Construction workers at DOE nuclear sites show higher risk of cancer, asbestosis

Mortality of older construction and craft workers employed at Department of Energy (DOE) nuclear sites: Follow-up through 2011

Knut Ringen, John Dement, Laura Welch, Eula Bingham, Patricia Quinn, Anna Chen and Scott Haas. American Journal of Industrial Medicine, February 2015

Overview

CPWR administers the Building Trades National Medical Screening Program (BTMed.org) for former construction workers who have been employed at more than 20 DOE-operated nuclear sites. The study population included 18,803 construction workers enrolled in BTMed between 1998 and 2011. Their average age at enrollment was about 62 years. National Death index records indicate that as of 2011, 2,801 enrollees had died.

Key Findings

- DOE construction workers had a significantly increased risk of death from all causes compared to other Americans of a similar age, even though they were less likely to die from common causes such as heart disease and diabetes.
- DOE construction workers had a very high risk of cancers. The list of cancers that DOE construction workers are more likely to have matches closely the list of radiation cancers approved for compensation in the Energy Employees Occupational Illness Compensation Program Act.
- DOE construction workers experienced 43% more lung cancer deaths than other Americans, and to address this need BTMed has established a very advanced early lung cancer detection program which should lead to lower rates of death from lung cancer in the future.
- The risks are not limited to workers employed during the early years of the atomic weapons program. The risks persist for workers first employed after 1980. Continued medical screening will be important for the health of this population.

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See full report:
http://bit.ly/1F9YR0e

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Mortality of Older Construction and Craft Workers Employed at Department of Energy (DOE) Nuclear Sites: Follow-Up Through 2011

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Background *The Building Trades National Medical Screening Program (BTMed) was established in 1996 to provide occupational medicine screening examinations for construction workers who have worked at US Department of Energy nuclear sites. Workers participating in BTMed between 1998 and 2011 were followed to determine their vital status and mortality experience through December 31, 2011.*
Methods *The cohort includes 18,803 BTMed participants and 2,801 deaths. Cause-specific Standardized Mortality Ratios (SMRs) were calculated based on US death rates.*
Results *Mortality was elevated for all causes, all cancers, cancers of the trachea, bronchus, and lung and lymphatic and hematopoietic system, mesothelioma, COPD, and asbestosis.*
Conclusions *Construction workers employed at DOE sites have a significantly increased risk for occupational illnesses. Risks are associated with employment during all time periods covered including after 1980. The cancer risks closely match the cancers identified for DOE compensation from radiation exposures. Continued medical surveillance is important.* Am. J. Ind. Med. 58:152–167, 2015.

KEY WORDS: DOE; occupational diseases; mortality; surveillance; construction

BACKGROUND

In 1993, Congress added Section 3162 to the Defense Authorization Act, calling for the Department of Energy (DOE) to determine whether workers within the nuclear weapons facilities were at significant risk for work-related illnesses and if so, to provide them with medical surveillance. In 1996 and 1997, DOE supported the establishment of independent surveillance programs for construction workers at the Hanford Nuclear Reservation in Richland, Washington, the Oak Ridge Reservation in Oak Ridge, Tennessee, and the Savannah River Site (SRS) in Aiken, South Carolina, and in 1999 the Amchitka nuclear test site in Alaska. The surveillance program has been expanded to 23 DOE sites and consolidated to form the Building Trades National Medical Screening Program (BTMed).

BTMed is conducted by a consortium from the CPWR: The Center for Construction Research and Training, the University of Cincinnati; and Duke University; and with Zenith American Solutions serving as the administrative coordinator. We have previously reported on the prevalence of respiratory diseases, hearing loss, beryllium sensitivity, COPD, and mortality among workers in our screening program [Dement et al., 2003a, 2005, 2009, 2010; Welch et al., 2004, 2013], and have estimated their life-time risk for work-related chronic diseases [Ringen et al., 2014].

Construction trade workers employed at nuclear weapons facilities have had potential exposures to a number

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