

Beyond ABLES

The Iowa Department of Public Health Adult Blood Lead Epidemiology and Surveillance (ABLES) program went beyond typical data collection aspects of the program to raise awareness of adult lead exposure risks, the risk from low-level chronic exposure and the dangers of take-home lead.

The Challenge

Iowa has a history of adult lead poisoning above the national rate. In 2012, the prevalence rate of a blood lead level of 10 micrograms per deciliter (mcg/dL) or higher in Iowa was 51.9/100,000 employed adults compared to the national rate of 20.1/100,000 employed adults. Over 90% of Iowa exposures occurred in the manufacturing industry, including three major battery plants. Many of the workers had decades of elevated blood lead tests (EBLs), increasing their risk of worsening health and chronic disease. State data indicated an increasing number of young women working in jobs with a high risk of lead exposure. But local medical providers were often unaware of their patient's history of lead exposure.

The Response

Cross referencing was done to identify the counties of residence for lead battery plant workers (29 counties), other industry clusters (7 counties), known gun clubs or firing ranges (53 counties), known radiator repair shops (36 counties), and any other counties with 10 or more adults with EBLs. This yielded a list of 13 out of 99 total counties in the state where over 90% of adults with EBLs lived. The 13 counties were prioritized into three groups for a multi-year outreach emphasis project to increase awareness among medical providers, local public health providers, workers and their family members. Phase 1 focused on 3 counties in northeast Iowa, Phase 2 focused on 4 counties in south central Iowa and 4 counties adjacent to phase 1 counties in north central Iowa. Phase 3 focused on 2 counties in southwest Iowa. Each phase included a battery plant manufacturing site.

Materials were developed and distributed at outreach events for workers, employers, medical providers and local public health. Additionally, these materials were posted online and distributed with case management correspondence. Key messaging focused on take-home lead risks, medical impacts from long-term chronic lead exposure, and risks to young adults entering the battery manufacturing workforce. Medical providers were encouraged to ask their patients about work and hobby lead exposure risks and provide testing for those not routinely tested through their workplace.

The Impact

The Iowa ABLES Program was able to concentrate prevention efforts around the dangers of workplace and take-home lead exposure in the areas of the state where the need for this type of outreach and intervention was greatest...a strategy that appears to have yielded positive results overtime. From 2012 to 2020, the percentage of adults tested with EBL results of 20 mcg/dL or higher dropped from 34% to 5% in Phase 1 counties, 25% to 5% in Phase 2 counties and 12% to 2% across the entire state. The percentage of adults tested who had lead levels of 5 mcg/dL or higher (the current reference level) dropped from 85% to 67% in Phase 1



counties, 61% to 58% in Phase 2 counties, 79% to 45% in Phase 3 counties, and from 40% to 27% in all counties. Actions taken by other stakeholders greatly amplified the efforts of public health to achieve overall reductions in adult lead poisoning in the state.

For more information, visit the Iowa Department of Public Health website at idph.iowa.gov and search for Adult Blood Lead Epidemiology and Surveillance.