

Focus on Maternal Health in Clark County

**Clark County Public Health
Health Assessment and Evaluation
April 2009**



Public Health
Prevent. Promote. Protect.



For other formats

Clark County ADA Office, Voice (360) 397-2000

Relay (800) 833-6384, E-mail ADA@clark.wa.gov

This report was prepared by Melanie Payne of the Health Assessment and Evaluation unit of Clark County Public Health. The Prenatal Care Access Team members provided direction and support for this report. The team members included Colleen Castleberry, Dolly England, Kate Ketcham, Janis Koch, Melanie Payne, Chris Plaster, Kylee Plummer (student intern), Pat Shaw, and Marni Storey.

For more information, please contact the following staff of Clark County Public Health:

Data: Melanie Payne, MPH, Epidemiologist
melanie.payne@clark.wa.gov or 360-397-8491

Project: Marni Storey, MS, ARNP, Public Health Services Manager
marni.storey@clark.wa.gov or 360-397-8434

Introduction

Promoting the health and well being of pregnant women is a critical step for ensuring healthy, thriving children. The area of public health known as Maternal and Child Health focuses on prevention and intervention efforts to help families achieve the goal of delivering and raising healthy children. By identifying risk factors and treating conditions early, pregnant women can improve their own health and that of their children. Research shows maternal health affects immediate birth outcomes and longer term morbidity of children in youth and as they age. Prevention and control of future chronic diseases among children begins with the issues addressed by maternal and child health programs.¹

This report details county-level status and trends over time for critical maternal health indicators. For each indicator, Clark County is compared to Washington State. Where possible, rates are also compared to national target objectives outlined in Healthy People 2010, the nationwide health promotion and disease prevention agenda.^{2,3} Each graph denotes whether the target has been met (green line) or not met (red line). In order to identify any health disparities among sub-populations, data were reviewed by age, race and ethnicity, and Medicaid status where possible. Maps showing disparities by geographic location for each indicator are included when available. Notable differences are detailed for each indicator.

The indicator information is detailed throughout the four sections of this report including background, behavioral risks, socio-economic risks, and birth outcomes. The sections are described in detail below.

Background

This section describes selected demographics and background information of pregnant women in Clark County. Understanding how the population is comprised is critical to prevention efforts and understanding sub-optimal behaviors and other risks that may be important to focus on. Included in this section are data on births and pregnancy, birth, and abortion by age category.

Behavioral Risks

This section examines certain behavioral risks that are important to minimize for the best possible outcomes for mother and child. Following the theory that healthier women have healthier babies who grow into healthier children, attention is focused on promoting healthier pregnancies. Included in this section are data on first trimester prenatal care, late or no prenatal care, births to smoking mothers, and unintended pregnancies.

Socio-economic Risks

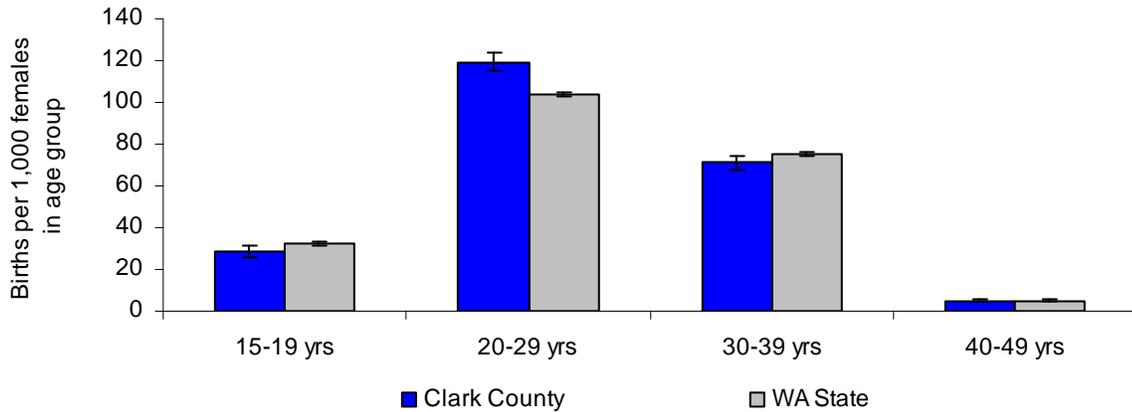
This section describes selected factors that while not directly related to a pregnancy are often crucial in women receiving the care they need during pregnancy. Included in this section are data on Medicaid status, mother's education level, mother's language, and births to unmarried mothers.

Birth Outcomes

This section examines key birth outcome measures that are the focus of prevention and intervention efforts. It includes data on infant mortality, low birth weight, and preterm births.

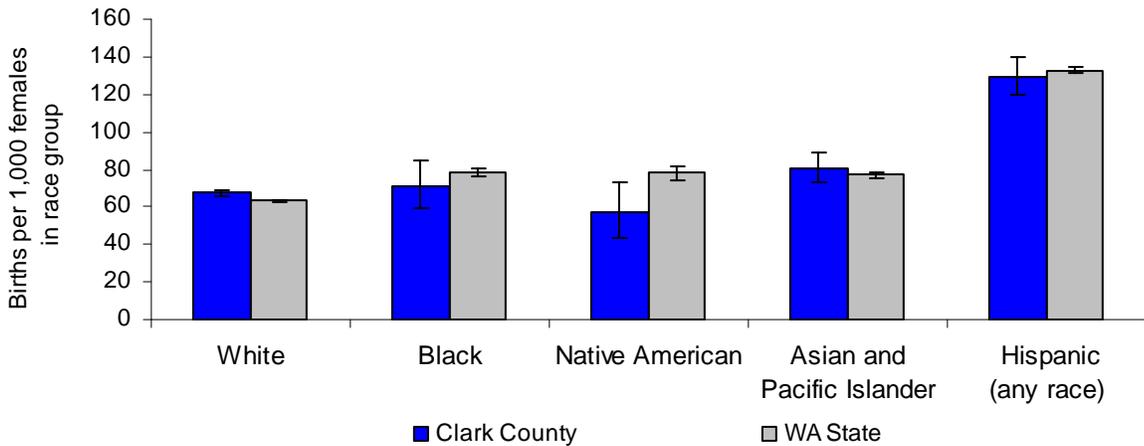
The crude birth rate is the number of births per 1,000 overall population. With a population of 415,000 in 2007, the crude birth rate for Clark County was 14.2 with 5,901 total births. The crude birth rate for Washington State was 13.7 with 88,921 total births.

