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Data Resources

The data and information found in the 2008 South Dakota KIDS COUNT Factbook were provided by:

The Annie E. Casey Foundation

<http://www.aecf.org/kidscount>

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SD Department of Health

<http://www.state.sd.us/doh>

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<http://www.state.sd.us/doh/Immunize/index.htm>

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SD State Data Center

<http://www.usd.edu/sdsdc>

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SD Department of Education

<http://doe.sd.gov/stats/>

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<http://doe.sd.gov/oess/schoolhealth/index.asp>

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<http://doe.sd.gov/oess/cans/cacfp/index.asp>

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SD Department of Public Safety

<http://www.state.sd.us/dps/>

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SD Unified Judicial System

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SD Department of Human Services

<http://www.state.sd.us/dhs/ADA/>

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SD Department of Social Services

<http://dss.sd.gov/tanf/>

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<http://dss.sd.gov/childcare/>

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How to Perform Data Calculations

There are numerous computations in this report that involve rates, percents, and percent change over time. Many of these calculations are similar. The one that is used depends on what one wants to say about the data. Basically, each of these calculations involves dividing one piece of data by another.

Percent

A 'percent' means one part in one hundred. Ten percent means 10 out of 100. To calculate a percent, divide the number in a subgroup (or smaller number) by the number in the total group and multiply by 100.

Example: Percent: (number in subgroup / number in whole group)
(number of low birth weight births in South Dakota, 2007 [853]) / (number of all live births in South Dakota [12,248]) x 100.

$$853 / 12,248 = 0.0696 \times 100 = 6.9\%$$

Almost 7% of babies born in South Dakota were low birth weight in 2007.

Rate

A rate is simply the number of things per some other number, usually 100, 1,000 or other multiples of 10. A percentage is a rate-per 100. Depending on the size of the subgroup, a rate greater than 100 is often used. This is the case in health statistics such as infant mortality, child death, etc. To calculate a rate you need three pieces of information—(1) the total group number, (2) the number in the subgroup and (3) the 'per' number—per 1,000, 10,000, or 100,000. The per number is your multiplier.

Example: Rate: (number in sub-group / number in whole group) x multiplier
(number of child deaths in South Dakota, 2007 [41] / number of children ages 1-14 in South Dakota [154,779]) x multiplier.

$$41 / 154,779 = 0.0002648 \times 100,000 = 26.48$$

The child death rate for South Dakota in 2007 was 26.5 per 100,000 children ages 1-14.

Rates can also be obtained per month or per day. For 2007 the figures would show:

$$12,248 \text{ births} / 12 \text{ months} = 1,021 \text{ infant births per month in South Dakota}$$

$$12,248 \text{ births} / 365 \text{ days} = 34 \text{ infant births per day in South Dakota}$$

Percent Change

Change from one time period to the next can be calculated. This is called the 'percent change'. It is calculated in the following manner: (newer year number - older year number) / older year number x 100

Example:

2007 est population under age 20 in South Dakota = 219,891 (newer number)
2000 population under age 20 in South Dakota = 234,385 (older number)

$$(219,891 - 234,385) = -14,494$$

$$-14,494 / 234,385 = -.061 \times 100 = -6.1\%$$

This figure indicates that between 2000 and the 2007 estimates for the number of children under age 20 *decreased* by 6%.

How to Interpret Health Data

Information and limitations of the health data:

Mortality and death rates are calculated by taking the number of deaths in any given category, dividing it by the total number of individuals in that category, and multiplying by 1,000 or 100,000 (whatever number is chosen).

$$\frac{\text{Total death}}{\text{Population Base}} \times 1,000$$

A percentage is calculated by the same formula only multiplied by 100.

As the population base becomes smaller, as it does in many counties in South Dakota, statistical variation becomes more prominent and more prone to anomalies. For example, let's say a county has 2 infants die out of 85 live births. If we divide 2 by 85 and multiply by 1,000 we get an infant mortality rate of 24 per 1,000. If the next year only 1 infant dies out of 85 live births, the infant mortality rate would be 12. This so-called large decrease is a result of statistical variation and the magnitude of the drop is exaggerated because of the use of a base of 1,000.

In an attempt to minimize chance variations five-year averages are used to minimize chance variations. Despite these precautions, in the most sparsely populated counties using 5 year averages will still not reduce chance variation significantly for some of the indicators due to the small number of events. **A rate or percent is not calculated for those counties where the event number is below 3.**

The standard error (SE) of a rate is used in health statistics when studying or comparing rates. The SE defines a rate's variability and can be used to calculate a confidence interval (CI) to determine the actual variance of a rate 95% of the time. Rates for two different populations are considered to be **significantly different** when their **confidence intervals do not overlap**.

