Maternal and Child Health

Data Book 2017

Oregon Health Authority

PUBLIC HEALTH DIVISION

Acknowledgments

Report prepared by
Maria Ness, MPH
Fredrick King, MS, EdD

Planning Team
Claudia Bingham, MPH
Suzanne Zane, DVM, MPH
Anna Stiefvater, RN, MPH

Research Analyst Support
Jin Song, MBA

AmeriCORPS Vista Intern
Peter Ngo

Subject Matter Experts
Cate Wilcox, MPH
Jessica Duke, MPH
Lari Peterson, RN, MSN
Nurit Fischler, MS
Lesa Dixon-Gray, MSW, MPH
Benjamin Hazelton, BSW
Julie McFarlane, MPH
Wendy Morgan, MSW
Heather Morrow-Almeida, MPH
Robin Stanton, MA, RDN, LD
Elizabeth Stuart, MPH
Amy Umphlett, MPA
Wesley Rivers, MPAff

Contents

Welcome

The "Maternal and Child Health 2017 Data Book" contains important information about the health status of Oregon mothers, infants and children. The Oregon Public Health Division's Maternal and Child Health Section is pleased to release this book.

A U.S. Health Resources and Services Administration (HRSA) Title V Block Grant underwrote much of our work on behalf of Oregon families. The grant reflects the federal government's longstanding commitment to support the health and well-being of mothers and children across the nation. It enables states such as ours to provide a broad array of resources and services. These range from nurse home visitors serving young families and pregnant women, to screening all newborn Oregon babies for deafness, to public health surveillance in order to better understand the conditions affecting the health of Oregon families.

The "Maternal and Child Health 2017 Data Book" provides an overview of the health of Oregon women before and during pregnancy. Their health directly affects the health of their infants and children. This book outlines both women's and children's health indicators. It also includes crosscutting factors influencing the health of all family members.

This easy-to-use resource guide is not a repeat of results found in other places. Rather, it compiles indicators from varied data sources, which have been analyzed and reported on in order to create a cohesive view of the status of maternal and child health in Oregon.

This data book provides reliable data on maternal and child health issues to plan and evaluate programs, prevent poor health outcomes, and guide public health policy. The trends and disparities in health indicators throughout this report can help programs and policymakers make data-driven decisions on how to improve the health status of Oregon women and children.

We hope the "Oregon Maternal and Child Health 2017 Data Book" will be a helpful reference and discussion source for all Oregonians concerned with improving Oregon families' health and well-being.

Toward a healthier future for all mothers and children in Oregon,

Cate Wilcox

Maternal and Child Health Manager, Title V Director

Executive summary

The "Maternal and Child Health 2017 Data Book" provides an overview of the health of Oregon women, children and families. This report provides data for program and policy design and evaluation. The trends and disparities highlighted in this report can help programs and policymakers make data-driven decisions about how to improve Oregon women's and children's health.

The report consists of selected indicators for the following maternal and child health populations:

- Preconception and women
- Prenatal and postpartum
- Infants
- Children and
- Adolescents.

There is also a section of indicators that cuts across all these populations. Key indicators from each population were selected from preexisting metric lists such as the life course indicators compiled by the Association of Maternal and Child Health Programs, and the Healthy People 2020 goals.

The table below is a summary of the status of each indicator across three domains:

- Outcome of the indicator in Oregon vs. the United States (U.S.),
- Improvement of the indicator over time and
- Existence of racial/ethnic disparities.

Favorable outcomes are shaded in green. Results needing improvement are shaded in red. Results are marked as "Unavailable" where no data exist for specific domains.

Summary of the status of each indicator across three domains

Indicator	Oregon status better than United States?	Improvement over time?	No clear racial/ ethnic disparities
Preconception and women's health			
Overweight/obesity among women 18–44 years old	x	✓	x
Adverse childhood events among women 18–44 years old	Unavailable	x	x
Well–woman visit	x	✓	✓
Pre-pregnancy smoking	x	x	x
Prenatal/postpartum health			
Gestational diabetes	✓	x	x
Perinatal depression	x	x	x
Intimate partner violence among pregnant women	✓	x	x
Prenatal oral health	✓	x	✓
Infant health			
Preterm birth	✓	✓	x
Breastfeeding	✓	✓	x
Safe sleep	✓	✓	x
Infant mortality	✓	✓	x
Child health			
Childhood overweight/obesity	✓	x	x
Adverse childhood events	x	Unavailable	x
Childhood oral health	x	x	x
Medical home	✓	x	x
Adolescent health			
Adolescent depression	x	x	x
Adolescent well visit	x	✓	x
High school graduation rate	x	✓	x
Crosscutting			
Households at concentrated disadvantage	Unavailable	Unavailable	x
Food insecurity	x	Unavailable	Unavailable
Adequate maternal social support	Unavailable	x	x

Note that each indicator provides a single key reference point for how women and children are faring in Oregon. Many factors beyond those listed here contribute to the health and well-being of families. Indicators were selected to represent the broad scope of influences on health, such as policies and practices beyond clinical medicine alone. We have seen success in indicators of infant health. However, 11 of 19 Oregon indicators have not improved over time. In addition, racial and ethnic disparities are present in 19 of 21 indicators — including infant health. A supplement to this report will be released with additional indicators presented with Oregon vs. U.S. data. This will further describe the status of maternal and child health in Oregon.

Public health is accountable for the health of the community. Oregon is in the midst of modernizing its public health system to better ensure basic protections critical to Oregonians' current and future health. This report indicates there is much more work to do. To improve the health of mothers and children, we must continue to explore ways to influence the upstream social determinants of health. Our Maternal and Child Health Section has broadened its focus far beyond health issues of pregnancy and the peripartum period for women and infants to better understand and address the factors leading to poor family health outcomes.

The key indicators illustrated here show consistent evidence of disparities among racial and ethnic groups. We are committed to viewing all aspects of MCH through the lens of health equity, consistent with one of the foundational capabilities of public health modernization. This embodies values, policies and practices for all people. These include but are not limited to people who are historically underrepresented based on race/ethnicity, age, disability, sexual orientation, gender, gender identity, socioeconomic status, geography, citizenship status or religion. We strive to consider all these groups in developing and enacting programs and resources, planning our work and engaging with partners.

We will continue to address health promotion issues across the lifespan of individuals and families. We believe preconception, pregnancy and early childhood experiences create and influence a path for lifelong wellness. We invite you to join in this work and let us know how we can best help with your work.

The "Maternal and Child Health 2017 Data Book" is an overview of the health of Oregon women, children and families. This report is an update to the "2007 Oregon Perinatal Data Book" (available here: https://go.usa.gov/xUjhh).

Methods

The 2007 report focused only on perinatal health. This report gives a thorough picture of maternal and child health in Oregon. It provides data on the following six maternal and child health populations or domains:

- Preconception and women's health
- Prenatal and postpartum health
- Infant health
- Child health
- Adolescent health
- Crosscutting.

The first five domains are all populations served by the Oregon Health Authority Maternal and Child Health Section. The last domain, crosscutting, primarily focuses on social determinants of health that affect all population groups.

This report includes indicators compiled from a broad range of sources, including:

- The life course indicators developed by the Association of Maternal and Child Health Programs
- The Healthy People 2020 goals and
- Title V national and state performance measures.

It also has indicators from previous Oregon indicator reports, including the "2007 Oregon Perinatal Data Book." We compiled and grouped these indicators into one of the six maternal and child health populations.

This resulted in a list of 15 to 30 indicators per population. A group of subject matter experts reviewed the indicators. They used a prioritization exercise to select key indicators for each population. The subject matter experts selected indicators while keeping in mind the following selection criteria:

- Magnitude: What proportion of the population is affected?
- Importance/severity: What is the degree of impact on affected populations? What is the resulting morbidity and mortality?
- Interventions: How effective are available interventions? How feasible are available interventions?

- Equity: Are there racial/ethnic disparities present? Are there rural/urban disparities present? Are there any other disparities present?
- Partner alignment: Are there partners working on efforts to address the issue? Will working with partners strengthen the intervention?

The selection of indicators was completed using a vote system, with each subject matter expert having three votes per maternal and child health population. This resulted in the selection of three to four key indicators per population. The significance and importance of each of these key indicators is presented in this report, along with three domains of data, as follows:

- The outcome of the indicator in Oregon vs. the United States
- Changes in the outcome of the indicator over time in Oregon
- Racial/ethnic disparities in the outcome of the indicator in Oregon.

The report presents the most recent available years of data. The years vary, depending on data source. As a result, the years of data presented are not consistent across each indicator. There is often a lag in the release of national data as compared to state level data. Due to this lag, graphs containing both Oregon and U.S. data often use older data than graphs that only examine Oregon data, either over time or across racial/ethnic disparities.

Race and ethnicity are combined into a single variable for each of the indicators where data are available. Note that this can lead to the masking of disparities for groups that have high overlap between race and ethnicity. This is particularly true for individuals of American Indian/Alaska Native race because a proportion is also Hispanic. Therefore, these individuals are categorized into Hispanic and are not reflected in the American Indian/Alaska Native category, making them "hidden."

The race/ethnicity categories also vary depending on data source. Not all race/ethnicities are presented for each indicator, due to differences in data collection and often insufficient sample size. In cases where confidentiality or reliability may be compromised, results from specific race/ethnic groups are either suppressed or compiled into an "other" category.

The data sources used in this report are as follows:

- United States Census Bureau. American community survey (https://www.census.gov/programs-surveys/acs/)
- Oregon Health Authority Public Health Division, Center for Health Statistics. Vital statistics (https://go.usa.gov/xUDqa)
- Centers for Disease Control and Prevention, National Center for Health Statistics.

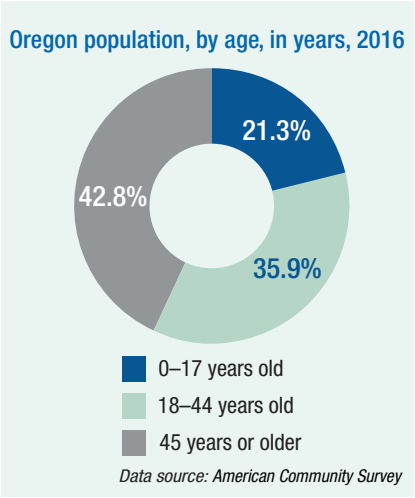
National vital statistics system (https://www.cdc.gov/nchs/nvss/index.htm)

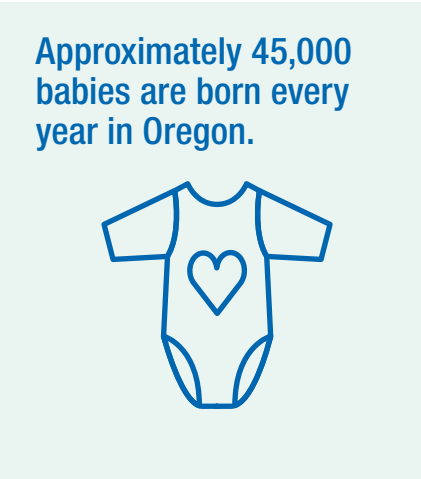
- Oregon Health Authority Public Health Division, Center for Health Statistics. Behavioral risk factor surveillance system (https://go.usa.gov/xUDq2)
- Centers for Disease Control and Prevention. Behavior risk factor surveillance system (https://www.cdc.gov/brfss/index.html)
- Oregon Health Authority Public Health Division, Maternal and Child Health Section. Pregnancy risk assessment monitoring system (https://go.usa.gov/xUDqT)
- Centers for Disease Control and Prevention. Pregnancy risk assessment monitoring system (https://www.cdc.gov/prams/index.htm)
- Pregnancy Risk Assessment Monitoring System two year postpartum survey (PRAMS-2) (https://go.usa.gov/xUDqb)
- Centers for Disease Control and Prevention. Breastfeeding rates from national immunization survey (https://www.cdc.gov/breastfeeding/data/nis_data/)
- Data Resource Center for Child & Adolescent Health. National survey of children's health (http://childhealthdata.org/learn/NSCH)
- Oregon Health Authority Public Health Division, Center for Health Statistics. Oregon healthy teens survey (https://go.usa.gov/xUDqj)
- Centers for Disease Control and Prevention. Youth risk behavior surveillance system (https://go.usa.gov/xUDys)
- National Center for Education Statistics (https://nces.ed.gov/)
- Oregon Department of Education. Reports & data (https://go.usa.gov/xUDqD)
- Oregon Department of Human Services Business Services, Office of Forecasting, Research and Analysis (https://go.usa.gov/xUDqB)
- United States Department of Agriculture Economic Research Service. Key statistics 7 graphics (https://go.usa.gov/xUDqk)

A supplement to this report will be released with the remaining indicators not selected as key indicators. These supplemental indicators will be presented with Oregon vs. United States data only.

Demographics

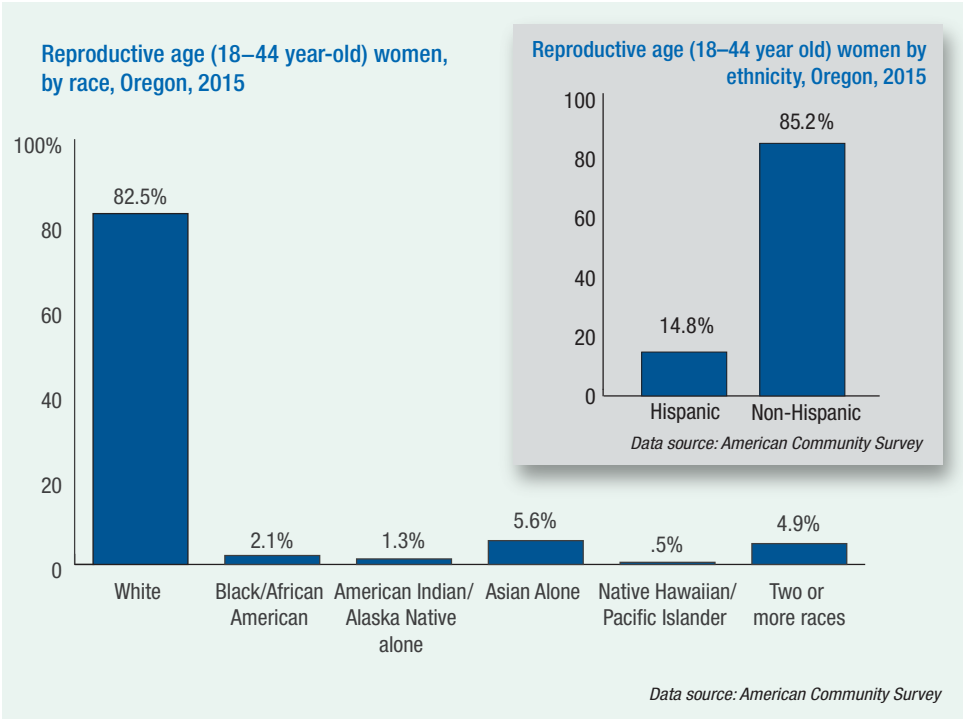
Demographics





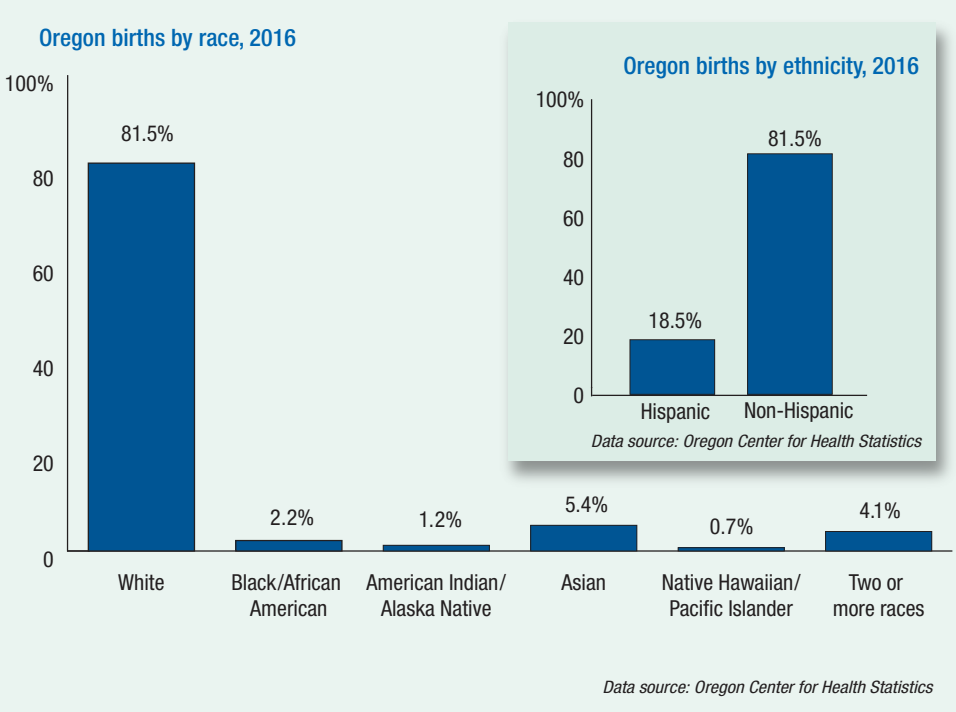
Oregon's population is primarily non-Hispanic White. However, the prevalence of other race and ethnicity groups is higher among children under the age of 18 compared to adults. This is particularly true for Hispanic children, Asian children and children with two or more races. The number of births in Oregon — approximately 45,000 per year — has stayed relatively consistent for the last 15 years.

Reproductive age by race and ethnicity

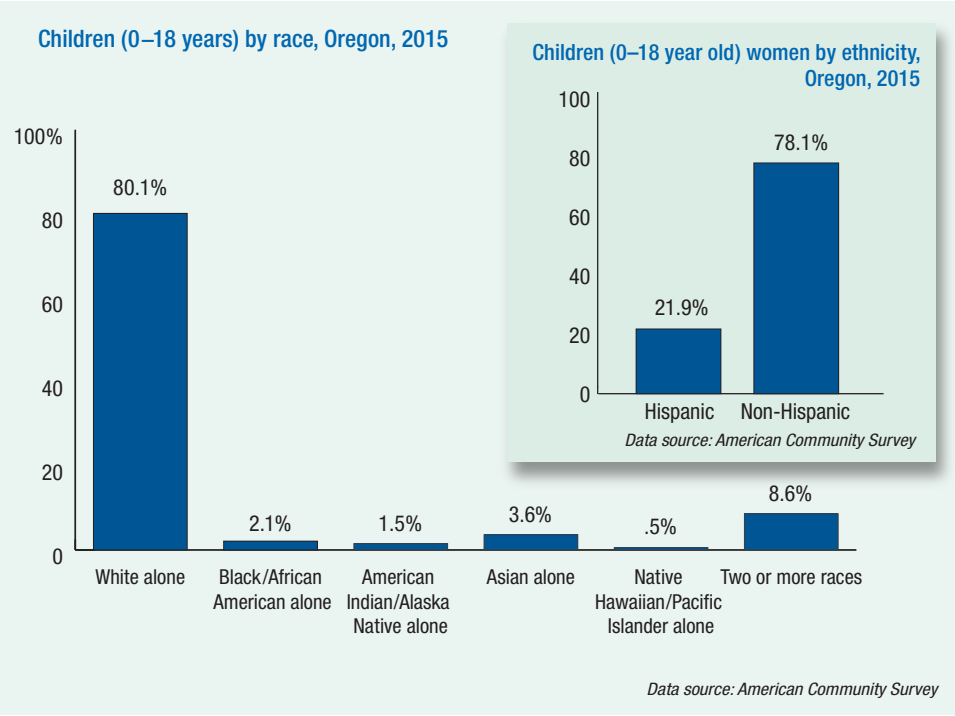


Note: Race category percentages do not add to 100% due to the exclusion of "Other" and "Unknown" race.

Oregon births and children by race and ethnicity

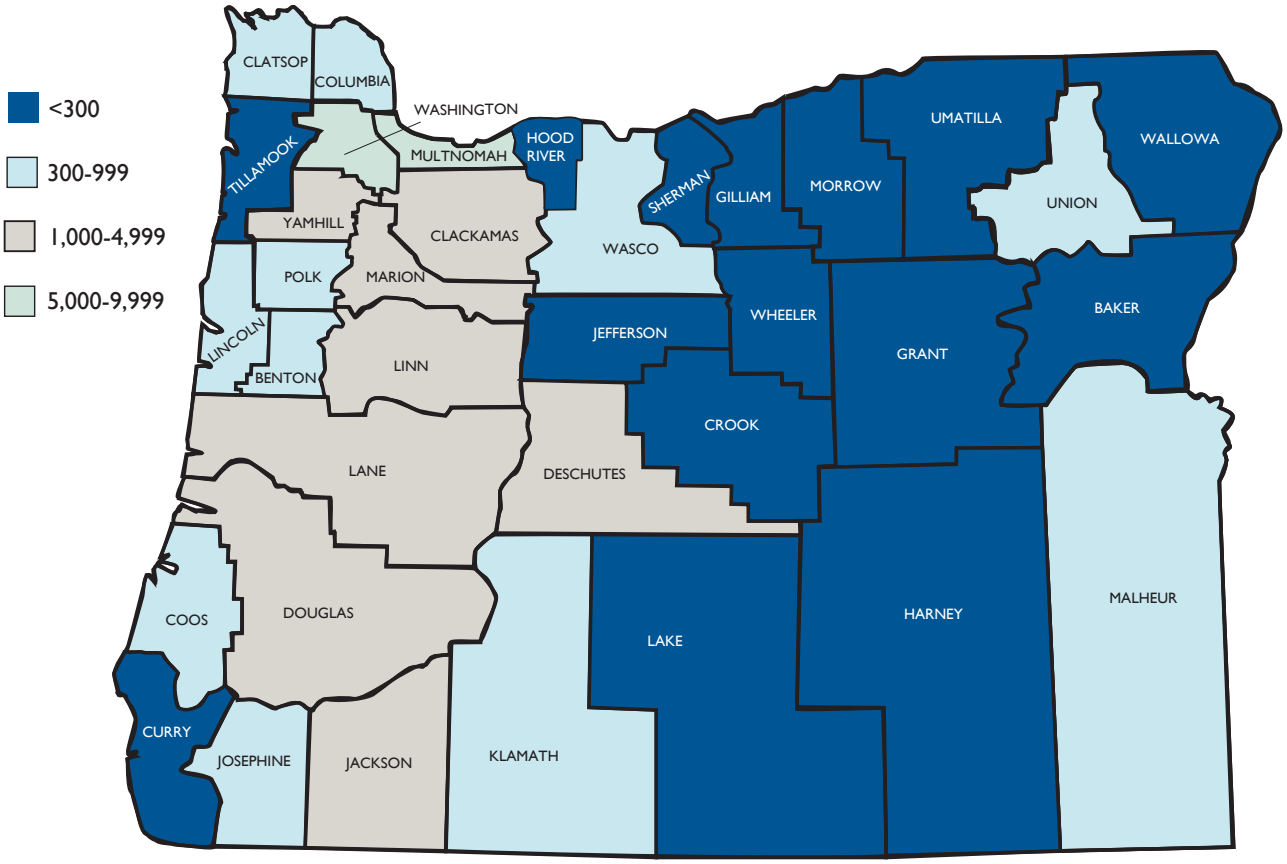


Note: Race category percentages do not add to 100% due to the exclusion of "Other" and "Unknown" race.



