

| Iowa Department of<br>Public Health | 2012 - 2016 Iowa Adult Blood Lead Data<br>Annual Averages: Adults Tested for Lead by County |                           |            |                 |               |           |                 |             |             |                  |                   |              |
|-------------------------------------|---|---------------------------|------------|-----------------|---------------|-----------|-----------------|-------------|-------------|------------------|-------------------|--------------|
|                                     | County Name   | Adults<br>Tested<br>(Ave) | BLL<br>20+ | BLL<br>10 to 19 | BLL<br>5 to 9 | BLL<br><5 | 5+ BLL<br>Total | % 5+<br>BLL | % <5<br>BLL | 10+ BLL<br>Total | < 10 BLL<br>Total | % 10+<br>BLL |
| ADAIR                               | 2   | 0                         | 0          | 0               | 2             | 0         | 0%              | 100%        | 0           | 2                | 0%                | 100%         |
| ADAMS                               | 5   | 0                         | 3          | 1               | 2             | 3         | 65%             | 35%         | 3           | 3                | 50%               | 50%          |
| ALLAMAKEE                           | 9   | 0                         | 0          | 0               | 8             | 1         | 9%              | 91%         | 1           | 8                | 9%                | 91%          |
| APPANOOSE                           | 47  | 16                        | 15         | 6               | 10            | 37        | 79%             | 21%         | 31          | 16               | 65%               | 35%          |
| AUDUBON                             | 7   | 1                         | 2          | 1               | 2             | 5         | 71%             | 29%         | 4           | 3                | 53%               | 47%          |
| BENTON                              | 13  | 1                         | 2          | 2               | 9             | 4         | 32%             | 68%         | 2           | 10               | 17%               | 83%          |
| BLACK HAWK                          | 83  | 2                         | 1          | 5               | 74            | 9         | 11%             | 89%         | 4           | 79               | 4%                | 96%          |
| BOONE                               | 18  | 0                         | 1          | 2               | 15            | 2         | 14%             | 86%         | 1           | 17               | 3%                | 97%          |
| BREMER                              | 20  | 0                         | 0          | 1               | 19            | 1         | 6%              | 94%         | 0           | 20               | 1%                | 99%          |
| BUCHANAN                            | 61  | 17                        | 18         | 7               | 19            | 42        | 69%             | 31%         | 35          | 26               | 58%               | 42%          |
| BUENA VISTA                         | 7   | 0                         | 0          | 0               | 6             | 1         | 15%             | 85%         | 1           | 6                | 9%                | 91%          |
| BUTLER                              | 7   | 0                         | 0          | 1               | 6             | 1         | 16%             | 84%         | 0           | 7                | 3%                | 97%          |
| CALHOUN                             | 7   | 0                         | 0          | 0               | 6             | 0         | 3%              | 97%         | 0           | 7                | 0%                | 100%         |
| CARROLL                             | 11  | 0                         | 0          | 2               | 9             | 2         | 18%             | 82%         | 0           | 11               | 2%                | 98%          |
| CASS                                | 29  | 1                         | 12         | 9               | 6             | 22        | 78%             | 22%         | 13          | 15               | 46%               | 54%          |
| CEDAR                               | 11  | 0                         | 1          | 2               | 9             | 2         | 22%             | 78%         | 1           | 10               | 7%                | 93%          |
| CERRO GORDO                         | 47  | 0                         | 0          | 4               | 43            | 4         | 9%              | 91%         | 0           | 47               | 0%                | 100%         |
| CHEROKEE                            | 2   | 0                         | 0          | 1               | 2             | 1         | 27%             | 73%         | 0           | 2                | 0%                | 100%         |
| CHICKASAW                           | 4   | 0                         | 0          | 1               | 4             | 1         | 18%             | 82%         | 0           | 4                | 0%                | 100%         |
| CLARKE                              | 4   | 1                         | 1          | 0               | 2             | 2         | 45%             | 55%         | 2           | 2                | 45%               | 55%          |
| CLAY                                | 5   | 0                         | 0          | 0               | 5             | 0         | 7%              | 93%         | 0           | 5                | 7%                | 93%          |
| CLAYTON                             | 62  | 21                        | 27         | 5               | 10            | 53        | 85%             | 15%         | 48          | 14               | 77%               | 23%          |
| CLINTON                             | 62  | 2                         | 1          | 5               | 53            | 9         | 14%             | 86%         | 4           | 58               | 6%                | 94%          |
| CRAWFORD                            | 5   | 0                         | 0          | 0               | 4             | 0         | 4%              | 96%         | 0           | 4                | 4%                | 96%          |
