

LAY ABSTRACT

TITLE: Identification of occupations susceptible to high exposure and risk associated with multiple toxicants in an observational study: National Health and Nutrition Examination Survey 1999-2014

JOURNAL: Oxford University Press. 2022; *Exposome* 2(1)

AUTHORS: Vy Kim Nguyen, PhD^{1,2*}, Justin Colacino, PhD^{1,3}, Chirag J Patel, PhD², Maureen Sartor, PhD⁴, and Olivier Jolliet, PhD^{1,5}

* Corresponding author: vy_nguyen@hms.harvard.edu and nguyenvy@umich.edu

INSTITUTIONS:

1 Department of Environmental Health Sciences, School of Public Health, University of Michigan, Ann Arbor, MI, USA.

2 Department of Biomedical Informatics, Medical School, Harvard University, Boston, MA, USA.

3 Department of Nutritional Sciences, School of Public Health, University of Michigan, Ann Arbor, MI, USA.

4 Department of Computational Medicine and Bioinformatics, Medical School, University of Michigan, Ann Arbor, MI, USA.

5 Quantitative Sustainability Assessment, Department of Environmental and Resource Engineering, Technical University of Denmark, Kgs. Lyngby, Denmark.

This is attributed to the CEECR grant: UG3CA267907

LAY ABSTRACT

Every year, harmful chemicals at work cause over 370,000 early deaths. This study looked at job groups to see what workers had higher levels of toxic chemicals in their bodies.

The study looked at 51,008 adults that work in the US. The researchers found that blue-collar workers in industries such as construction, trade, manufacturing, renting, and STEM had more harmful chemicals in their bodies than white-collar workers. Many blue-collar workers had chemicals that were at high levels that may lead to serious health problems, such as genetic mutations, developmental problems, nerve damage, reproductive difficulties, harm to the immune system, and liver damage.

This study tells us that blue-collar workers have more exposure to toxic chemicals. High levels of toxic chemicals in our bodies can cause poor health. This study shows that we need to target health screenings or policies for certain jobs to improve worker health.