Note: Race category percentages do not add to 100% due to the exclusion of "Other" and "Unknown" race.

Oregon births by county, 2015



Preconception and Women's Health

Preconception and women's health

Key indicator: Overweight/obesity among women 18–44 years old

Indicator details:

- Definition: Percent of women 18–44 years old who have a body mass index of 25 to 29.9 (overweight) or 30 or more (obese)
- Numerator: Number of women 18–44 years old who have a body mass index of 25 to 29.9 (overweight) or 30 or more (obese)
- Denominator: Number of women 18–44 years old

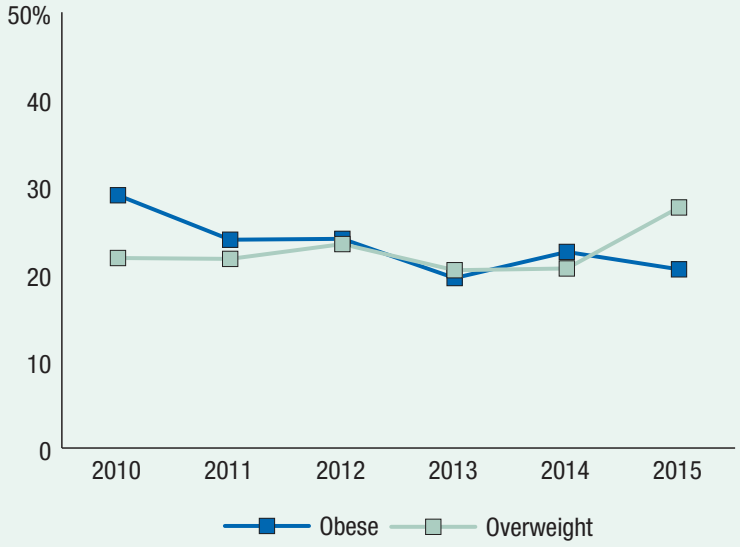
Significance of indicator: Overweight and obesity is becoming more common among women of reproductive age. Almost half of women 18 to 44 years old in the United States have a body mass index in the overweight or obese category.

People who are obese, compared to those with a normal or healthy weight, are at increased risk for many serious diseases and health conditions. These include hypertension (high blood pressure), diabetes, sleep apnea (pauses or reduced breathing during sleep), high LDL cholesterol, coronary heart disease, stroke and mental illness. People who are overweight or obese are also at higher risk for polycystic ovary syndrome. PCOS can cause reduced fertility or failure to achieve pregnancy. During pregnancy, overweight and obese women are at increased risk of gestational diabetes, pregnancy-related high blood pressure, miscarriage, preterm birth and congenital birth defects such as neural tube and heart defects, and gastrointestinal malformations. They are also at a higher risk of complications during labor including heavy blood loss after giving birth. (1,2)

Status in Oregon: The rates of overweight among women aged 18 to 44 in Oregon in 2015 was higher than the national rate. The rate of obesity among women aged 18 to 44 in Oregon in 2015 was slightly higher than the national rate. The rate of obesity among women of reproductive age has followed a slight downward trend in Oregon over the past five years (29.0% in 2010 to 22.5% in 2014) while the rate of overweight women of reproductive age has remained fairly flat.

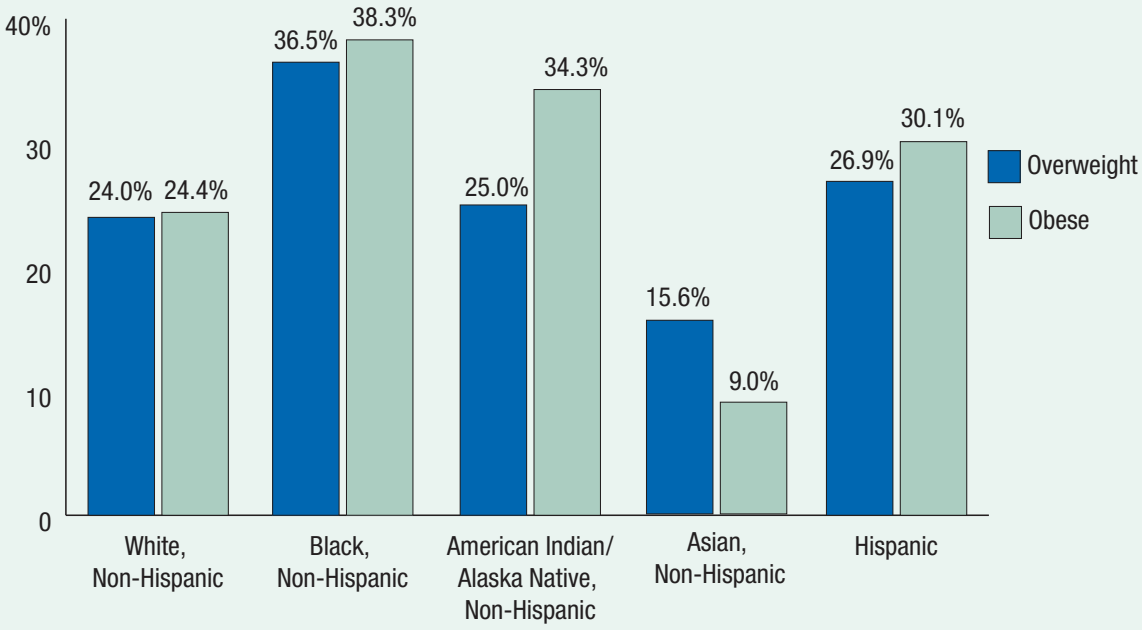
Disparities in Oregon: In 2015, among Oregon women aged 18 to 44, the highest rates of overweight and obesity were among non-Hispanic Blacks, non-Hispanic American Indian/Alaska Natives and Hispanics. Overweight and obesity were lower for non-Hispanic Whites and non-Hispanic Asians.

Overweight and obesity among women 18–44 years old, Oregon, 2010 to 2015



Data source: Behavioral Risk Factor Surveillance System

Overweight and obesity among women 18–44 years old, by race/ethnicity, Oregon, 2015



Data source: Behavioral Risk Factor Surveillance System

Key indicator: Adverse childhood events among women 18 – 44 years old

Indicator details:

- Definition: Percent of women 18 – 44 years old who have experienced four or more adverse childhood experiences
- Numerator: Number of women 18 – 44 years old who have experienced four or more adverse childhood experiences
- Denominator: Number of women 18 – 44 years old

Significance of indicator: The impact of adversity in childhood is profound. Early experiences influence the developing brain. Significant adversity during early sensitive periods of developmnent can create toxic stress and interrupt normal brain development. Traumatic childhood experiences are a root cause of many social, emotional, physical and cognitive impairments that can lead to increased incidence of developmental delays and other problems in childhood. (3) Adverse childhood events can also lead to adult health risk behaviors (e.g., smoking, alcoholism), mental illness (e.g., depression and suicide), diseases (e.g., heart disease, cancer, diabetes), disability and premature mortality. (4)

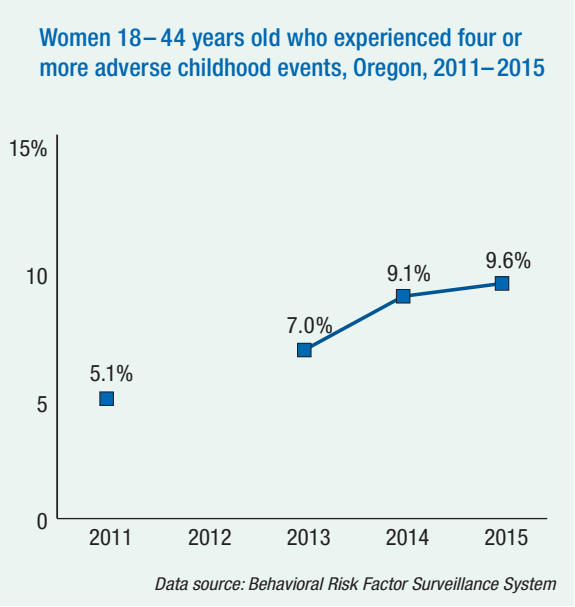
The adverse childhood events (ACEs) contained in this indicator include emotional, physical or sexual abuse; intimate partner violence; household substance abuse; household mental illness; parental separation or divorce; and incarceration of a household member. Women who have experienced three or more ACEs have more than 2.5 times the risk of smoking, alcohol use and illicit substance use during pregnancy. (5) Women with high ACEs also experience more obstetrical complications such as backaches, headaches and leg cramps, all of which increase the risk of hospitalization and preterm births. (6) ACEs can also affect adult caretakers' functioning and core capabilities needed to succeed in life. These include providing the safe and nurturing relationships and environments that are critical to healthy pregnancies and to children's health and development. (7)

Understanding adult women's experience of adversity during their childhood is critical to addressing their physical, mental and behavioral health needs. Understanding these adverse childhood events and their impact on adult outcomes facilitates public health policies and programming that build parenting skills and capabilities in order to prevent ACEs in future generations. In this indicator, women who have experienced four or more ACEs are considered to have a "high" ACE score.

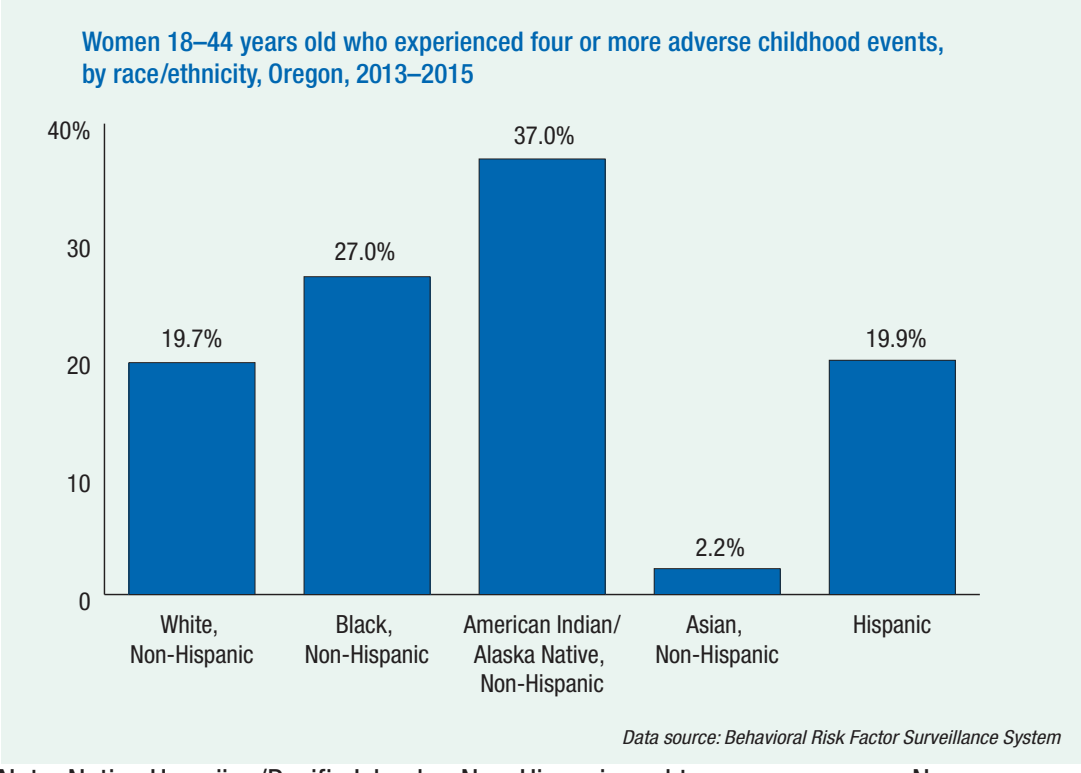
Status in Oregon: The rate of women 18 to 44 years old with four or more ACES increased steadily between 2011 and 2015 (5.1% to 9.6%).

Disparities in Oregon: In 2015, the percentage of Oregon women aged 18 to 44 who experienced four or more ACEs was higher for non-Hispanic American Indian /Alaska

Natives (37.0%) and non-Hispanic Blacks (27.0%) compared to non-Hispanic Whites (19.7%), and lower for non-Hispanic Asians (2.2%). The percentage of Hispanic women (19.9%) was almost the same as the percent of non-Hispanic White women who experienced four or more ACEs.



Note: ACEs data not available in 2012



Note: Native Hawaiian/Pacific Islander, Non-Hispanic and two or more races, Non-Hispanic are not shown due to small sample size.

Key indicator: Well-woman visit

Indicator details:

- Definition: Percent of women 18–44 years old with a visit to a doctor for a routine checkup in the past 12 months
- Numerator: Number of women 18–44 years old with a visit to a doctor for a routine checkup in the past 12 months
- Denominator: Number of women 18–44 years old

Significance of indicator: Access to high-quality well-woman care is a key driver in optimizing women's health before, between and beyond potential pregnancies. (8) Taking action on health issues throughout the lifespan can prevent future problems for a mother and her baby. (9)

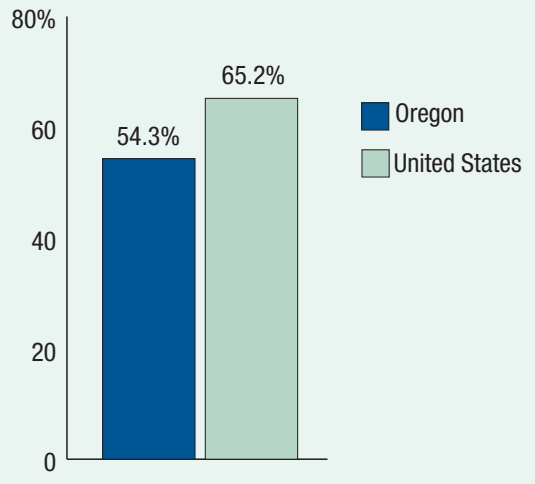
Access to high-quality well-woman care:

- Provides a critical opportunity to receive recommended clinical preventive services, screening and management of chronic conditions such as diabetes, counseling to achieve a healthy weight and smoking cessation, and immunizations
- Increases the likelihood that any future pregnancies are by choice rather than chance
- Decreases the likelihood of complications in future pregnancies.

Status in Oregon: Oregon women aged 18-44 had a lower rate for routine checkups in the past year (54.3%) as compared to those in the United States as a whole (65.2%). Between 2011 and 2015, the rate of women in that age group getting routine checkups in Oregon followed a slight upward trend (from 52.2% to 54.9%).

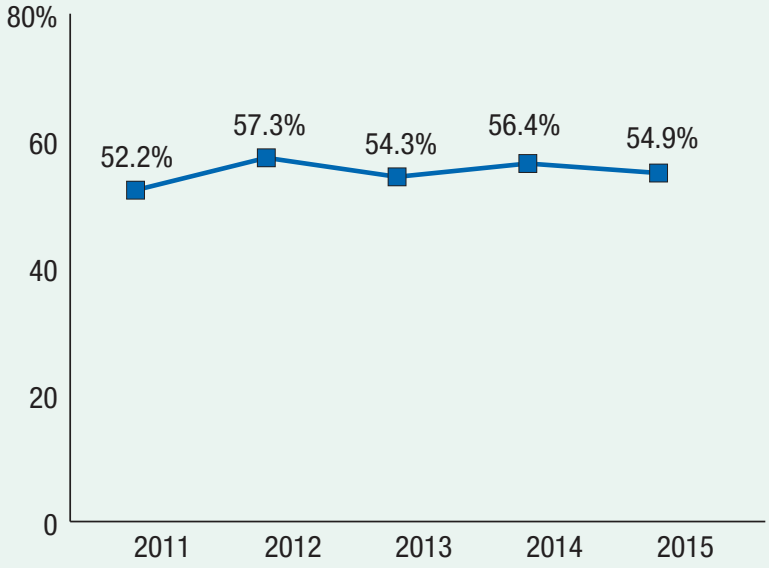
Disparities in Oregon: In Oregon in 2015, the percent of women aged 18 to 44 who had a routine checkup in the last 12 months was relatively similar among race/ethnicity groups.

Routine checkup within the last 12 months among women 18–44 years old, Oregon and United States, 2013



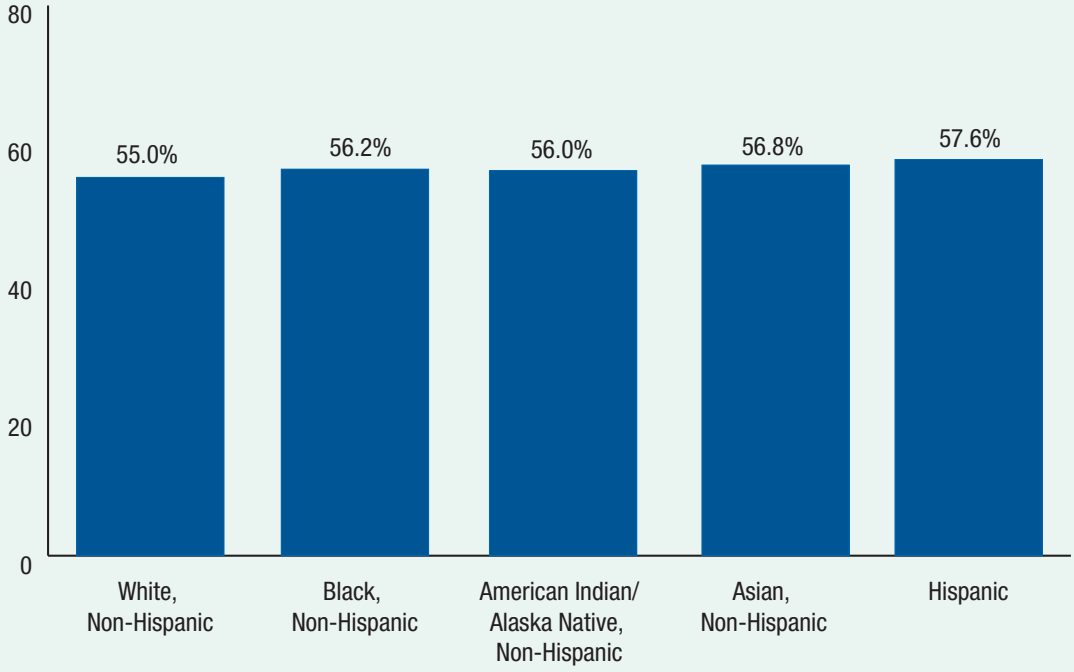
Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Routine checkup within the last 12 months among women 18–44 years old, Oregon, 2011–2015



Data source: Behavioral Risk Factor Surveillance System

Routine checkup within the last 12 months among women 18-44 years old by race/ethnicity, Oregon 2013-2015



Data source: Behavioral Risk Factor Surveillance System

Key indicator: Pre-pregnancy smoking

Indicator details:

- Definition: Percentage of women with a live birth who smoked in the three months prior to their pregnancy
- Numerator: Number of women with a live birth who smoked in the three months prior to their pregnancy
- Denominator: Number of women with a live birth

Significance of indicator: Smoking cigarettes during pregnancy is one of the most important avoidable causes of adverse pregnancy outcomes and is associated with high rates of long- and short-term morbidity for both the child and mother. Smoking during pregnancy elevates the risk of complications such as premature birth, low birth weight, sudden infant death syndrome (SIDS), (10) congenital heart and gastrointestinal defects and a decrease in pulmonary function later in the child's life. (11)

In the United States, approximately one in 10 women who gave birth in 2014 smoked during the three months before pregnancy. Approximately three-quarters of these women continued to smoke after learning they were pregnant.

This indicator focuses on smoking prior to pregnancy. This can be used as a proxy for smoking during the first trimester because women often are not aware of the pregnancy early in the first trimester. Therefore, examining the percentage of women who smoked prior to pregnancy and subsequently had a live birth gives us a good estimate of the percentage of women who smoked in the first trimester.

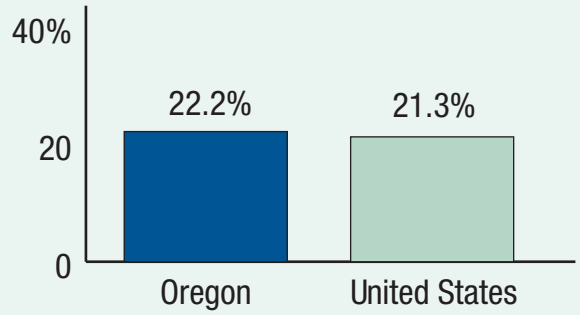
Low socio-economic status, lower education and belonging to a racial/ethnic minority are significantly associated with increased risk for smoking during pregnancy. Smoking during pregnancy was most prevalent for women aged 20–24.

By race, the highest rate was for non-Hispanic American Indian or Alaska Native women. (12)

Status in Oregon: In 2013, the rate of smoking among women in the three months prior to pregnancy was slightly higher in Oregon than the national rate (22.2% vs. 21.3%, respectively). The percentage of women in Oregon who smoke in the three months prior to pregnancy remained relatively even from 2012 to 2014 (21.5 % to 20.9%).

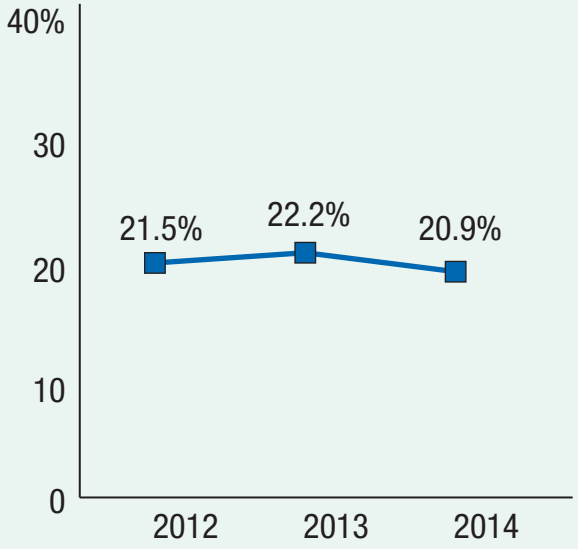
Disparities in Oregon: Compared to non-Hispanic Whites (24.3%), more non-Hispanic American Indian/Alaska Native (35.9%) and non-Hispanic women of two or more races (32.7%) smoked during the three months before their pregnancies in Oregon in 2014.

