Explore your neighborhood: Introducing online birth and death-related data maps

Krista Markwardt, MS
Research Analyst
Target audiences

- Public health professionals
- County and city officials
- General public
Maternal and child health:
Low birthweight
First trimester care
Teen pregnancy

Causes of Death:
Premature death before age 75
Age-adjusted mortality rate
Map Creation

• State health indicators were calculated from vital records data

• Joined with geographic files
  o County
  o Census tract
  o ZIP code (teen pregnancy)

• Online maps were created
Accessing the indicator maps

Vital Statistics

Birth Data Maps

- Year-to-Date, Preliminary, and Final Data
- Births by County and ZIP Code
- Birth Outcomes by Planned Birth Place and Attendant
- Demographic Characteristics of Mother
- Medical or Health Characteristics of Birth
- Perinatal Trends
  - Divorces
  - Domestic Partnerships
  - Dissolutions of Domestic Partnership
  - Fetal Deaths
  - Induced Abortions
  - Teen Pregnancies (including births and abortions)

Related Publications

- Related information can be found in the Annual Reports, the CD Summary and in Special Reports.
- Information on how to order birth, death, marriage or divorce certificates can be found in Vital Records FAQ.
- Calculating rates? Aggregating data? The Data Users Task Group has developed a booklet to help...
Birth Data

Tips for using data maps

1. We recommend maximizing your browser window and using Mozilla Firefox or Google Chrome to view the maps.
2. To view, click on the map image.
3. Allow a few moments for the maps to load.
4. Once the maps have loaded, use the tabs across the top to view individual maps.
5. You can click on an individual county to open a pop-up window with detailed data for that county.
6. Zoom in to access census tracts or ZIP codes. If you select a county, you can click Zoom to at the bottom of the pop-up window to zoom in to that county.

Use the zoom tool to zoom in or out, or to return to the "home" view.

NOTE: Census tract and ZIP code-level maps are only as accurate as the address information provided on the birth certificate. At least 95 percent of births recorded in Oregon contain sufficiently accurate address information to be geocoded at the level of residential address or street. For border counties, where residents regularly give birth in neighboring states, the accuracy of residential address information is dependent on that state's data collection procedures.

Oregon State Health Indicators, 2009-2013

These maps display three state health indicators. They were created in response to a growing demand for health indicator data at the county and census tract levels. To protect Oregonians' confidentiality and ensure data reliability, five years of data were combined for the following three health indicators:

- Low birthweight (all ages)
- Initiation of first trimester prenatal care (all ages), and
- Teen pregnancy (ages 15-17).

To use this map

- Click on the map image (shown at right) to open the full mapping tool.
- Once the maps have loaded, use the tabs across the top to view individual maps for each of the three health indicators.
Low Birthweight Rate, 2009-2013

Map data are displayed by county and census tract. Click on desired area to see detailed information. Zoom in to county level to see census tract data.

Low birthweight rate is the proportion of infants that weigh less than 2,500 grams (5 pounds, 8 ounces) at birth. Low birthweight is the major predictor of infant death, which is a fundamental measure of the health of a population. Oregon's state rate continues to be below the national goal of 78.0.

LEGEND

Oregon Counties (State Avg 62.4)
- 44.9 to 47.4
- 47.5 to 61.0
- 61.1 to 65.3
- 65.4 to 75.4
- 75.5 to 84.7
Low Birthweight Rate, 2009-2013

Map data are displayed by county and census tract. Click on desired area to see detailed information. Zoom in to county level to see census tract data.

Low birthweight rate is the proportion of infants that weigh less than 2,500 grams (5 pounds, 8 ounces) at birth. Low birthweight is the major predictor of infant death, which is a fundamental measure of the health of a population. Oregon’s state rate continues to be below the national goal of 7.6.

Low Birthweight Rate by Year, 2009-2013

- County: Clackamas
- Low birthweight count: 1,155
- Total birth count: 19,748
- County rate: 58.5
- State rate: 62.4
- County rate is significantly different from state rate:
- Yes

All rates are per 1,000 births. Zero rate may indicate zero low birthweights or exclusion where detailed reporting of small numbers may breach confidentiality.

Legend:
- Oregon Counties (State Avg 62.4):
  - 44.9 to 47.4
  - 47.5 to 61.0
  - 61.1 to 65.3
  - 65.4 to 75.4
  - 75.5 to 84.7

Zoom to:

Esri, HERE, DeLorme, NGA, USGS | Esri, HERE, DeLorme
Low Birthweight Rate, 2009-2013

Map data are displayed by county and census tract. Click on desired area to see detailed information. Zoom in to county level to see census tract data.

Low birthweight rate is the proportion of infants that weigh less than 2,500 grams (5 pounds, 8 ounces) at birth. Low birthweight is the major predictor of infant death, which is a fundamental measure of the health of a population. Oregon's state rate continues to be below the national goal of 7.8%.