| DALLAS                              | 30  | 0                         | 1          | 2               | 27            | 3         | 9%              | 91%         | 1           | 29               | 3%                | 97%          |
| DAVIS                               | 4   | 0                         | 1          | 1               | 2             | 2         | 45%             | 55%         | 1           | 3                | 27%               | 73%          |
| DECATUR                             | 11  | 4                         | 2          | 1               | 4             | 7         | 67%             | 33%         | 6           | 5                | 55%               | 45%          |
| DELAWARE                            | 259   | 94                        | 118        | 30              | 17            | 242       | 94%             | 6%          | 212         | 47               | 82%               | 18%          |
| DES MOINES                          | 22  | 0                         | 1          | 1               | 19            | 3         | 13%             | 87%         | 1           | 20               | 6%                | 94%          |

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|                                     | County Name   | Adults<br>Tested<br>(Ave) | BLL<br>20+ | BLL<br>10 to 19 | BLL<br>5 to 9 | BLL<br><5 | 5+ BLL<br>Total | % 5+<br>BLL | % <5<br>BLL | 10+ BLL<br>Total | < 10 BLL<br>Total | % 10+<br>BLL |
| DICKINSON                           | 9   | 0                         | 0          | 0               | 8             | 1         | 7%              | 93%         | 0           | 8                | 5%                | 95%          |
| DUBUQUE                             | 190   | 33                        | 65         | 45              | 47            | 143       | 75%             | 25%         | 99          | 91               | 52%               | 48%          |
| EMMET                               | 4   | 0                         | 1          | 1               | 3             | 1         | 33%             | 67%         | 1           | 4                | 14%               | 86%          |
| FAYETTE                             | 34  | 7                         | 8          | 5               | 14            | 20        | 60%             | 40%         | 15          | 18               | 46%               | 54%          |
| FLOYD                               | 6   | 0                         | 0          | 1               | 5             | 1         | 13%             | 87%         | 0           | 6                | 0%                | 100%         |
| FRANKLIN                            | 5   | 0                         | 0          | 0               | 4             | 1         | 13%             | 88%         | 0           | 5                | 4%                | 96%          |
| FREMONT                             | 6   | 0                         | 2          | 1               | 3             | 3         | 50%             | 50%         | 2           | 4                | 31%               | 69%          |
| GREENE                              | 5   | 0                         | 0          | 0               | 5             | 0         | 0%              | 100%        | 0           | 5                | 0%                | 100%         |
| GRUNDY                              | 6   | 1                         | 0          | 0               | 5             | 1         | 14%             | 86%         | 1           | 5                | 11%               | 89%          |
| GUTHRIE                             | 6   | 0                         | 0          | 0               | 5             | 0         | 7%              | 93%         | 0           | 5                | 4%                | 96%          |
| HAMILTON                            | 23  | 1                         | 0          | 0               | 22            | 1         | 4%              | 96%         | 1           | 22               | 3%                | 97%          |
| HANCOCK                             | 6   | 0                         | 0          | 1               | 5             | 1         | 18%             | 82%         | 0           | 5                | 4%                | 96%          |
| HARDIN                              | 11  | 0                         | 0          | 2               | 9             | 2         | 18%             | 82%         | 0           | 11               | 0%                | 100%         |
| HARRISON                            | 4   | 0                         | 0          | 1               | 4             | 1         | 18%             | 82%         | 0           | 4                | 5%                | 95%          |
| HENRY                               | 14  | 0                         | 0          | 2               | 12            | 2         | 16%             | 84%         | 1           | 13               | 4%                | 96%          |
| HOWARD                              | 6   | 0                         | 0          | 0               | 5             | 0         | 7%              | 93%         | 0           | 6                | 3%                | 97%          |
| HUMBOLDT                            | 7   | 0                         | 0          | 0               | 7             | 0         | 6%              | 94%         | 0           | 7                | 0%                | 100%         |
| IDA                                 | 2   | 0                         | 0          | 0               | 2             | 0         | 0%              | 100%        | 0           | 2                | 0%                | 100%         |
| IOWA                                | 8   | 0                         | 0          | 1               | 7             | 1         | 8%              | 93%         | 0           | 8                | 0%                | 100%         |
| JACKSON                             | 23  | 4                         | 3          | 5               | 10            | 13        | 56%             | 44%         | 7           | 15               | 32%               | 68%          |
| JASPER                              | 19  | 0                         | 0          | 1               | 17            | 2         | 8%              | 92%         | 1           | 18               | 3%                | 97%          |
| JEFFERSON                           | 49  | 3                         | 9          | 15              | 22            | 27        | 55%             | 45%         | 12          | 37               | 24%               | 76%          |
