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Ending Nuclear Weapons, Before They end us

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This May, the World Health Assembly (WHA) will vote on re-establishing a mandate for the World Health Organization (WHO) to address the health consequences of nuclear weapons and war (World Health Organization 2025). Health professionals and their associations should urge their governments to support such a mandate and support the new UN comprehensive study on the effects of nuclear war.

The first atomic bomb exploded in the New Mexico desert 80 years ago, in July 1945. Three weeks later, two relatively small (by today's standards), tactical-size nuclear weapons unleashed a cataclysm of radioactive incineration on Hiroshima and Nagasaki. By the end of 1945, about 213,000 people were dead (Tomonaga, 2019). Tens of thousands more have died from late effects of the bombings.

Last December, Nihon Hidankyo, a movement that brings together atomic bomb survivors, was awarded the Nobel Peace Prize for its "efforts to achieve a world free of nuclear weapons and for demonstrating through witness testimony that nuclear weapons must never be used again" (NobelPrize.org 2024). For the Norwegian Nobel Committee, the award validated the most fundamental human right: the right to live. The Committee warned that the menace of nuclear weapons is now more urgent than ever before. In the words of Committee Chair **Jørgen Watne Frydnes,** "it is naive to believe our civilisation can survive a world order in which global security depends on nuclear weapons. The world is not meant to be a prison in which we await collective annihilation." (Award ceremony speech 2025) He noted that our survival depended on keeping intact the "nuclear taboo" (which stigmatises the use of nuclear weapons as morally unacceptable) (Tannenwald, 1999).

The nuclear taboo gains strength from recognition of compelling evidence of the catastrophic humanitarian consequences of nuclear war, its severe global climatic and famine consequences, and the impossibility of any effective humanitarian response. This evidence contributed significantly to ending the Cold War nuclear arms race (Robock et al., 2023, Helfand et al., 2016).

While the numbers of nuclear weapons are down to 12,331 now, from their 1986 peak of 70,300 (Kristensen et al., 2025), this is still equivalent to 146,605 Hiroshima bombs (Norwegian People's Aid 2025), and does not mean humanity is any safer (Science & Security Board 2025). Even a fraction of the current arsenal could decimate the biosphere in a severe mass extinction event. The global climate disruption caused by the smoke pouring from cities ignited by just 2% of the current arsenal could result in over two billion people starving (Xia et al., 2022).

A worldwide nuclear arms race is underway. Deployed nuclear weapons are increasing again, and China, India, North Korea, Pakistan, Russia and UK are all enlarging their arsenals. An estimated 2,100 nuclear warheads in France, Russia, UK, US and, for the first time, also in China, are on high alert, ready for launch within minutes (Kristensen et al., 2025). With disarmament in reverse, extensive nuclear modernisations underway, multiple arms control treaties abrogated without replacement, no disarmament negotiations in evidence, nuclear-armed Russia and Israel engaged in active wars involving repeated nuclear threats, Russia and the US deploying nuclear weapons to additional states, and widespread use of cyberwarfare, the risk of nuclear war is widely assessed to be greater than ever. This year the Doomsday Clock was moved the closest to midnight since the Clock's founding in 1947 (Science & Security Board 2025).

Led by Ireland and New Zealand, in late 2024, the United Nations General Assembly (UNGA) voted overwhelmingly to establish a 21-member independent scientific panel to undertake a new comprehensive study on the effects of nuclear war (United Nations General Assembly 2024), with its final report due in 2027. Noting that "removing the threat of a nuclear war is the most acute and urgent task of the present day", the panel has been tasked with examining the physical effects and societal consequences of a nuclear war on a local, regional and planetary scale. It will examine the climatic, environmental and radiological effects of nuclear war, and their impact on public health, global socioeconomic systems, agriculture and ecosystems.

The resolution calls upon UN agencies, including WHO, to support the panel's work, including by "contributing expertise, commissioned studies, data and papers". All UN Member States are encouraged to provide relevant information, scientific data and analyses; facilitate and host panel meetings, including regional meetings; and make budgetary or in-kind contributions. Such an authoritative international assessment of evidence on the most acute existential threat to humankind and planetary health is long overdue. The last such report dates from 1989. It is shameful that France, UK and Russia opposed this resolution (1).

