

Washington State Adult Blood Lead Registry Update

Safety & Health Assessment & Research for Prevention (SHARP)

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The Washington State Blood Lead Registry was established in 1993. The results of all blood lead level (BLL) tests performed in Washington State are reported to the Washington State Department of Health (DOH), which then forwards adult results to the Safety & Health Assessment & Research for Prevention (SHARP) program at the Department of Labor and Industries (L&I).

The Registry's goal is to prevent lead overexposure and poisoning. SHARP strives to inform and educate workers and employers about the hazards of lead exposure. We also provide technical assistance to employers and industries that may be exposing workers to lead.

Concerning Adults

A national goal has been set for the year 2010 to eliminate BLLs of 25 µg/dl or greater in working adults. Between May 1993 and December 31, 2008, SHARP received a total of 107,229 BLL reports (Table 1); approximately 3.5% of these reports were for individuals with elevated BLLs (≥ 25 µg/dl). For cases where a home address could be obtained, the largest number of elevated blood lead reports was for King County residents (45%), followed by residents of Snohomish (10%) and Pierce Counties (8%).

BLLs greater than 40 µg/dl have been associated with psychological and nerve function abnormalities, damage to the kidneys and blood-forming systems, and adverse reproductive health effects for men and women. Of the 877 reports in the Registry with BLLs ≥ 40 µg/dl for which gender information was available, 867 (99%) were for males. During 2008, 17 reports in the Registry were for individuals who had BLLs greater than or equal to 40 µg/dl.

Table 1. Adult blood lead levels—2008 reports and cumulative reports.

Blood Lead Level (µg/dl)	January 1-December 31, 2008 (%)	May 15, 1993-December 31, 2008 (%)
< 25	7889 (99%)	103,462 (96%)
25-39	71 (0.89%)	2873 (2.7%)
40-49	13 (0.16%)	636 (0.59%)
50-59	0 (0.0%)	190 (0.19%)
≥ 60	4 (0.05%)	68 (0.06%)
TOTAL	7977	107,229

The Registry provides follow-up for individuals with elevated BLLs. The type and extent of follow-up depends on the actual BLL. Individuals with BLLs greater than or equal to 25 µg/dl are sent information on the potential health effects of lead, and ways to reduce their exposure. If the employee consents, we also send educational materials to the employer, and offer SHARP's technical expertise to help reduce lead exposure at specific work sites (we insist on employer follow-up for BLLs greater than 60 µg/dl or if a case had more than one BLL over 50 µg/dl).

In order to determine how workers are being exposed in the State of Washington, we collect employer and occupation information for individuals with elevated BLLs. Adult blood lead tests are usually sponsored by employers who are interested in assessing workplace lead exposures. Blood testing of lead-exposed workers is frequently required by workplace health regulations, and provides valuable information to guide workplace and medical decisions related to lead. If elevated blood lead levels occur, workplace exposures to lead should be reduced.

Industries in which three or more elevated BLL reports were received in 2008 are shown by Standard Industrial Classification (SIC) code in Table 2. Workers are exposed to lead in these industries while doing the following types of work:

- “Amusement and Recreation Services, NEC” -shooting ranges.
- “Storage batteries” – manufacturing lead-containing batteries.
- “Membership Sports and Recreation Clubs” -Shooting ranges.
- “Automotive repair shops, nec” – repairing copper-brass radiators.
- “Flat glass” – manufacturing lead-containing glass.
- “Specialty trade contractors, nec” – removing a recycling underground cable.

Since companies that do not test their workers for lead are not included in the Registry, it is possible that some industries are not seen here, or that some industries are over-represented. It is likely that lead poisoning is a much greater problem than these numbers indicate, because many workers who are exposed to lead likely do not have their blood tested.

Table 2. Industries with three or more elevated BLL reports ($\geq 25 \mu\text{g}/\text{dl}$), January 1 -December 31, 2008

SIC Code	Description	Reports 25-39 $\mu\text{g}/\text{dl}$	Reports 40-49 $\mu\text{g}/\text{dl}$	Reports 50-59 $\mu\text{g}/\text{dl}$	Reports $\geq 60 \mu\text{g}/\text{dl}$	Total Reports $\geq 25 \mu\text{g}/\text{dl}$
7999	Amusement and Recreation Services (Shooting ranges), NEC	7	4	4	0	15
36*	Storage batteries	14	1	0	0	15
7997	Membership Sports and Recreation Clubs	3	4	0	0	7
7539	Automotive repair shops, NEC	6	0	0	0	6
3211	Flat glass	5	0	0	0	5
6719	Offices of Holding Companies (Public utilities), NEC	5	0	0	0	5
3731	Ship Building and Repairing	3	0	0	0	3
5941	Sporting Goods (Ammunition) and Bicycle Shops	3	0	0	0	3
1799	Special trade contractors, NEC	2	1	0	0	3

*Figures are reported by 2-digit SIC code if there were fewer than three WA State employers in a 4-digit SIC category (WA State Employment Security employer units).

The information on individual workers and employers contained within the Registry is regarded in the strictest confidence. Individual BLL results are protected from public disclosure in any form that would identify the person tested. Information on individual employers is used only to identify industries where exposure reduction interventions can be targeted. In situations of serious lead overexposure, SHARP reserves the right to share information on employers with WISHA, the state Occupational Safety and Health (OSHA) plan. However, this only occurs when an employer has failed to make a good faith effort to address an overexposure situation through voluntary efforts, or when a situation of imminent danger is perceived.

For more information about the lead registry and its activities or on ways to prevent lead overexposure, please contact SHARP at 360-902-5669 or at 1-888-66-SHARP (toll free).

Visit our Web site at www.Lni.wa.gov/Safety/Research/OccHealth/Lead for more about the lead registry, educational resources, and links to more information.