The standard error and confidence intervals are calculated in the following manner. The Brown County percent of births to single teens was 6.9% for 2003-07. This was based on 161 single teen births out of 2,395 total live births in the county during the time period 2003-07. The square root of 161 is 12.68. By dividing 6.9% by 12.68, the estimated standard error [SE] of 0.54 is obtained. The estimated SE can then be used to compute a 95% confidence interval [CI] for the rate. The standard formula for determining the 95% CI of a rate is:

$$\text{Rate} \pm (1.96 \times \text{SE})$$

Following this formula, we produce an equation of $6.9 \pm (1.96 \times 0.54)$. The result is 6.9 ± 1.06 . From this we can calculate the estimated 95% CI to be from 5.9% to 8.0%. It can then be stated, with 95% certainty, that the actual 2003-07 percent of births to single teens for Brown County is between 5.9% and 8.0%.

Brown County's percent of births to single teens **is significantly better** from the South Dakota rate. This is because the confidence intervals for Brown County (5.9% to 8.0%) **do not overlap and are better (lower percent) than** the state (8.4% to 8.8%). Brown County's rate is **better** than the state's average.

The percent of births to single teens for Ziebach County (based on 26 single teen births for 2003-07 out of 200 total live births) **is not significantly different** from South Dakota because the percent of births to single teens for the county (8% to 18%) **overlap** the state (8.4% to 8.8%).

The percent of single teen births for Lyman County (based on 50 single teen births for 2003-07 out of 340 total live births) **is significantly different** from South Dakota because the percent of births to single teens for Lyman county (10.6% to 18.8%) **do not overlap and are worse (higher percent) than** the state (8.4% to 8.8%). Lyman County's rate is **worse** than the state's average.

875 copies were printed by U.Copy at approximately \$5.14 per book.

Publications of Interest

Infant Mortality, Assessment and Strategy to Improve the Health of South Dakota Infants. <http://doh.sd.gov/Statistics/PDF/SDInfantMortality.pdf>

In 2004, the South Dakota Department of Health (DOH) established a goal to improve birth outcomes and improve health of infants, children and adolescents in South Dakota. The performance measure for this goal was to reduce the infant mortality in South Dakota to an incidence of no more than 6.0 infant deaths per 1,000 live births by the year 2010.

The 2003 infant mortality rate of 6.6 per 1,000 live births was the benchmark. When the 2004 data was released, it showed an infant mortality rate of 8.2 per 1,000 live births. This increase caused significant concern. The Secretary of Health appointed a team to help the DOH address the issue and reverse the trend in order to meet the DOH 2010 goal.

The team reviewed the data and determined activities for reducing the infant mortality rate. This report is a summary of the data reviewed and activities that the DOH will use to reduce the infant mortality rate in South Dakota.

School Height Weight Survey Project

<http://doh.sd.gov/SchoolWeight/default.aspx>

The South Dakota Department of Health and the Department of Education ask schools to submit student height and weight data for kindergarten, elementary and high school students. The voluntary program to track childhood obesity in South Dakota has been underway since 1998.

South Dakota Office of Highway Safety

<http://www.state.sd.us/dps/hs/County%20Crash%20Data.htm>

Map of motor vehicle reportable crash data by county for calendar year 2005, 2006 and 2007.

South Dakota Department of Transportation

<http://www.sddot.com/pe/data/Docs/SPEED2008.pdf>

Transportation Inventory Management Traffic Monitoring, Speed Data

NOTES

**The Annie E. Casey
Foundation**
*Helping vulnerable kids
& families succeed*
www.aecf.org

Since 1948, the Annie E. Casey Foundation (AECF) has worked to build better futures for disadvantaged children and their families in the United States. The primary mission of the Foundation is to foster public policies, human service reforms, and community supports that more effectively meet the needs of today's vulnerable children and families.

To help foster a more urgent commitment to improving life outcomes for children and greater public accountability for progress on their behalf, the Foundation provides support for KIDS COUNT projects in all 50 states, the District of Columbia, the U. S. Virgin Islands and Puerto Rico.



The University of South Dakota

**The University
of South Dakota**
www.usd.edu

Located in Vermillion, SD, USD was founded in 1862 by the Dakota Territorial Legislature, and is the state's oldest university. The University was accredited by the North Central Association of College and Schools in 1913.

The University offers more than 100 academic programs in its eight schools and colleges.

It is also home to the state's only law and medical schools, and College of Fine Arts. The University also has a professionally accredited School of Business and the College of Arts and Sciences is a core for a liberal arts education.

Business Research Bureau
www.usd.edu/brbinfo

The Business Research Bureau (BRB) serves the state of South Dakota, The University of South Dakota, and the business community in diverse ways. Divisions serve different purposes but collectively work to advance the ongoing development of our state.

Beacom School of Business
www.usd.edu/business

The Beacom School of Business at The University of South Dakota offers students a quality business education that goes beyond expectations. Alumni have become global leaders in such fields as accounting, management and health services administration.



**South Dakota
KIDS COUNT Project**

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