**Legend**

- **County Boundary**
- **Census Tracts (State Avg 62.4)**
  - 0 - 46.9
  - 47.0 - 56.4
  - 56.5 - 66.0
  - 66.1 - 76.9
  - 77.0 - 175.0

---

**Low Birthweight Rate, 2009-2013**

<table>
<thead>
<tr>
<th>County</th>
<th>Clackamas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Census tract</td>
<td>41005024200</td>
</tr>
<tr>
<td>Low birthweight count</td>
<td>25</td>
</tr>
<tr>
<td>Total birth count</td>
<td>344</td>
</tr>
<tr>
<td>Census tract rate</td>
<td>72.7</td>
</tr>
<tr>
<td>County rate</td>
<td>58.5</td>
</tr>
<tr>
<td>State rate</td>
<td>62.4</td>
</tr>
<tr>
<td>Census tract rate is significantly different from state rate</td>
<td>no</td>
</tr>
</tbody>
</table>
Oregon State Health Indicators
Center for Health Statistics, Public Health Division, Oregon Health Authority

Deaths and the estimated population by county and age groups for the seven-year period. All rates are per 100,000 population.

Census tract level rates are calculated with usable census tract records (i.e., records with census tract information geocodable at or below street name level). These rates may differ from those reported in the Oregon Vital Statistics Annual Reports, which are reported at county and state levels. Census tract level rates for Oregon counties bordering other states may be less reliable due to varying data completeness. Usable records accounted for 99.87% of all death records in the seven-year period.

For more information about Oregon vital statistics, please visit the following Center for Health Statistics web pages: Vital Statistics, Oregon Death Data, Annual Reports.

Oregon counties (State rate 737.4 per 100,000 pop.)

- County AADR (per 100,000 population)
  - 801 to 877
  - 751 to 800
  - 701 to 750
  - 651 to 700
  - 584 to 650

Age adjusted death rate (AADR), 2007-2013

<table>
<thead>
<tr>
<th>County</th>
<th>Multnomah</th>
</tr>
</thead>
<tbody>
<tr>
<td>County deaths (7 yrs)</td>
<td>37,783</td>
</tr>
<tr>
<td>County population (7-yr est.)</td>
<td>5,129,625</td>
</tr>
<tr>
<td>County AADR (per 100,000 population)</td>
<td>765.9</td>
</tr>
<tr>
<td>State AADR (per 100,000 population)</td>
<td>737.4</td>
</tr>
<tr>
<td>County AADR significantly different from the State AADR?</td>
<td>Sig. higher</td>
</tr>
</tbody>
</table>
deaths and the estimated population by county and age groups for the seven-year period. All rates are per 100,000 population.

Census tract level rates are calculated with usable census tract records (i.e., records with census tract information geocodable at or below street name level). These rates may differ from those reported in the Oregon Vital Statistics Annual Reports, which are reported at county and state levels. Census tract level rates for Oregon counties bordering other states may be less reliable due to varying data completeness. Usable records accounted for 99.87% of all death records in the seven-year period.

For more information about Oregon vital statistics, please visit the following Center for Health Statistics web pages: Vital Statistics, Oregon Death Data, Annual Reports.

Census tracts 2010 (State rate 737.4 per 100,000 pop.)
Census tract AADR (per 100,000 population)
- 801 to 1,806
- 751 to 800
- 701 to 750
- 651 to 700
- 0 to 650
Age-Adjusted Years of Potential Life Lost before age 75 (YPLL75) Ratio, 2007-2013

Map data are displayed by county and census tract. Click on the desired area to see detailed information. Zoom in to county level to see census tract data.

Age-adjusted years of potential life lost before age 75 (YPLL75) is a standardized measure of premature deaths that allows for comparisons across geographic areas. YPLL75 quantifies premature deaths occurring in younger age groups. These ratios are calculated from the average count of years lost for premature deaths before age 75 and the estimated population by county and age groups for the seven-year period. All rates are per 100,000 population.

Census tract level rates are calculated with usable census tract records (i.e. records with census tract information geocodeable at or below street name level). These rates may differ from those reported in the Oregon Vital Statistics Annual Reports, which are reported at county and state levels. Census tract level rates for Oregon counties bordering other states may be less reliable due to varying data completeness. Usable records accounted for 99.87% of all death records in the seven-year period.

<table>
<thead>
<tr>
<th>County</th>
<th>Marion</th>
</tr>
</thead>
<tbody>
<tr>
<td>County total</td>
<td>135,278</td>
</tr>
<tr>
<td>YPLL75 (7 yrs)</td>
<td>2,226,270 est.</td>
</tr>
<tr>
<td>County population</td>
<td>5,900.8</td>
</tr>
<tr>
<td>State age-adjusted YPLL75 ratio</td>
<td>5,606.2 ratio (per 100,000 population)</td>
</tr>
</tbody>
</table>
Real world applications

• Exploratory

• Research

• Resource allocation

• Replicating with other data
Looking Forward
Potential mapping project expansion

- Frequency of updates
- Five primary indicators by CCO region
- Other state health profile indicators by
  - Census tract
  - CCO
- Major indicators by socio-economic status
Potential mapping project expansion (cont’d)

- Birth rate
- Fertility rate
- Tobacco use (birth and death)
- Leading causes of death
- Vehicle accident deaths
- Suicide deaths
Questions / Comments?

Krista Markwardt, birth data maps
krista.a.markwardt@state.or.us
(971) 673-1179

Vivian Siu, death data maps
vivian.w.siu@state.or.us
(971) 673-1150