Age-Specific Birth Rates (2007)

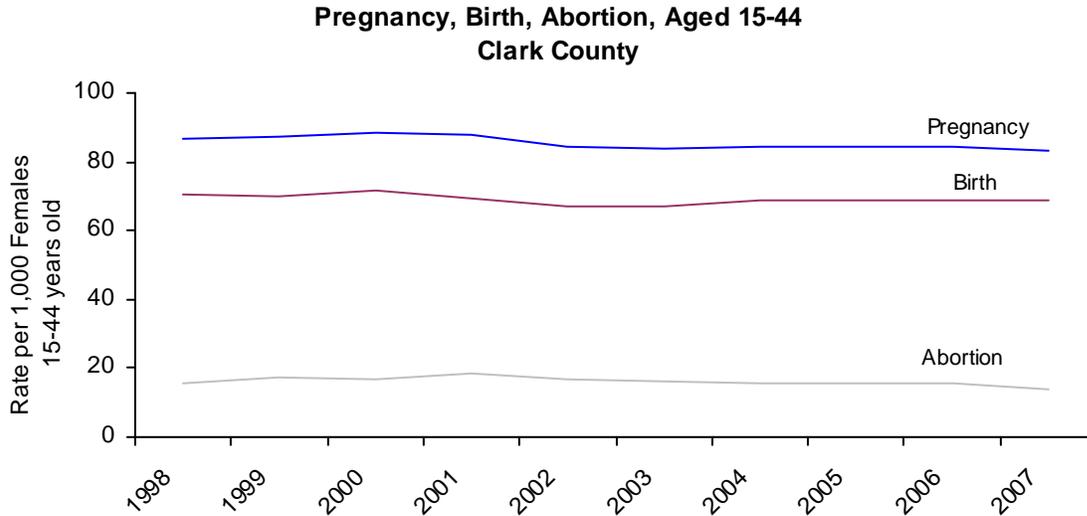


As detailed in the chart above, birth rates vary by age-group. The rate is the number of births in a particular age-group per 1,000 females in that age-group. In 2007, the highest rates and the majority of births overall occurred among females aged 20-29 (119.3 per 1,000 with 3,296 births) and 30-39 (71.0 per 1,000 with 2,022 births) years. Clark County rates were similar to Washington State rates except for the 20-29 year old females where the county rate was significantly higher than the Washington State rate of 103.8 per 1,000.

Race-Specific Birth Rates (2007)

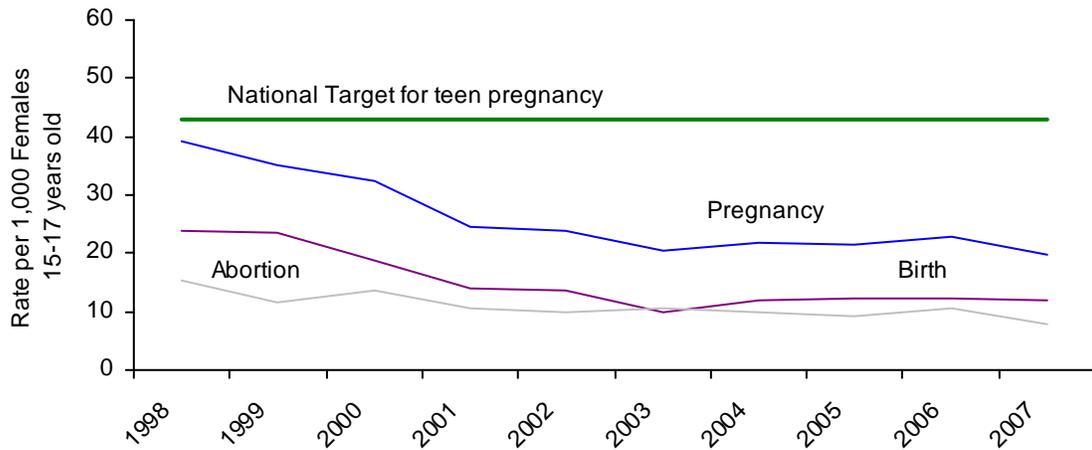


When examining birth rates by race and ethnicity, the highest birth rate was among Hispanic females (see chart above). For 2007, the birth rate among Hispanic females was 129.5 per 1,000 with 649 births. Clark County rates were similar to Washington State rates except for two groups. The rate for Native American residents was significantly lower in Clark County (56.7 per 1,000 with 57 births) compared to Washington State (77.9 per 1,000). The rate for White residents in Clark County (67.5 per 1,000 with 5,269 births) was significantly higher compared to the Washington State rate (63.1 per 1,000). Overall, about 67% of births in Clark County and 63% of births in Washington State were to White women.



Pregnancy	<p>Current Status (2007) Clark County’s pregnancy rate was 83.0 per 1,000 females aged 15-44 or 7,104 pregnancies.</p> <p>WA State Comparison Clark County’s rate was similar to Washington State’s rate of 84.7 pregnancies per 1,000 females aged 15-44.</p> <p>Time Trend Clark County’s rate decreased by 0.6% per year since 1998. WA State’s rate was steady from 1998-02 then increased by 1.2% per year.</p>
Birth	<p>Current Status (2007) Clark County’s birth rate was 68.8 births per 1,000 females aged 15-44 years or 5,890 births.</p> <p>WA State Comparison Clark County’s rate was significantly higher than WA State’s rate of 66.1 births per 1,000 females aged 15-44.</p> <p>Time Trend Clark County’s rate remained constant since 1998. WA State’s rate was steady from 1998-02 then increased by 1.7% per year. In Clark County, however, there was a 15% increase in the number of births from 5,134 in 1998. During this time, there was an 18% increase in men and women of childbearing age (between 15 and 44 years of age.)</p>
Abortion	<p>Current Status (2007) Clark County’s induced abortion rate was 14.1 per 1,000 females aged 15-44 years or 1,203 abortions. Induced abortion ended 17% of all pregnancies in 2007.</p> <p>WA State Comparison Clark County’s rate was significantly lower than the WA State rate of 18.4 induced abortions per 1,000 females aged 15-44 years.</p> <p>Time Trend Clark County’s rate was steady from 1998-00 then decreased by 3.7% per year since 2001. WA State’s rate decreased 1.1% per year since 1998.</p>

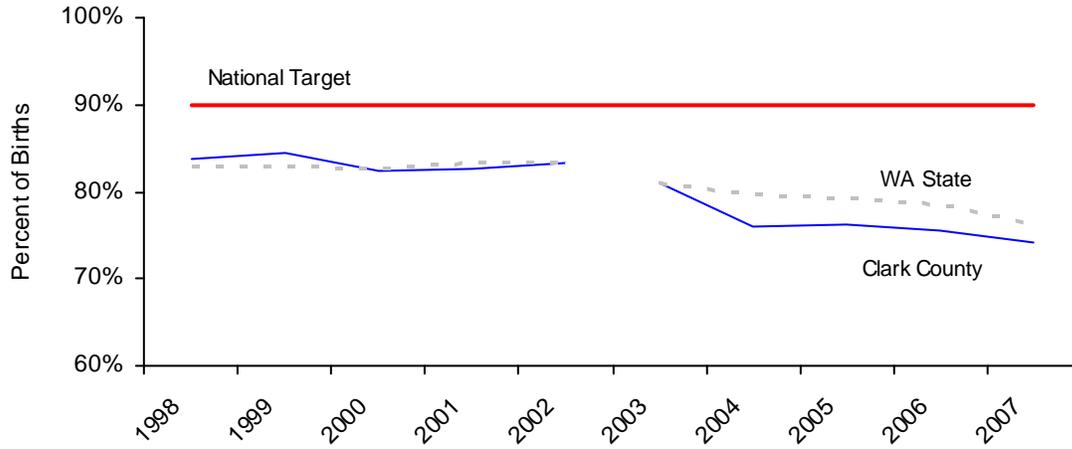
Teen Pregnancy, Birth, Abortion, Aged 15-17
Clark County