Smoking in the three months prior to pregnany, Oregon and United States, 2013



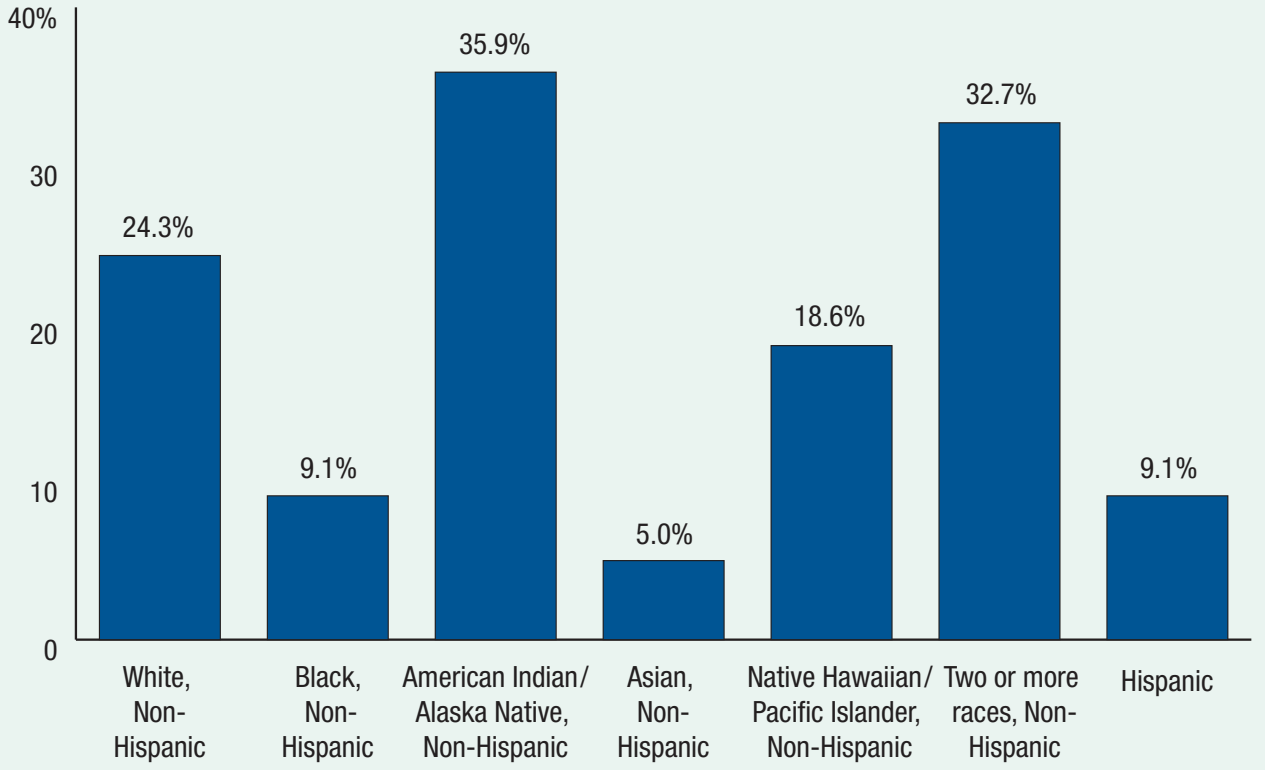
Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Smoking in the three months prior to pregnancy, Oregon 2012–2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Smoking in the three months prior to pregnancy, by race/ethnicity, Oregon, 2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Prenatal and postpartum health

Prenatal and postpartum health

Key indicator: Gestational diabetes

Indicator details:

- » Definition: Percentage of women with a live birth who were told by a doctor, nurse or other health care worker that they had gestational diabetes during their pregnancy
- » Numerator: Number of women with a live birth who were told by a doctor, nurse or other health care worker that they had gestational diabetes during their pregnancy
- » Denominator: Number of women with a live birth

Significance of indicator: Gestational diabetes is a type of diabetes that appears in pregnant women who did not have diabetes before the pregnancy. It is diagnosed in 4–7% of all pregnancies in the United States. The prevalance is likely to continue increasing given the epidemic of obesity in the United States. (13)

This form of diabetes increases the risk of problems at the time of delivery and can give rise to complications such as macrosomia, C-section delivery, high blood pressure and hypoglycemia. (14,15)

Gestational diabetes is caused by changes in the mother's response to insulin so as to increase blood sugar levels to support the developing baby. In many cases, the mother is not producing enough insulin to keep her own blood glucose in normal range and, therefore, the mother develops gestational diabetes.

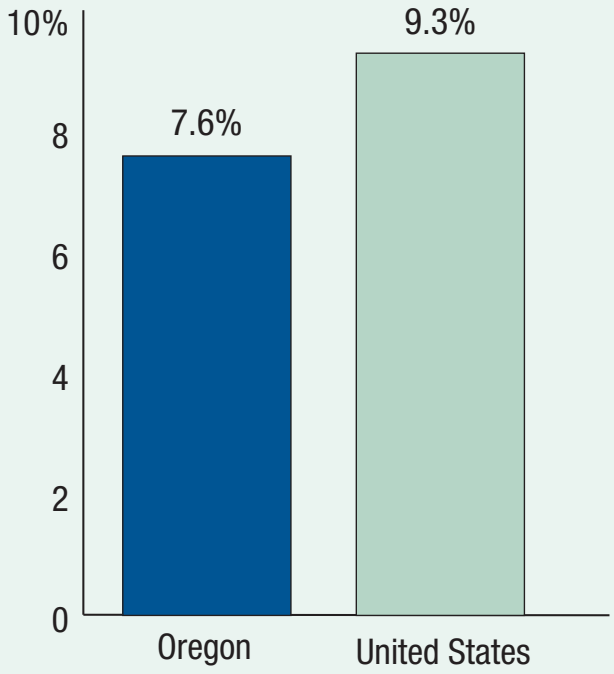
Babies born to mothers with gestational diabetes may have breathing problems and hypoglycemia and can develop jaundice. (16)

Studies show that Asian populations are at the greatest risk for developing gestational diabetes, whereas non-Hispanic White and Black women have the lowest prevalence, reinforcing the fact that gestational diabetes is a result of both genetics and environmental factors. (17)

Status in Oregon: In 2013, Oregon had a lower rate of gestational diabetes than the United States as a whole (7.6% compared to 9.3%). However, between 2008 and 2014, this rate has increased steadily, from 5.0% in 2008 to 7.8% in 2014.

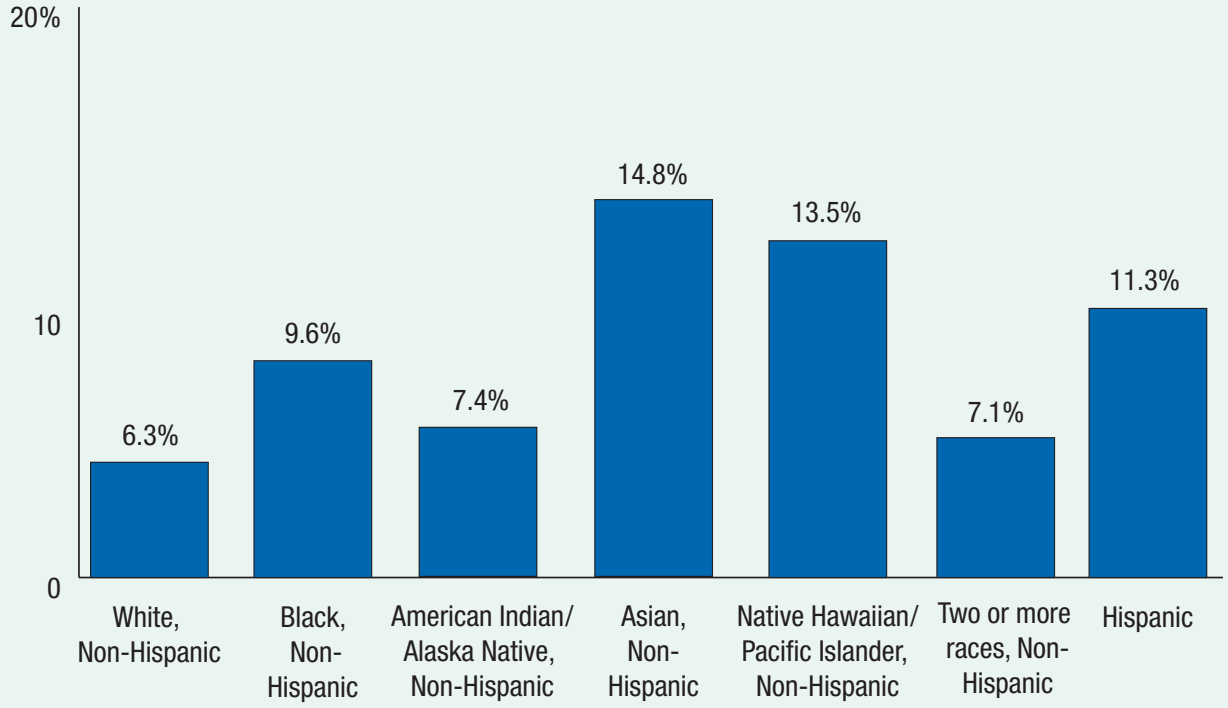
Disparities in Oregon: Non-Hispanic Blacks, non-Hispanic Asians, non-Hispanic Pacific Islanders/Native Hawaiians and Hispanic women had higher rates of gestational diabetes in Oregon in 2014 than non-Hispanic Whites (6.3%).

Gestational diabetes, Oregon and United States, 2013



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Gestational diabetes by race/ethnicity, Oregon, 2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Key indicator: Perinatal depression (depression during and after pregnancy)

Indicator details:

- Definition: A) Percentage of women with a live birth who experienced depressive symptoms during pregnancy
  B) Percentage of women with a live birth who experienced depressive symptoms after pregnancy
- Numerator: A) Number of women with a live birth who experienced depressive symptoms during pregnancy
  B) Number of women with a live birth who experienced depressive symptoms after pregnancy
- Denominator: A) & B) Number of women with a live birth

Significance of indicator: Perinatal depression is depression that occurs during pregnancy or in the first year after pregnancy. It is one of the most common complications of childbirth. When untreated, perinatal depression can greatly affect women, infants and families but often goes unrecognized because changes in sleep, appetite and libido may be attributed to normal pregnancy symptoms. (18)

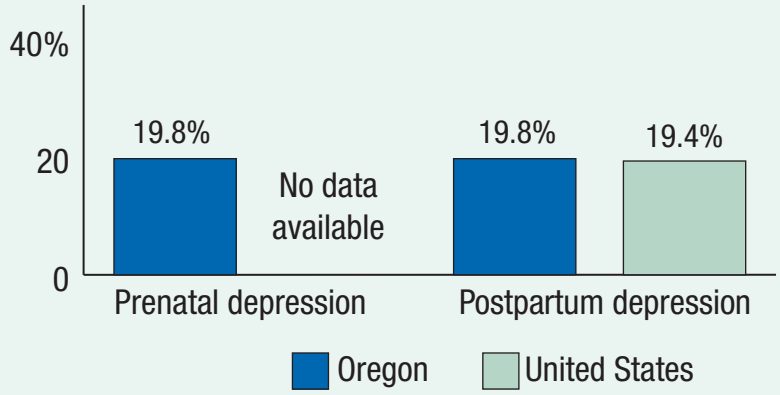
Untreated perinatal depression can affect a mother's ability to care for herself, relate to others, bond with her infant and parent her older children. Children of mothers with untreated depression are at risk for serious health, developmental, emotional, behavioral and learning problems that can last for many years.

Approximately 13% of women in the United States are depressed while pregnant. One study found that up to 51% of women who were socio-economically disadvantaged reported depressive symptoms during pregnancy. Furthermore, mothers who are young, single or have experienced traumatic or stressful situations such as intimate partner violence or homelessness are more likely to experience depression. (19)

Status in Oregon: The rate of postpartum depression (depression after pregnancy) in Oregon 2011 was similar to the national rate (19.8% compared to 19.4%). Both prenatal (during pregnancy) and postpartum (after pregnancy) depression have been on an upward trend in Oregon between 2009 and 2014.

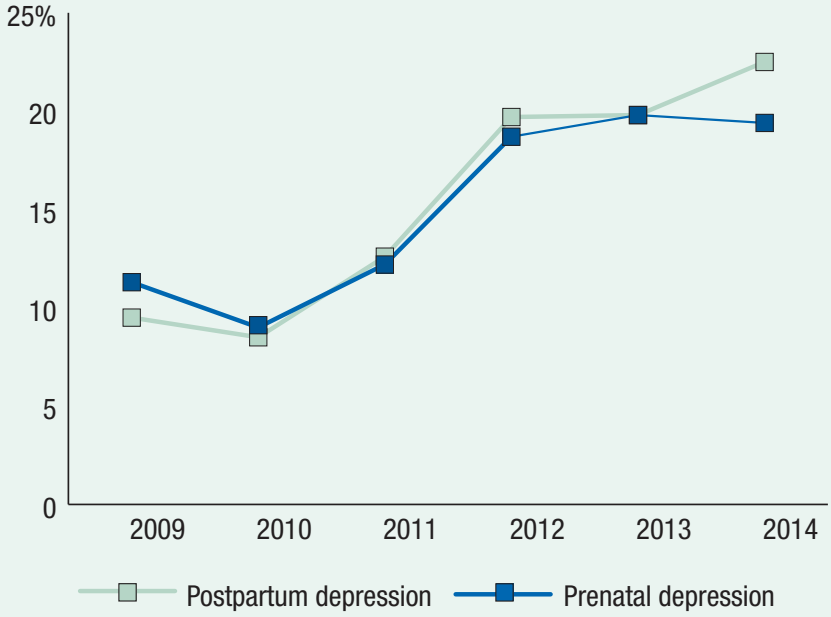
Disparities in Oregon: Compared to non-Hispanic Whites, all other subgroups had higher rates of prenatal depression in Oregon in 2014. Compared to non-Hispanic Whites, non-Hispanic Blacks and non-Hispanic Pacific Islanders/Native Hawaiians had higher rates of postpartum depression in Oregon in 2014. Non-Hispanic American Indian/Alaska Natives, non-Hispanic Asians, non-Hispanic of two or more races and Hispanics all reported lower rates of postpartum depression.

Perinatal depression, Oregon and United States, 2013



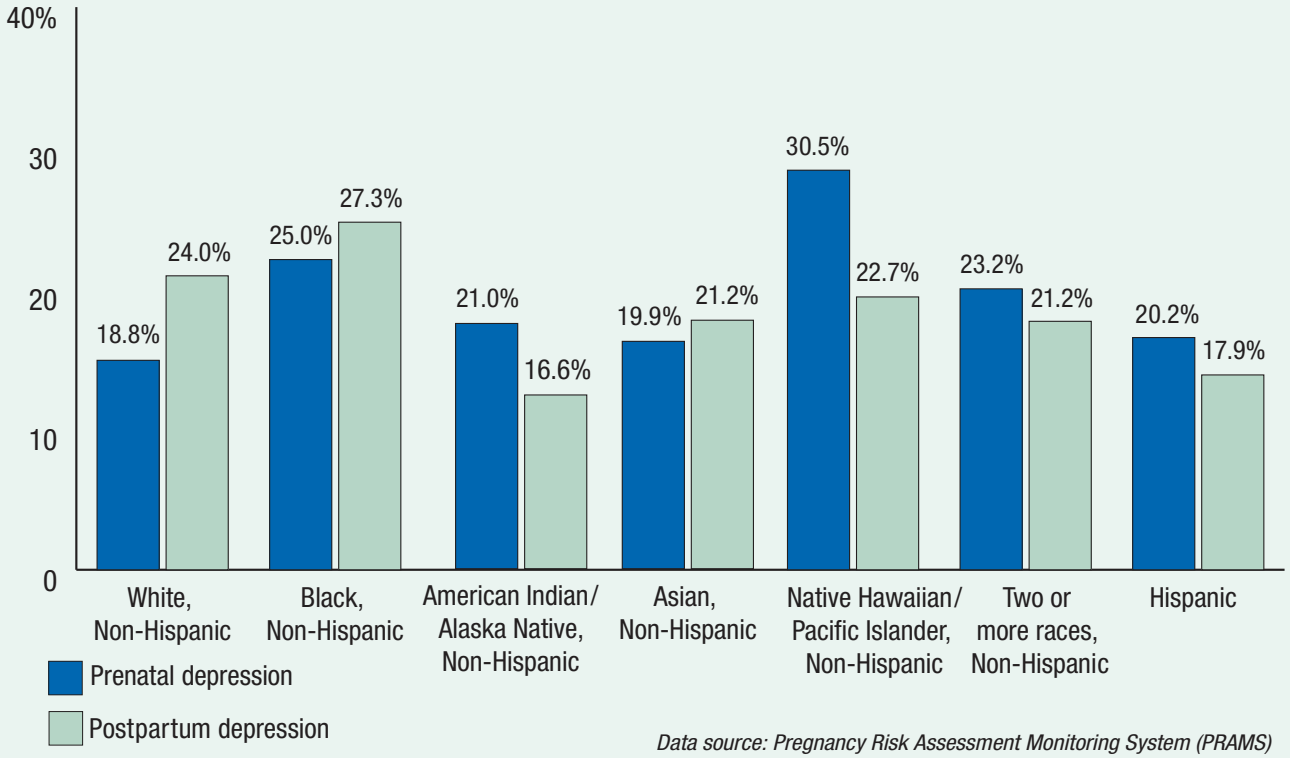
Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Perinatal depression, Oregon, 2009–2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Perinatal depression, by race/ethnicity, Oregon, 2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Key indicator: Intimate partner violence among pregnant women

Indicator details:

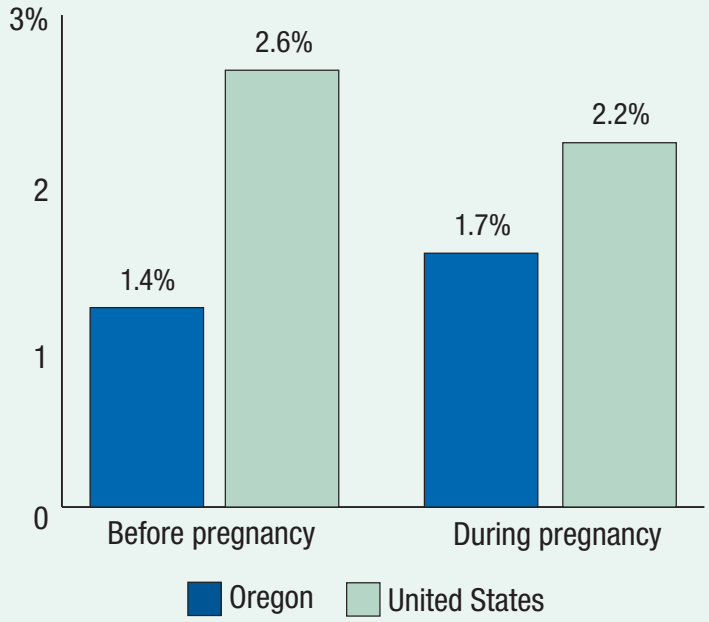
- Definition: A) Percentage of women with a live birth who were physically abused by their partner during the 12 months prior to pregnancy
  B) Percentage of women with a live birth who were physically abused by their partner during their pregnancy
- Numerator: A) Number of women with a live birth who were physically abused by their partner during the 12 months prior to pregnancy
  B) Percentage of women with a live birth who were physically abused by their partner during their pregnancy
- Denominator: A) & B) Number of women with a live birth

Significance of indicator: Intimate partner violence is a significant medical, public health and societal concern that affects anywhere from 1.5 million to 4 million women in the United States every year. The U.S. Department of Justice estimates that, over a lifetime, 52% of women experience intimate partner violence. (20) Women with disabilities are even more at risk; they have a 40% greater risk of experiencing IPV than those who do not have a disability. (21)

Intimate partner violence harms the pregnant mother's body and her psychological health. It also inflicts stress on the developing fetus. Pregnant women who experience abuse have higher rates of intrauterine growth retardation and preterm labor that can subsequently lead to lower birth weight and other neonatal risks. (22) Furthermore, intimate partner violence is associated with an increase in alcohol and substance abuse during pregnancy. Intimate partner violence among women can lead to lifelong consequences such as emotional trauma, unplanned pregnancy, gynecologic disorders and other chronic health problems. (23)

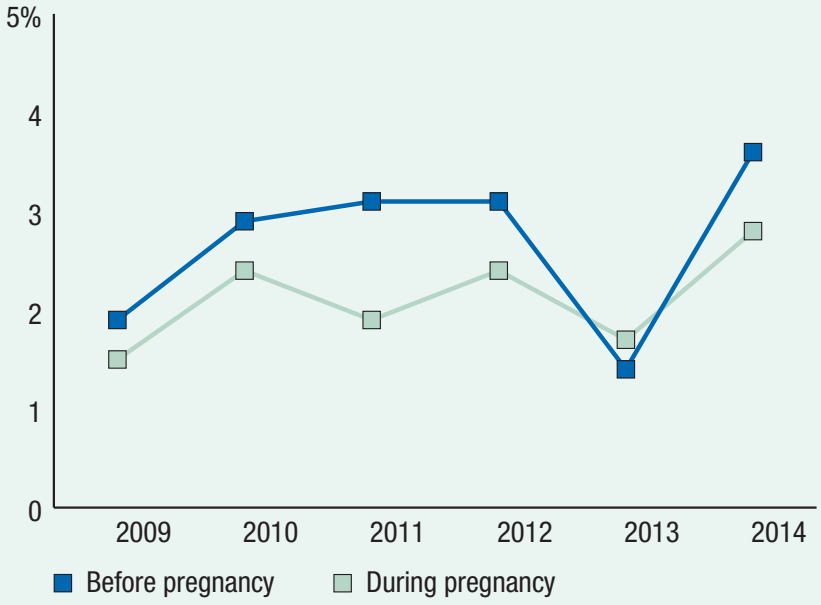
Status in Oregon: Rates of intimate partner violence both before and during pregnancy were lower in Oregon than in the United States as a whole in 2013. In Oregon, intimate partner violence before pregnancy increased between 2009 and 2014, from 1.9% to 3.6%. Intimate partner violence during pregnancy also increased from 2009 to 2014, from 1.5% to 2.8%. It should be mentioned that intimate partner violence is very undereported nationwide. An increase in rates may be reflective of work that is being done to make reporting more acceptable.