| JOHNSON                             | 88  | 1                         | 2          | 4               | 81            | 7         | 8%              | 92%         | 2           | 85               | 3%                | 97%          |
| JONES                               | 17  | 1                         | 2          | 3               | 11            | 6         | 37%             | 63%         | 3           | 14               | 17%               | 83%          |
| KEOKUK                              | 16  | 1                         | 2          | 4               | 9             | 7         | 44%             | 56%         | 3           | 13               | 17%               | 83%          |
| KOSSUTH                             | 5   | 0                         | 0          | 1               | 4             | 1         | 13%             | 88%         | 0           | 5                | 0%                | 100%         |
| LEE                                 | 39  | 0                         | 2          | 5               | 32            | 7         | 17%             | 83%         | 2           | 37               | 5%                | 95%          |
| LINN                                | 169   | 11                        | 11         | 14              | 133           | 36        | 21%             | 79%         | 22          | 147              | 13%               | 87%          |
| LOUISA                              | 12  | 0                         | 0          | 2               | 9             | 2         | 20%             | 80%         | 1           | 11               | 7%                | 93%          |

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|                                     | County Name   | Adults<br>Tested<br>(Ave) | BLL<br>20+ | BLL<br>10 to 19 | BLL<br>5 to 9 | BLL<br><5 | 5+ BLL<br>Total | % 5+<br>BLL | % <5<br>BLL | 10+ BLL<br>Total | < 10 BLL<br>Total | % 10+<br>BLL |
| LUCAS                               | 39  | 14                        | 12         | 7               | 7             | 32        | 83%             | 17%         | 25          | 14               | 65%               | 35%          |
| LYON                                | 2   | 0                         | 0          | 0               | 2             | 0         | 8%              | 92%         | 0           | 2                | 8%                | 92%          |
| MADISON                             | 8   | 0                         | 1          | 0               | 7             | 1         | 17%             | 83%         | 1           | 7                | 12%               | 88%          |
| MAHASKA                             | 51  | 0                         | 6          | 12              | 32            | 19        | 37%             | 63%         | 7           | 44               | 13%               | 87%          |
| MARION                              | 15  | 1                         | 1          | 2               | 12            | 3         | 22%             | 78%         | 1           | 14               | 9%                | 91%          |
| MARSHALL                            | 23  | 2                         | 1          | 2               | 18            | 5         | 21%             | 79%         | 3           | 19               | 14%               | 86%          |
| MILLS                               | 13  | 0                         | 4          | 3               | 6             | 7         | 52%             | 48%         | 4           | 9                | 29%               | 71%          |
| MITCHELL                            | 3   | 0                         | 0          | 0               | 3             | 0         | 13%             | 88%         | 0           | 3                | 13%               | 88%          |
| MONONA                              | 3   | 0                         | 0          | 0               | 3             | 0         | 13%             | 88%         | 0           | 3                | 13%               | 88%          |
| MONROE                              | 11  | 2                         | 3          | 2               | 5             | 6         | 57%             | 43%         | 4           | 6                | 40%               | 60%          |
| MONTGOMERY                          | 41  | 0                         | 22         | 13              | 6             | 35        | 85%             | 15%         | 22          | 19               | 54%               | 46%          |
| MUSCATINE                           | 45  | 0                         | 1          | 8               | 36            | 10        | 22%             | 78%         | 2           | 44               | 4%                | 96%          |
| O' BRIEN                            | 5   | 0                         | 0          | 0               | 5             | 0         | 0%              | 100%        | 0           | 5                | 0%                | 100%         |
| OSCEOLA                             | 1   | 0                         | 0          | 0               | 1             | 0         | 17%             | 83%         | 0           | 1                | 0%                | 100%         |
| PAGE                                | 21  | 0                         | 9          | 6               | 6             | 15        | 72%             | 28%         | 9           | 12               | 42%               | 58%          |
| PALO ALTO                           | 4   | 0                         | 0          | 0               | 4             | 0         | 5%              | 95%         | 0           | 4                | 0%                | 100%         |
| PLYMOUTH                            | 6   | 0                         | 0          | 0               | 6             | 0         | 7%              | 93%         | 0           | 6                | 0%                | 100%         |
| POCAHONTAS                          | 4   | 0                         | 0          | 0               | 2             | 1         | 33%             | 67%         | 1           | 3                | 22%               | 78%          |
| POLK                                | 261   | 2                         | 4          | 13              | 242           | 19        | 7%              | 93%         | 6           | 254              | 2%                | 98%          |
