



Population Monitoring After a Release of Radioactive Material

In recent years, people have expressed concern about the possibility of a terrorist attack involving radioactive materials, possibly through the use of a “dirty bomb” (www.bt.cdc.gov/radiation/dirtybombs.asp), and the harmful effects of radiation from such an event. The Centers for Disease Control and Prevention has prepared this fact sheet to help people understand how public health officials would monitor people following a radiological incident, and how this monitoring could be used to protect people’s health.

What “population monitoring” is

The term “population monitoring” is made up of immediate monitoring after an incident and long-term monitoring for health effects from the attack.

Within the first hours and days after a radiological attack, people should be monitored with special equipment that is designed to detect radiation. Public health officials will use the information from the monitoring equipment to find out whether people are contaminated (www.bt.cdc.gov/radiation/contamination.asp), either inside their bodies (internal) or outside their bodies (external), with radioactive materials from the attack. Public health officials also will estimate the amount of radiation to which people were exposed, also known as the dose, through a process called dose reconstruction.

In addition, the health of people who were involved in the incident will be monitored over many years to see whether people are having health effects from the attack. These health effects could include effects related to radiation exposure or effects associated with the stress of being involved in an attack.

Plans for population monitoring

The Department of Health and Human Services (DHHS) has designated the Centers for Disease Control and Prevention (CDC) as the lead agency for population monitoring. The duties of this designation are described in the Nuclear/Radiological Incident Annex of the *National Response Plan* (NRP, www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml).

Under the Nuclear/Radiological Incident Annex of the NRP, CDC is responsible for assisting state, local, and tribal governments in monitoring people for external and internal contamination (www.bt.cdc.gov/radiation/contamination.asp). CDC is also responsible for supporting state, local, and tribal governments in decontaminating people who are internally contaminated by providing guidance on giving medicine that can speed up the removal of radioactive material from people’s bodies.

CDC will also help local and state health departments create a registry (list) of people who might have been exposed to radiation from the incident. As part of the work on the registry, CDC will help the local and state health departments determine how much radiation people were exposed to and follow people for as long as necessary to see whether they develop health effects from radiation exposure or from the stress of being involved in an attack.

What CDC is doing

CDC is conducting studies to find out whether some existing hospital medical equipment can be used to measure the amount of internal contamination in people.

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In addition, CDC is working with other agencies and organizations from around the world to decide on the best practices for monitoring people's health after a terrorist incident involving radioactive materials. In January 2005, CDC held a Population Monitoring Roundtable with representatives from various federal agencies, state and local public health agencies, doctors, private public health organizations, and health professional organizations. All of these organizations will assist CDC in evaluating the best methods and techniques for performing population monitoring and in developing guidance that state and local public health agencies can use to prepare to respond to a nuclear/radiological event.

More information

For more information about radiation and emergency response, see the CDC Web site at www.bt.cdc.gov or contact the following organizations:

- **CDC** at 800-CDC-INFO
- **Conference of Radiation Control Program Directors** at www.crcpd.org or 502-227-4543
- **Environmental Protection Agency (EPA)** at www.epa.gov/radiation/tert
- **Nuclear Regulatory Commission** at www.nrc.gov or 301-415-8200
- **Federal Emergency Management Agency (FEMA)** at www.fema.gov or 202-646-4600
- **Radiation Emergency Assistance Center/Training Site** at www.orau.gov/reacts or 865-576-3131
- **U.S. National Response Team** at www.nrt.org
- **U.S. Department of Energy (DOE)** at www.energy.gov or 1-800-DIAL-DOE

For more information, visit www.bt.cdc.gov/radiation, or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).

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