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Orapuh Journal

SPECIAL EDITORIAL

Journal of Oral & Public Health

Critical Condition: What Are We Doing About Nuclear War?

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Editorials on nuclear risk and health appeared in over 150 leading health journals in 2023 and 2025 (Abbasi et al., 2023; Abbasi et al., 2025). Why, then, are we publishing this new series of editorials on the subject?

Tensions affecting the planet have become extreme. Nuclear saber-rattling has been heard in Russia and Ukraine, India and Pakistan, Iran, Israel, and the United States, and has intensified over much of the globe. Nuclear arsenals carrying the instruments of death have been modernized, upgraded, and expanded. In 2025, the nuclear-armed states—China, France, India, Israel, North Korea, Pakistan, Russia, the United Kingdom, and the United States—spent just under $119 billion, or $3,768 per second, on their nuclear arsenals, an increase of 19% from the previous year (International Campaign to Abolish Nuclear Weapons [ICAN], 2026). The Doomsday Clock is inexorably approaching midnight (Bulletin of the Atomic Scientists, 2026).

Nuclear-armed states collectively hold more than 12,000 nuclear warheads (Arms Control Association, 2026). Given the number of cities on the planet, it may seem that the world could survive a full-scale nuclear war. But this is not the case. Urban sprawl links everyone: about 2.8 billion people (30% of the world's population) live in 33 megacities (United Nations Department of Economic and Social Affairs, 2025). In fact, it would take very few bombs to kill billions directly, and then bring about abrupt global cooling in a nuclear winter that would kill billions more from ensuing famine (Xia et al., 2022).

Today's climate models show that even a "small" nuclear war would have far more catastrophic effects on world climate and food supplies than previously thought (Xia et al., 2022). These models have begun to look at what would happen to our ozone and what the effects of increased ultraviolet radiation would be on crops (Shi et al., 2025), but as yet do not account for the disruption of agricultural labor, food transport, storage, and distribution; the disruption of agricultural inputs including fuel, machinery, parts, seed, fertilizer, or pesticides; the contamination of croplands; or wider political and economic unrest. Modern civilization could not survive even a small nuclear war, while using just 2%–3% of the weapons we currently possess could cause billions to die, mostly from starvation. The imperative to pull back from the brink has pushed the multilateral system into action. In late 2024, the United Nations (UN) General Assembly, declaring itself "alarmed at the renewed prospect of nuclear war, and gravely concerned by the catastrophic humanitarian and environmental consequences that would result," voted to initiate a comprehensive review of current knowledge about the consequences of nuclear war (United Nations, 2024). The UN Secretary-General appointed a 21-member independent scientific panel to prepare a report, which is due in 2027.

In 2025, thanks to global pressure (including our last editorial; Abbasi et al., 2025), the World Health Assembly voted to update obsolete World Health Organization (WHO) studies on the public health effects of nuclear war (World Health Organization, 2025). A new WHO report is due in 2029. In March 2026, WHO staff were reported as being "vigilant in the event of a nuclear incident" in relation to the war on Iran (Lubin, 2026).

Together, the forthcoming reports of the UN and WHO represent the first major international reassessments of the effects of nuclear war by these bodies in nearly 40 years.

Meanwhile, work on top-level international nuclear treaties has intensified. In 2017, an overwhelming majority of the world's nations adopted a global agreement to ban nuclear weapons, known officially as the Treaty on the Prohibition of Nuclear Weapons (TPNW) (United Nations, 2017). The Treaty entered into force in January 2021; to date, 75 countries have become "states parties" legally bound to it, and a further 25 have signed it (ICAN, 2026). However, as we approach the first TPNW review conference, to be held in New York at the end of the year, none of the nine nuclear-weapons-armed states has signed or ratified the Treaty, although pressure for them to do so is growing.

The principal focus of those in favor of nuclear weapons is that they prevent nuclear war through nuclear deterrence: nuclear weapons are presumed to provide "strategic stability" among the states that possess them, since nobody wants to escalate quarrels into a nuclear war. However, deterrence creates a form of security—or merely a feeling of security—that remains fragile, asymmetric, dependent on the permanent threat of catastrophe, and blind to the needs of non-nuclear states.

Insights from psychology and neuroscience suggest that decisions about nuclear weapons are not "rational," as deterrence implies, but are likely to be shaped by mental shortcuts, statistical reasoning errors, and slight changes in decision contexts (Slovic et al., 2026; Landau-Wells, 2024). All of these may lower the threshold regarding the use of nuclear weapons and lead to an irrational reluctance to abandon vast nuclear arsenals that are more than sufficient to end human civilization. Humanity's survival is thus in the hands of a few fallible decision-makers. A future editorial will address evidence from neuroscience and cognitive and social psychology.

Apart from geopolitical developments, the world is witnessing the growing impact of technology on war—artificial intelligence used in profiling and targeting, and drones and other delivery technology (Kirichenko, 2025; Bhardwaj, 2026)—accompanied by the rise of "infodemics" of misinformation and disinformation (Zielinski, 2021; Rodrigues et al., 2024), which raise the likelihood of nuclear accidents and have their own impact on health. We will be considering these information disorders in another future editorial.

Health professionals have a vital role to play in keeping a health focus in public discussions on nuclear risk. We need a verifiable, deadline-driven agreement to eliminate all nuclear weapons. This is why it is essential that the health sector continues to demand that every country—including the nuclear-armed states—should join the Treaty on the Prohibition of Nuclear Weapons. The flourishing, and even the survival, of the human species is at stake.

To cite:
Abbasi, K., Ali, P., Barbour, V., Birch, M., Bivens, M., Blum, I., Bonilla-Escobar, F. J., Horton, R., Juva, K., Lapena, J. F., Jr., Naumova, E. N., Ruff, T., Sahni, P., Trushina, O., Tumwine, J., Villanueva, T., Yonga, P., & Zielinski, C. (2026). Critical condition: What are we doing about nuclear war? [Editorial]. *Orapuh Journal*, *7* (10), e1498. https://dx.doi.org/10.4314/orapj.v7i10.98

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Funding: Respective authors were paid by their employers.

Conflicts of Interest:
https://www.dropbox.com/scl/fo/5tdzmt97yamku5zzzn0wz/ACx3Ho21mALhCfXTd308VEc/Composite%20Conflict%20of%20Interest%20Statement.docx?rlkey=92rekz90yw28wqzpwmo5rbz8k&e=1&dl=0

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Published on 15 November 2026
by Orapuh, Inc., F. Gaye Res., Sukuta-Jamisa, Greater Banjul, The Gambia.

Editor-in-Chief: Prof. V. E. Adamu (editor@orapuh.org)

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