

Iowa Adult Blood Lead Epidemiology and Surveillance (ABLES) 2013 DATA

A total of 5,866 blood lead level (BLL) test results on 3,173 lowans were recorded by the Iowa Adult Blood Lead Epidemiology and Surveillance (ABLES) program for adults 16 years or older as of the date of collection with a residence in Iowa tested in calendar year 2013. All blood lead test results for Iowa residents are reportable to IDPH under *Iowa Administrative Code 641, Chapter 1*. Additional information is available at www.idph.state.ia.us/LPP/ABLES.aspx.

Blood lead tests of 10 micrograms per deciliter ($\mu\text{g}/\text{dL}$) or higher are currently defined as an elevated blood lead level (EBL) for an adult. Based on the highest BLL for each Iowa adult tested in 2013, there were 856 people (27% of those tested) who had blood lead levels of 10 $\mu\text{g}/\text{dL}$ or higher: 19 people with levels 40 $\mu\text{g}/\text{dL}$ or higher, 183 people with levels 25-39 $\mu\text{g}/\text{dL}$, and 654 people with levels 10-24 $\mu\text{g}/\text{dL}$. The remaining Iowa adults tested (2,317, 73%) had results less than 10 $\mu\text{g}/\text{dL}$, with an average BLL less than 3 $\mu\text{g}/\text{dL}$.

Females accounted for 13% (111) of the 856 EBLs in 2013. This is an increase from 2012 when 11% (92) of the 2012 EBLs were female. The blood lead levels for EBL females ranged from 10-73 $\mu\text{g}/\text{dL}$ with an average blood lead level of 20 $\mu\text{g}/\text{dL}$. Lead exposure to women during pregnancy poses increased health risks for unborn babies and may impact the ability to carry the pregnancy to term. Women of child-bearing age (16-44 years of age i.e. those born in 1969 or later) accounted for 43 of the 111 female cases (39%), an increase from 28 females (30%) in 2012. The 2013 data also showed an increase in EBL females 35 years of age or younger, with 24 or 21.6% of the 111 EBLs women in this age range compared to 11 (12% of 92) in 2012. It is unknown if any of these women were pregnant at the time of their exposure. Most of the women with EBLs (107 of 111, 96%) had work-related lead exposure, almost entirely in battery manufacturing.

Prior exposure to lead from Ayurvedic products purchased overseas was known as the reason for repeat testing of 18 lowans in 2013, with 9 individuals still exhibiting a persistent elevated blood lead level since diagnosis in 2011. Current blood lead levels ranged from 11-23 $\mu\text{g}/\text{dL}$.

Lead exposure due to the use of firearms, making or reloading of ammunition, or making fishing jigs was identified in 15 lowans in 2013. Their EBLs ranged from 10 to 57 $\mu\text{g}/\text{dL}$, with an average BLL of 20 $\mu\text{g}/\text{dL}$. While the 2013 data shows an increase of two persons compared to 2012, the blood lead level range and average BLL were much lower (2012: EBL range 10 to 91 $\mu\text{g}/\text{dL}$, with a mean of 28 $\mu\text{g}/\text{dL}$). Many of these people had exposures in past years, and have been provided with information regarding options for lowering their exposure.

Iowa's high risk industries in 2013 remain consistent with data from previous years, with the majority (770 of 856 or 90%) of EBL adults working in manufacturing plants that use lead or metal products that contain lead. Ten employers accounted for 786 workers with EBLs or almost 92% of the EBL lowans in 2013. These workers are also the most likely to be tested for lead exposure because of regulatory oversight or concerns about the risk of exposure in a fixed worksite environment. The second highest industry group was construction with (23 of 856 or 2.7%) which includes industrial, commercial, and residential construction, painting, maintenance, and renovation projects. It is known that many workers in construction are not routinely tested for lead exposure. Other work-related cases in 2013 included exposures from electronic and scrap metal recycling, materials wholesalers and retailers, automotive or radiator repair, leaded glass workers and installers, transportation maintenance shops, and a variety of other work types. Additional workers – especially those working for smaller companies or those who are self-employed - may have lead exposure but were never tested during the 2013. There were 23 known exposures (2.7%) from hobby or non-work situations, including the highest exposure of the year (EBL of 73 $\mu\text{g}/\text{dL}$). A total of 7 exposures did not have a source of exposure identified, although 2 were known to be work-related.

Table: Iowa Adult Blood Lead Level (BLL) Test Results, 2010-2013

IA ABLES DATA	Number of Iowa Adults Tested by Highest BLL for Year						Percent of all Iowa Adults Tested by BLL Range by Year		
	2013	2013 change in numbers from 2012	Prior 3-yr Ave	2012	2011	2010	2012	2011	2010
BLL 40 µg/dL or higher	19	-3	21	22	37	14	0.7%	1.1%	0.5%
BLL 25-39 µg/dL	183	9	178	174	203	159	5.8%	6.5%	5.5%
BLL 10-24 µg/dL	654	32	555	622	592	563	20.7%	18.8%	19.4%
BLL 0-9 µg/dL	2317	130	2068	2187	2323	2169	72.8%	73.6%	74.7%
All BLL 10+ (Total EBLs)	856	38	754	818	832	736	27.2%	26.4%	25.3%
Total Individuals Tested by Year	3173	168	2822	3005	3155	2905			

Adults: Persons 16 years of age or older as of date of blood test.

Iowa Adult Data: Test results for persons with an Iowa residential address as of date of blood test. Blood lead test reports received without address data or with a residential address outside of Iowa are not included in this report.

Report reflects data as of May 30, 2014.

