

Partners Aim to Reduce Occupational Lead Exposure in Minnesota

Up to 95% of adults with an elevated blood lead level were exposed to lead in the workplace. Exposure to lead in adults is associated with adverse health effects including peripheral neuropathy, anemia, renal damage, and cognitive impairment. While reference levels and actionable levels have repeatedly been reduced over the last two decades for children, permissible occupational lead exposure standards have not changed.

The Challenge

Two Minnesota Department of Health (MDH) programs--the Lead and Healthy Homes Program (LHHP) and the Center for Occupational Health and Safety (COHS)--have been analyzing blood lead data for adults and children collected by LHHP. There has been no decrease in the number of adults with elevated blood lead levels (BLLs) from 2005 to 2012. Adults exposed to lead at work have the potential to take home lead on their clothes and shoes and expose children in their homes. Approximately 10.4% of the children with elevated blood lead in Minnesota between 2012 and 2014 were related to a take-home lead exposure.



The Response

The two MDH programs partnered to develop materials to address concerns and raise awareness about take-home lead exposure. They co-authored a peer-reviewed paper (http://www.mnmed.org/MMA/media/Minnesota-Medicine-Magazine/Clinical-Landsteiner-030416_1.pdf), for *Minnesota Medicine*, a journal publication of the Minnesota Medical Association. The paper, primarily targeted to the medical community, presented surveillance findings of BLLs among adults from 2005 to 2012 and provided a number of recommendations, including asking a patient about their job and performing a blood lead test for adults considering or currently pregnant and those working in at-risk professions. The paper also referenced LHHP's *Blood Lead Screening Guidelines for Pregnant Women* (<http://www.health.state.mn.us/divs/eh/lead/guidelines/index.html#pregnant>), to which COHS contributed. The *Guidelines* now include a section on potential occupational hazards and resources on how to prevent workplace exposures and take-home lead. The *Guidelines* also contain recommendations on how to manage a work-related exposure.

The Impact

In response to these materials and a meeting with the two MDH programs, Minnesota (MN) OSHA agreed in 2015 to partner with MDH to address BLLs ≥ 25 $\mu\text{g}/\text{dL}$ rather than ≥ 40 $\mu\text{g}/\text{dL}$. When the MDH receives a BLL report ≥ 25 $\mu\text{g}/\text{dL}$, a referral will be made to MN OSHA who in turn will contact the employer and provide educational materials on preventing lead exposure. In some cases, the referral may lead to an enforcement inspection from MN OSHA. MN OSHA also offers consultative services to employers who would like to address issues of safety and health outside of the regulatory process.

For more information, visit:

<http://www.health.state.mn.us/divs/hpcd/cdee/occhealth/indicators/blood-lead.html>.