Pluses and minuses in how the risk of nuclear war is addressed by the Lancet Commission on 21st century global threats to health[1]

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The Commission and what it did

The Lancet Commission on 21st century global threats to health was established at the start of 2023, planning to report by the end of 2024. Its report was published by The Lancet on 11 October 2026. The Commission's stated intent is to equip governments with the tools to make smart long-term decisions that reduce health risks based on "systematic, repeatable risk assessment and preparedness planning" (p1). Its two central aims are to characterise the likely leading future threats to health, and to promote solutions and cross-cutting actions (p1).

Co-chaired by Prof Christopher Murray from the University of Washington and Dr Natalia Kanem, Executive Director of the UN Population Fund, the commissioners are a large and diverse international group. While a number of the report's authors refer to sources of funding support for the "present manuscript", in the declaration of interests accompanying the Lancet paper, a clear description of the funding sources for the Commission's work is lacking.

The authors used forecasts based on expected cumulative losses of disability-adjusted life-years (DALYs) and deaths that could be averted by policy action, to quantify and compare threats from 2025 to 2100; ie the difference between best and worst case scenarios that they considered plausible. They used quantitative estimates where possible and qualitative methods where necessary - eg. for malicious use of AI and nuclear war resulting in famine.

The estimated plausible best and worst case scenarios for each threat for each country were generated through the forecasting platform led by Prof Murray at the Institute for Health Metrics and Evaluation at the University of Washington, Seattle. Many subjective judgements and assumptions, some explicit and some not, were involved.

[1] Murray CJL, Kanem N, Abed S, et al. The Lancet Commission on 21st century global threats to health. Lancet 2026, online 11 Oct 2026, https://doi.org/10.1016/S0140-6736(26)01714-9

How the Commission addressed nuclear war

The narrative part of the report includes recognition "that malicious use of AI, including bioweapons, and nuclear conflict with nuclear famine carry risks of extinction in the next 75 years" (p1). However its "headline recommendations" (p4) do not mention prevention of nuclear war or elimination of nuclear weapons. "Other extinction risks such as asteroid collision and supervolcanoes were not included because the probabilities of these events occurring in the next 75 years were deemed to be extremely low. Other potential extinction threats, such as mirror life, were also excluded because of insufficient evidence" (p2).

For the category of "major catastrophic risks, estimated to cause [loss of] more than 1 billion cumulative DALYs by 2100" (p2), in order to reduce the number of threats in this category to 15 for reasons that are not explained in their report, the authors excluded some threats, such as ischemic heart disease and several cancers, which they judged were already receiving sufficient policy attention and global health expenditure. Thus their analysis is not comprehensive, somewhat at odds with the Commission's stated goals, and vulnerable to misinterpretation.

The authors state that they have supplemented their general methods with "special consideration for threats with extinction risk, in line with arguments that extinction risks (ie. nuclear conflict and malicious use of AI) warrant special attention" (p8), and recognise that particularly for threats such as climate change and nuclear war, health consequences extend beyond their timeframe of up to 2100 (p7). For these two qualitative assessments, the views of rather poorly characterised experts and 'superforecasters' from a 2022 forecasting exercise conducted by US organisations were used.[2] However, the fundamental qualitative difference between existential and other risks is obscured by the choice to focus exclusively on the period 2025 - 2100 "for practical computation and political acceptability" (p7).

