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Adult Blood Lead Epidemiology and Surveillance — United States, 1994 and First Quarter 1995

CDC’s National Institute for Occupational Safety and Health (NIOSH) Adult Blood Lead Epidemiology and Surveillance program (ABLES) monitors elevated blood lead levels (BLLs) among adults in the United States (7). Twenty-three states currently report surveillance results to ABLES. Maine is the 23rd state, and its data (beginning in 1994) are included for the first time in this report. This report presents ABLES data for the first quarter of 1995 compared with the first quarter of 1994 and annual data for 1994 compared with 1993.

First Quarter Reports 1995. During January–March 1995, the number of reports of elevated BLLs increased by 10% over those reported for the same period in 1994 (Table 1). The number of reports increased at the lowest reporting level (25–39 μg/dL), but decreased at all higher reporting levels (40–49 μg/dL, 50–59 μg/dL, and ≥60 μg/dL). The trend of increasing reports at the lower levels and decreasing reports at the higher levels is consistent with the 1994 fourth quarter report (2).

Annual Reports 1994. The reported number of adults with elevated BLLs increased from 11,240 in 1993 to 12,137 in 1994 (Table 2); this increase resulted, in part, from the addition of three reporting states in 1994. A total of 5619 new cases accounted for 46% of the cases reported in 1994, compared with 59% new cases in 1993 (Table 2). Compared with 1993, the proportion of new cases declined in the 25–39 μg/dL, 40–49 μg/dL, and 50–59 μg/dL categories and increased in the ≥60 μg/dL category. Even with additional states reporting, the number of new cases decreased 15% from 1993 through 1994 (Table 2). This decrease may be explained in part by the definition of a new case, which is an elevated BLL (≥25 μg/dL) in an adult reported in state surveillance data in the current year but which was not recorded in the immediately preceding year. By this definition, all persons reported represent new cases in the year a state begins surveillance.

TABLE 1. Number of reports of elevated blood lead levels (BLLs) among adults, number of adults with elevated BLLs, and percentage change in number of reports—23 states,* first quarter, 1994–1995

<table>
<thead>
<tr>
<th>Reported BLL (μg/dL)</th>
<th>First quarter, 1995</th>
<th>No. reports</th>
<th>No. persons</th>
<th>No. reports, first quarter, 1994*</th>
<th>% Change first quarter, 1994 to 1995</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-39</td>
<td>4914</td>
<td>3635</td>
<td></td>
<td>4102</td>
<td>+20%</td>
</tr>
<tr>
<td>40-49</td>
<td>1197</td>
<td>878</td>
<td></td>
<td>1371</td>
<td>−13%</td>
</tr>
<tr>
<td>50-59</td>
<td>245</td>
<td>204</td>
<td></td>
<td>278</td>
<td>−12%</td>
</tr>
<tr>
<td>≥60</td>
<td>82</td>
<td>58</td>
<td></td>
<td>117</td>
<td>−30%</td>
</tr>
<tr>
<td>Total</td>
<td>6438</td>
<td>4775</td>
<td></td>
<td>5868</td>
<td>+10%</td>
</tr>
</tbody>
</table>


Data for Maine are included. These data only recently became available for 1994 and were not included in previous reports.

Individual reports for persons are categorized according to the highest reported BLL for the person during the given quarter. Pennsylvania provides the number of reports but not number of persons; the number of persons for Pennsylvania in this table are estimates based on the proportions from the other 22 states combined and the number of reports received from Pennsylvania. Data for South Carolina were missing; first quarter 1994 data were used as an estimate.

TABLE 2. Number of reports of elevated blood lead levels (BLLs) among adults, number of adults with elevated BLLs, and new cases of elevated BLLs—United States, 1993 and 1994

<table>
<thead>
<tr>
<th>Reported BLL (μg/dL)</th>
<th>1994 (23 states)*</th>
<th>1993 (20 states)†</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. reports</td>
<td>No. persons</td>
<td>New cases</td>
</tr>
<tr>
<td>25-39</td>
<td>19,420</td>
<td>8,651</td>
</tr>
<tr>
<td>40-49</td>
<td>5,821</td>
<td>2,562</td>
</tr>
<tr>
<td>50-59</td>
<td>1,132</td>
<td>644</td>
</tr>
<tr>
<td>≥60</td>
<td>459</td>
<td>280</td>
</tr>
<tr>
<td>Total</td>
<td>26,832</td>
<td>12,137</td>
</tr>
</tbody>
</table>

*Alabama, Arizona, California, Connecticut, Illinois, Iowa, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, South Carolina, Texas, Utah, Vermont, Washington, and Wisconsin. Data for Maine were not included in previous reports. Data for South Carolina were missing for fourth quarter 1994; fourth quarter 1993 data were used as an estimate.

†Same states as 1994 except Maine, North Carolina, and Oklahoma.

Individual reports are categorized according to the highest reported BLL for the person during the given year. Pennsylvania provides the number of reports but not number of persons; the number of persons for Pennsylvania in this table are estimates based on the proportions from the other 22 states combined and the number of reports received from Pennsylvania. Data for South Carolina were missing for the fourth quarter 1994; fourth quarter 1993 data were used as an estimate.

‡Illinois, Michigan, Pennsylvania and South Carolina did not report new cases for 1994. New cases for those four states are estimates based on the proportions from the other 19 states combined and the number of reports, persons, or unassigned new cases reported from these four states.

**New cases for 1993 were not reported from Michigan, New Hampshire, and Pennsylvania. No estimates are included in the 1993 data.
Blood Lead Epidemiology — Continued


Editorial Note: Approximately 54% of the persons reported to ABLES in 1993 were reported again to the system in 1994. Reasons for these repeat reports include 1) recurring exposure resulting from inadequate control measures and worker-protection practices; 2) routine tracking of elevated employee BLLs that remain below levels requiring medical removal; and 3) increased employer monitoring during medical removal. Increased testing of workers in construction trades—as new workplace medical monitoring programs are established to comply with new OSHA regulations (3)—also has contributed to the increases.

Reporting of adults with elevated BLLs reflects monitoring practices by employers. Variation in national quarterly reporting totals, especially first quarter totals, may result from 1) changes in the number of participating states, 2) timing of receipt of laboratory BLL reports by state-based surveillance programs, and 3) interstate differences in worker BLL testing by lead-using industries.

The data in this report underscore that work-related lead exposures are an ongoing occupational health problem in the United States. ABLES can further enhance surveillance for this preventable condition by expanding the number of participating states, reducing variability in reporting, and distinguishing between new and recurring elevated BLLs in adults. The Council of State and Territorial Epidemiologists, at its annual meeting in May 1995, designated elevated BLLs among adults as a condition reportable to the National Public Health Surveillance System (formerly the National Notifiable Diseases Surveillance System) (4).

References


Erratum: Vol. 44, No. 17

In the article, "Prevalence and Impact of Arthritis Among Women—United States, 1989–1991," a programming error led to incorrect estimates for nonarthritis conditions listed in Table 2. The corrected table follows.

The error does not change statements in the text on the relative ranking of arthritis compared with other chronic conditions but does change the following: 1) under the