

Cancer, Reproductive, Cardiovascular and Other Chronic Disease Prevention Program

What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Cancer, Reproductive, Cardiovascular and Other Chronic Disease Prevention (CRC) Program works with partners in industry, labor, trade associations, professional organizations, and academia. The program focuses on preventing and reducing:

- Occupational cancer incidence
- Incidence of adverse reproductive outcomes related to work
- Occupational cardiovascular disease (CVD) incidence
- Occupational neurologic and renal diseases

What do we do?

- Conduct research on occupational cancer in high priority worker populations and exposures, and communicate findings.
- Conduct research on high-priority agents to identify and quantify risk of adverse reproductive health outcomes associated with workplace factors, and communicate findings.
- Assess the association of workplace factors and exposures with sub-clinical/clinical CVD using a variety of methods.
- Investigate emerging diseases such as chronic kidney disease in agricultural workers.
- Create documents to assist stakeholders in CRC prevention efforts.
- Promote use of CRC research by authoritative organizations, such as the Occupational Safety and Health Administration, National Toxicology Program, International Agency for Research on Cancer, and National Fire Protection Agency.
- Collaborate with external researchers to evaluate occupational risk factors in pre-existing health studies.

What have we accomplished?

- **Published** bisphenol A (BPA) air, hand wipe and surface wipe sampling results for U.S. manufacturing workers showing that jobs with elevated air and hand exposures also had elevated urinary BPA levels.
- **Published** research involving a national community-based study which found that coronary heart disease (CHD) and stroke affects 11.6%, or an estimated 10 million U.S. workers age 45 and older. CVD and risk factor profiles varied considerably by occupational group. Additionally, ideal cardiovascular health was low among even those free of CHD or stroke. (see chart)
- Conducted comprehensive monitoring exposures related to cancer and CVD on firefighters responding to controlled residential structure and training fires. **Published** results characterizing contamination of firefighters' turnout gear and skin following residential fire responses.
- Published a compilation of articles – including an [article on diabetes](#) - describing development and evaluation of clinical decision support (CDS) tools designed to assist primary care clinicians' with care of their employed patients.
- **Published** a study on use of high-level disinfectants and fertility among nurses. The study found that high-level disinfectants is associated with reduced fertility among nurses, but use of personal protective equipment (PPE) appears to reduce this risk.
- Investigated occupational exposures among sugarcane workers in Central America in an effort to understand underlying causes of Chronic Kidney Disease of unknown origin.

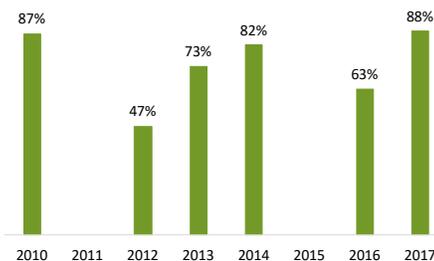
What's next?

- Publish results of study on administration of antineoplastic drugs, use of PPE, and fertility among participants in the Nurses' Health Study 3.
- Identify biomarkers of prolonged heat stress or related central nervous system dysfunction by modeling worker exposures to mild or moderate heat stress and relevant co-exposures.
- Update the NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings for 2018.
- Characterize the physical/chemical properties of airborne emissions from 3D printing, and use data to guide subsequent toxicological studies in a real-time exposure testing system. This will help minimize potential cardiovascular and lung health effects among advanced manufacturing workers.

At-A-Glance

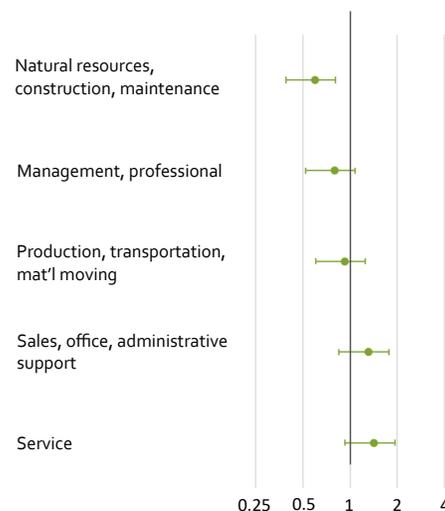
The Cancer, Reproductive, Cardiovascular and Other Chronic Disease Prevention Program provides leadership in preventing work-related diseases related to many types of cancer, reproductive health, and cardiovascular diseases, as well as occupational neurologic and renal diseases. This snapshot shows recent accomplishments and upcoming work.

Percent of International Agency for Research on Cancer Evaluations citing CRC Program work



Source: International Agency for Research on Cancer (IARC)
 Note: No evaluations were published in 2011 and 2015;
 Includes only evaluations of occupationally relevant agents

Prevalence ratios for coronary heart disease/stroke by broad occupation group among US workers age ≥ 45 years.



Source: MacDonald LA, Bertke S, Hein M, Judd S, Baron S, Merritt R, Howard V (2017) Prevalence of Cardiovascular Health by Occupation – A cross-sectional analysis among US Workers Aged ≥ 45 Years. American Journal of Preventive Medicine, 53(2):152-161.

To learn more, visit
<https://www.cdc.gov/niosh/programs/crcd/default.html>

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