The discussion of nuclear war and potential nuclear famine recognises that: "The devastation that could result from nuclear war cannot be overstated" (p37). Nevertheless, the authors developed quantitative estimates of the burden of deaths, DALY loss, years of life lost (YLL) and years lived with disability (YLD) between 2025 and 2100 based on the forecasts of 'superforecasters'[3] and nuclear war experts in the single 2022 Karger study. They collated estimates of the probability of nuclear-war caused extinction - resulting in a global population of less than 5000, and of 'nuclear catastrophe' - nuclear war leading to the death of at least 10% of the global population. The median estimates of nuclear extinction risk by 2100 for the 88 superforecasters

[2] Karger E, Rosenberg J, Jacobs Z, Hickman M, Tetlock PE. Subjective-probability forecasts of existential risk: Initial results from a hybrid persuasion-forecasting tournament. Int J Forecasting 2025;41:499-516.
[3] Superforecasters are individuals whose predictions have been statistically significantly more accurate than those of experts or the general public (Appendix p114).

and 66 experts included in the 2022 study by Karger et al were low at 0.074% and 0.55% respectively, and for nuclear catastrophe by 2100 were 4% and 8% respectively. The point estimate used in the analysis corresponds to approximately 1.4% probability of extinction and 12% probability of at least one catastrophe between 2026 and 2100 (Appendix p117). These probabilities were then multiplied by the estimated severity to estimate the health burden amenable to prevention, taking as the baseline no nuclear conflict occurring (p37).

This approach leads to the ranking of cumulative expected amenable DALY loss related to each of 17 included threats (fig 3, p4), and sees the preventable health burden of nuclear war being assessed as smaller than that of malicious AI use, less than that of income equality and low educational attainment, similar to that due to poor mental health, and less than half of that due to obesity. Other surprises include the direct health threat of climate change being ranked 14th out of 17, which has raised significant criticism[4], and pandemics being ranked below high alcohol use and antimicrobial resistance. This quantitative approach is at odds with the narrative discussion in the report and risks confusion and misleadingly downplaying existential risks, including nuclear war.

Though the authors note that the risk of nuclear war is not hypothetical, citing 22 nuclear weapon accidents and 21 close calls recorded between 1948 and 2010 (unreferenced), and that nuclear war could occur due to multiple mechanisms, the "immense consequence" of the threats of nuclear war (and malicious use of AI) (p34) being realised, leading to extinction or catastrophe, is diluted in their analysis by the relatively low estimated probability of such events occurring, as estimated by the group of superforecasters and experts in the 2022 Karger study, being "less than one by several orders of magnitude" (p37). The consequences of an existential outcome are also diluted by excluding recognition of the intrinsic scale of existential jeopardy - the large number of potential future lives, and the associated communities, cultures and civilizations, extinguished forever.

The report's estimate of 133 million cumulative amenable deaths globally by 2100 for the threat of nuclear conflict (p37), and reduction in "global forecasted life expectancy in each year by approximately 3 to 4 years by 2100" (p38) is difficult to reconcile with the quite conservatively estimated early casualties of nuclear famine from even a regional nuclear war involving less than 2% of the global nuclear arsenal, targeted on cities, of potentially more than 2 billion.[5]

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[4] Vasagar J. Lancet global health report understates the threat of climate change, experts say. The Observer, 1 Nov 2026, https://observer.co.uk/news/climate/article/lancet-global-health-report-understates-threat-of-climate-change-experts-say

[5] Xia L, Robock A, Scherrer K, Harrison C, Bodirsky B, Weindl I et al. Global food insecurity and famine from reduced crop, marine fishery and livestock production due to climate disruption from nuclear war soot injection. Nat Food. 2022;3:586-596. doi:10.1038/s43016-022-00573-0.

What should we make of the Commission's approach to nuclear war?

Lumping existential level threats in this way into the same quantitative analysis as other qualitatively very different, chronic, perennial, daily, much more individual level, only partially avoidable health risks such as smoking, obesity, high blood pressure, unhealthy ageing and low educational attainment is fraught and potentially misleading. The outbreak of nuclear war would be quite likely to render all other health threats and efforts to address them irrelevant and redundant.

The report's quantitative estimates and ranking regarding nuclear war as a health threat, which wash out the potential worst outcome, extinction, are at odds with recognition of the unique and catastrophic nature of existential risks in its narrative portions. The message conveyed by the report's key graph (Fig 3, p4) and tables (eg. Table 2, p45), with nuclear war ranked low among a multiplicity of health risks, is at odds with the statement that "The comparison reflects the difference in weighing the expectation of all outcomes and focusing on the worst outcome, namely extinction, and should not be read as placing these threats low among priorities" (p46).