In 1983 and 1987 (World Health Organization 1987), WHO convened an international committee of scientists and health experts to study the health effects of nuclear war. Its landmark, authoritative reports were influential and an excellent example of WHO fulfilling its constitutional mandate "to act as the directing and coordinating authority on international health work". In 1993, WHO produced an additional shorter report on the health and environmental effects of nuclear weapons, which included discussion of the production chain of nuclear weapons, including processing, testing and disposal (World Health Organization 1993).

However, despite WHA having mandated WHO to report periodically on relevant developments, no further work was undertaken and in 2020 WHO's mandate on nuclear weapons and health lapsed.

The Marshall Islands, Samoa and Vanuatu, supported by seven co-sponsoring states and International Physicians for the Prevention of Nuclear War (IPPNW), are working to renew WHO's mandate. They are seeking wide support for a resolution on the health effects of nuclear weapons/war at this year's WHA in Geneva on 19–27 May (World Health Organization 2025). WHO would then re-establish a programme of work on this most critical threat to health, and be able to lead strongly in providing the best health evidence to the UN panel.

Health professionals are well aware how crucial accurate and up-to-date evidence is to making good decisions. We and our organisations should support such a renewed mandate by urging our national WHA delegates to vote in support and commit the modest funds needed to re-establish WHO's work programme, especially now, as the organisation faces severe financial strain with the US decision to withdraw its membership.

Our joint editorial in 2023 (Abbasi et al., 2023) on reducing the risks of nuclear war and the role of health professionals, published in over 150 health journals worldwide, urged three immediate steps by nuclear-armed states and their allies: adopt a "no first use" policy, take their nuclear weapons off hair-trigger alert, and pledge unequivocally that they will not use nuclear weapons in any current conflicts they are involved in. We also urged nuclear-armed states to work for a definitive end to the nuclear threat by urgently starting negotiations for a verifiable, timebound agreement to eliminate their nuclear arsenals, and called on all nations to join the Treaty on the Prohibition of Nuclear Weapons (United Nations 2017).

It is an alarming failure of leadership that no progress has been made on these needed measures, nor on many other feasible steps away from the brink, acting on the obligation of all states to achieve nuclear disarmament. Nine states jeopardise all humanity and the biosphere by claiming an exclusive right to wield the most destructive and inhumane weapons ever created. The world desperately needs the leaders of these states to freeze their arsenals, end the modernisation and development of new, more dangerous nuclear weapons, and ensure that new technology such as artificial intelligence can never trigger the launch of nuclear weapons.

The UN scientific panel and a renewed mandate for WHO's work in this area can provide vital authoritative and up-to-date evidence for health and public education, evidence-based advocacy and policies, and the mobilised public concern needed to trigger decisive political leadership. This is a core health imperative for all of us.

This editorial is being published simultaneously in multiple journals. For the full list of journals see: https://www.bmj.com/content/full-list-authors-and-signatories-nuclear-risk-editorial-may-2025.

Author Contributions

Tillman Ruff and Andy Haines developed the idea of the editorial and led drafting along with Chris Zielinski. All other authors contributed significantly to the editorial content.