Teen Pregnancy	Current Status (2007)	Clark County’s teen pregnancy rate was 19.9 per 1,000 females aged 15-17 or 182 teen pregnancies.
	WA State Comparison	Clark County’s rate was significantly lower than the WA State rate of 28.6 pregnancies per 1,000 females aged 15-17.
	Time Trend	Between 1998 and 2007, the Clark County teen pregnancy rate declined 49 percent. Clark County’s rate decreased sharply by 12% per year from 1998-03 then was steady. WA State’s rate decreased by 7.1% per year from 1998-03 then was steady.
	National Target	Clark County met the national Healthy People target of no more than 43 pregnancies per 1,000 females aged 15-17 years.
Teen Birth	Current Status (2007)	Clark County’s teen birth rate was 12.0 births per 1,000 females aged 15-17 or 110 teen births.
	WA State Comparison	Clark County’s rate was significantly lower than the WA State rate of 16.1 births per 1,000 females aged 15-17.
	Time Trend	Clark County’s rate decreased sharply by 15.5% per year from 1998-03 then was steady. WA State’s rate decreased by 8.3% per year from 1998-03 then was steady. There was a 38% decline in the number of teen births in Clark County from the 177 in 1998. The Clark County teen birth rate was about half of what it was in 1998.
	Clark County Equity Issues (2003-2007)	The highest rates were among Hispanic (56.7), Black (23.8) and Native American (28.0) residents. The rates were five, two and a half, and two times higher, respectively, than the rate of 11.5 for Whites. The lowest rate was for Asian and Pacific Islanders (4.8). The large majority of teen births (89%) were among Whites. White females represent about 91% of the females between 15 and 17 years of age.
Teen Abortion	Current Status (2007)	Clark County’s induced abortion rate among teens was 7.9 per 1,000 females aged 15-17 or 72 abortions. Induced abortion ended 40% of all teen pregnancies in 2007.
	WA State Comparison	Clark County’s rate was significantly lower than WA State’s rate of 12.5 induced abortions per 1,000 females aged 15-17.
	Time Trend	Clark County’s rate decreased by 5.3% per year since 1998. WA State’s rate decreased by 5.2% per year from 1998-04 then was steady.

Prenatal care throughout pregnancy increases opportunities for improving the long-term health of mothers and their infants, thereby contributing to healthier families, society and lower financial burden to families and taxpayers. First trimester prenatal care is defined as beginning comprehensive medical care during the first three months of pregnancy.⁴

First Trimester Prenatal Care*



*Break in prenatal care data is due to 2003 birth certificate revision.

Current Status (2007) Clark County’s rate of women who received first trimester prenatal care was 74% or 4,295 births.

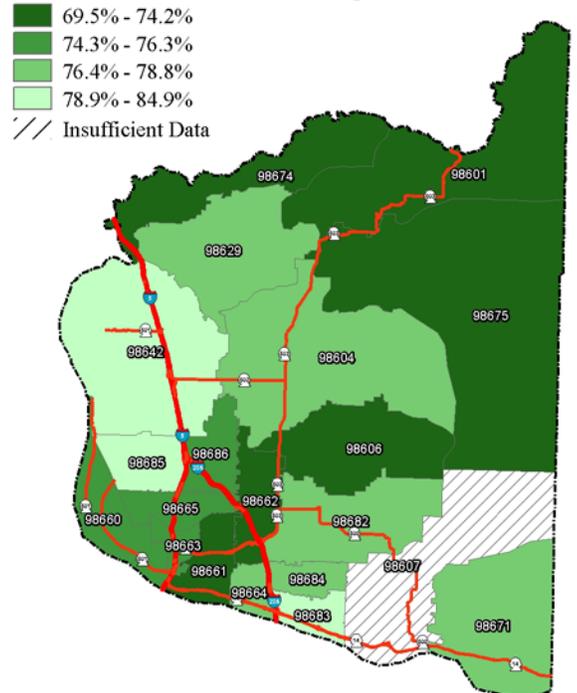
WA State Comparison Clark County’s rate was similar to WA State’s rate of 76 %.

Time Trend Clark County’s rate was steady from 1998-02 and from 2003-07. WA State’s rate was steady from 1998-02 then decreased by 1.4% per year since 2003.

National Target Neither Clark County nor WA State met the target that 90% of pregnant women began prenatal care in the first trimester.

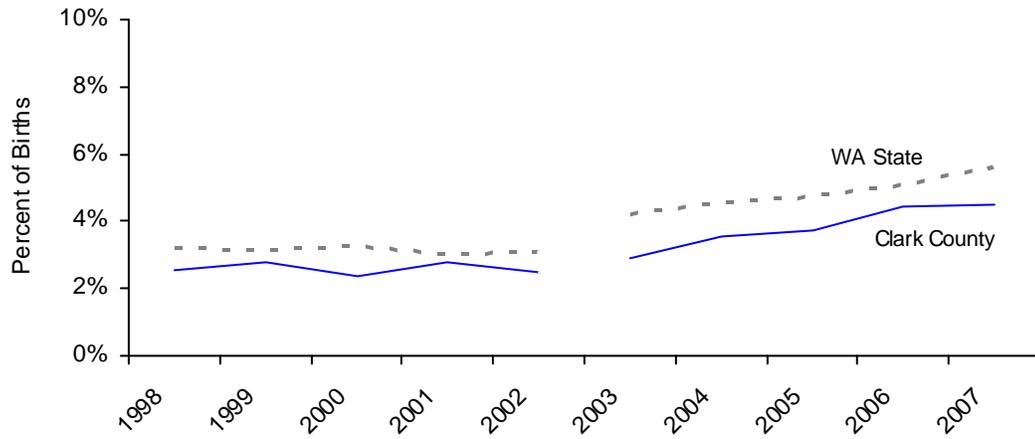
- Clark County Equity Issues (2003-2007)**
- The rate of first trimester prenatal care increased with age. Significantly lower rates were among 15-19 yr olds (60.4%) and 20-24 yr olds (68.9%).
 - Rates by race/ethnicity were similar.
 - Rates by zip code are shown on map.
 - For 2007, women on Medicaid had a significantly lower rate than non-Medicaid women, 58.1% compared to 85% (a 46% difference).

First Trimester Prenatal Care by Zip -- 2003-2007
Percent of births with first trimester prenatal care



Without the benefit of increased opportunities for improving health throughout pregnancy, women who begin prenatal care late in pregnancy are at greater risk for poor birth outcomes.⁴ Late or no prenatal care is defined as either beginning pregnancy-related medical care during the last three months of pregnancy (the third trimester) or not at all.

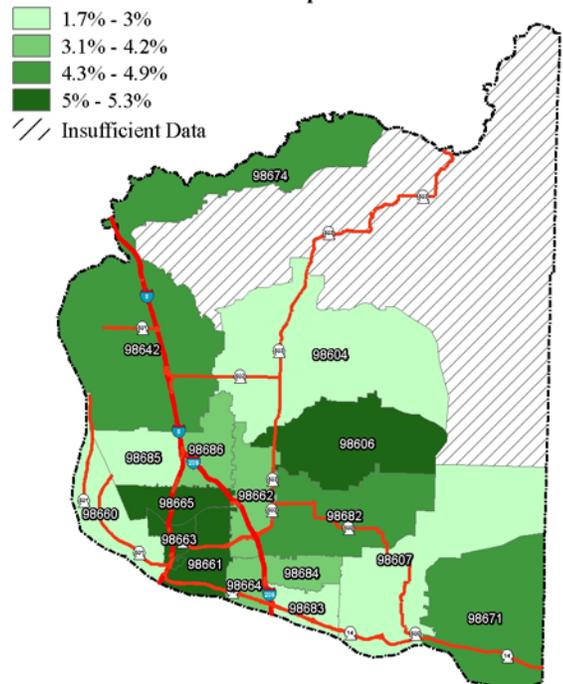
Late or No Prenatal Care*



*Break in prenatal care data is due to 2003 birth certificate revision.

