risk is experienced as well as measured. Lay epidemiological perspectives emphasise that public engagement with risk is not a statistical process but one rooted in biography, experience, context, discourse and bodily sensation [4]. Addictive substance use does not typically reflect a devil may care attitude but pleasurable sensations, an occasional reward to oneself or an environment where health warnings are received sceptically, in competition with other information or nor at all. Statements on risk which fail to account for this wider context may face rejection, distortion or being ignored.

Ultimately, these problems suggest a need for scientists, policy-makers and public authorities to attend more to the complex nature of risk. The current focus on epidemiological statistics and persistence of normative practices which portray all risks as important to the public, irrespective of scale, certainty, nature and context, mean the greatest risks may be that people stop listening, that hard-earned scientific credibility is squandered and that policy-making staggers erratically between laissez-faire neglect and heavy-handed overkill.

References

1. Goldacre B. Bad Science London: Harpre Perennial; 2009.
2. Beck U. Risk Society: Towards a new modernity London: Sage; 1986.
3. Kahneman D. Thinking, fast and slow London: Penguin Books Ltd; 2011.
4. Frankel S., Davison C., Davey Smith G. Lay epidemiology and the rationality of responses to health education, Br J Gen Pract 1991: 41: 428-430.
5. McNeill A., Brose L. S., Calder R., Hitchman S. C., P H., McRobbie H. E-cigarettes: an evidence update: A report commissioned by Public Health England, London: Public Health England; 2015.
6. McKee M., Capewell S. Evidence about electronic cigarettes: a foundation built on rock or sand?, BMJ : British Medical Journal 2015: 351.
7. The Lancet. E-cigarettes: Public Health England's evidence-based confusion, The Lancet: 386: 829.
8. BBC. England's medical chief gives stark alcohol warning; 2016.
9. Marteau T. M., Hollands G. J., Fletcher P. C. Changing Human Behavior to Prevent Disease: The Importance of Targeting Automatic Processes, Science 2012: 337: 1492-1495.
10. World Cancer Research Fund. Don't drink alcohol; 2017.
11. Stevens A., Fortson R., Measham F., Sumnall H. Legally flawed, scientifically problematic, potentially harmful: The UK Psychoactive Substance Bill, International Journal of Drug Policy: 26: 1167-1170.
12. Cancer Research UK. New alcohol guidelines to cut cancer risk; 2016.
13. Holmes J., Angus C., Buykx P., Ally A., Stone T., Meier P. Mortality and morbidity risks from alcohol consumption in the UK: Analyses using the Sheffield Alcohol Policy Model (v.2.7) to inform the UK Chief Medical Officers' review of the UK lower risk drinking guidelines, Sheffield: ScHARR, University of Sheffield; 2016.
14. Rehm J., Lachenmeier D. W., Room R. Why does society accept a higher risk for alcohol than for other voluntary or involuntary risks?, BMC Med 2014: 12.
15. World Health Organisation. Electronic Nicotine Delivery Systems and Electronic Non-Nicotine Delivery Systems (ENDS/ENNDS). Conference of the parties to the WHO Framework Convention on Tobacco Control, Seventh session, Delhi, Indi, 7-12 November 2016 Provisional agenda item 552; 2016.
16. Blastland M., Spiegelhalter D. The Norm Chronicles: Stories and numbers about danger London: Profile Books; 2013.
17. Room R., Rehm J. Clear criteria based on absolute risk: Reforming the basis of guidelines on low-risk drinking, Drug and Alcohol Review 2012: 31: 135-140.
18. Rose G. Sick individuals and sick populations, Int J Epidemiol 2001: 30: 427-432.
19. Ayo N. Understanding health promotion in a neoliberal climate and the making of health conscious citizens, Critical Public Health 2012: 22: 99-105.