Intimate partner violence before and during pregnancy, Oregon and United States, 2013



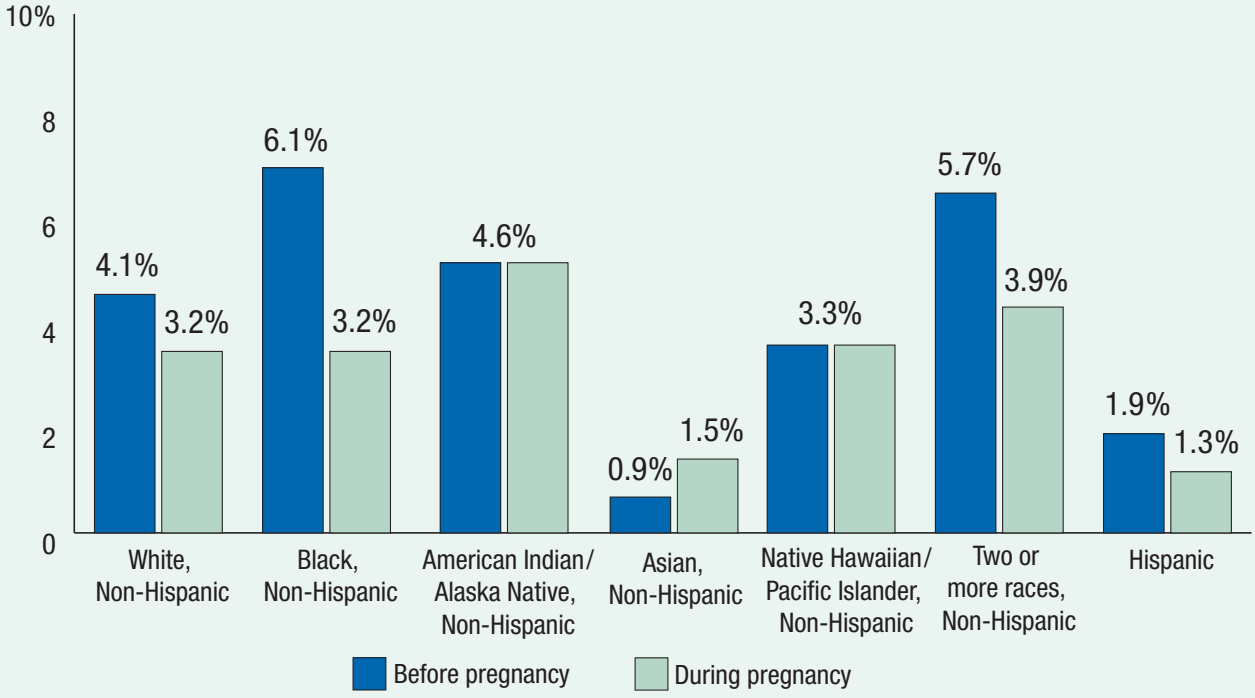
Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Intimate partner violence before and during pregnancy, Oregon, 2009–2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Intimate partner violence before and during pregnancy, Oregon, by race/ethnicity, 2014



Note: Please use caution when interpreting race/ethnicity data due to small sample size.

Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Key indicator: Prenatal oral health

Indicator details:

- Definition: Percentage of women with a live birth who had a dental visit during their pregnancy
- Numerator: Number of women with a live birth who had a dental visit during their pregnancy
- Denominator: Number of women with a live birth

Significance of indicator: Dental care is an important part of a healthy pregnancy. Pregnancy increases the risk for tooth decay (cavities) and periodontitis (gum disease). Oral health diseases may increase risk of poor pregnancy outcomes, such as low birth weight. (24) It is specifically recommended that women receive dental care during pregnancy.

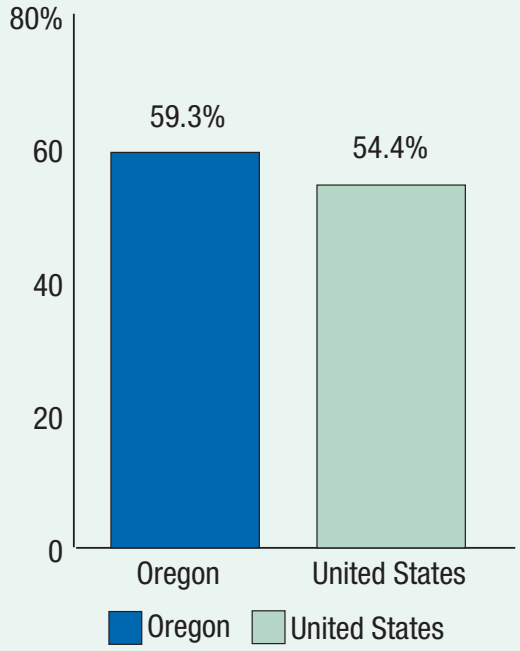
Children born to women with tooth decay are much more likely to develop cavities themselves. (25) Mothers can pass cavity-causing germs to their baby by actions such as by cleaning a pacifier with their own mouth or sharing a spoon.

The greatest burden of oral disease lies in disadvantaged and poor populations. A leading factor in this burden of disease is the lower proportion of women in these communities with access to dental care. In 2007–2009, 35% of U.S. women reported they did not have a dental visit within the past year and 56% did not visit a dentist during pregnancy. (26) Barriers to dental care include lack of insurance coverage, education, transportation and dental providers that see pregnant women.

Status in Oregon: The percentage of women who had a dental visit during pregnancy was higher in Oregon than the United States in 2013 (59.3% vs. 54.4%). However, the percentage of women in Oregon with a dental visit during pregnancy has been decreasing from 2012 to 2014 (61.1% to 55.5%).

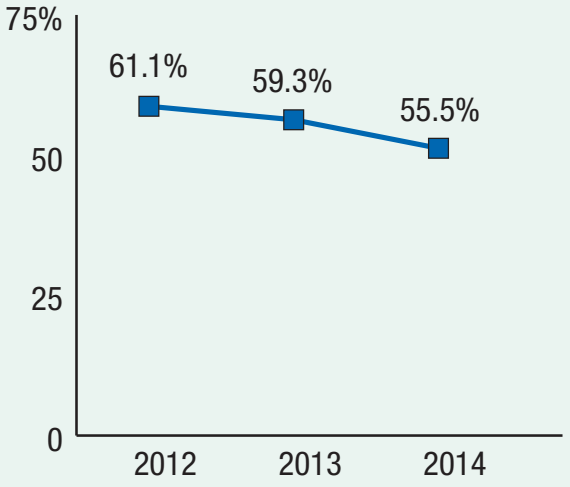
Disparities in Oregon: In Oregon in 2014, the percent of women who had a dental visit during pregnancy was relatively even among most race/ethnic groups. We found the rate of prenatal dental visits in Hispanic women to be 3-6 percentage points higher than other race/ethnic groups (59.9%).

Prenatal dental visit, Oregon and United States, 2013



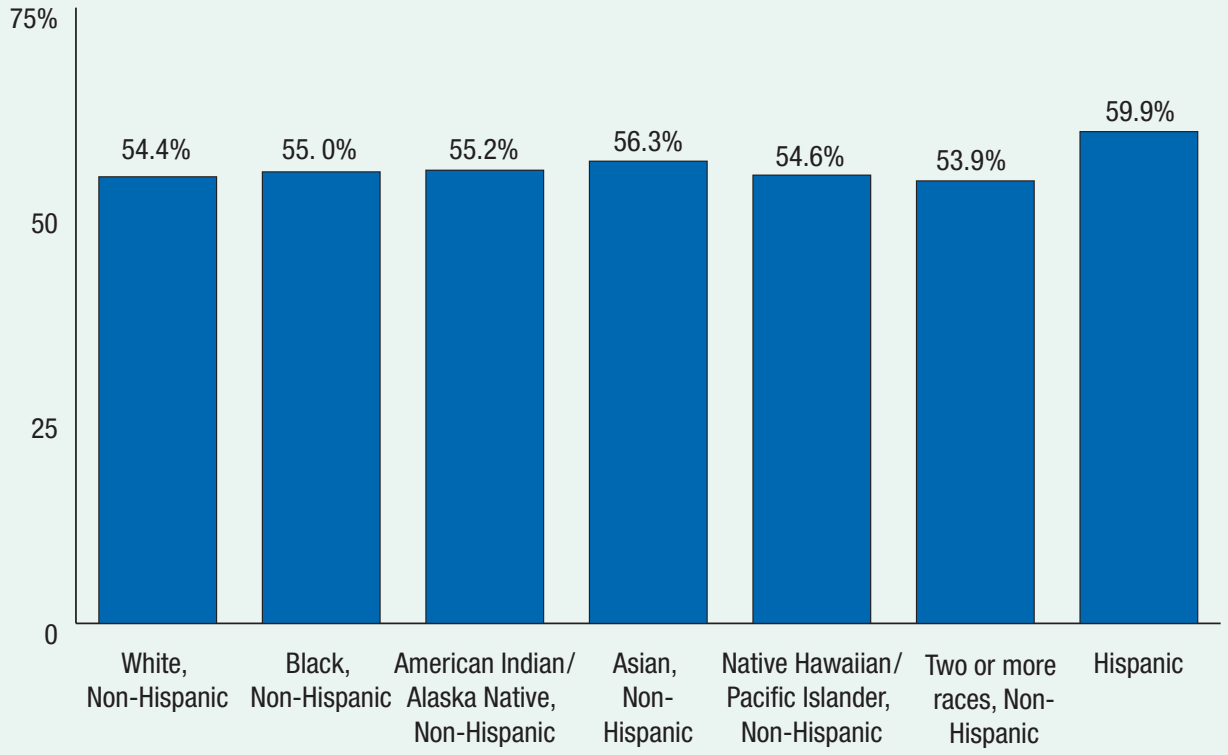
Data source: National Survey of Children's Health

Prenatal dental visit, Oregon, 2012–2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Prenatal dental visit, by race/ethnicity, Oregon, 2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Infant health

Infant health

Key indicator: Preterm birth

Indicator details:

- Definition: Percent of live births with a gestational age of less than 37 weeks
- Numerator: Number of live births with a gestational age of less than 37 weeks
- Denominator: Number of live births

Significance of indicator: Preterm birth occurs when a baby is born before 37 weeks of pregnancy and it affects approximately one in 10 infants born in the United States. Preterm birth is the leading cause of newborn death and a major determinant of illness and disability among infants, including developmental delays, chronic respiratory problems and vision and hearing impairment. (27)

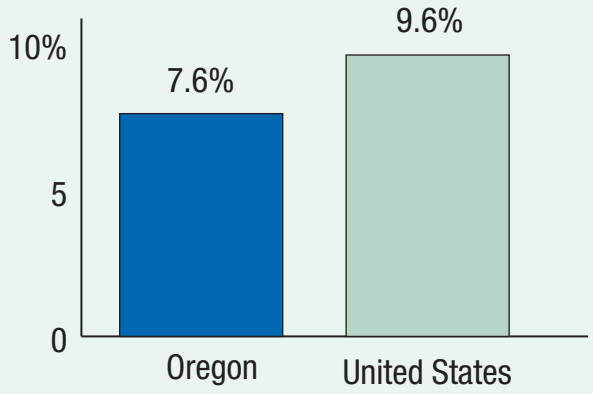
In 2015, for the first time since 2007, there was a slight increase in the national preterm birth rate and significant disparities between racial and ethnic groups persist. In 2015, the rate of preterm birth among African-American women (13%) was approximately 50 percent higher than the rate of preterm birth among White women (9%). (28) Preterm births are more likely among teen mothers and mothers 40 and older.

Many times the cause of preterm birth is unknown. Risk factors include multiple pregnancies, infections and chronic conditions such as diabetes and high blood pressure, and a prior preterm birth. (29)

Status in Oregon: The rate of preterm birth in Oregon is lower than the national rate (7.6% compared to 9.6% in 2015). Between 2006 and 2015, the rate of preterm birth has dropped from 8.4% to 7.6%.

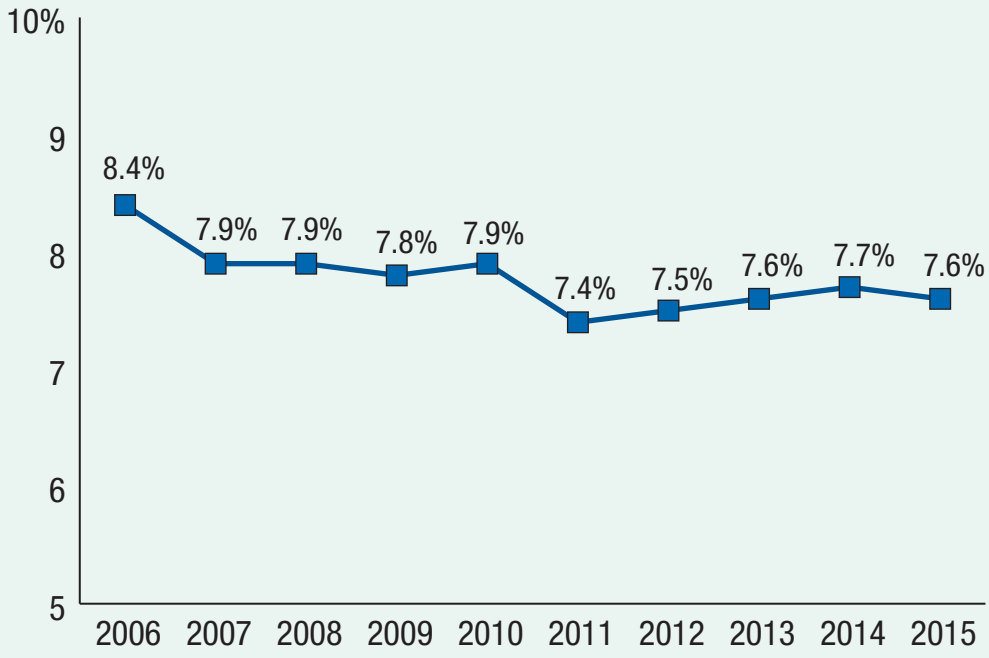
Disparities in Oregon: When compared to non-Hispanic White women (7.3%), the rate of preterm birth in Oregon in 2014 was higher for non-Hispanic Black (9.7%), non-Hispanic Hawaiian/Pacific Islanders (10.9%), and non-Hispanic American Indian/Alaska Natives (7.6%).

Preterm birth, Oregon and United States, 2015



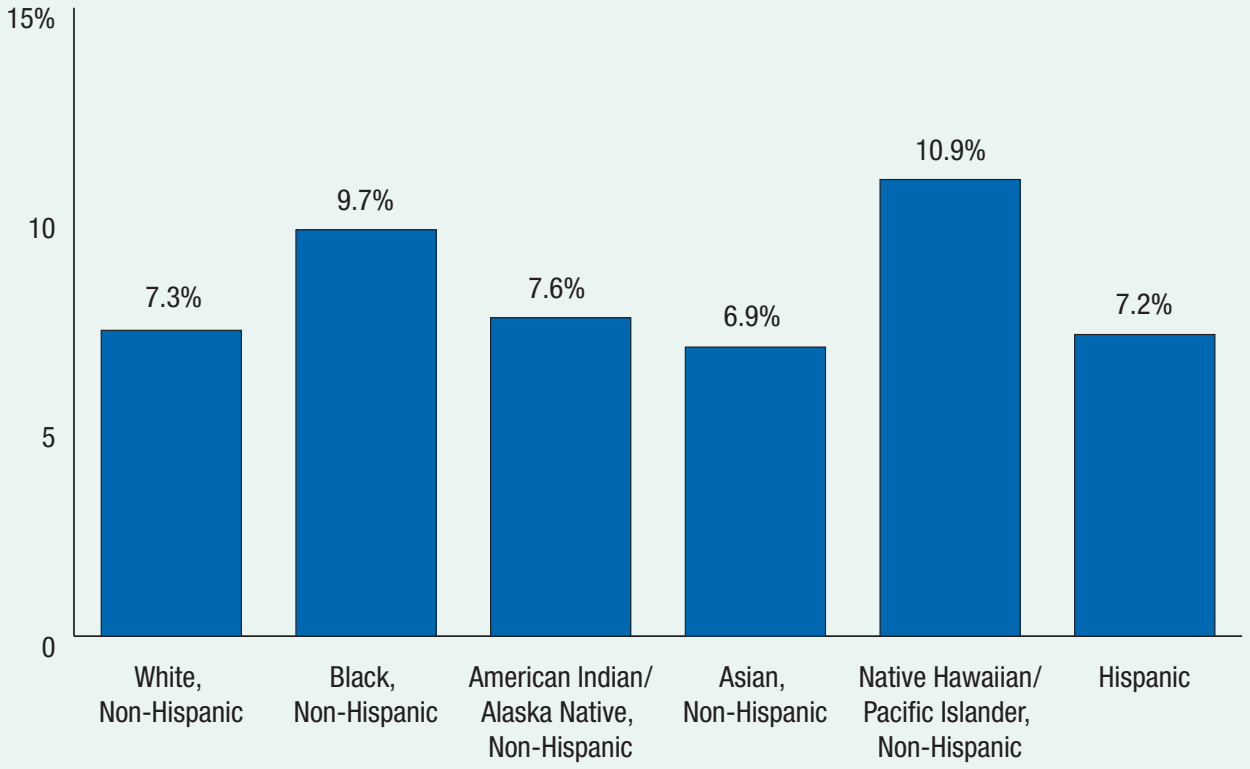
Data source: National Vital Statistics and Oregon Center for Health Statistics

Preterm birth, Oregon, 2006–2015



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Preterm birth, by race/ethnicity, Oregon, 2014



Data source: Oregon Center for Health Statistics

Key indicator: Breastfeeding

Indicator details:

- Definition: A) Percentage of infants ever breastfed
  B) Percentage of infants exclusively breastfed at 6 months
- Numerator: A) Number of infants ever breastfed
  B) Number of infants exclusively breastfed at 6 months
- Denominator: A) & B) Number of infants

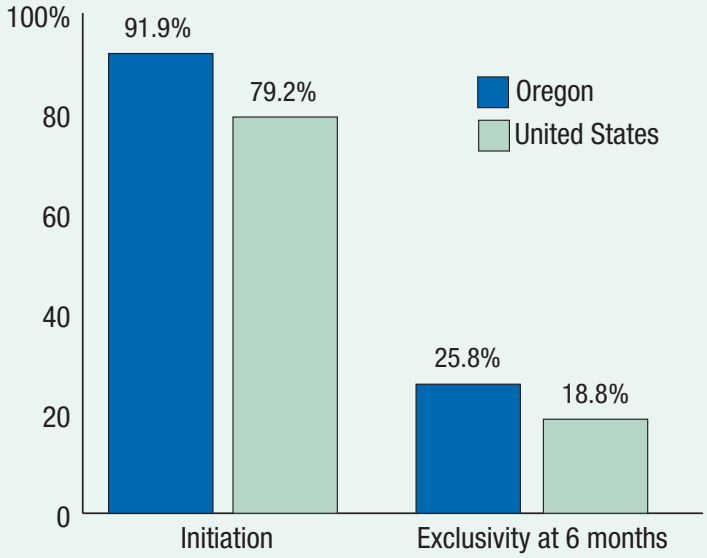
Significance of indicator: The health benefits of breastfeeding are well recognized as breast milk is uniquely suited to the infant's nutritional needs. (30) Breast milk is a live substance that contains immunological properties against a host of illnesses and diseases. Infants who do breastfeed have a lower risk of SIDS (sudden infant death syndrome). (31) Similarly, mothers who breastfeed have a decreased risk of breast and ovarian cancer, have better maternal health outcomes, and have lower risks of postpartum depression. (32)

Unfortunately, not all populations breastfeed to the most optimal extent. Mothers with the lowest rates of breastfeeding tend to be young, low-income, African American, unmarried, less educated and overweight or obese before pregnancy. (33)

Status in Oregon: Oregon's percentage of infants ever breastfed in 2014 was higher than the national rate (91.9% compared to 79.2%). Oregon's rate of infants who are exclusively breastfed at 6 months also exceeds the national rate (25.8% compared to 18.8%). However breastfeeding duration and exclusivity did not meet the American Academy of Pediatrics recommended guidelines of 6-month exclusive breastfeeding and continued breastfeeding at least until 12 months of age. (34)

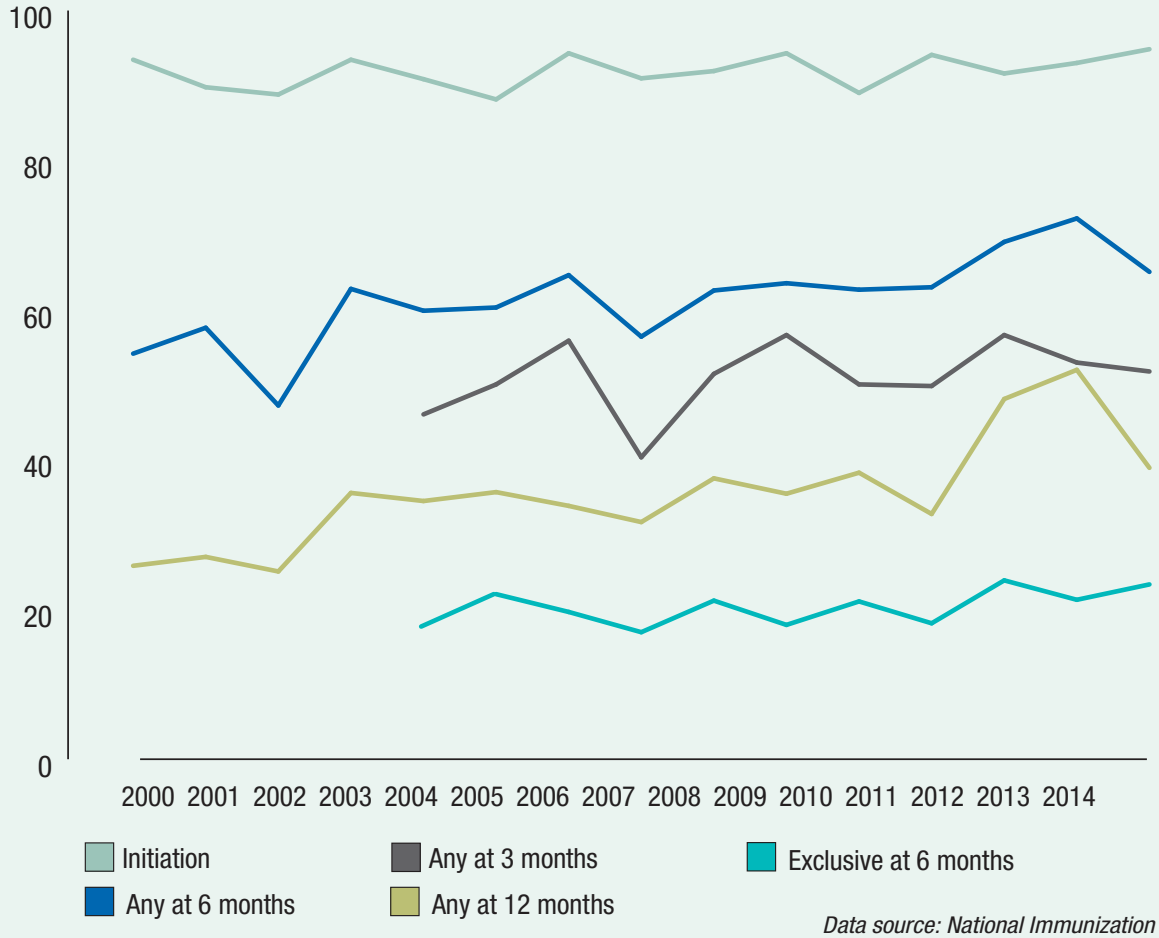
Disparities in Oregon: In Oregon, the rate of infants ever breastfed for non-Hispanic Blacks, non-Hispanic American Indians/Alaska Natives, non-Hispanic Native Hawaiians/Pacific Islanders and non-Hispanic Asians was lower than the rate for non-Hispanic Whites among infants born in 2012. The rate of infants ever breastfed was higher for non-Hispanic mothers of two or more races and Hispanic mothers in 2014. Among infants born in 2012 in Oregon, the only race/ethnicity group with a higher rate of exclusive breastfeeding at 6 months than non-Hispanic Whites was non-Hispanic American Indian/Alaska Natives, with all other groups being lower.