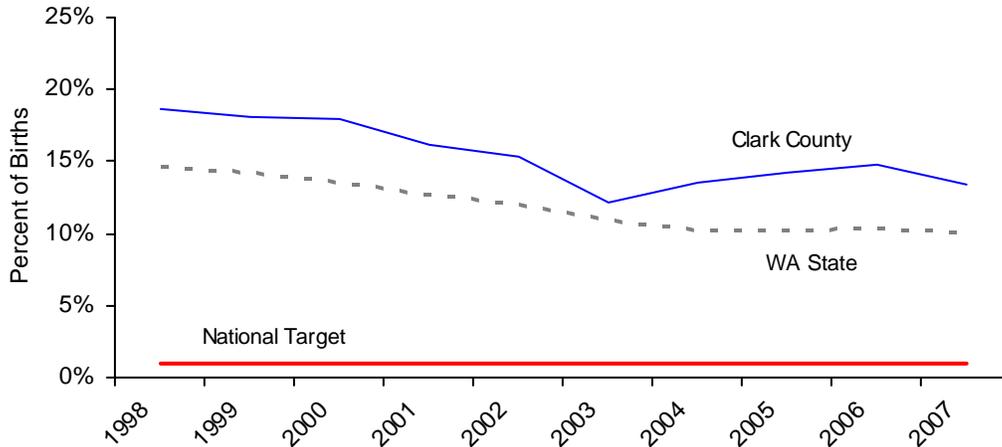
Current Status (2007)	Clark County's rate of women who received late or no prenatal care was 4.5% or 262 births.
WA State Comparison	Clark County's rate was significantly lower than WA State's of 5.6%.
Time Trend	Clark County's rate was steady from 1998-02 then increased sharply by 11.4% per year from 2003-07. WA State's rate was steady from 1998-02 then increased by 7.3% per year since 2003.
National Target	There is no national Healthy People 2010 target.
Clark County Equity Issues (2003-2007)	<ul style="list-style-type: none"> ○ Late prenatal care was more prevalent among younger mothers and rates decreased with age. Significantly higher rates were among 15-19 yr olds (6.5%) and 20-24 yr olds (5.0%). ○ Rates by race/ethnicity were similar. ○ Rates by zip code are shown on map.

Late or No Prenatal Care by Zip – 2003-2007
Percent of births with late or no prenatal care



Women who smoke during pregnancy are at greater risk for pregnancy complications, premature delivery, delivering a low birth weight (LBW) infant, still birth, and a higher rate of infant mortality.⁵

Smoking During Pregnancy



Current Status (2007) Clark County’s rate of women who smoked during pregnancy was 13.4% or 724 births.

WA State Comparison Clark County’s rate was significantly higher than WA State’s rate of 10.1%.

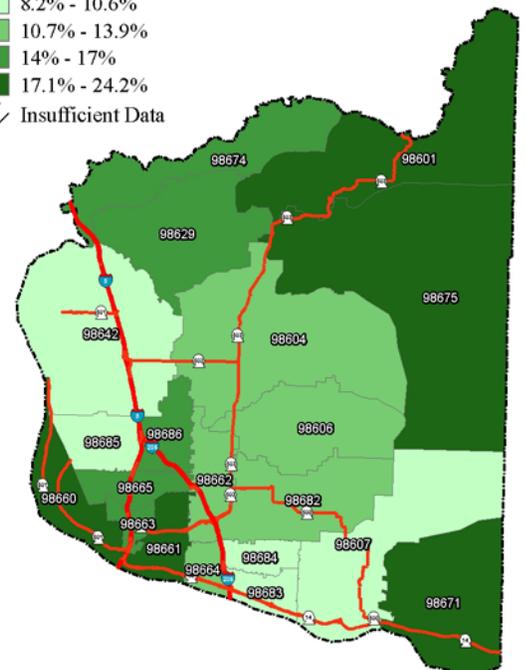
Time Trend Clark County’s rate decreased by 3.8% per year since 1998. WA State’s rate decreased by 6.0% per year from 1998-04 then was steady. This also corresponds to a decline in adult smoking in Clark County.

National Target Clark County’s rate has not met the target that no more than 1% of women report smoking during pregnancy.

- Clark County Equity Issues (2003-2007)**
- Smoking was more prevalent among younger mothers and rates decreased with age. Significantly higher rates were among 15-19 yr olds (26.4%) and 20-24 yr olds (21.5%).
 - Compared to White (14.4%) and Black (17.9%) residents, Native American residents had a significantly higher rate at 29.3%, and Asian and Pacific Islander (5.4%) and Hispanic (5.6%) residents had significantly lower rates.
 - Rates by zip code are shown on map.
 - In 2007, women on Medicaid had a significantly higher rate, 22.6%, compared to women who were not on Medicaid, 5.1%.

Maternal Smoking by Zip – 2003-2007

Percent of births to mothers who smoked during pregnancy

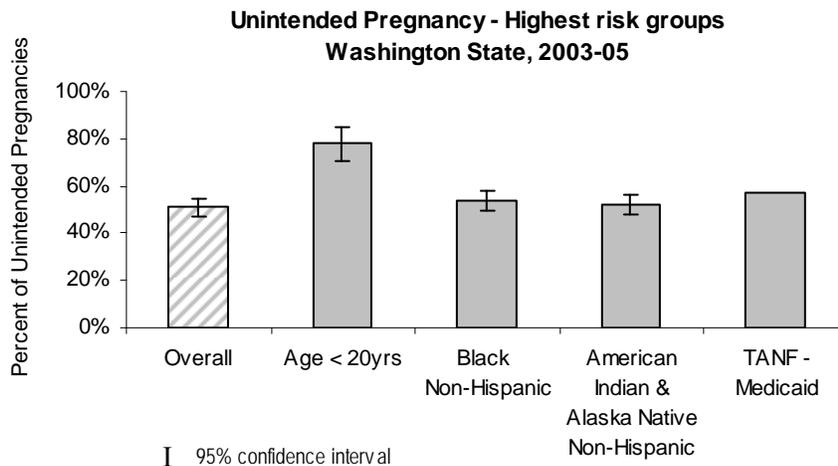


Unintended pregnancies are those pregnancies that were either mistimed (wanted later in life) or unwanted at the time of conception. Concern about unintended pregnancies rests with the lack of opportunities for healthier pregnancies and better birth outcomes. Without the opportunity for planning and early intervention, adverse maternal behaviors such as delayed entry into prenatal care, poor nutrition, and cigarette smoking are more prevalent.⁶

