

Medical Consequences of a Nuclear Attack on Iran

By [Physicians for Social Responsibility](#)

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Theme: [US NATO War Agenda](#)

In-depth Report: [IRAN: THE NEXT WAR?,
Nuclear War](#)

Global Research Editor's Note

In this report published in 2006, the PSR tends to support US sponsored pressures on Iran regarding its alleged nuclear weapons program : “The use of nuclear weapons against Iran would be illegal under international law. Their use would outrage the international community because of the scale of the medical and environmental catastrophe that would result. PSR urges the President to use diplomatic means to resolve this crisis in the months and years before Iran is likely to achieve nuclear weapons capability. Iran must be engaged and pulled back into the international community.”

The PSR's most recent stance, following the release of the December 2007 National Intelligence Estimate, acknowledges that Iran does not have a nuclear program. “But just as no weapons of mass destruction were found in Iraq, a U.S. National Intelligence Estimate proclaims that Iran does not have a nuclear weapons program.” According to former PSR president, *Dr. Thomasson*, in a recent statement: “because Iran does not have a nuclear weapons program the president has changed his rhetoric to convince the U.S. public that Iran should be attacked because it is interfering with our goals in Iraq. The Congress must demonstrate greater oversight so that America cannot be misled again.”

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Factsheet — May 2006

Introduction

Reports in the Washington Post¹ and by Seymour Hersh in the New Yorker² state that the Pentagon is preparing plans for a possible assault on Iran. The administration is simultaneously asking the United Nations Security Council (UNSC) to approve a “chapter seven” resolution, allowing sanctions or military action against Iran. Military planning is said to include options for both limited and more wide-ranging air strikes, with the intent of destroying either a few nuclear facilities, or as many as 400 nuclear and military sites. Both the Post and Hersh in the New Yorker speculated about the possible use of nuclear weapons against targets in Natanz and Isfahan. Detailed consideration of the major health consequences of U.S. actions should be an integral part of national security decision-making. This fact sheet examines the likely medical consequences of even a limited nuclear attack on Iran of the kind under consideration by the Pentagon.



Iran's Nuclear Infrastructure

Counterproliferation and Iran

The Bush Administration has expanded the importance of counterproliferation, a Clinton-initiated policy for dealing with the spread of nuclear weapons to America's enemies. This doctrine assumes that proliferation is inevitable, and that military means are needed to prevent what the President has called "the world's most dangerous people" from obtaining "the world's most dangerous weapons". From the 2002 Nuclear Posture Review, through the National Security Strategies of 2002 and 2006, via the National Strategy to Combat Weapons of Mass Destruction (WMD) and the Joint Doctrine to Combat WMD, the administration has consistently stressed military solutions over diplomatic solutions for fighting the spread of nuclear weapons. At all times the administration has left open the door for the use of nuclear weapons to prevent other countries, like Iran, from building their own nuclear weapons. In the case of Iran, the doctrine of counterproliferation coupled with a quarter century of bitter enmity between the U.S. and Iran makes these potential attack scenarios seem all the more real.

While Iran claims its nuclear program is purely civilian, for two decades Iran has pursued an illicit nuclear program, concealing its activities from the inspectors of the International Atomic Energy Agency (IAEA) and attempting to cover up its deception when challenged.

While some facilities, such as the Bushehr nuclear reactor, have been purchased on the open market, others have not. Iran has been an active customer of the Pakistani A.Q. Khan nuclear smuggling network, obtaining uranium enrichment centrifuges and plans, and possibly even bomb designs, illegally. Large facilities, such as the Natanz enrichment plant, have been concealed. Since this has been revealed by a dissident group, Iran has cooperated reluctantly with the IAEA. Iran has built a significant nuclear infrastructure, spread across much of the country. Most potential targets in Iran could be attacked with conventional weapons. Such targets would likely include military command, control and communications facilities; as well as the nuclear sites themselves. A wider attack scenario would also see airfields and air defense sites destroyed, with the goal of preventing an Iranian air force retaliation. However, some hardened or buried sites, notably those at Natanz and Isfahan, might be attacked with nuclear weapons.