Conflicts of Interest

VB is an unpaid co-chair of the Declaration of Research Assessment. MB reports travel and conference expenses as the editor of Medicine, Conflict and Survival (Taylor & Francis) from the Lionel Penrose Trust. IB is a board member for the International Physicians for the Prevention of Nuclear War. AH is the principal investigator of the Pathfinder Initiative (2020–25), co-investigator in the Sustainable Healthy Food Systems research programme (2017–23), co-investigator of Complex Urban Systems for Sustainability and Health (2017–23), all funded by the Wellcome Trust, with additional funding from the Oak Foundation for the Pathfinder Initiative; reports royalties from Cambridge University Press; has received travel support from WHO and the Human Frontiers Science Program (2022–24); is a member of the Cool Roofs trial steering committee Nouna Research Centre, Burkina Faso/University of Heidelberg, unpaid co-chair for the International Advisory Committee, National Institute for Health and Care Research Clean-Air (Africa) Global Health Research Unit; is a member of the Independent Advisory Group (2023–24), and member of the advisory group Collaboration for the Establishment of an African Population Cohort Consortium (2023 to present); is co-chair for the Inter Academy Partnership, Climate Change and Health Working Group (2019–22), and the US National Academy of Medicine Climate Grand Challenge Steering Committee (2023–25); is chair for the Standards for Official Statistics on Climate-Health Interactions expert advisory group, Office of National Statistics (2022 to present); and is co–director for the WHO Collaborating Centre on Climate Change, Health, and Sustainable Development (2020–24). IH reports honoraria from Back from the Brink for speaking at Vassar College (Poughkeepsie, NY, USA), Soka University of America (Alison Viejo, CA, USA), and the University of Massachusetts (Boston, MA, USA); is a member of the Board of International Physicians for the Prevention of Nuclear War, board member for the International Campaign to Abolish Nuclear Weapons, and member of the Steering Committee for the Back from the Brink campaign. JFLJ reports royalties from the University of Malaya Press (Kuala Lumpur, Malaysia) and University of the Philippines Press (Quezon City, Philippines); consulting fees from Ayala Healthcare Holdings; honoraria for Medical/Surgical Skills Workshops and Medical Writing Workshops from multiple institutions (academic and hospitals), including the Philippine Academy of Family Physicians Workshop on Otitis Externa sponsored by Pascual Pharmaceuticals (polymixinneomycinfluocinolone "aplosyn" otic drops), the Philippine College of Surgeons and Philippine Journal of Surgical Subspecialties Manuscript Review Workshop, and other regional workshops; honoraria for speakers bureau presentations from Pascual Pharmaceutical Corporation; is a member of the Board of Directors at Healthway Philippines (Healthway Medical Network), Vice President of the World Association of Medical Editors, and chair of the Regional Journal Selection Committee for the Western Pacific Region Index Medicus, WHO; is a member of the Editorial Policy Advisory Board at the Directory of Open Access Journals, gifts, and services from Ayala Healthcare Holdings, Healthway Philippines, and Pascual Pharmaceutical Corporation. TR reports honoraria from Choisun Ilbo Media Group for a lecture on nuclear weapons at the Asian Leadership Conference, Seoul, South Korea (July 14, 2022), and from Gangwon Province for contribution to the JeongSeon Forum (Aug 20, 2022); has received support to speak at AsanPlenum 2024, Asan Institute for Policy Studies (Seoul, South Korea), the Sunfull Foundation, and the Internet Peace Prize Award Committee; the Hiroshima Association for Nuclear Weapons Abolition as a keynote speaker, "The G7 Summit leaders' opportunity to turn back the Doomsday Clock", the Nuclear Victims Forum, World Peace Memorial Cathedral, Hiroshima (May 13, 2023); Global Times for an article and contribution to the panel discussion on Fukushima radioactive wastewater discharge (2023); has received payment as an expert witness on radiation and health for Defence Science and Technology Group Legal (Department of Defence, Australia), acting for Mine Free Mallee Farms to propose the Goschen Mineral Sands and Rare Earths Project Inquiry and Advisory Committee (Victorian Government, Australia; 2024); has received support for attendance as a speaker at Rencontres Economiques d'Aix-en-Provence, Le Cercle deséconomistes (2024); is a board member and has been co-president (2012–23) for the International Physicians for the Prevention of Nuclear War, board member and co-representative for the International Steering Group; is an International Councillor for the International Campaign to Abolish Nuclear Weapons Australia, board member for the Medical Association for Prevention of War, Initiative for Peace building; is a Faculty of Arts, University of Melbourne Internet Peace Prize Award (Melbourne, VIC, Australia) committee member and K-Respect Campaign co-chair for the Sunfull Foundation, South Korea, all unpaid; and is a Honorary Principal Fellow for the Melbourne School of Population and Global Health, University of Melbourne. All other authors declare no competing interests.

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