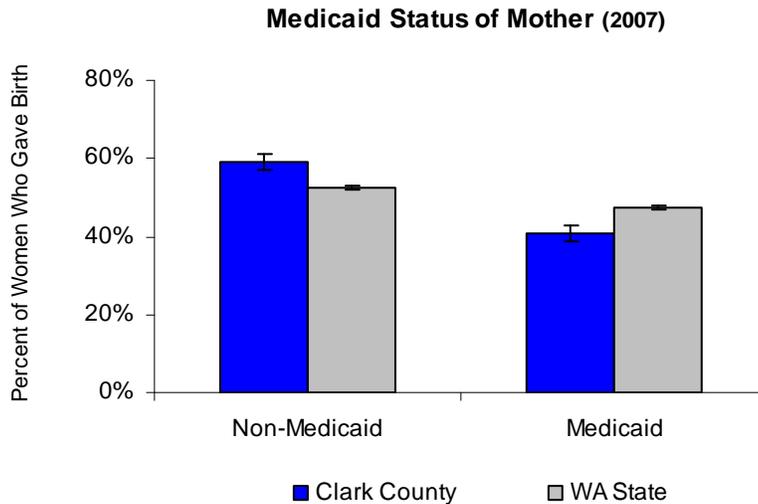
In 2005, the Washington State rate for unintended pregnancies was 51% of all pregnancies and 38% of all births.⁶ The unintended pregnancy rate of 38% of all births has not met the national target that fewer than 30% of pregnancies are unintended.³

Although unintended pregnancies occur across societal groups, some sub-groups have much higher rates. In Washington State from 2003 to 2005, the highest rates of unintended pregnancies were among women less than 20 years of age (78%), Black (54%) and American Indian/Alaskan Native (52%) women, and TANF/Medicaid recipients (57%).⁶

Washington State data are included here because Clark County data are not sufficient to support detailed analysis.



Births paid through Medicaid represent a sub-population of women that qualify for state-paid assistance for health care coverage. Women on Medicaid are often at higher risk of having behavioral risks present during their pregnancies (such as smoking or late entry into prenatal care) and are often at risk of poorer birth outcomes for their infants.^{6,7,8}



Current Status (2007) Clark County’s percent of women who gave birth and were insured by Medicaid was 40.8% or 2,361 women.

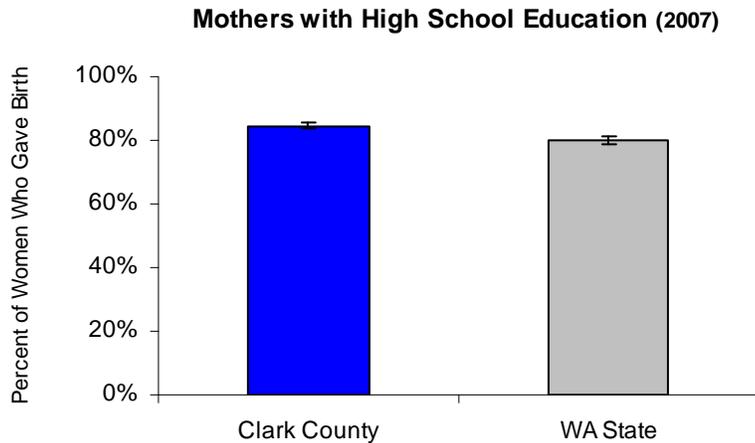
WA State Comparison Clark County’s rate was significantly below the WA State rate of 47.3%.

Time Trend Not available.

National Target There is no national Healthy People 2010 target.

- Clark County Equity Issues (2007)**
- Rates by age-group were not available.
 - For women who gave birth and were insured by Medicaid, White residents (70.9%) made up a significantly higher proportion than other groups. Hispanic residents (18.7%) also made up a significantly higher than groups other than White.
 - Compared to the WA State rate of 48.4%, the proportion of births to women on Medicaid that were to White women was significantly higher in Clark County 70.9%. Conversely, the proportion of births to Hispanic women on Medicaid was significantly lower in Clark County (18.7%) compared to the WA State rate of 31.6%.
 - Rates by zip code were not available.
 - Among Medicaid eligibility groups in 2006, S-Women (those women on Medicaid during their pregnancy only) represented 48% of Medicaid-paid births while TANF/AFDC recipients (the lowest income group who also receive cash assistance) accounted for 32% of Medicaid-paid births.

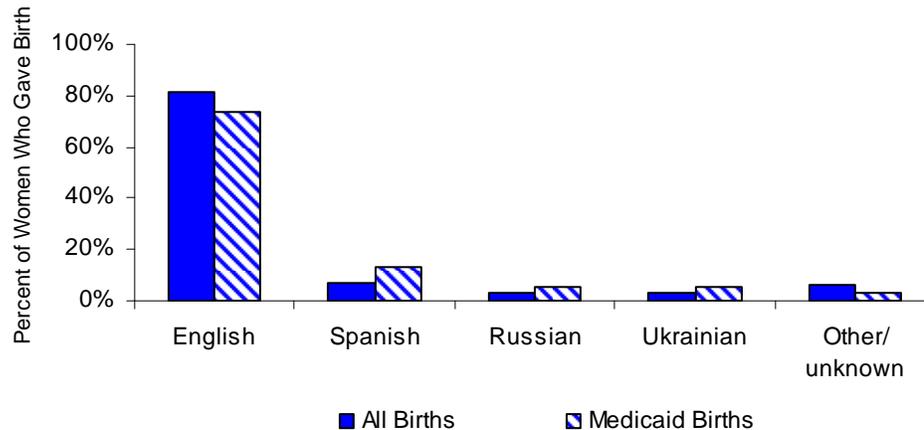
Maternal level of education is a critical indicator of mother and child well-being.⁴ When education is limited, such as to high school education or less, women may experience decreased opportunities for better jobs, housing, and health care.



Current Status (2007)	Clark County's percent of women who gave birth and had a high school education was 84.5% or 4,890 women.
WA State Comparison	Clark County's rate was significantly above the WA State rate of 80.0%.
Time Trend	Not available.
National Target	There is no national Healthy People 2010 target.
Clark County Equity Issues (2007)	<ul style="list-style-type: none"> o Rates by age-group were not available. o Rates by race/ethnicity were not available. o Rates by zip code were not available. o Among women who gave birth, women on Medicaid had a significantly lower rate of high school education, 69.1%, compared to Non-Medicaid women, 95.2%. Clark County's rate among women on Medicaid was significantly higher than WA State's Medicaid rate of 63.4%.

Language of mother, represented here by country of origin reported on the child's birth certificate, is an important indicator to understand the composition of women and potential barriers they may face due to language limitations. Here we examine the differences in mother's language by Medicaid status to identify variations. As language was based on country of birth, it is not necessarily a measure of current capability or fluency.