Breastfeeding initiation and exclusivity at 6 months, Oregon and United States, 2014



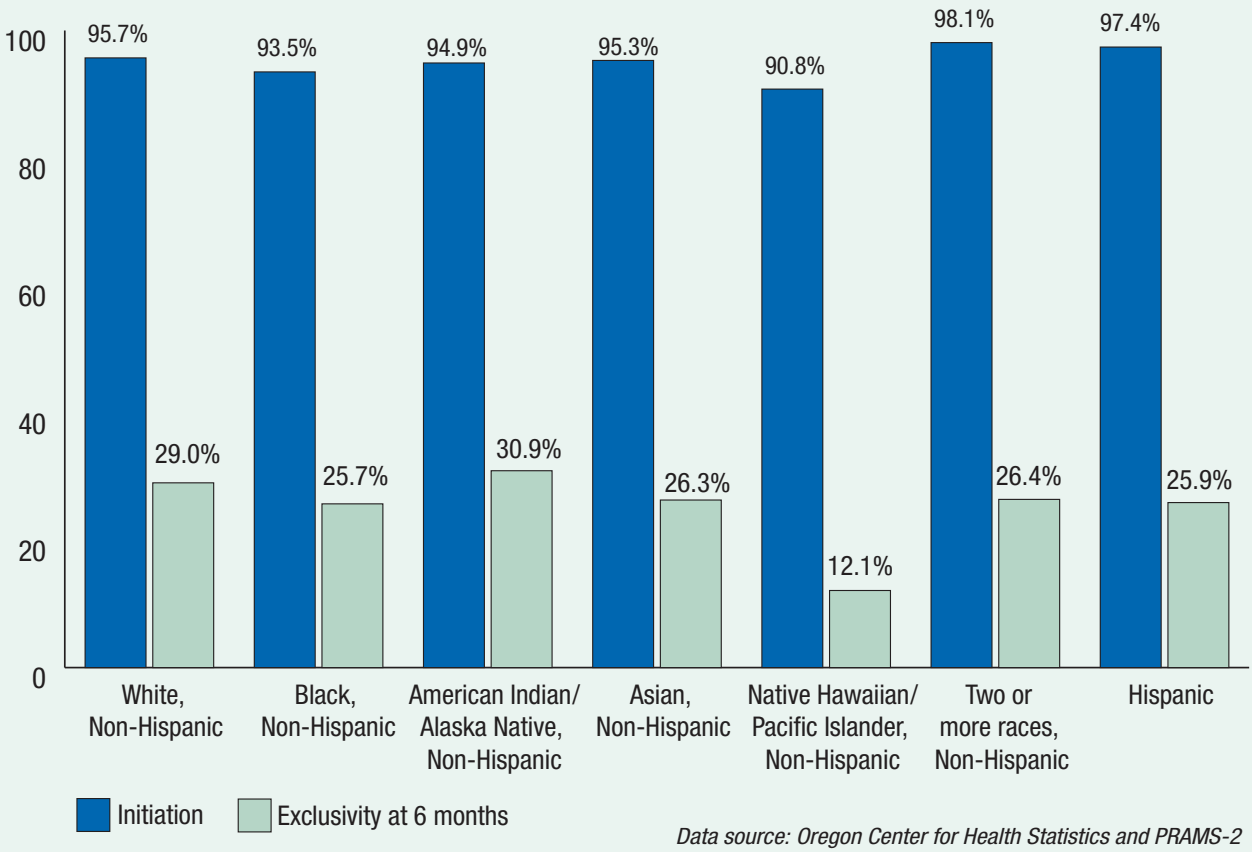
Data source: National Immunization Survey

Initiation, duration and exclusivity of breastfeeding in Oregon, 2000–2014



Data source: National Immunization Survey

Breastfeeding initiation (2014) and exclusivity at 6 months (2011 births), by race/ethnicity, Oregon



Data source: Oregon Center for Health Statistics and PRAMS-2

Key indicator: Safe sleep

Indicator details:

- Definition: Percentage of women with a live birth who most often place their infants on their backs to sleep
- Numerator: Number of women with a live birth who most often place their infants on their backs to sleep
- Denominator: Number of women with a live birth

Significance of indicator: Sudden unexpected infant death (SUID) is the leading cause of death among babies between birth and 1 year of age. (35) SUID includes all unexpected deaths in infants less than 1 year old including those without a clear cause, such as SIDS, and those from a known cause, such as accidental suffocation. The three commonly reported types of SUID are sudden infant death syndrome (SIDS); accidental suffocation and strangulation in bed (ASSB); and unknown cause.

In the United States, in 2015, there were approximately 1,600 deaths due to SIDS, 1,200 deaths due to unknown causes and approximately 900 deaths due to accidental suffocation and strangulation in bed. (36)

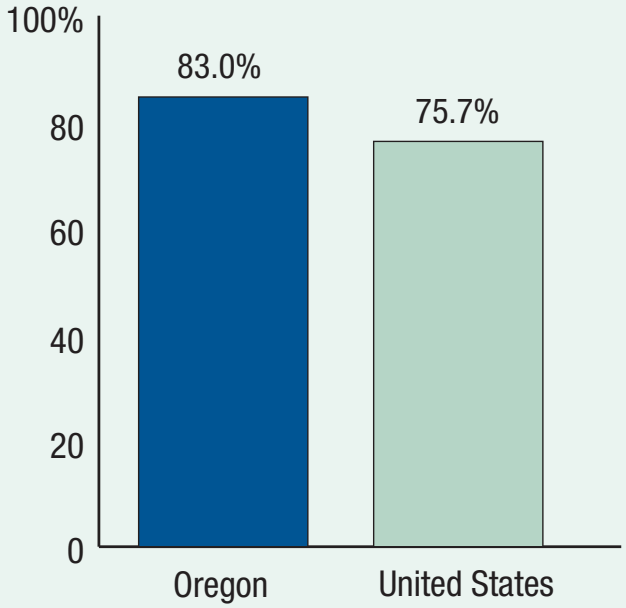
The SUID rate declined considerably following the release of the American Academy of Pediatrics recommendation to place babies on their back to sleep in 1992 and the initiation of the Back to Sleep campaign in 1994. However, rates have remained unchanged in recent years, and racial and ethnic disparities persist. (37)

Between 2011 and 2014, SUID rates for American Indian/Alaska Native and non-Hispanic Black infants were more than twice those of non-Hispanic White infants. (38)

Status in Oregon: There are approximately 40 sudden unexpected infant deaths (SUID) every year in Oregon. In 2013, a higher percentage of infants in Oregon were most frequently placed on their backs to sleep, as opposed to those in the United States as a whole (83.0% vs. 75.7%). In addition to this, the rate ranged from 78.7% in 2009 to nearly 83% in 2014.

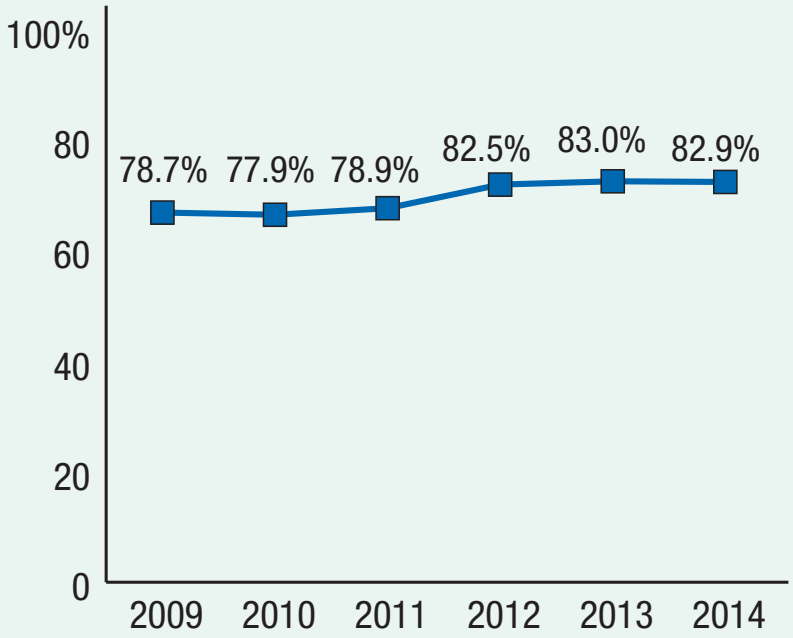
Disparities in Oregon: Black infants were placed on their backs approximately 72% of the time. All other race/ethnicity groups had a higher rate of infants put to sleep on their backs, as compared to non-Hispanic White infants. While babies from other race/ethnic groups were placed on their back to sleep from approximately 82%-92% of the time

Infant placed on back to sleep, Oregon and United States, 2013



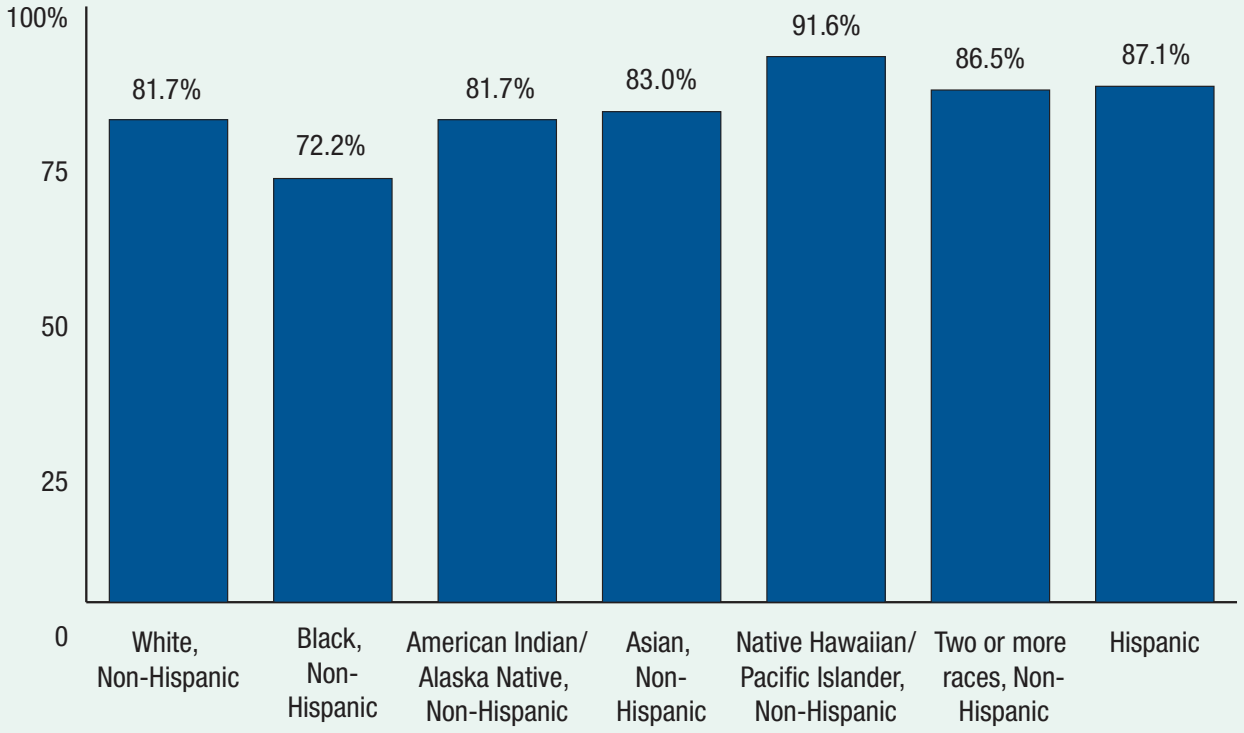
Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Infant placed on back to sleep, Oregon, 2009–2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Infant placed on back to sleep, by race/ethnicity, Oregon, 2014



Data source: Pregnancy Risk Assessment Monitoring System (PRAMS)

Key indicator: Infant mortality

Indicator details:

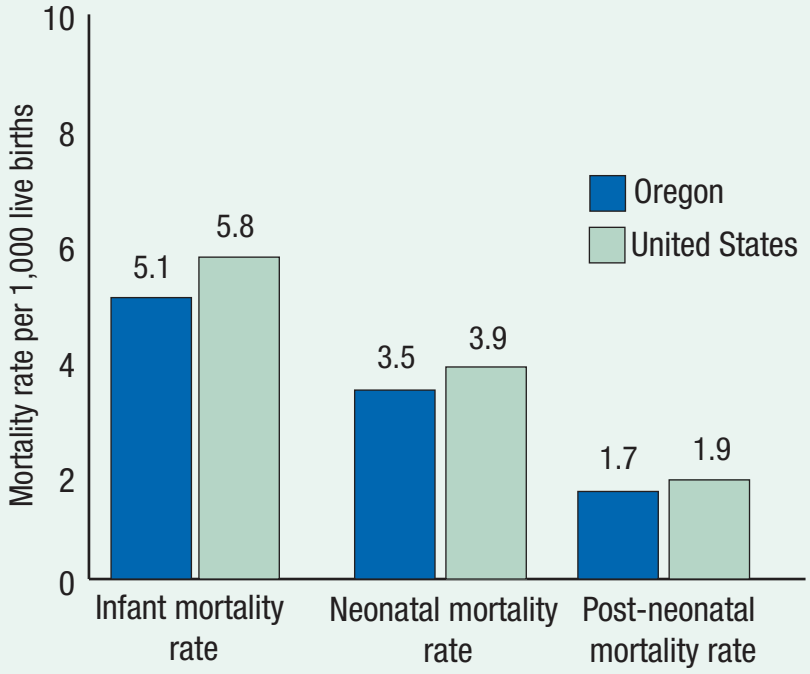
- Definition: A) Neonatal mortality: Rate of deaths of infants aged 0–27 days per 1,000 live births
  B) Postneonatal mortality: Rate of deaths of infants aged 28 days–11 months per 1,000 live births
  C) Infant mortality: Rate of deaths of infants under the age of 1 year per 1,000 live births
- Numerator: A) Number of deaths of infants aged 0–27 days
  B) Number of deaths of infants aged 28 days–11 months
  C) Number of deaths of infant under the age of 1 year
- Denominator: A), B) and C) Number of live births

Significance of indicator: The death of infants — from the time of birth through 1 year of age — is widely used as a measure of community health status and of the availability and quality of health care. However, it is more than that. Every infant death resonates throughout their family and community. The majority of infant deaths take place in the first four weeks of life (neonatal deaths), with most of those during the first week (early neonatal deaths). (29) The most common causes of infant mortality are birth defects and chromosomal anomalies, being born very prematurely, maternal complications of pregnancy, sudden unexpected infant death syndrome (SUIDS), and unintentional injuries. Health of mothers before and during pregnancy, their ability to access good quality and culturally appropriate care during pregnancy and birth, their socioeconomic status, and many other factors play a role in the health of infants.

Status in Oregon: In 2014, Oregon's rates of infant, neonatal and postneonatal mortality were lower than the national rates. These rates have remained fairly level between 2006 and 2015.

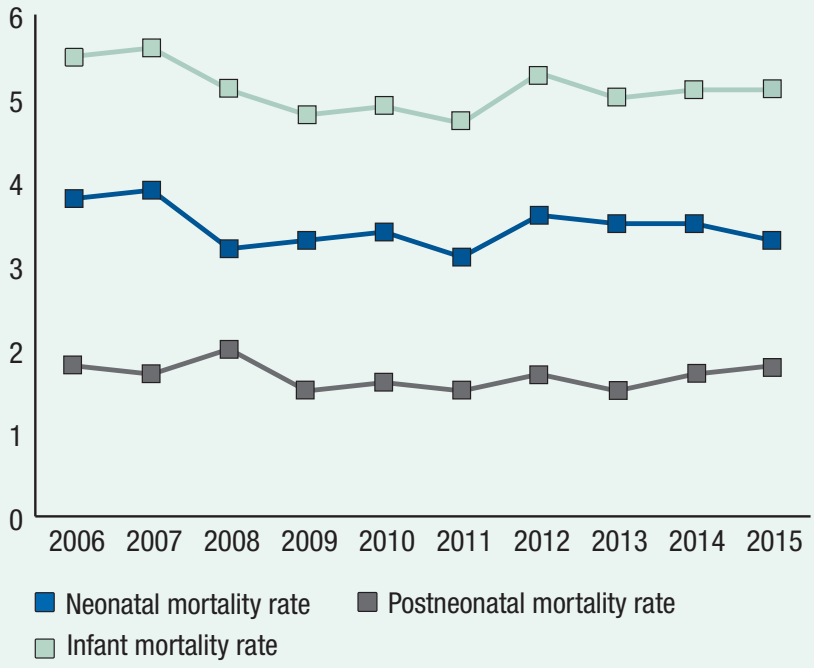
Disparities: For individual race and ethnicity categories, we found that infant, neonatal and postneonatal mortality rates among non-Hispanic Black, Asian, two or more races and Hispanic women were all higher than or equal to the rate among non-Hispanic White women. We could not determine accurate rates for American Indian/Alaska Native women because of a small sample size.

Infant, neonatal and postneonatal mortality rates, Oregon and United States, 2014



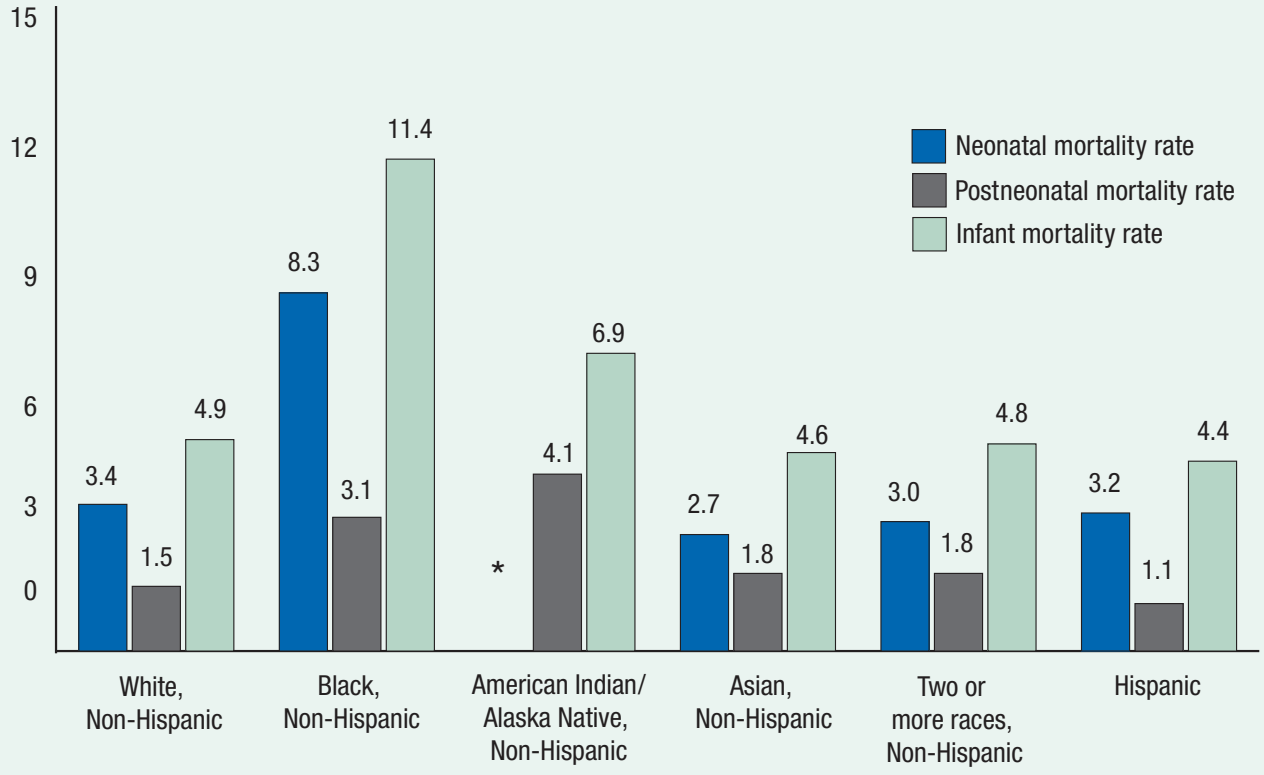
Data source: Oregon Center for Health Statistics

Neonatal, postneonatal and infant mortality, Oregon, 2006–2015



Data source: Oregon Center for Health Statistics

Neonatal, postneonatal and infant mortality, by race/ethnicity, Oregon, 2013–2015 birth cohort



Data source: Oregon Center for Health Statistics

* indicates rate not shown due to five or fewer deaths.