Health Consequences Associated with a Nuclear Attack on Iran: A Possible Scenario

PSR has a long history of studying the medical effects of the use of nuclear weapons, since our groundbreaking research published in the New England Journal of Medicine in 1961. PSR believes that it is important for members of Congress to understand the full extent of the medical catastrophe, both short- and long-term, that would be caused by the use of nuclear weapons in Iran. Using Department of Defense software, the HPAC3, designed to model the effects of nuclear weapons explosions, PSR created a nuclear attack scenario on the Iranian underground nuclear materials storage site and uranium conversion plant at Isfahan and the underground uranium enrichment plant at Natanz. Iranian officials have acknowledged the Isfahan facility is specifically designed to be impervious to conventional attack, making it a prime nuclear target. The Natanz plant is buried between 18 and 23 meters below the surface, making it a difficult target for conventional attack. For this scenario, we modeled attacks, each with three B61-11 earth-penetrating nuclear weapons set to explode with a yield of 340kt. Meteorological models in the HPAC were used to determine the distribution pattern of fallout.



Fallout From Nuclear Attack on Natanz and Isfahan

With scale showing levels of radiation exposure. Over a few days, exposure at greater than 10 rems per hour will cause death, and at 1 rem per hour exposures lead to radiation sickness.

From our map we can see that within 48 hours, fallout would cover much of Iran, most of Afghanistan and spread on into Pakistan and India. Fallout from the use of a burrowing weapon such as the B61-11 would be worse than from a surface or airburst weapon, due to the extra radioactive dust and debris ejected from the blast site. In the immediate area of the two attacks, our calculations show that within 48 hours, an estimated 2.6 million people would die. About two-thirds of those would die from radiation-related causes, either prompt casualties from the immediate radiation effects of the bomb, or from localized fallout. Over 1,000,000 people would suffer immediate injuries including thermal and flash burns, radiation sickness, broken limbs, lacerations, blindness, crush injuries, burst eardrums and other traumas. In the wider region, over 10.5 million people would be exposed to significant radiation from fallout (those in the light green to pink zones on the map above), leading to radiation sickness, future excess cancer deaths, genetic abnormalities in future generations, as well as high rates of stillbirths, miscarriages, malignancies and hypothyroidism. Most if not all medical facilities near the two attack sites would be destroyed, or located within the radiation “hot zone” and thus unusable. Little or no medical care would be available to the injured in the aftermath of an attack, leading to many avoidable deaths.

In the immense fallout zone, very few people would have access to adequate medical care, increasing the potential number of casualties of an attack. From studies conducted after the use of nuclear weapons against Japan we know that there would also be a severe psychological trauma for the affected population, which would further exacerbate negative health outcomes for attack victims.

Conclusion

Through their non-compliance with the NPT, Iran has lost the right to civilian nuclear technology. Iran must not be allowed to obtain nuclear weapons, but nuclear war is not the way to stop them. The use of nuclear weapons against Iran would be illegal under international law. Their use would outrage the international community because of the scale of the medical and environmental catastrophe that would result. PSR urges the President to use diplomatic means to resolve this crisis in the months and years before Iran is likely to achieve nuclear weapons capability. Iran must be engaged and pulled back into the international community.

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Endnotes

1 U.S. Is Studying Military Strike Options on Iran, Any Mix of Tact, Threats Alarms Critics, By P. Baker, D. Linzer and T. E. Ricks, Washington Post, April 9, 2006.

2 The Iran Plans, Would President Bush go to war to stop Tehran from getting the bomb?, Seymour M. Hersh, The New Yorker, April 1, 2006.

3 The software used by PSR for the calculations and chart on this page is the Hazard

Prediction and Assessment Capability (HPAC v3.2) developed by DoD. This software is licensed to the Harvard Medical School, and PSR is a licensed agent of HMS for purposes of HPAC use.

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