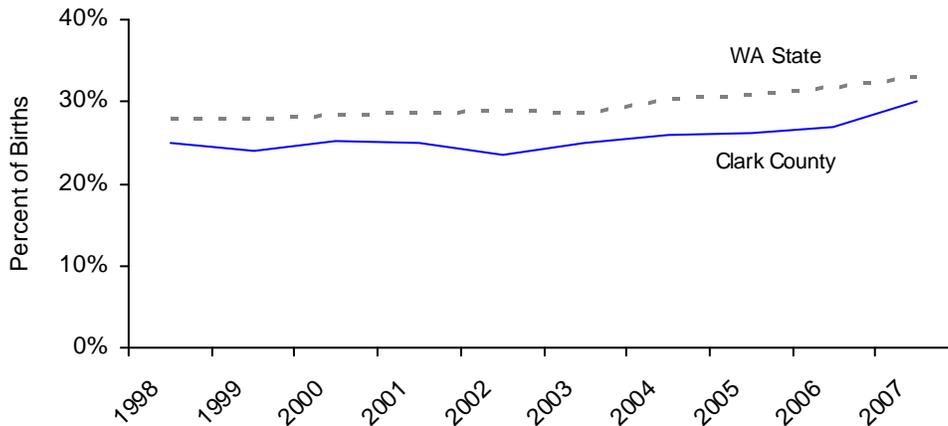
Language of Mother, Clark County (2006)



Current Status (2006)	Clark County's percent of women who gave birth and spoke English was 81.3% of all births and 73.3% of Medicaid-paid births.
WA State Comparison	Not available.
Time Trend	Not available.
National Target	There is no national Healthy People 2010 target.
Clark County Equity Issues (2006)	<ul style="list-style-type: none"> ○ For English, the rate was significantly lower among women on Medicaid (73.3%) compared to all women who gave birth (81.3%) ○ The most common native languages after English for women on Medicaid who gave birth were Spanish (12.8%), Ukrainian (5.4%), and Russian (5.2%).

Births to unmarried mothers is a standard measure of child well being for two main concerns – poverty and unintended pregnancy. Children living in single parent households are more likely to live in poverty.⁹ Unmarried mothers are at greater risk of having an unintended pregnancy.¹⁰ Unmarried mothers, here, are women who were not married at the time of birth.

Unmarried Mothers



Current Status (2007) Clark County’s rate of births to unmarried mothers was 30.1% or 1,769 births.

WA State Comparison Clark County’s rate was significantly below the WA State rate of 33.1%.

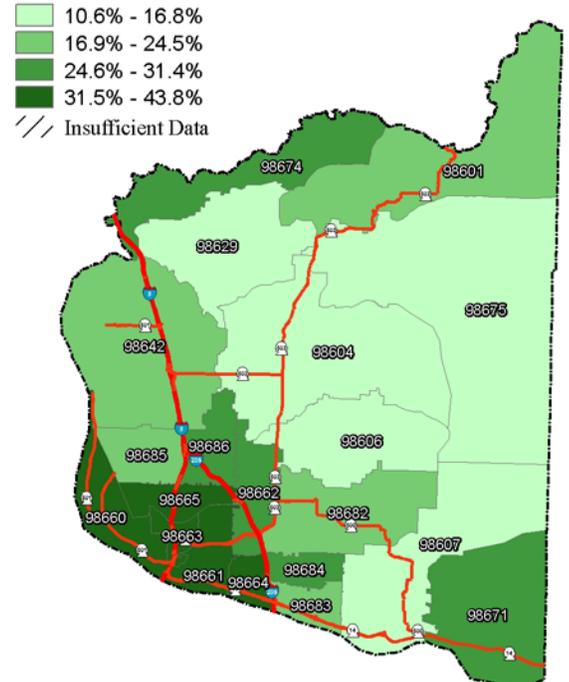
Time Trend Clark County’s rate was steady since 1998. WA State’s rate increased by 0.8% per year from 1998-03 then increased by 3.3% per year.

National Target There is no national Healthy People 2010 target.

Clark County Equity Issues (2003-2007)

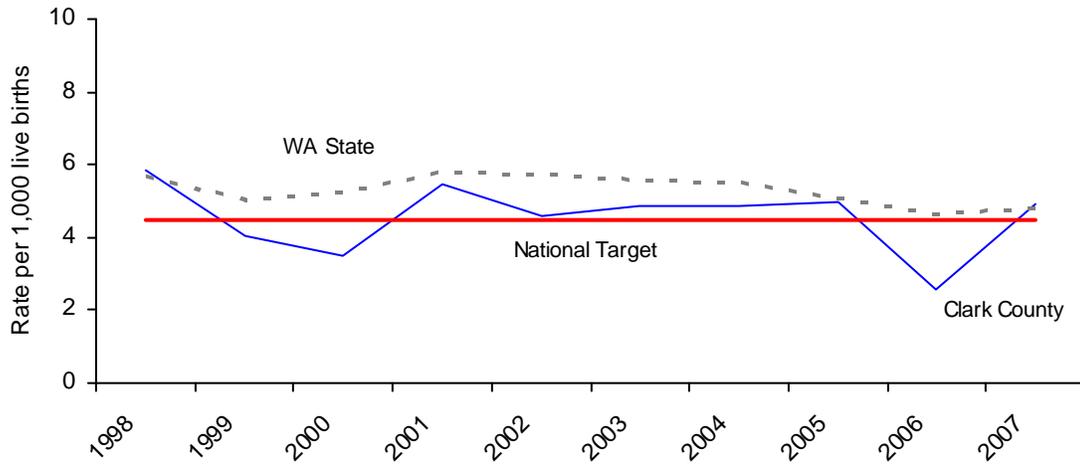
- Births to unmarried mothers were more prevalent among younger mothers and rates decreased significantly with each older age-group. The highest rates were among 15-19 yr olds (75.9%) and 20-24 yr olds (44.2%).
- Rates among Hispanic (46.7%), Native American (50.1%), and Black (60.2%) residents were significantly higher than other groups.
- Rates by zip code are shown on map.
- In 2007, women on Medicaid had a significantly higher rate of 58.1% compared to 10.9% of women not on Medicaid.

Births to Unmarried Mothers by Zip -- 2003-2007
Percent of births to unmarried mothers



Infant mortality is defined as the death of a child younger than one year old. Maternal health is one of several factors associated with infant mortality. Maternal health includes medical risk factors such as previous preterm birth and hypertension or behavioral risks such as smoking or not receiving adequate prenatal care.⁶

Infant Mortality



Current Status (2007) Clark County’s rate of infant mortality was 4.9 per 1,000 births or 29 infant deaths.

WA State Comparison Clark County’s rate was similar to WA State’s rate of 4.8 per 1,000 births.

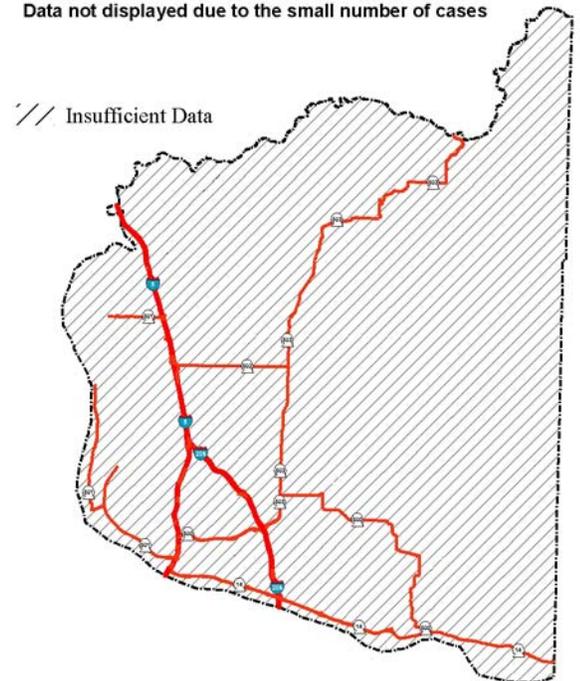
Time Trend Clark County’s rate was steady since 1998. WA State’s rate was also steady since 1998.