Note: Native Hawaiian/Pacific Islander are not shown due to small sample size.

Child Health

Child health

Key indicator: Childhood overweight/obesity

Indicator details:

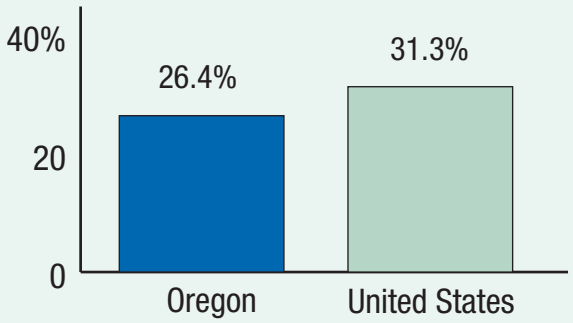
- Definition: Percentage of children aged 10–17 years who are overweight or obese (body mass index at or greater than the 85th percentile)
- Numerator: Number of children aged 10–17 years who are overweight or obese (body mass index at or greater than the 85th percentile)
- Denominator: Number of children aged 10–17 years

Significance of indicator: Childhood obesity has more than doubled in the past 30 years. The percentage of children aged 6 to 11 years in the United States who were obese increased from 7% in 1980 to nearly 18% in 2012. In 2012, more than one-third of children were overweight or obese. (39) Overweight and obese children are likely to stay obese into adulthood and are more likely to experience psychological and social problems as well as develop chronic diseases such as diabetes, cardiovascular diseases, musculoskeletal disorders and certain types of cancer (endometrial, breast and colon) at a younger age. Obesity disproportionately affects children from low-income families, particularly in urban settings where "food deserts" (areas that lack ready access to healthy food) are more common. (40) Many low-income families face a double burden of disease caused by inadequate prenatal, infant and child nutrition followed by exposure to high-fat, energy-dense, micronutrient-poor foods and a lack of physical activity as the child grows older. (41)

Status in Oregon: The rate of overweight and obesity among children 10 to 17 years old in Oregon was lower than the national rate in 2011/12. Oregon's rate of overweight and obesity among children 10 to 17 years old remained fairly stable from 2003 to 2011/12.

Disparities in Oregon:
The percentage of children aged 10 to 17 years old in Oregon who were overweight or obese in 2011/12 was lowest among non-Hispanic Whites, with higher rates among all other race/ethnicity groups.

Overweight/obesity among children age 10–17 years, Oregon and United States, 2011–2012

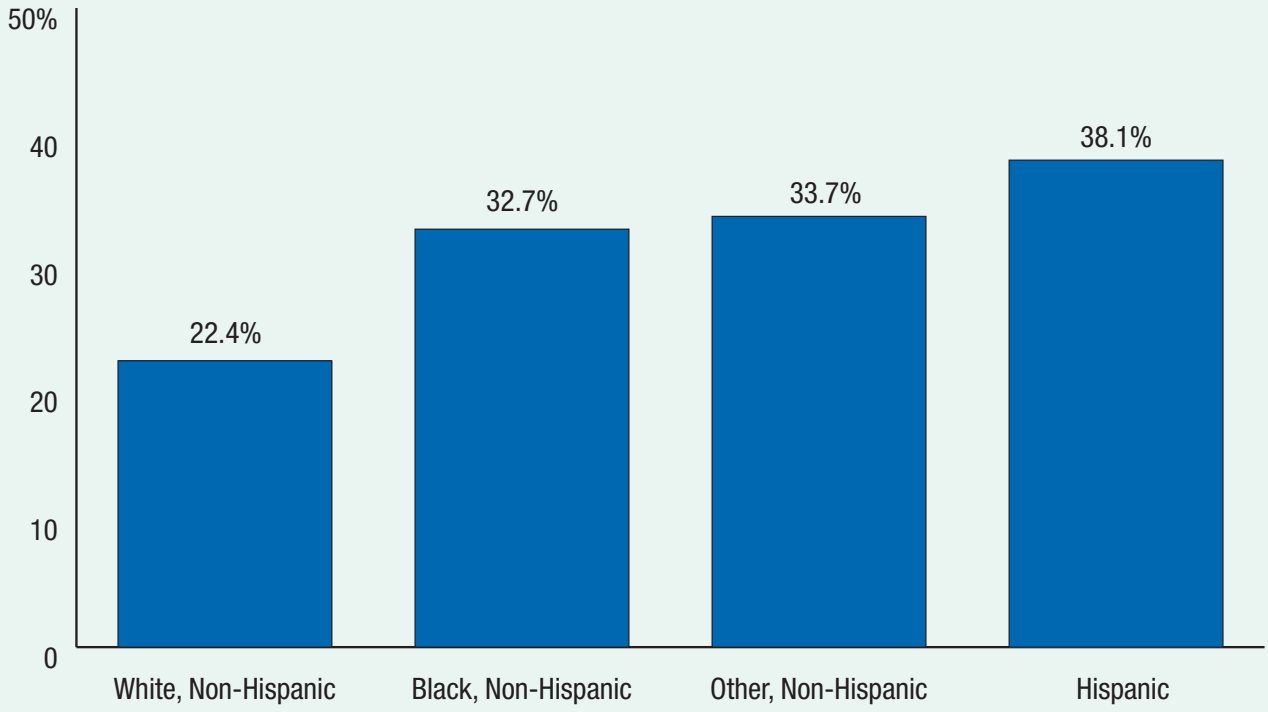


Data source: National Survey of Children's Health

Overweight/obesity among children age 10–17 years, Oregon, 2003–2011/12

Data source: National Survey of Children's Health

Overweight/obesity among children aged 10–17 years, by race/ethnicity, Oregon, 2011/12



Data source: National Survey of Children's Health

Note: Other, Non-Hispanic includes Asian, Native American, Alaska Native and Native Hawaiian due to the small sample size of these groups.

Key indicator: Adverse childhood events

Indicator details:

- » Definition: Percentage of children aged 0–17 years who have experienced two or more adverse childhood events
- » Numerator: Number of children aged 0–17 years who have experienced two or more adverse childhood events
- » Denominator: Number of children aged 0–17 years

Significance of indicator:

The impact of adversity in childhood is profound. Early experiences influence the developing brain. Significant adversity during early sensitive periods of development can create toxic stress and interrupt normal brain development, leading to lifelong problems. Traumatic childhood experiences are a root cause of many social, emotional, physical and cognitive impairments. These can lead to increased incidence of developmental delays and other problems in childhood. (3) In addition, traumatic childhood experiences can lead to adult health risk behaviors (smoking, alcoholism), violence or re-victimization, mental illness (i.e., depression and suicide), disease (i.e., heart disease, cancer and diabetes), disability and premature mortality. (4)

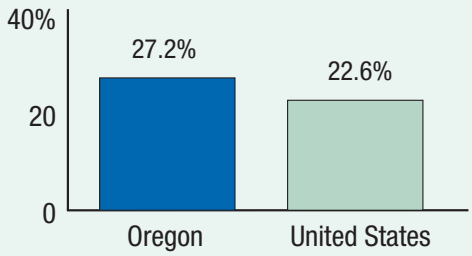
Adverse childhood experiences as defined in the original ACEs study included abuse, neglect and household dysfunction (household substance abuse or mental illness, parental divorce, incarcerated household member, exposure to domestic violence). More recently, the definition expanded to include a range of traumatic experiences including historical trauma; being a victim of discrimination, community violence or war; being a refugee; school violence and bullying; or experiencing severe social deprivation including poverty, hunger and homelessness. ACEs are common, with 44% of Oregonians having experienced two or more ACEs. The health impacts increase with an increasing number of ACEs. (42) Stable, responsive, nurturing relationships can prevent or even reverse the damaging effects of early life stress, with lifelong benefits for learning, behavior and health. (43)

Understanding the prevalence and impact of ACEs can inform efforts to prevent trauma and promote resilience, as well as to modify systems and institutions that serve children and families to interrupt the cycle of trauma. In this indicator, children who have experienced two or more ACEs are considered to have a "high" ACEs score. This is different from the classification used in the preconception/women's health ACES indicator, which categorizes four or more ACEs as "high." This is due to the distribution of the data in each population, with adults reporting higher ACEs scores on average.

Status in Oregon: The percentage of children 0 to 17 years of age who have experienced two or more adverse childhood experiences was higher in Oregon than in the United States as a whole (27.2% in Oregon, 22.6% nationally). The National Survey of Children's Health did not ask about this prior to 2011, so Oregon data over time are not available.

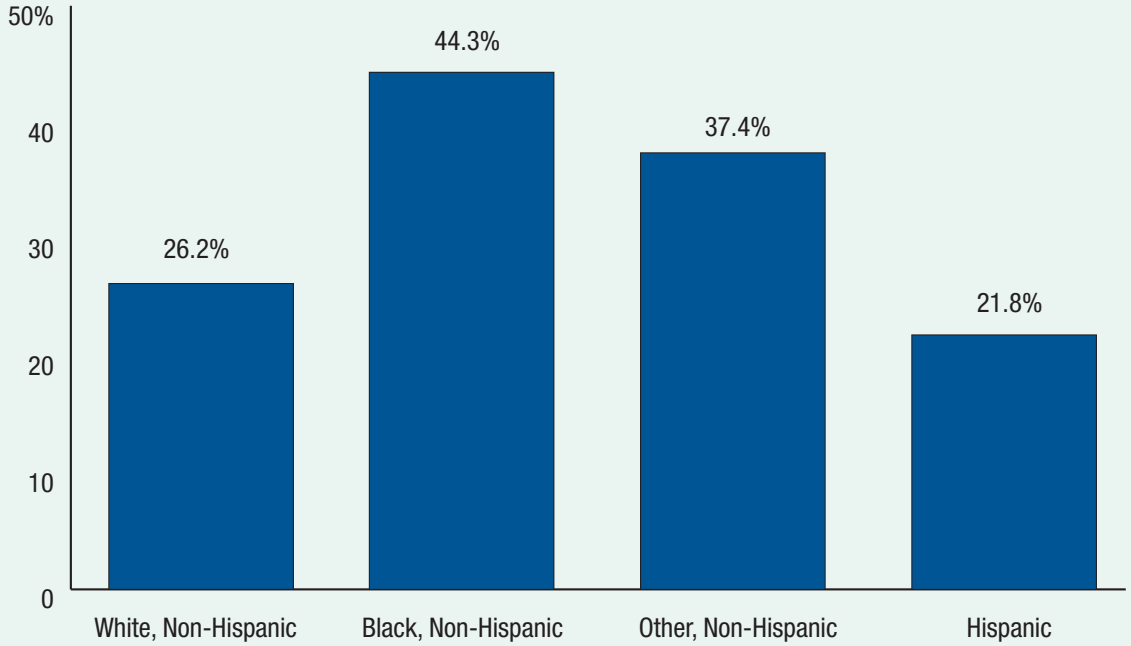
Disparities in Oregon: A higher percentage of non-Hispanic Black children 0 to 17 years of age and other non-Hispanic children (including Asian, Native American, Alaska Native or Native Hawaiian groups) experienced two or more adverse childhood events than non-Hispanic White children in 2011/12.

Children age 0–17 years who have experienced two or more adverse childhood events, Oregon and United States, 2011/12



Data source: National Survey of Children's Health

Children aged 0–17 years who have experienced two or more adverse childhood events, by race/ethnicity, Oregon, 2011/12



Data source: National Survey of Children's Health

Key indicator: Childhood oral health

Indicator details:

- » Definition: Percentage of children aged 1–17 years who received at least one preventive dental visit in the past 12 months
- » Numerator: Number of children aged 1–17 years who received at least one preventive dental visit in the past 12 months
- » Denominator: Number of children aged 1–17 years

Significance of indicator: Despite being preventable, tooth decay (cavities) is one of the most common chronic childhood conditions in the United States. Tooth decay in children may cause pain and lead to infection. If not treated, it can negatively affect a child's development and school performance. It can lead to slower speech development, poor nutrition, low self-esteem and increased health care costs.

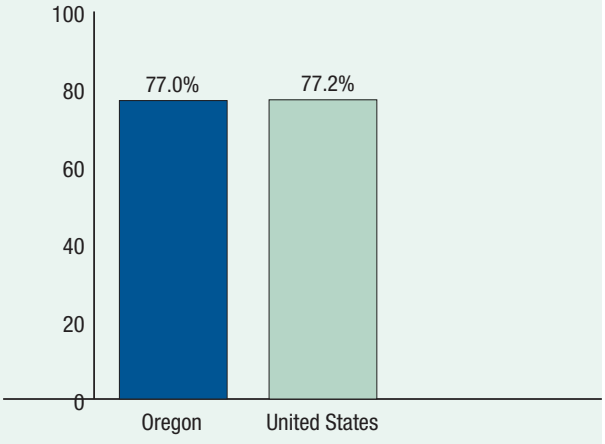
Nationally in 2011/12, approximately 23% of children aged 2 to 5 had cavities in their primary or baby teeth. Hispanic and Black children were more likely to experience tooth decay and twice as likely to leave them untreated compared to non-Hispanic White children. (44)

Children living in communities with fluoridated tap water have fewer decayed teeth than children who live in areas without fluoride in their tap water. (45) Similarly, children who brush at least once daily with fluoride toothpaste (recommendation is twice daily) or whose teeth have had fluoride varnish coating applied are less prone to tooth decay. (46) A dental visit before age 1 is recommended for every child. (47)

Status in Oregon: In 2011/12, the percentage of children 1 to 17 years of age with a preventive dental visit in the past 12 months in Oregon was close to the national rate. In Oregon, the percentage of children 1 to 17 years of age with a preventive dental visit in the past 12 months increased slightly between 2007 and 2011/12.

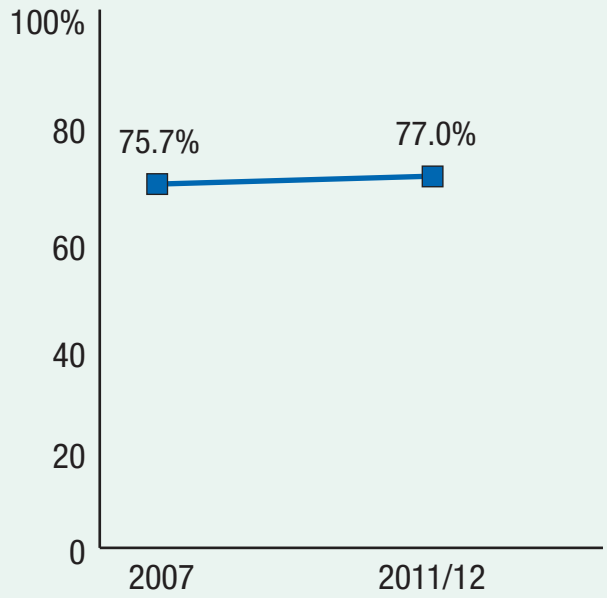
Disparities in Oregon: Compared to non-Hispanic Whites, non-Hispanic Blacks had a higher percentage of children 1 to 17 years of age with a preventive dental visit in the past 12 months in 2011/12.

Children age 1-17 years with a preventative dental visit in the past 12 months, Oregon and US



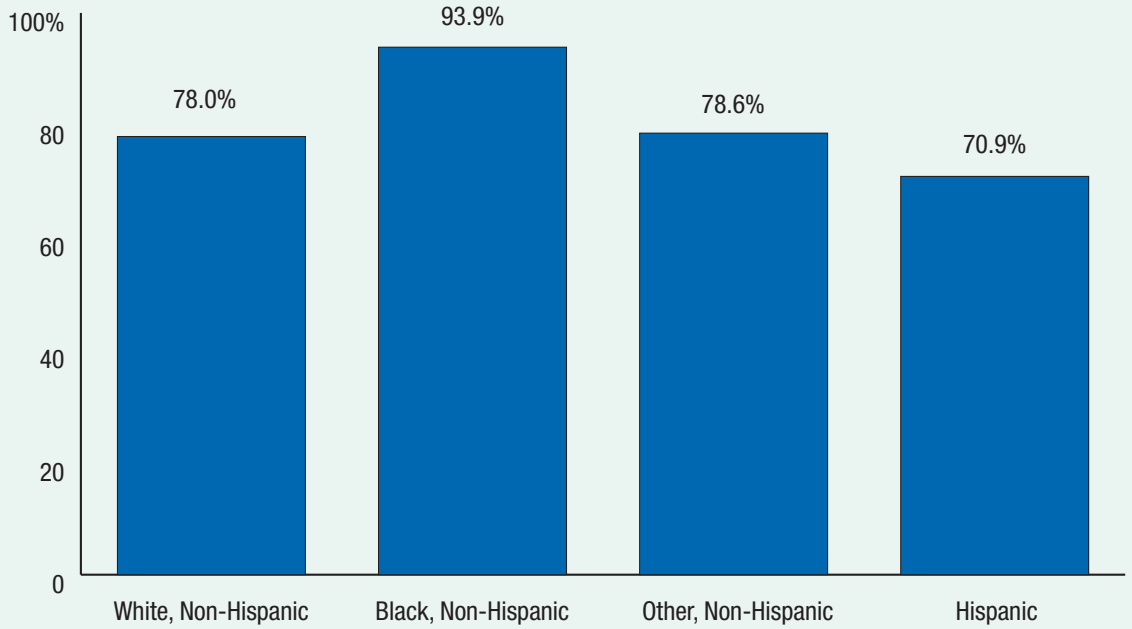
Data source: National Survey of Children's Health

Children aged 1–17 years with a preventive dental visit in the past 12 months, Oregon, 2007–2011/12



Data source: National Survey of Children's Health

Children age 1–17 years with a preventive dental visit in the past 12 months, by race/ethnicity, Oregon, 2011/12



Data source: National Survey of Children's Health

Note: Other, Non-Hispanic includes Asian, Native American, Alaska Native or Native Hawaiian due to small sample size of these groups.

Key indicator: Medical home

Indicator details:

- » Definition: Percentage of children aged 0–17 years whose health care meets medical home criteria
- » Numerator: Number of children aged 0–17 years whose health care meets medical home criteria
- » Denominator: Number of children aged 0–17 years

Significance of indicator: The medical home concept, developed by the American Academy of Pediatrics (AAP), is a model of delivering family-centered primary care within a continuous, comprehensive community-based system that sustains optimal health outcomes. (48) Additionally, the primary care provider works with the family and patient to make sure all other non-medical needs are addressed. (49)

Data show that, nationally, the receipt of care in a medical home decreases with age, and Hispanic children are the most likely to not have a medical home. In addition, children living in a household where English is not a primary language are twice as likely not to have a medical home. Statistics show that medical home enrollment also decreases for children who do not live with two biological parents, whose parents attained less than a high school education, or whose household is economically disadvantaged and lacking health insurance. (50)

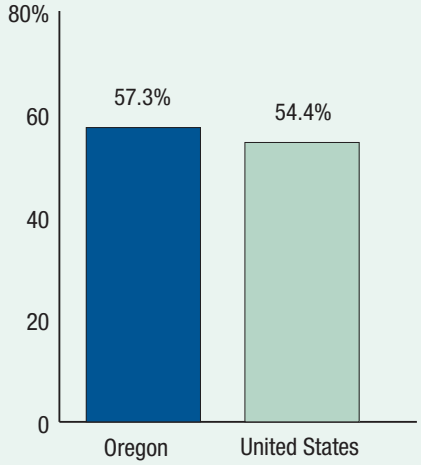
In this indicator, the criteria for a medical home include a usual place for sick/well care, a personal doctor or nurse, no difficulty in obtaining needed referrals, needed care coordination, and family-centered care received.

Status in Oregon:

The percentage of children in Oregon whose health care met medical home criteria was slightly higher than the national percentage in 2011–12. However, in Oregon the percentage of children whose health care met medical home criteria declined from 2007 to 2011/12.

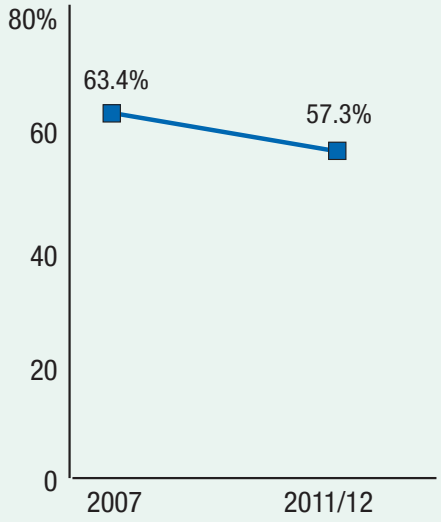
Disparities in Oregon: Compared to non-Hispanic White children in Oregon, non-Hispanic Black, other non-Hispanics and Hispanic groups had lower percentages of children whose health care met the criteria for a medical home.

