Nuclear Weapons and Human Health

Basic Facts

- A new nuclear arms race was triggered in 2010 by the New START Agreement, which allows for nuclear weapons "modernization." The proposed budget for modernization is estimated at $1 trillion over the next 30 years.[1]
- 9 countries have nuclear weapons: The US, Russia, UK, France and China, as "legacy nuclear states," plus Israel, India, Pakistan, and North Korea. There are a total of 15, 350 known warheads as of 2016.[2]

Nuclear Famine[3]

- A "limited" nuclear war involving 100 nuclear weapons could launch 6.6 million metric tons of black carbon aerosol particles into the atmosphere, leading to drastic drops in global temperature and decreased precipitation. The result would be a massive reduction in food production, accompanied by increasing food costs and decreasing accessibility.
- A resulting global famine could threaten up to two billion people worldwide. Those already undernourished would be hit the hardest. Hundreds of millions more would be affected by changes in food distribution, exports, and aid.

Nuclear Weapons Production and Pollution

- Over 500,000 workers in nuclear weapons complexes during the Cold War were exposed to radioactivity and dangerous chemicals.[4]
- Production sites such as the Hanford Nuclear Site in Eastern Washington have resulted in massive leaks of liquid radioactive material, contaminating surrounding soil and groundwater.[5] Hundreds of workers at the site have been exposed to harmful chemical vapors, and recent assessments have found the safety culture at the site to be seriously flawed.[6]
- There are 517 nuclear weapon sites that were considered for radioactive clean up in the United States. 43 sites were found by the National Institute for Occupational Safety and Health to have "potential for significant radioactive contamination."[7]
- Uranium mining poses a significant health risk to workers and surrounding communities, especially through exposure to radon-222, which can cause lung cancer. Drinking water and soils can be contaminated due to mining waste seepage and dam failure.[8]

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What are the health consequences of nuclear explosions, tests, and accidents?

- The bombings in Hiroshima and Nagasaki led to a total of deaths of 340,000 people by 1950. Additional health effects of a nuclear explosion include blindness, deafness and other injuries such as ruptured organs, fractured skulls and penetrating wounds from collapsing buildings, fires, and flying debris. Radiation exposure causes central nervous system disruption, nausea, vomiting, diarrhea, uncontrolled bleeding, and infections.[9]
- In the case of a nuclear explosion, treatment would be largely unavailable as medical services would be destroyed and medical personnel would be dead or severely injured.
- The Castle Bravo test in 1954, which was 1,000 times more powerful than Hiroshima, vaporized three entire islands in the Bikini Atoll [10], and fallout from the bomb spread radioactive material over 11,000 sq. km from the detonation point[11], exposing around 665 island inhabitants to significant levels of radioactivity.[12]
- Around 250,000 military personnel were involved in nuclear weapons tests and exposed to harmful levels of radiation during the Cold War.[4] It was estimated by International Physicians for the Prevention of Nuclear War that exposure to radioactive material from tests will eventually result in 2.4 million cancer deaths.[13] The Comprehensive Nuclear Test-Ban Treaty has been ratified by 164 countries, but not by the United States.[14]
- Between 1950 and 1968, many hundreds of significant accidents occurred, involving at least 1200 nuclear weapons.[15] Accidents have led to radiation exposure, pollution, and in many cases, death. To date, six nuclear weapons have been lost and never found.[16]

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