National Target Clark County has not met the target of no more than 4.5 infant deaths per 1,000 live births.

Clark County Equity Issues (2003-2007)

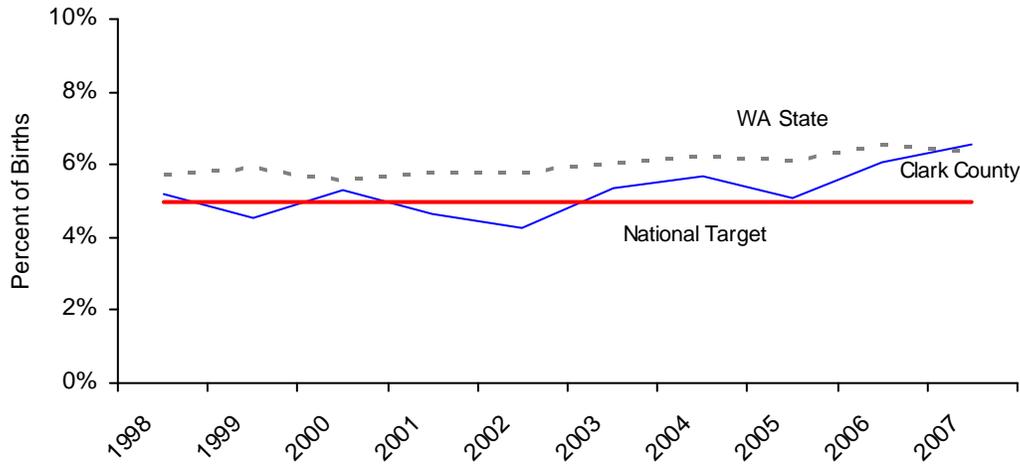
- Rates by age-group were similar.
- Rates by race/ethnicity were not available due to the small numbers of cases.
- Rates by zip code were not available due to the small number of cases.

Infant Mortality by Zip -- 2003-2007
Rate of infant deaths per 1,000 live births
Data not displayed due to the small number of cases



Low birth weight (LBW), weighing less than 2500 grams or 5 ½ pounds, is a major contributor to infant illness and death. Children born with LBW are at increased risk of health, developmental, behavioral, and social problems.⁶

Low Birth Weight



Current Status (2007) Clark County’s rate of low birth weight (LBW) births was 6.5% or 386 births.

WA State Comparison Clark County’s rate was similar to WA State’s rate of 6.3%.

Time Trend Clark County’s rate increased by 3% per year since 1998. WA State’s rate increased 1.4% per year since 1998.

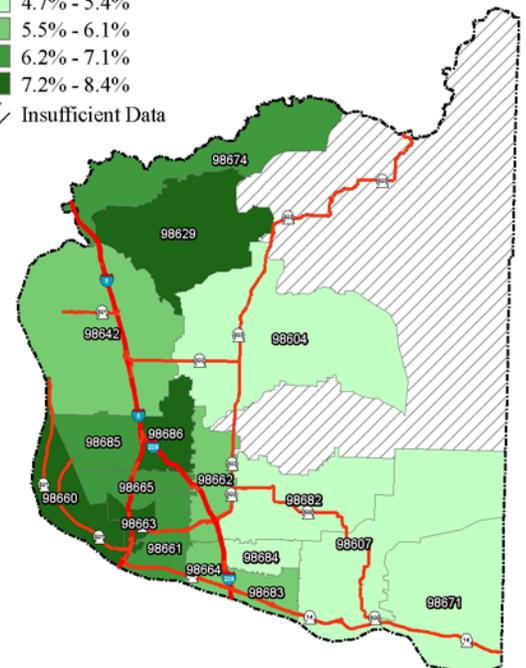
National Target Clark County has not met the target that no more than 5% of births are LBW.

- Clark County Equity Issues (2003-2007)**
- Significantly higher rates of LBW were among 15-19 yr olds (7.1%) and 35-49 yr olds (7.2%).
 - Rates by race/ethnicity were similar.
 - Rates by zip code are shown on map.
 - In 2007, women on Medicaid had a similar rate of LBW births (6.0%) compared to 4.2% among Non-Medicaid women.

Low Birth Weight by Zip -- 2003-2007

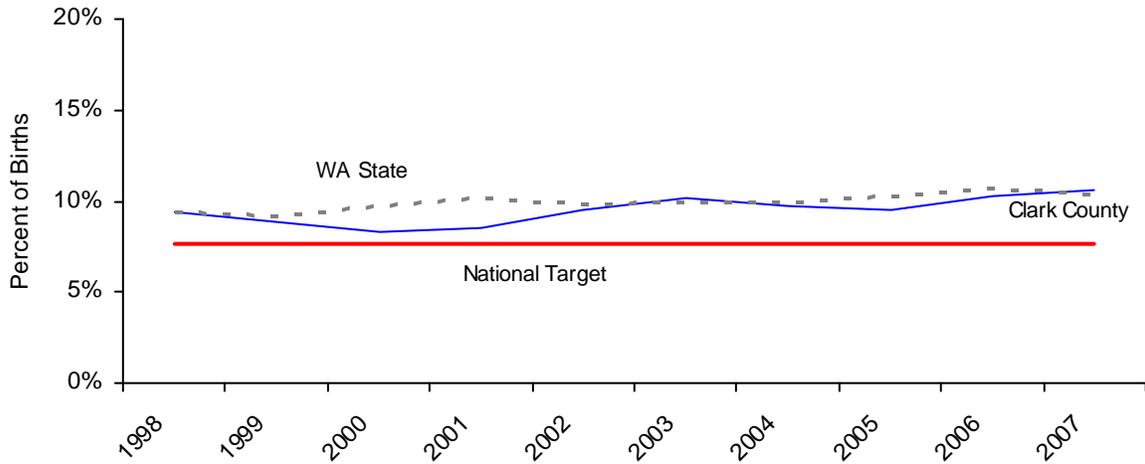
Percent of low birth weight births (<2500 grams or 5 1/2 lbs)

- 4.7% - 5.4%
- 5.5% - 6.1%
- 6.2% - 7.1%
- 7.2% - 8.4%
- Insufficient Data



Preterm births are live births occurring before 37 weeks gestation.¹¹ Infants have increased chance of survival with increasing gestation. Several risk factors during pregnancy are associated with preterm deliveries, such as the use of alcohol, tobacco and other drugs and lack of adequate weight gain or having a low pregnancy weight.²