Children aged 0–17 years whose health care meets medical home criteria, Oregon and United States, 2011/12



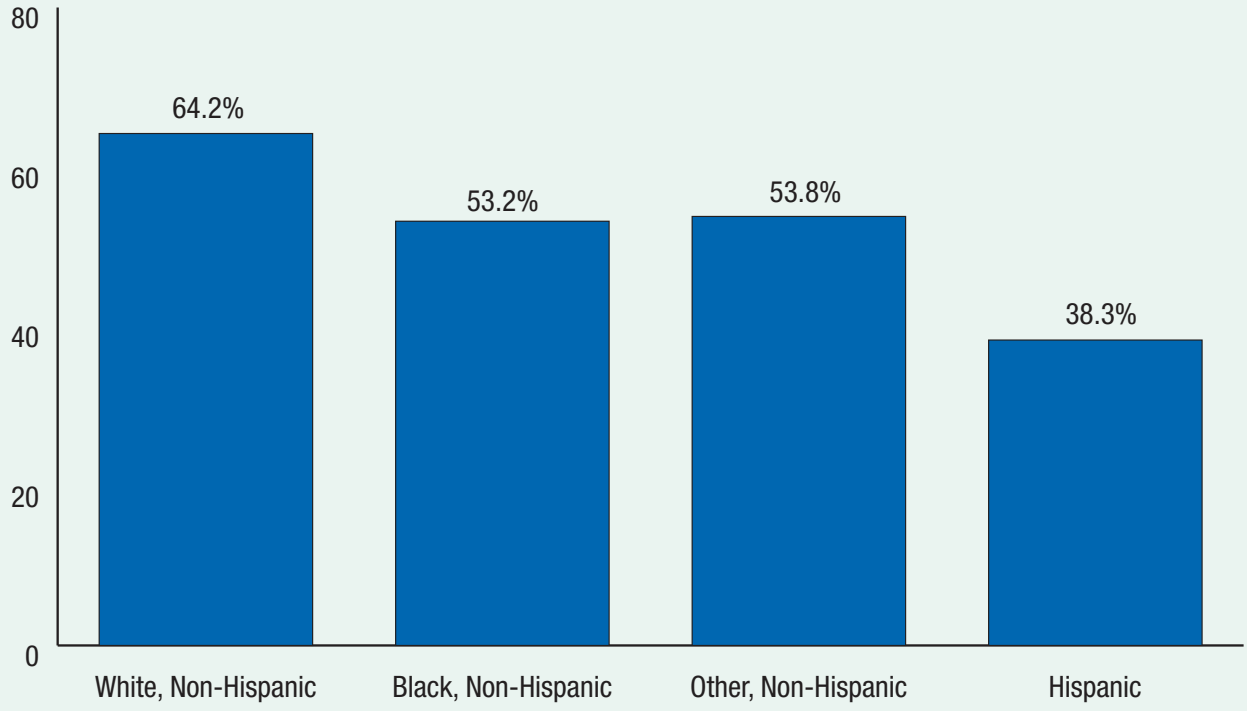
Data source: National Survey of Children's Health

Children aged 0–17 years whose health care meets medical home criteria, Oregon, 2007-2011/12



Data source: National Survey of Children's Health

Children age 0-17 years whose health care meets medical home criteria, by race/ethnicity, Oregon, 2011/12



Data source: National Survey of Children's Health

Note: Other, Non-Hispanic includes Asian, Native American, Alaska Native or Native Hawaiian due to small sample size of these groups.

Adolescent health

Adolescent health

Key indicator: Adolescent depression

Indicator details:

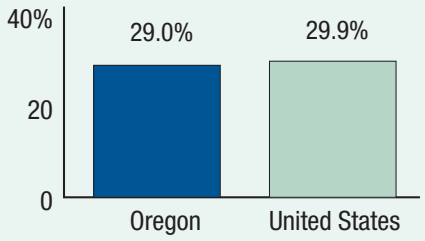
- » Definition: Percent 11th-graders who felt sad or hopeless almost every day for more than two weeks during the previous 12 months
- » Numerator: Number of 11th-graders who felt sad or hopeless almost every day for more than two weeks during the previous 12 months
- » Denominator: Number of 11th-graders

Significance of indicator: Depression is defined as a period of two weeks or longer during which there is either depressed mood or loss of interest or pleasure. It reflects a change in function such as problems with sleep, eating, energy, concentration and self-image.

Adolescents' developing brains, coupled with hormonal changes, make them more prone to depression. Between 20% and 30% of adolescents have at least one major depressive episode before they reach adulthood. In 2015, an estimated 3 million adolescents aged 12 to 17 in the United States had at least one major depressive episode. (51) Between one-quarter and one-third of adolescents forgo needed mental health care as they either lack access, adequate insurance coverage, stable living conditions, confidentiality or a combination of these factors. (51) As a result, untreated depression may lead to poor school performance, school dropout, strained family relationships, involvement with the child welfare or juvenile justice systems, substance abuse, and engaging in risky sexual behaviors. (52) Considering that suicide is the third leading cause of death in adolescents and young adults, adolescent depression is a major public health issue that needs to be systematically addressed.

Status in Oregon: The percentage of 11th-graders in Oregon with self-reported depression increased between 2009 and 2015, from 20.9% to 29.0%.In 2015, the rate of self-reported adolescent depression in the United States was slightly higher than that in Oregon. (Please note that Oregon data only include 11th grade, while U.S. data include ninth to 12th grade; therefore, interpret the difference with caution.)

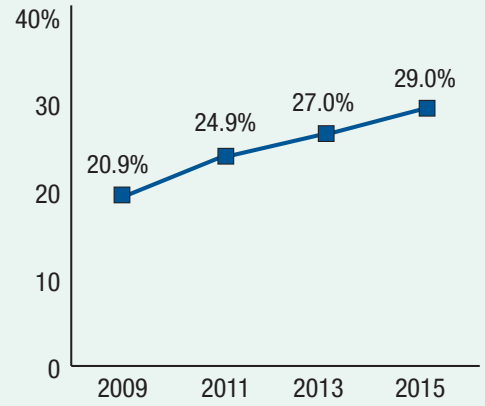
Depression among Oregon 11th graders and United States 9th–12th graders, 2015



Data source: National Center for Education Statistics

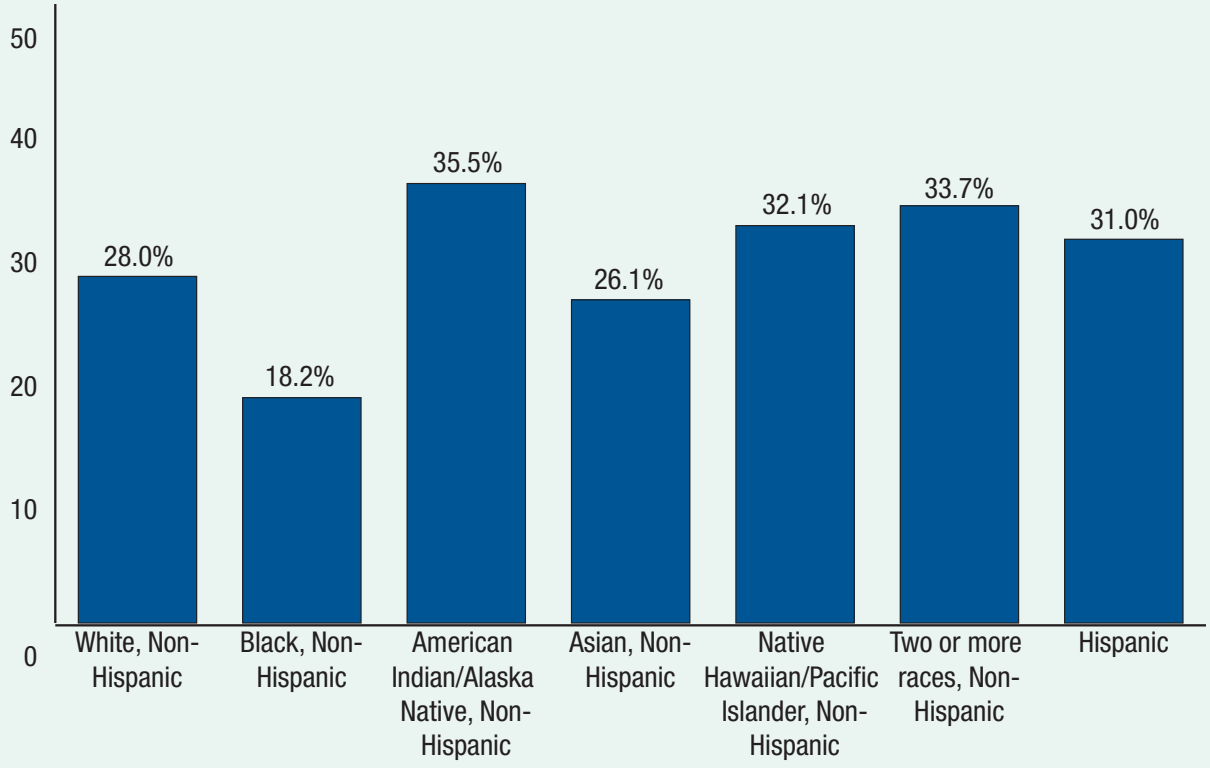
Disparities in Oregon: Compared to 11th-grade non-Hispanic Whites, a higher percent of non-Hispanic American Indian/Alaska Native, non-Hispanic Native Hawaiian/Pacific Islander, non-Hispanic of two or more races , and Hispanic 11th-graders report depression. A lower percent of non-Hispanic Black and non-Hispanic Asian 11th-graders report depression, as compared to non-Hispanic Whites.

Depression among Oregon 11th graders, 2009–2015



Data source: Oregon Healthy Teens

Depression among 11th graders, by race/ethnicity, Oregon, 2015



Data source: Oregon Healthy Teens Survey

Key indicator: Adolescent well visit

Indicator details:

- » Definition: Percent of 11th-graders with a preventive medical visit in the past year
- » Numerator: Number of 11th-graders, with a preventive medical visit in the past year
- » Denominator: Total number of 11th-graders

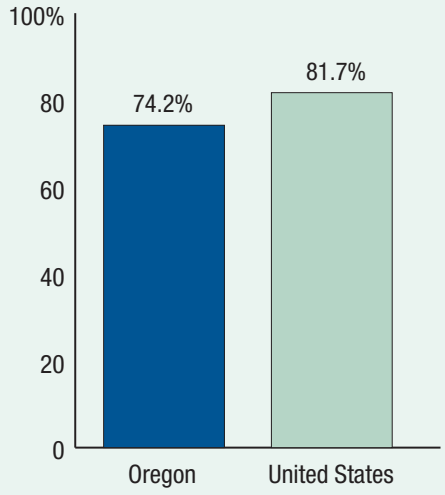
Significance of indicator: Adolescence is one of the most dynamic periods of development—a transitioning to increased independence from parents and guardians. While most adolescents enjoy good health, physical, psychological and social changes during this period call for a unique approach to health care. (53) Health behaviors established in adolescence tend to persist into adulthood, and many chronic diseases first emerge in this age group.

Preventing initiation of high risk and harmful behaviors such as smoking and promotion of healthy behaviors such as physical activity during adolescence can have long-term effects into adulthood. (54) Receiving health care services, including annual adolescent preventive well visits, helps adolescents adopt or maintain healthy habits and behaviors, avoid health damaging behaviors, manage chronic conditions and prevent disease. (55)

Status in Oregon: The percent of adolescents aged 12 to 17 years receiving a preventive medical visit was lower in Oregon than in the United States as a whole (74.2% v.s. 81.7%). However, the percent of 11th-graders in Oregon with a well visit in the past 12 months steadily increased from 2009 to 2015 (53.2% to 61.5%).

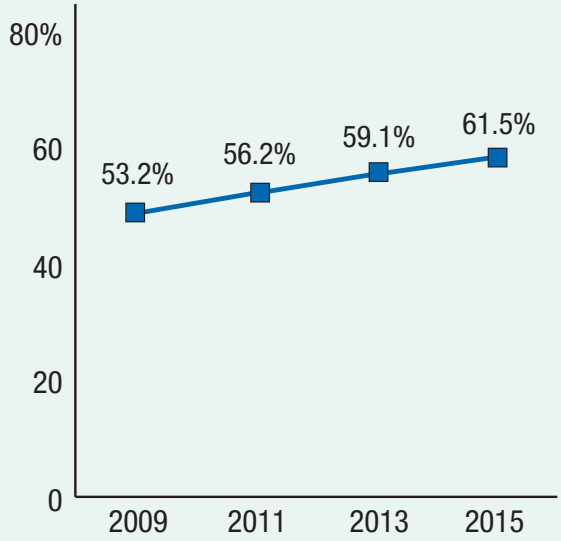
Disparities in Oregon: Compared to non-Hispanic Whites, a higher percent of non-Hispanic 11th-graders with two or more races report a well visit in the last 12 months. All other race/ethnicity groups have a lower percent of 11th-graders reporting a well visit in the last 12 months, as compared to non-Hispanic Whites.

Adolescents aged 12–17 years with a preventive medical visit in the last year, Oregon, 2011/12



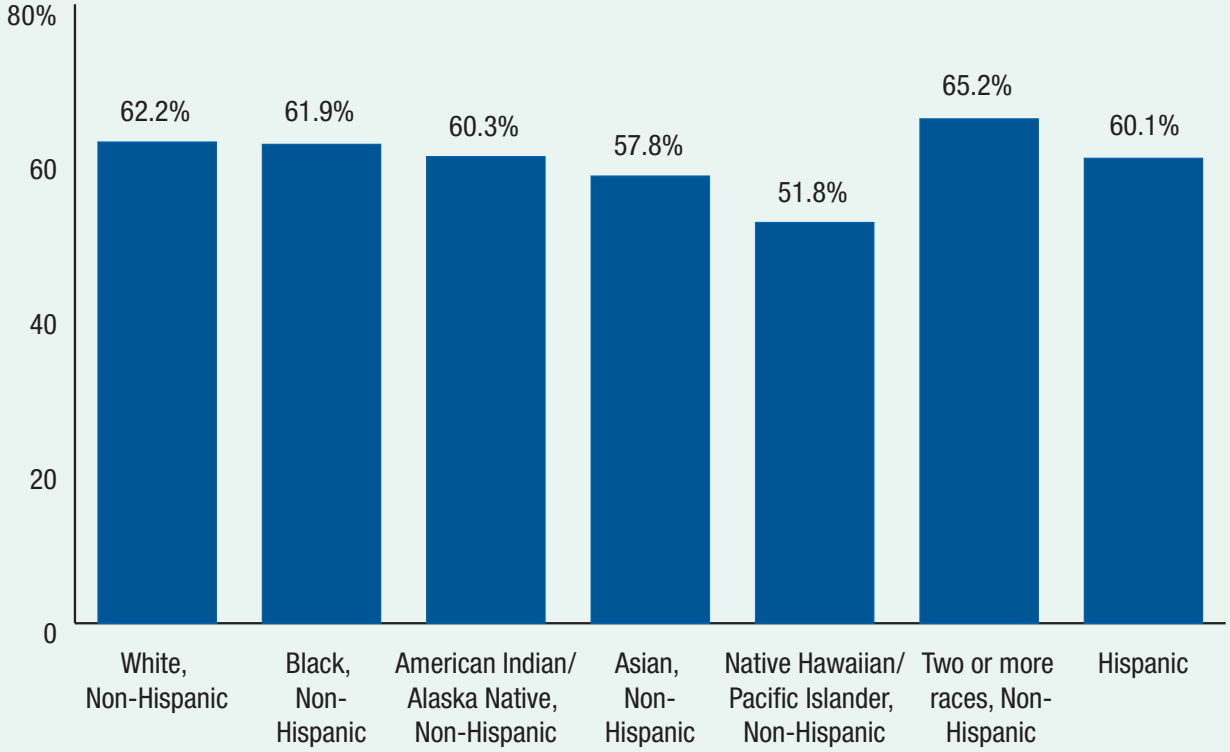
Data source: National Survey of Children's Health

Adolescent well visits in the past 12 months among 11th graders, Oregon, 2009–2015



Data source: Oregon Healthy Teens

Adolescent well visits in the past 12 months among 11th-graders, by race/ethnicity, Oregon, 2015



Data source: Oregon Healthy Teens

Key indicator: High school graduation rate

Indicator details:

- » Definition: High school graduation rate (four year cohort) as measured by the Adjusted Cohort Graduation Rate
- » Numerator: Number of students who graduate in four years with a regular high school diploma
- » Denominator: Number of students who form the adjusted cohort for the graduating class

Significance of indicator: Health and education are inextricably intertwined, and a lack of education is one of the social determinants of poor health. Although education is highly correlated with income and occupation, evidence suggests that education exerts the strongest influence on health and is associated with lower death rates and levels of risky health behaviors.

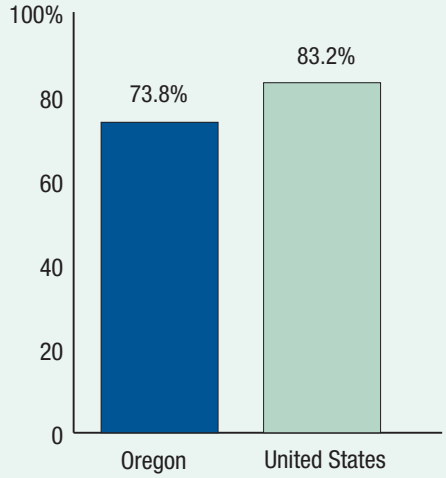
For example, the more schooling people have, the more money they earn, enabling them to purchase better housing in safer neighborhoods, healthier food, better medical care and health insurance. Furthermore, education enables people to access health information, acquire social support, strengthen social support and gain a sense of control over their lives. (56)

Unfortunately, 1.2 million students drop out of high school each year in the United States with poor and minority students most at risk for dropping out. (57) This indicator only includes data for adolescents attending public high schools, as data from private schools are unavailable.

Status in Oregon: The adjusted cohort high school graduation rate in Oregon was lower than the national rate in the 2014/15 school year (73.8% vs. 83.2%). In Oregon, the adjusted cohort high school graduation rate steadily increased between the 2008/09 and the 2015/16 school year, from 66.2% to 74.8%.

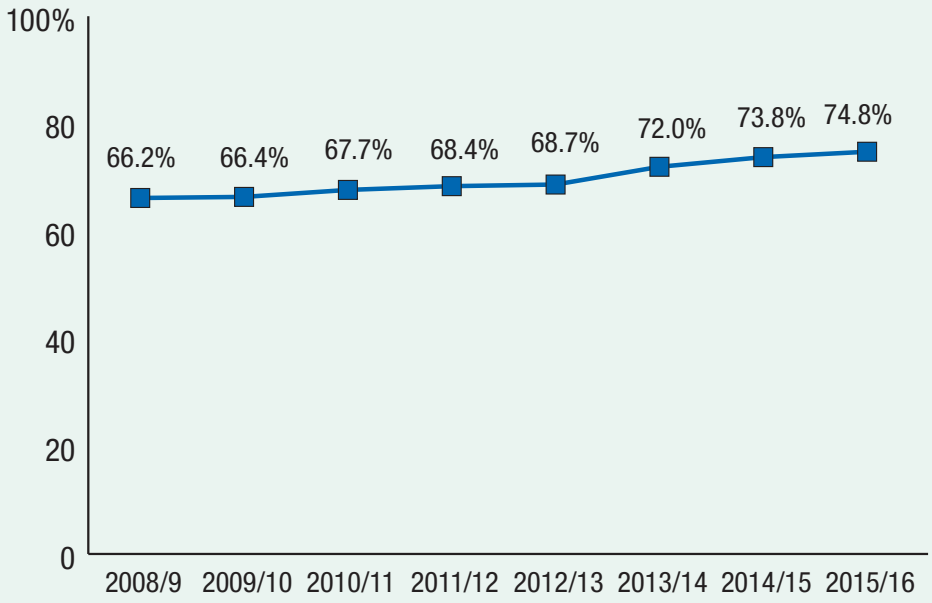
Disparities in Oregon: In Oregon, the highest high school graduation rates are among Asian non-Hispanic (88.0%) and White non-Hispanic (76.6%) students. The lowest rates among American Indian/Alaska Native non-Hispanic (56.4%) and Black non-Hispanic (66.1%) students.

High school graduation rate, Oregon and United States, 2014/15



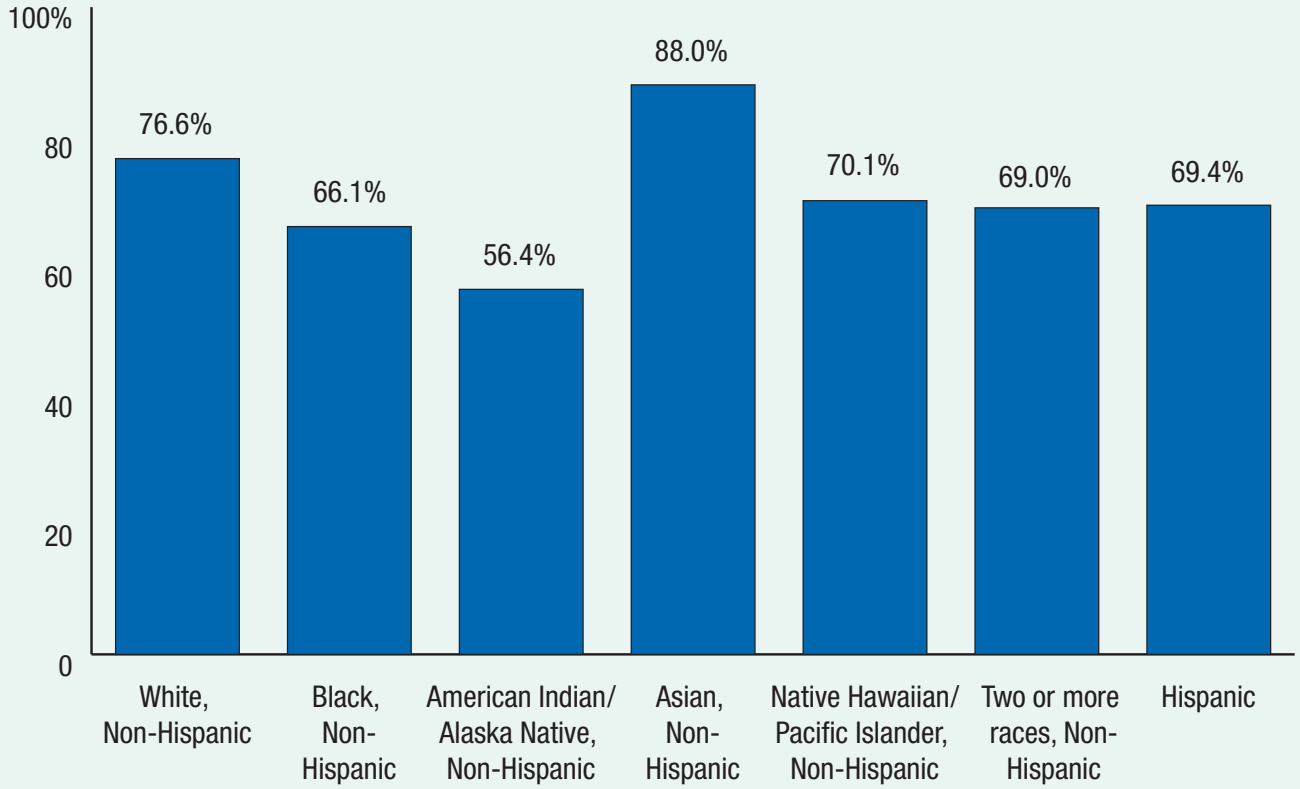
Data source: National Center for Education Statistics

