



Retired Construction Workers Benefit from Medical Exam, Follow-Up

Impact of Secondary Prevention in an Occupational High-Risk Group

Laura Welch, John Dement, Knut Ringen, Kim Cranford, and Patricia Quinn. Journal of Occupational and Environmental Medicine, January 2017.

Overview

Researchers examined medical outcomes among 6857 older construction workers participating in a medical screening program. The authors compared body mass index (BMI), smoking habits, diabetes, hypertension, cholesterol, and cardiovascular disease risk at the initial intake exam to those at a follow-up exam at least three years later.

Key Findings

- The follow-up exam results indicated statistically significant improvements in all indicators except BMI.
- The study population recorded a 17% smoking cessation rate – whereas 18.4% were smokers at the time of their first exam, only 15.3% were smokers at the time of the follow-up exam.
- While there is some debate about the benefit of annual health examinations in the general public, our findings suggest that targeting a high-risk population for periodic examinations with careful follow-up can achieve favorable health impacts.

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Read the abstract:

<https://bit.ly/3n48eJD>

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Impact of Secondary Prevention in an Occupational High-Risk Group

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Background: A study of medical outcomes among 6857 elderly construction workers who received an initial and at least one periodic follow-up examination as a result of participating in a medical screening program was undertaken. **Methods:** We compared results from the initial examination to follow-up examinations delivered at least 3 years after the initial examination for the following outcomes: body mass index (BMI); total serum cholesterol; nonhigh-density lipoprotein (non-HDL) cholesterol; hemoglobin A1c, hypertension; current cigarette smoking; and 10-year cardiovascular disease (CVD) risk scores. **Results:** Statistically significant improvements ($P < 0.05$) were observed for all measures except BMI. **Conclusions:** Participation in a periodic medical screening program for elderly construction workers is associated with a favorable impact on common health outcomes. When presented with a program designed for them, blue-collar workers are motivated to seek improvements in their health status.

BACKGROUND

Do periodic medical examinations in an elderly population of blue-collar workers have a beneficial effect on health outcomes? Will these workers take advantage of the services offered, and will they follow recommended health-promoting advice? In this study, we try to answer these questions, using results from a medical screening program that is offered to construction workers who have been employed in the nation's nuclear weapons facilities.

The primary goal of Building Trades National Medical Screening Program (BTMed) is the identification of health conditions possibly related to occupational exposures experienced while working on US Department of Energy (DOE) sites. Prior reports have described the history of BTMed and its work history and medical components, the prevalence of lung disease, chronic obstructive pulmonary disease, hearing loss, beryllium sensitivity,

and mortality¹⁻⁸; we also have estimated lifetime risk for selected work-related chronic disease.⁹ In brief in 1993, the US Congress called on DOE to determine whether workers within the US nuclear weapons facilities were at a significant risk for work-related illnesses and if so, to provide them with medical surveillance. Initial surveillance programs for construction workers were established 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 the Amchitka nuclear test site in Alaska. The surveillance program has been expanded to 28 DOE sites and consolidated to form the Building Trades National Medical Screening Program (BTMed.org). (see also <http://energy.gov/ehss/services/worker-health-and-safety/former-worker-medical-screening-program>).

Although the primary goal of BTMed examinations is to identify conditions related to toxic exposures, a secondary goal of the BTMed examination includes assessments that contribute to general health, consistent with the goals of Total Worker Health.¹⁰

Attention is paid to other potentially treatable general health conditions, including obesity, hypertension, elevated serum cholesterol, diabetes, and current cigarette smoking. Follow-up examinations are allowed at a minimum of 3-year intervals. We now report on the potential impact of the BTMed screening program on non-worked-related outcomes based on workers undergoing initial and first follow-up examinations.

METHODS

BTMed began screening workers in 1997, and in September 2005, it began to offer follow-up examinations every 3 years. However, the available budget does not allow for follow-up for all the participants who are eligible for it, and is provided on a first-come-first-serve basis to eligible participants who contact the program and request it.

Medical Screening Protocol

Participation in the BTMed is voluntary and without cost to workers. Workers potentially eligible for participation are identified through multiple sources, including union rosters, contractor records where available, media advertisement, and presentations at worker meetings. BTMed operates a website (<http://www.btmed.org>) to provide workers with information about the program, instructions for participation, and health information. Ten outreach offices are located in regions with major DOE sites.

The screening program uses a two-step design with the initial step consisting of a detailed work history interview to provide information concerning work-related exposures and a medical screening examination performed under contract with local clinical providers who meet credentialing requirements and adhere to a detailed protocol. All data from the intake, work history, medical history, physical examination, medical examination, and laboratory results are reviewed by BTMed nurses and entered into a database for purposes of program administration, reporting, and statistical analyses.

The screening examination includes a medical history and symptom questionnaire; a smoking history; a physical examination; a posterior-anterior (P-A) chest radiograph classified by a B-reader according to International Labour Office (ILO) Classification of Radiographs of Pneumoconiosis^{11,12}; audiometry; a panel of blood

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The authors do not have any conflicts of interest.

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