The brief section on recommendations regarding decreasing the "burden of nuclear war" contains some useful insights with which IPPNW members will be familiar, (p38) including that "preventing confrontations between nuclear powers is central to reducing health risks", the need to reinforce the nuclear Non-Proliferation Treaty, the Treaty on the Prohibition of Nuclear Weapons and stockpile reduction initiatives, "evidence suggests limitations of nuclear deterrence", "nuclear weapons are poor instruments of coercion", and "stationing of nuclear weapons in non-nuclear states might not enhance security". The report's positive reference to IPPNW is welcome.

The Commission's second central aim, in addition to characterising likely leading future health risks, is to promote solutions and cross-cutting actions. However, the confusing, potentially misleading and somewhat contradictory aspects of the report in relation to the existential risk of nuclear war mean that there is a risk its quantitative rankings could be misused to downplay the health consequences of nuclear war and the urgency and priority of the health imperative for preventing nuclear war and eliminating nuclear weapons.

Matt Boyd and epidemiologist Prof Nick Wilson (former chair of IPPNW New Zealand) have published an insightful analysis of the strengths and weaknesses of the Commission's report.[6] They note that the Commission considered giving extra weight to catastrophic outcomes and rejected it. They also rejected

[6] Boyd M, Wilson N. Not a ranking, but will be wrongly read as one: the Lancet Commission on 21st century threats to health underplays global catastrophic risks. Adept Research, 2 Nov 2026, https://adaptresearchwriting.com/2026/11/02/not-a-ranking-but-will-be-wrongly-read-as-one-the-lancet-commission-on-21st-century-threats-to-health-underplays-global-catastrophic-risks/

reporting probability and consequence separately. Boyd and Wilson's assessment includes:

- "The authors say it is not a ranking, but it will be read as one."
- "... reports travel without their caveats. If it is read as "obesity is a bigger threat than nuclear war", it could pull attention away from the catastrophic risks that probably matter most in the coming decades";
- "The metric is health only ... not wellbeing, future generations beyond 2100, economic loss, infrastructure damage, or harm to the biosphere. ... Obesity does not destroy ports, power grids or trade, or harm the biosphere. Nuclear war would, and that harm would extend far beyond the blast zone to potentially the whole planet and beyond 2100";
- "The missing factors in the Commission's work are those that matter when global supply chains fail";
- "Each threat is scored by expected value (probability multiplied by harm). That works for chronic disease, but for rare catastrophes it hides most of what matters";
- "Insurers, engineers and defence planners treat rare, irreversible catastrophes differently, because they cascade and destroy the capacity to respond and recover ... each threat is modelled alone, so these cascades never enter the numbers";
- "DALYs also only count harm to people who exist. ... minimising DALYs "favours an empty future". Such a metric cannot weigh human survival";
- "The Commission likely underestimates catastrophic risk. It ignores future generations (beyond 2100), non-health harm and cascades, harm to the biosphere and other living beings, and averages away the tail."

Conclusions: implications for IPPNW's work

For IPPNW's work, the report's narrative recognition of the existential nature of the threat of nuclear war is useful; however I would urge colleagues to steer clear of utilising or promoting its quantitative methodology and the resultant rankings, other than if relevant to address their limitations. Any risk of nuclear war is utterly unacceptable and there is ample evidence that no effective health response to the aftermath of nuclear war is possible. I would contend that identifying and addressing the drivers of nuclear war risk and their trends is vital health work; assigning and utilising a quantitative probability to nuclear war is not feasible, needed or useful.

I would recommend that a more accurate and helpful way to regard existential threats like the danger of nuclear war is to consider their prevention as pre-conditions for human (and planetary) life and health, and enabling the time and opportunity to address the many other daily threats to human health.