Preterm Births

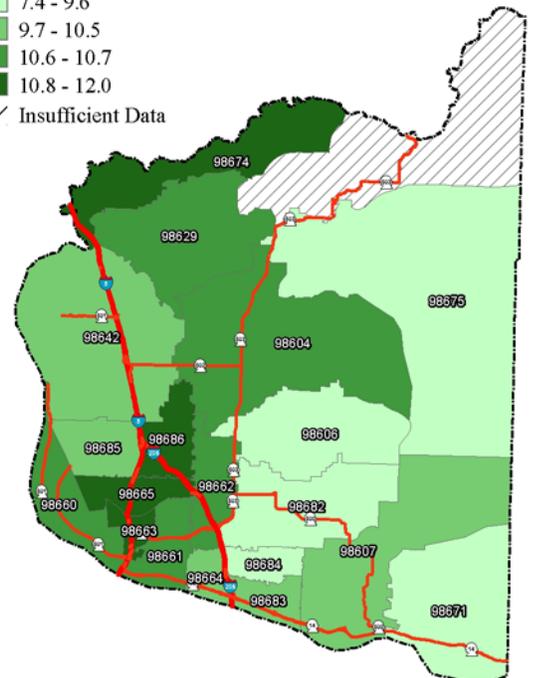


Current Status (2007)	Clark County's rate of preterm births was 10.6% or 622 births.
WA State Comparison	Clark County's rate was similar to WA State's rate of 10.4%.
Time Trend	Clark County's rate increased by 2.0% per year since 1998. WA State's rate increased by 1.4% per year since 1998.
National Target	Clark County has not met the target that no more than 7.6% of births are preterm.
Clark County Equity Issues (2003-2007)	<ul style="list-style-type: none"> ○ Rates by age-group were similar. ○ Rates by race/ethnicity were similar. ○ Rates by zip code are shown on map.

Preterm Births by Zip -- 2003-2007

Percent of births that were preterm/premature

- 7.4 - 9.6
- 9.7 - 10.5
- 10.6 - 10.7
- 10.8 - 12.0
- /// Insufficient Data



References and Data Sources

References

- ¹Collins, JL, Lehnerr, J, Posner, SF, Toomey, KE. (2009). Ties that Bind: Maternal and Child Health and Chronic Disease Prevention at the Centers for Disease Control and Prevention. Preventing Chronic Disease. Vol 6, No. 1. Atlanta, GA: Centers for Disease Control and Prevention. Available from http://www.cdc.gov/pcd/issues/2009/jan/08_0233.htm
- ²U.S. Department of Health and Human Services. (November 2000). Healthy People 2010, 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC. Available from <http://www.healthypeople.gov/Document/tableofcontents.htm>
- ³U.S. Department of Health and Human Services. (December 2006). Healthy People 2010 Midcourse Review. Washington, DC: US Government Printing Office. Available from <http://www.healthypeople.gov/data/midcourse>
- ⁴Washington State Department of Health. (July 2002). The Health of Washington State. Olympia, WA. Available from <http://www.doh.wa.gov/HWS/HWS2002.htm>
- ⁵U.S. Department of Health and Human Services. (2001) Tobacco Use and Reproductive Outcomes. In Women and Smoking: A Report of the Surgeon General. Washington, DC. Available from http://www.cdc.gov/tobacco/data_statistics/sgr/sgr_2001/highlight_outcomes.htm
- ⁶Washington State Department of Health. (December 2007). The Health of Washington State. Olympia, WA. Available from <http://www.doh.wa.gov/HWS/HWS2007.htm>
- ⁷Sword, W. (1999). A socio-ecological approach to understanding barriers to prenatal care for women of low income. Journal of Advanced Nursing, Vol 29 (5), p. 1170-1177.
- ⁸Wilkins, R, Sherman, GJ, Best PA. (1991). Birth outcomes and infant mortality by income in urban Canada, 1986. Health Reports, Vol 3 (1) p. 7-31 (abstract).
- ⁹Fields, J & Casper, L. (2001) America's Families and Living Arrangement: March 2000. Current Population Reports. Washington DC: US Department of Commerce, US Census Bureau.
- ¹⁰Eaglin, ME, Robbins, JM, Van Buren, J, Bell, TM. Maternal and Child Health Assessment, Community and Family Health, Washington State Department of Health. (2001). 1996-1998 Washington State PRAMS Surveillance Report – Volume 1. Olympia, WA. Available from http://www.doh.wa.gov/cfh/prams/PRAMS_Reports.htm
- ¹¹Washington State Department of Health. (2006). Maternal and Child Health Data and Services Report. Olympia, WA. Available from http://www.doh.wa.gov/cfh/mch/mch_assessment/mchdatareport/mch_data_report_home.htm

Data Sources and Methods:

Birth data (VistaPHw)

Vital Registration System, Annual Statistics Files, Births 1980-2006. [Data file]. Olympia, WA: Washington State Department of Health, Center for Health Statistics.

Public Health: Seattle & King County, Epidemiology, Planning, & Evaluation. (1991-2008). VistaPHw 7.3.0.4, 2008 [Computer software for public health assessment]. Seattle, WA.

Data note: Significance was determined based on 95% confidence intervals. If two confidence intervals overlap, there is generally no significant difference between the rates.

Equity Issues

Data note: Unless otherwise noted, healthy disparities were analyzed by age, race/ethnicity, geography, and income variables. Age-groups used were generally women aged 15-19, 20-24, 25-34, and 35-49 years. Race/ethnicity categories were White, Black, Native American and Alaskan Native, Asian and Pacific Islander, and Hispanic. When possible, geography was analyzed at the zip code level. And income was assessed by Medicaid status.

GIS Maps

ESRI ArcGIS 9, ArcMap version. 9.2. [computer software for geographic information system]. Redlands, CA.

Medicaid data

Characteristics of Clark County Women Who Gave Birth, 1998-2007 [First Steps Database data series] (January 2009). Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis.

Characteristics of Washington State Women Who Gave Birth, 1998-2007 [First Steps Database data series] (December 2008). Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis.

Data on Live Births, 2006. [First Steps Database prepared report] (2007). Olympia, WA: Washington State Department of Social and Health Services, Research and Data Analysis.

Data note: Significance was determined based on 95% confidence intervals. If two confidence intervals overlap, there is generally no significant difference between the rates.

National Targets

U.S. Department of Health and Human Services. (November 2000). Healthy people 2010, 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols. Washington, DC. Available from <http://www.healthypeople.gov/Document/tableofcontents.htm>

U.S. Department of Health and Human Services. (December 2006). Healthy people 2010 Midcourse Review. Available from <http://www.healthypeople.gov/data/midcourse>

Data note: Graphs denote whether the latest year of data for Clark County met the national target (a green line) or did not meet the national target (a red line). National targets reflect the Healthy People 2010 Midcourse Revisions where applicable.

Pregnancy Risk data

Eaglin, ME, Robbins, JM, Van Buren, J, Bell, TM. Maternal and Child Health Assessment, Community and Family Health, Washington State Department of Health. (2001). 1996-1998 Washington State PRAMS Surveillance Report – Volume 1. Olympia, WA. Available from http://www.doh.wa.gov/cfh/prams/PRAMS_Reports.htm

Data note: Significance was determined based on 95% confidence intervals. If two confidence intervals overlap, there is generally no significant difference between the rates.

Trend Test

Joinpoint Regression Program, Version 3.3. (April 2008). Rockville, MD: US National Institutes of Health, National Cancer Institute, Statistical Research and Applications Branch. Available from <http://srab.cancer.gov/joinpoint/>

Data note: Due to the 2003 revision of the birth certificate in Washington State, data on the initiation of prenatal care indicators could not be appropriately compared to the data prior to the revision. For these indicators, trend analyses for periods before and after the revision date were computed independently.