



# THE UNEQUAL IMPACTS OF NUCLEAR WEAPONS



## Oregon Physicians for Social Responsibility

Oregon Physicians for Social Responsibility mobilizes health professionals and public health advocates to prevent the gravest threats to human health.

For more info, contact us at:

Email: [info@oregonpsr.org](mailto:info@oregonpsr.org)

Web: [www.oregonpsr.org](http://www.oregonpsr.org)

## NUCLEAR WEAPONS: AN EXISTENTIAL THREAT

"Ionizing radiation—radioactivity powerful enough to strip electrons from atoms, break chemical bonds of molecules, and even break chromosomes—can be extremely harmful to humans. Even at low levels, ionizing radiation has the potential to cause DNA damage resulting in an uncontrolled division of abnormal cells, or what is commonly known as cancer" (1). Radiation is released throughout the toxic life cycle of nuclear weapons, from mining, to development, to testing, use, and storage.

Although everyone is vulnerable to the health impacts of nuclear weapons, some experience more severe impacts than do others. Women, children, indigenous peoples, and communities of color are disproportionately impacted throughout the toxic life cycle of nuclear weapons. The reasons for this vary; for women and children, biological factors account for these discrepancies. Not only are these groups more susceptible to the harmful effects of radiation, but the effects aren't well understood because research has largely been focused on men. Systemic inequities, and often direct targeting, cause indigenous peoples and communities of color to be more severely impacted by nuclear weapons. In the context of the US, the locations used for uranium mines, nuclear weapons production facilities, nuclear weapons test sites, and nuclear waste storage sites are largely on Native American lands, or otherwise sited near predominately lower income communities and communities of color. Nuclear weapons were also tested on islands throughout the Pacific Ocean, including the Marshall Islands and others, with devastating health impacts. These are examples of "nuclear colonialism," and this same pattern holds true for all nuclear powers globally, from the colonialism inflicted on aboriginal Australia and North and South America to central Africa and beyond.

It comes as no surprise that people of color and women oppose nuclear weapons in proportionally far greater numbers than do white men. Though predominately male-led, white countries produce them, the impacts throughout the life of these weapons almost always affect indigenous peoples first, and worst. Relatedly, racist propaganda has been utilized to justify the use of nuclear weapons on Japan as a "necessary evil," obfuscating the horrors and the human cost.

Nuclear weapons are morally unacceptable weapons of indiscriminate and genocidal mass destruction, and their unequal health impacts on women, children, and indigenous peoples are often not discussed. We work on the local, state, national, and international levels to promote nuclear disarmament worldwide. Nuclear weapons abolition will promote a more safe, just, and healthy world now and for generations to come.

## QUICK TAKE

PEOPLE WHO EXPERIENCE THE HEALTH IMPACTS OF NUCLEAR WEAPONS DISPROPORTIONATELY:

- Women\*
- Children
- Indigenous peoples and communities of color
  - This factsheet focuses on incidences in American history, namely those involving Native Americans and Pacific Islanders, but globally, uranium mining, testing, and use in wartime occurs almost exclusively in indigenous lands. Production and waste storage happens mostly in low-income communities and communities of color as well.



## REFERENCE MAN

THE CURRENT STANDARD FOR RADIATION DOSAGE GUIDELINES AND REGULATIONS

- A hypothetical young, able-bodied Caucasian male who is of "normal" height and weight.
- Not applicable to the general public as it is not representative of gender differences and variations across the human life cycle.
- "Radiation regulation based on Reference Man typically results in systematic under-reporting of radiation harm for the global population" (1).

# IN FOCUS | HOW NUCLEAR WEAPONS IMPACT UNEQUALLY ACROSS THEIR TOXIC LIFE CYCLE

## WOMEN

- "For every two men who develop cancer through exposure to ionizing radiation, three women will get the disease" (1).
- While there is no definitive explanation, it has been speculated that women are more susceptible because they have more reproductive tissue than men; reproductive organs and tissue are more sensitive to radiation (9).

## CHILDREN

- "While children as a whole are more harmed by radiation than adults, infant and young girls, when exposed, run the highest risk of cancer across their lifetime, and teenage girls will suffer almost double rates of cancer compared to boys in the same juvenile group and the same level of exposure" (1).
- Again, although there is no definitive explanation, children may be more susceptible because their cells divide rapidly as they grow. DNA is thus more likely to be injured. Risk is compounded for young girls. Fetuses are most susceptible; exposure to radiation causes miscarriages and birth defects (1).