| POTTAWATTAMIE                       | 26  | 0                         | 2          | 1               | 24            | 3         | 10%             | 90%         | 2           | 24               | 8%                | 92%          |
| POWESHIEK                           | 12  | 0                         | 0          | 1               | 11            | 1         | 9%              | 91%         | 0           | 11               | 3%                | 97%          |
| RINGGOLD                            | 2   | 0                         | 0          | 0               | 1             | 0         | 25%             | 75%         | 0           | 2                | 0%                | 100%         |
| SAC                                 | 9   | 0                         | 0          | 0               | 9             | 0         | 2%              | 98%         | 0           | 9                | 0%                | 100%         |
| SCOTT                               | 237   | 5                         | 10         | 29              | 192           | 45        | 19%             | 81%         | 15          | 222              | 6%                | 94%          |
| SHELBY                              | 5   | 1                         | 1          | 1               | 2             | 3         | 63%             | 38%         | 2           | 3                | 46%               | 54%          |
| SIoux                               | 7   | 0                         | 0          | 0               | 6             | 1         | 9%              | 91%         | 1           | 6                | 9%                | 91%          |
| STORY                               | 67  | 1                         | 1          | 3               | 63            | 4         | 7%              | 93%         | 2           | 65               | 2%                | 98%          |
| TAMA                                | 10  | 0                         | 0          | 0               | 10            | 0         | 4%              | 96%         | 0           | 10               | 0%                | 100%         |
| TAYLOR                              | 4   | 0                         | 0          | 1               | 3             | 1         | 15%             | 85%         | 0           | 4                | 0%                | 100%         |

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|----------------------------------|---|---------------------|------------|--------------|-------------|-------------|--------------|------------|------------|---------------|----------------|------------|
|                                  | County Name   | Adults Tested (Ave) | BLL 20+    | BLL 10 to 19 | BLL 5 to 9  | BLL <5      | 5+ BLL Total | % 5+ BLL   | % <5 BLL   | 10+ BLL Total | < 10 BLL Total | % 10+ BLL  |
| UNION                            | 2   | 0                   | 0          | 0            | 2           | 0           | 8%           | 92%        | 0          | 2             | 8%             | 92%        |
| VAN BUREN                        | 8   | 0                   | 0          | 2            | 5           | 2           | 32%          | 68%        | 1          | 7             | 11%            | 89%        |
| WAPELLO                          | 37  | 3                   | 5          | 7            | 22          | 15          | 40%          | 60%        | 7          | 29            | 20%            | 80%        |
| WARREN                           | 25  | 2                   | 1          | 2            | 21          | 4           | 17%          | 83%        | 3          | 23            | 10%            | 90%        |
| WASHINGTON                       | 20  | 0                   | 0          | 1            | 19          | 1           | 6%           | 94%        | 0          | 20            | 2%             | 98%        |
| WAYNE                            | 165   | 59                  | 40         | 24           | 42          | 123         | 75%          | 25%        | 99         | 66            | 60%            | 40%        |
| WEBSTER                          | 0   | 0                   | 0          | 0            | 0           | 0           | 100%         | 0%         | 0          | 0             | 0%             | 100%       |
| WINNEBAGO                        | 6   | 0                   | 0          | 1            | 5           | 1           | 13%          | 87%        | 0          | 6             | 0%             | 100%       |
| WINNESHIEK                       | 11  | 0                   | 0          | 1            | 10          | 1           | 9%           | 91%        | 0          | 11            | 4%             | 96%        |
| WOODBURY                         | 46  | 3                   | 3          | 4            | 37          | 9           | 20%          | 80%        | 5          | 41            | 11%            | 89%        |
| WORTH                            | 4   | 0                   | 0          | 0            | 4           | 0           | 10%          | 90%        | 0          | 4             | 5%             | 95%        |
| WRIGHT                           | 8   | 0                   | 0          | 1            | 7           | 1           | 8%           | 92%        | 0          | 8             | 0%             | 100%       |
| <b>STATE TOTALS</b>              | <b>2907</b>   | <b>324</b>          | <b>443</b> | <b>350</b>   | <b>1790</b> | <b>1117</b> | <b>38%</b>   | <b>62%</b> | <b>767</b> | <b>2140</b>   | <b>26%</b>     | <b>74%</b> |

**Data and inclusion criteria:**

- 1) The person tested was an Iowa resident at the time of the test based on the reported address.
- 2) The person tested was 16 years of age or older at the time of the test.
- 3) Only the highest test result in the calendar year for each person was used in analysis.
- 4) Results are grouped by ranges of Blood Lead Level (BLL) results, which are given in micrograms per deciliter (mcg/dL).
- 5) As of December 2015, a BLL of 5 mcg/dL or higher was used as the reference level for a test to be considered an elevated blood lead level (EBL) by public health standards for adults in Iowa. Prior to December 2015, the public health EBL reference level for Iowa adults was 10 mcg/dL or higher. Regulatory standards under OSHA currently allow much higher exposures. See "NIOSH Chart of Blood Lead Level References for Adults in the US" posted at [idph.iowa.gov/lpp/surveillance](http://idph.iowa.gov/lpp/surveillance). Numbers and percentages are shown at both reference levels.