## INDIGENOUS PEOPLES AND COMMUNITIES OF COLOR

- Their sacred religious locations, food and water sources, livelihoods, and tracts of their ancestral lands have been appropriated and poisoned without consent. The health impacts experienced by communities of color are compounded by women and children for the reasons listed above. A few examples of how indigenous peoples and communities of color are disproportionately impacted in all life stages of nuclear weapons:
  - **Uranium mining**
    - At least 90% of all mining done in the US occurred on or just outside of Native American reservations (6).
    - Heavily recruited to work in the mines, indigenous communities were generally unaware of the health impacts of radiation (6).
    - Not only is uranium mining extremely harmful to human and environmental health in itself, but accidental spills have been common and devastating. The Church Rock spill on Navajo Nation land, for example, released more radiation than the Three Mile Island accident (6).
  - **Weapon production**
    - Construction of the Hanford Nuclear Reservation in Washington State—which produced plutonium for the bomb dropped on Nagasaki, Japan during WWII—forced the displacement of Native American inhabitants, among others. Through normal operations and accidental, and sometimes intentional, releases of radiation, it poisoned tribes and wildlife downwind and downstream. People affected by this are termed "Downwinders" (6).
  - **Weapons testing**
    - **Marshall Islands:** 67 weapons were tested nearby, including the largest-ever US nuclear weapons test. In that case, with a sudden shift of winds and a much larger explosion than anticipated, deadly radioactive fallout landed on the Islands (5). Some land remains unlivable; "radiation levels in parts of that country are still almost double what has been deemed safe for human habitation" (4).
    - **Native American lands:** Most testing happens on stolen Native American lands. "The Western Shoshone are the most bombed nation on the earth: 814 nuclear tests have been done on their land" (7). In the Nevada Test Site (on traditional Shoshone land), "approximately 1,350 square miles of their...territory have been destroyed by hundreds of craters and tunnels that are no more than unsupervised nuclear waste dumps" (3).
  - **Waste storage**
    - Indigenous land is usually selected for waste storage, often breaking treaties in the process. On other occasions, consent is given by tribes because—due to systemic inequities—"twice as many Native families live below the poverty line than other sectors of U.S. society and often have few if any options for generating income" (10).

## WHAT YOU CAN DO

Join Oregon PSR to advance policies that prioritize human health over the production of nuclear weapons.

Support legislation designed to reduce the US nuclear arsenal and cut spending on nuclear weapons.

Visit [dontbankonthebomb.com](http://dontbankonthebomb.com) to check if your bank supports the nuclear weapons industry using your dollars.

Attend events throughout the year, including our annual Hiroshima and Nagasaki memorial event.

Learn more about the health impacts of nuclear weapons at [oregonpsr.org](http://oregonpsr.org).

### Sources:

- (1) "Basics – Gender + Radiation Impact Project." Gender + Radiation Impact Project. Accessed July 31, 2019. <https://www.genderandradiation.org/basics>.
- (2) Brugge, Doug, and Rob Goble. "The History of Uranium Mining and the Navajo People." *American Journal of Public Health* 92, no. 9 (September 2002): 1410-1419. doi:10.2105/ajph.92.9.1410.
- (3) "Environmental Justice Case Study: The Yucca Mountain High-Level Nuclear Waste Repository and the Western Shoshone." University of Michigan. Accessed July 31, 2019. <http://www.umich.edu/~snre492/kendziuk.html>.
- (4) The Guardian. "Bikini Atoll nuclear test: 60 years later and islands still unlivable." March 1, 2014. <https://www.theguardian.com/world/2014/mar/02/bikini-atoll-nuclear-test-60-years>.
- (5) Heeley, Laicie. "To Make and Maintain America's Nukes, Some Communities Pay the Price." *Public Radio International*. Last modified January 30, 2018. <https://www.pri.org/stories/2018-01-30/make-and-maintain-americas-nukes-some-communities-pay-price>.
- (6) Moore-Nall, Anita. "The Legacy of Uranium Development on or Near Indian Reservations and Health Implications Rekindling Public Awareness." *Geosciences* 5, no. 1 (2015): 15-29. doi:10.3390/geosciences5010015.
- (7) "Nuclear War: Uranium Mining and Nuclear Tests on Indigenous Lands." Homepage | Cultural Survival. Last modified September 1993. <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/nuclear-war-uranium-mining-and-nuclear-tests-indigenous>.
- (8) Olson, Mary. "Disproportionate impact of radiation and radiation regulation." *Interdisciplinary Science Reviews* 44, no. 2 (May 2019): 131-139. doi:10.1080/03080188.2019.1603864.
- (9) Olson, Mary. NIRS FACT SHEET – Disproportionate Impacts of Ionizing Radiation. Nuclear Information and Resource Center, 2012. <https://www.nirs.org/wp-content/uploads/radiation/radiationharm2pg.pdf>.
- (10) "Reservations About Toxic Waste: Native American Tribes Encouraged to Turn Down Lucrative Hazardous Disposal Deals." *Scientific American*. Accessed July 31, 2019. <https://www.scientificamerican.com/article/earth-talk-reservations-about-toxic-waste/>.
- (11) Sagan, Carl. *Nuclear Winter*. 1983.