High school graduation rate, Oregon, 2008/9 to 2015/16



Data source: Oregon Department of Education

High school graduation rate, by race/ethnicity, Oregon, 2015/16



Data source: Oregon Department of Education

Crosscutting

Crosscutting

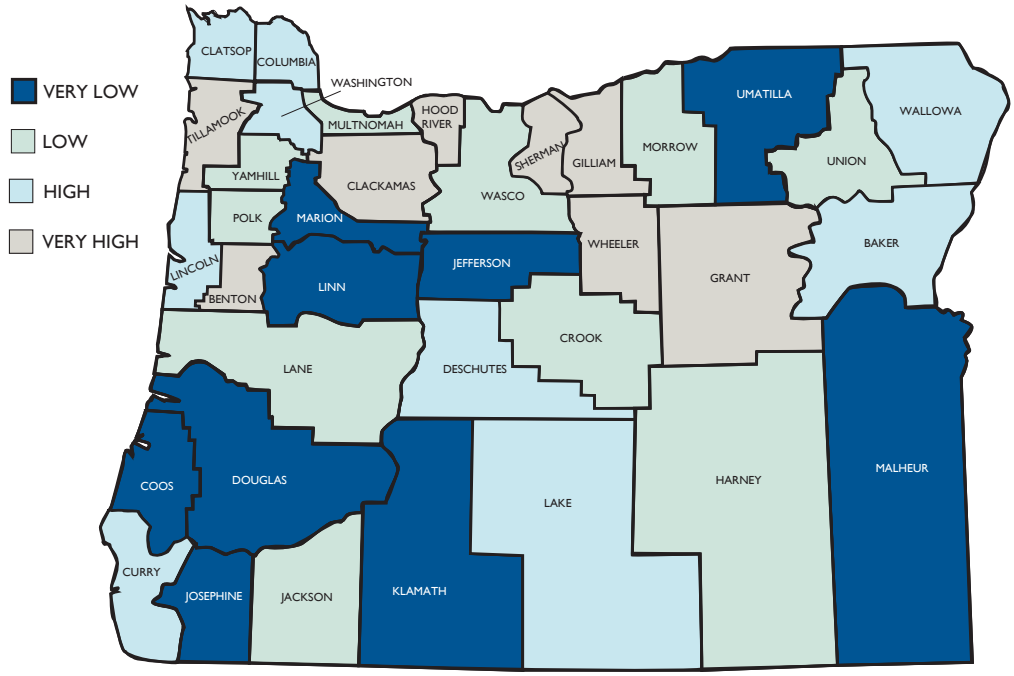
Key indicator: Households at concentrated disadvantage

Indicator details:

- Definition: Proportion of households located in census tracts with a high level of concentrated disadvantage, calculated using five census variables: percent of individuals below the poverty line, percent of individuals on public assistance, percent female headed households, percent unemployed, percent younger than age 18
- Numerator: Number of households with children less than 18 years of age located in census tracts of high concentrated disadvantage
- Denominator: Total number of households with children less than 18 years of age

Significance of indicator: Concentrated disadvantage is a measure of community well-being that factors in far more information than looking at income rates alone. High concentrated disadvantage is linked to low social capital. Communities with high concentrated disadvantage have less ability to improve conditions in their neighborhoods, limit neighborhood violence, and intervene in the community for the common good than do neighborhoods without high concentrated disadvantage. (58) Concentrated disadvantage is a community-level indicator of poverty and socioeconomic conditions, all of which can adversely affect the health outcomes of mothers and their children. It reflects the availability of services and opportunities for community residents including their access to health care, grocery stores and better schools. Disadvantaged neighborhoods have higher rates of single parent households, non-completion of high school, and adolescent deliquency. (59) Furthermore, women living in concentrated disadvantaged areas are less likely to have prenatal care in their first trimester and are at an increased risk for mental illnesses.(60)

Status in Oregon: The map below shows average levels of concentrated disadvantage* for Oregon counties. Not all communities within each county had the same level of concentrated disadvantage.



*The concentrated disadvantage index for each census tract is calculated from five census variables, with the percentage of each then z-score transformed (subtracting the mean of the distribution from the variable value and dividing the difference by the standard deviation of the distribution: Z = (score - mean) /standard deviation)). The concentrated disadvantage index is defined by census tract only. However, for this map only, we have averaged the indicator to a county level.

The table below shows Oregon census tracts with the 10 highest concentrated disadvantage indices.

10 highest concentrated disadvantage indices per Oregon census tracts

Rank	County	Census tract*	Concentrated disadvantage index
1.	Jefferson	Southern portion of Warm Springs reservation	3.36
2.	Marion	Inner northeast Salem: Northgate neighborhood	3.27
3.	Linn	Albany: Queen and Geary neighborhoods	2.56
4.	Jackson	Medford West	2.37
5.	Marion	Inner northeast Salem: Grant-Highland neighborhood	2.36
6.	Malheur	East Ontario	2.35
7.	Washington	Southeast Hillsboro	2.31
8.	Marion	Outer Salem: Hayesville	2.27
9.	Klamath	Klamath Falls East	2.21
10.	Multnomah	St. Johns/Portsmouth neighborhood	2.17

Linked data from Office of Forecasting, Research and Analysis

Key indicator: Food insecurity

Indicator details:

- » Definition: Proportion of households experiencing food insecurity (household reports being unable to afford balanced meals, having to cut the size of meals because of too little money for food or being hungry because of too little money for food)
- » Numerator: Number of households experiencing food insecurity
- » Denominator: Number of households

Significance of indicator: Food security exists when "all people at all times have access to sufficient, safe and nutritious food to maintain a healthy and active life."(61) Unfortunately, in 2011, nearly 50 million people in the United States experienced food insecurity.

Certain populations such as single parent households, Black and Hispanic households and households living below 185% of the federal poverty line are disproportionately affected by food insecurity Furthermore, food insecurity is more prevalent in large cities and rural areas compared to suburban areas.

Food insecurity affects the entire family; infants born to mothers with inadequate nutrition may experience developmental delays, congenital anomalies, low birth weight and other health issues. Likewise, children with food insecurity have an increased risk for behavioral and social issues, chronic health conditions and impaired academic development. (62)

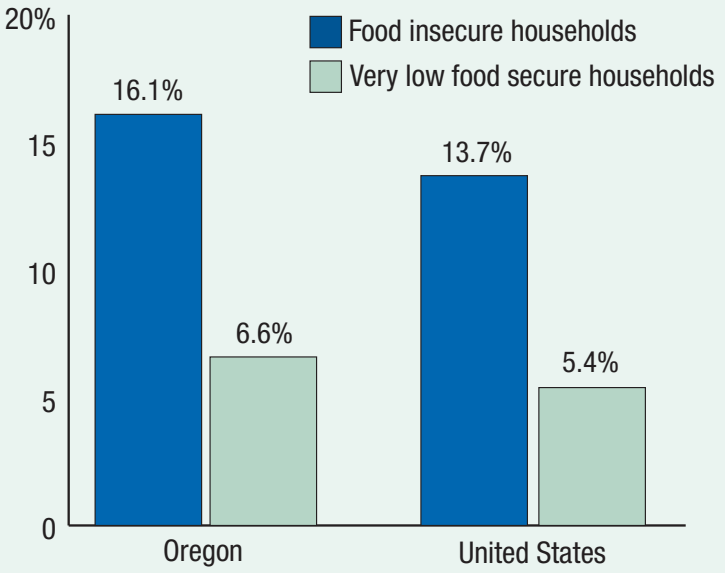
Food insecure: Households that report three or more conditions that indicate food insecurity are classified as "food insecure." That is, they were at times unable to acquire adequate food for one or more household members because they had insufficient money and other resources for food. The three least severe conditions that would result in a household being classified as food insecure are:

- They worried whether their food would run out before they got money to buy more.
- The food they bought didn't last, and they didn't have money to get more.
- They couldn't afford to eat balanced meals.

At times during the year, eating patterns of one or more household members were disrupted and food intake reduced because the household lacked money and other resources for food.

Status in Oregon: Compared to the United States as a whole, Oregon had a higher percentage of food insecure households (16.1% vs. 13.7%) and very low food secure households (6.6% vs. 5.4%) during the 2013/15 period.

Food insecurity, Oregon and United States, 2013–2015



Data source: United States Department of Agriculture

Key indicator: Adequate maternal social support

Indicator details:

- Definition: Percentage of mothers of 2-year-olds who have adequate social support
- Numerator: Number of mother of 2-year-olds who reported having at least three of five types of social support
- Denominator: Number of mothers of 2-year-olds

Significance of indicator: Healthy, nurturing relationships are key to maternal and child well-being. Social bonds and supportive relationships are widely recognized as being indispensable to healthy psychological functioning and well-being, as well as contributing positively to parenting practices. (63) Social connections are a key protective factor for strengthening families and promoting both individual and community resilience. Friends, family members, neighbors and community members provide emotional support, help solve problems, offer parenting advice and give concrete assistance to parents. (64) Research has shown that positive social support of high quality can enhance resilience to stress, help protect against developing trauma-related psychopathology, decrease the functional consequences of trauma-induced disorders, and reduce medical morbidity and mortality. (64)

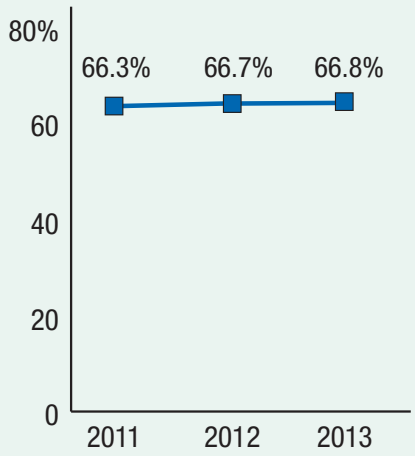
Young pregnant women and new moms who imagined themselves as parents, and therefore developed a supportive circle of friends for themselves that included playmates for their babies and toddlers, had better child and mom well-being. In contrast, pregnant women with low support reported increased depressive symptoms and reduced quality of life. (65) A lack of emotional, informational and material resources including social support increases the physical and psychological strains associated with pregnancy.

This indicator includes the following types of support for mothers of 2-year-olds: someone who would loan money for food or bills when needed, someone to help if the mother was sick and needed to be in bed, someone to take the mother to the clinic or doctor's office if she needed a ride, someone the mother could count on to listen to her when she needed to talk, and someone other than the 2-year-old child who shows the mother love and affection.

Status in Oregon: (U.S. data are not available for comparison.) In Oregon, the percent of mothers of 2-year-olds with adequate social support remained relatively consistent between 2011 and 2013 (66.3% to 66.8%).

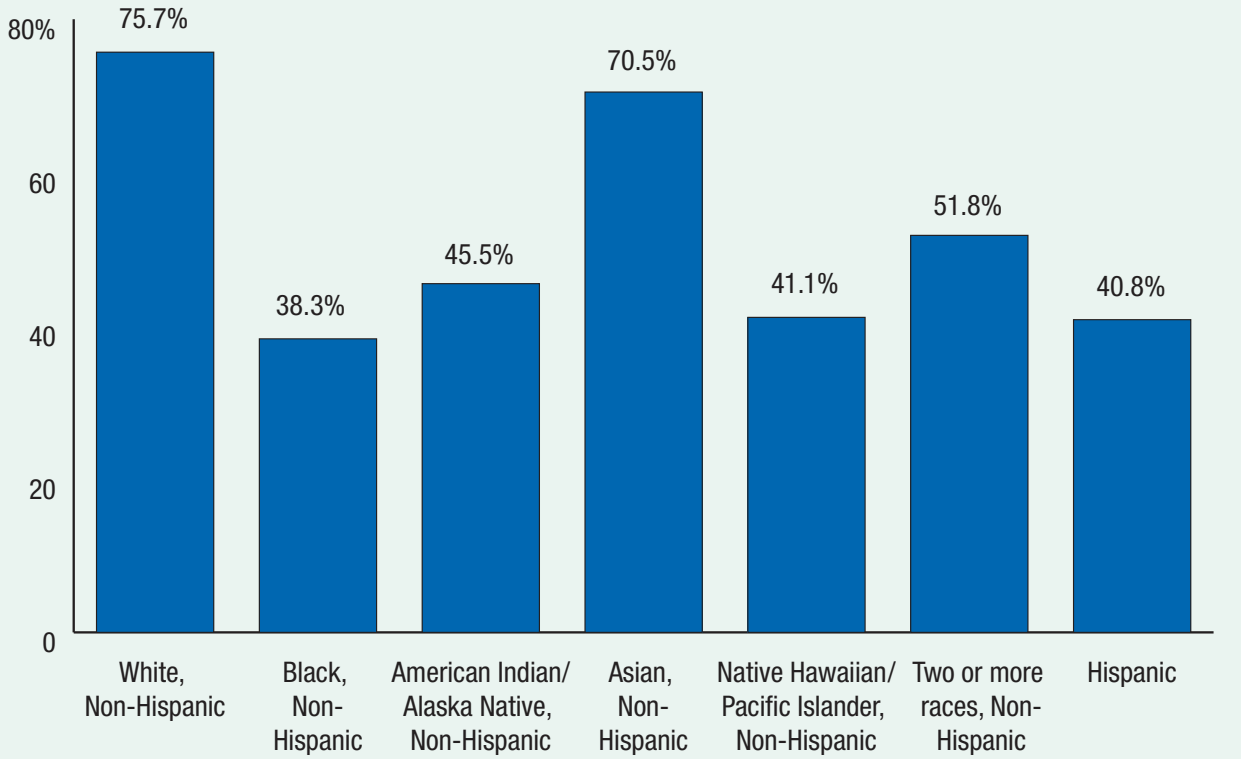
Disparities in Oregon: Asian and non-Hispanic white women had rates of adequate maternal social support of approximately 71% and 76% respectively, while women of other race/ethnic groups had rates of adequate maternal social support from approximately 38%-52%.

Mothers of 2-year-olds with adequate social support, Oregon, 2011–2013



Data source: PRAMS-2

Mothers of 2-year-olds with adequate social support, by race/ethnicity, Oregon, 2013



Data source: PRAMS-2

References

1. Opray N, Grivell RM, Deussen AR, Dodd JM. Preconception health programs and interventions for women who are overweight or obese to improve pregnancy outcomes for the woman and her infant. Cochrane 2015 July 15 [cited 2018 Jan 25]. **Available from**: https://tinyurl.com/interventions-women-pregnancy.

2. Centers for Disease Control and Prevention. The health effects of overweight and obesity [cited 2018 Jan 25]. **Available from:** https://www.cdc.gov/healthyweight/effects/index.html.

3. Center on the Developing Child at Harvard University. InBrief series: the impact of early adversity on children's development [cited 2018 Jan 25]. **Available from:** https://tinyurl.com/inbrief-adversity.

4. Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults. The Adverse Childhood Experiences (ACE) Study AM J of Prev Med; 1998.

5. Chung EK, Nurmohamed, L, Mathew L, et al. Risky health behaviors among mothers-to-be: the impact of adverse childhood experiences. National Institutes of Health Public Access Author Manuscript 2011 July 1 [cited 2018 Jan 25]. **Available from:** https://go.usa.gov/xUDmu.

6. Drevin J, Stern J, Annerback E, et al. Adverse childhood experiences influence development of pain during pregnancy. Nordic Federation of Societies of Obstetrics and Gynecology 2015 [cited 2018 Jan 25]. **Available from:** https://go.usa.gov/xUDmJ.

7. Center on the Developing Child at Harvard University. Building core capabilities for life: The science behind the skills adults need to succeed in parenting and the workplace. 2016 [cited 2018 Jan 25]. **Available from:** https://tinyurl.com/Capabilities-for-Life.

8. The American College of Obstetricians and Gynecologists. Good health before pregnancy: preconception care [cited 2018 Jan 25]. **Available from:** https://tinyurl.com/Good-Health-Before.

9. Strutz KL, Richardson LJ, Hussey JM. Selected preconception health indicators and birth weight disparities in a national study. National Institutes of Health Public Access Author Manuscript 2014 [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDmh.

10. Centers for Disease Control and Prevention. Tobacco use and pregnancy [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDyq.

11. Mund M, Louwen F, Klingelhoefer D, Gerber A. Smoking and pregnancy — a review on the first major environmental risk factor of the unborn. International Journal of Environmental Research and Public Health 2013 Dec [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDy3.

12. Curtin SC, Matthews TJ. Smoking prevalence and cessation before and during pregnancy: data from the birth certificate, 2014. 2016 Feb 10 [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDyc.

13. Hedderson MM, Jeanne AD, Ferrara A. Disparities in the risk of gestational diabetes by race-ethnicity and country of birth. 2014 Oct 1 [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDyx.

14. Centers for Disease Control and Prevention. Gestational diabetes and pregnancy [cited 2018 Jan 25].
Available from: http://www.cdc.gov/pregnancy/diabetes-gestational.html.

15. MedlinePlus. Gestational diabetes [cited 2018 Jan 25].
Available from: https://medlineplus.gov/ency/article/000896.htm.

16. The American College of Obstetricians and Gynecologists. Gestational diabetes [cited 2018 Jan 25].
Available from: http://www.acog.org/Patients/FAQs/Gestational-Diabetes.

17. Hedderson M, Ehrlich S, Sridhar S, et al. Racial/ethnic disparities in the prevalence of gestational diabetes mellitus by BMI. Diabetes Care 2012 July [cited 2018 Jan 25].
Available from: http://care.diabetesjournals.org/content/35/7/1492.

18. The American College of Obstetricians and Gynecologists Committee on Obstetric Practice. Committee opinion: screening for perinatal depression 2010 Feb [cited 2018 Jan 25].
Available from: https://tinyurl.com/Screening-for-Perinatal.

19. Muzik M, Borovska S. Perinatal depression: implication for child mental health. Mental Health in Family Medicine 2010 [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDya.

20. Bailey BA. Partner violence during pregnancy: prevalence, effects, screening, and management. International Journal Women's Health 2010 Aug 9 [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDyY.

21. American Psychological Association. Intimate partner violence facts & resources [cited 2018 Jan 25]. **Available from:** http://www.apa.org/topics/violence/partner.aspx.

22. World Health Organization. Intimate partner violence during pregnancy information sheet [cited 2018 Jan 25].
Available from: https://tinyurl.com/World-Health-Organization2.

23. The American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women. Committee opinion: intimate partner violence 2012 Feb [cited 2018 Apr 27]. **Available from:** https://tinyurl.com/Intimate-Partner-Violence2.

24. Xiong X, Buekens P, Fraser WD, Beck J, Offenbacher S. Periodontal disease and adverse pregnancy outcomes: a systematic review. BJOG 2006; 113:135–143.

25. Berkowitz RJ. Causes, treatment and prevention of early childhood caries: a microbiologic perspective. Journal of the Canadian Dental Association. 2003;69(5):304–307.

26. The American College of Obstetricians and Gynecologists Committee on Health Care for Underserved Women. 2013. Committee opinion: oral health care during pregnancy and through the lifespan. Obstetrics and Gynecology 122:417–422.

27. World Health Organization. Preterm birth fact sheet 2017 Nov [cited 2018 Jan 25].
Available from: http://www.who.int/mediacentre/factsheets/fs363/en/.

28. Centers for Disease Control and Prevention. Preterm birth [cited 2018 Apr 27].
Available from: https://go.usa.gov/xUDy4.

29. Child Trends. Preterm births [cited 2018 Jan 25].
Available from: https://tinyurl.com/mediacentre-factsheets.

30. The American College of Obstetricians and Gynecologists. Ob-gyns support breastfeeding decisions for all mothers 2016 Jan 25 [cited 2018 Apr 27].
Available from: https://tinyurl.com/Decisions-for-All-Mothers.

31. The American College of Obstetricians and Gynecologists. Breastfeeding your baby [cited 2018 Jan 25].
Available from: http://www.acog.org/Patients/FAQs/Breastfeeding-Your-Baby.

32. Office of the Surgeon General, Centers for Disease Control and Prevention 2011 [cited 2018 Jan 25]. The importance of breastfeeding.
Available from: https://www.ncbi.nlm.nih.gov/books/NBK52687/.

33. Jones KM, Power ML, Queenan JT, Schulkin J. Racial and ethnic disparities in breastfeeding 2015 May 1. Breastfeeding Medicine [cited 2018 Apr 27].
Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4410446/.

34. American Academy of Pediatrics. Breastfeeding and the use of human milk 2012 March. Pediatrics [cited 2018 Feb 22].
Available from: https://tinyurl.com/Use-of-Human-Milk.

35. Centers for Disease Control and Prevention. QuickStats: leading causes of neonatal and postneonatal deaths — United States, 2002 [cited 2018 Feb 22].
Available from: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5438a8.htm.

36. Centers for Disease Control and Prevention. October is SIDS awareness month [cited 2018 Jan 25]. **Available from:** https://www.cdc.gov/features/sidsawarenessmonth/.

37. American Academy of Pediatrics. AAP expands guidelines for infant sleep safety and SIDS risk reduction 2011 Oct 18 [cited 2018 Jan 25].
Available from: https://tinyurl.com/SIDS-Risk2.

38. Centers for Disease Control and Prevention. Sudden unexpected infant death and sudden infant death syndrome data and statistics [cited 2018 Jan 25].
Available from: https://www.cdc.gov/sids/data.htm.

39. Centers for Disease Control and Prevention. Childhood obesity facts [cited 2018 Apr 27].
Available from: https://www.cdc.gov/obesity/data/childhood.html.

40. Centers for Disease Control and Prevention. Healthy schools: childhood obesity facts [cited 2018 Jan 25].
Available from: http://www.cdc.gov/healthyschools/obesity/facts.htm.

41. World Health Organization. Global strategy on diet, physical activity and health: childhood overweight and obesity [cited 2018 Jan 25].
Available from: http://www.who.int/dietphysicalactivity/childhood/en/.

42. Oregon Health Authority Public Health Division Center for Health Statistics. Adult behavioral risk survey (BRFSS) [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDyX.

43. Substance Abuse and Mental Health Services Administration Center for Integrated Health Solutions. Types of trauma and violence [cited 2018 Jan 25].
Available from: https://www.samhsa.gov/trauma-violence/types.

44. Dye BA, Thornton-Evans G, Li X, Iafolla TJ. Dental caries and sealant prevalence in children and adolescents in the United States, 2011–2012. NCHS data brief, no 191. Hyattsville, MD: National
Center for Health Statistics; 2015.

45. Community Preventive Services Task Force. Dental caries (cavities): community water fluoridation
[cited 2018 Jan 25].
Available from: http://www.thecommunityguide.org/oral/fluoridation.html.

46. Marinho VCC, Higgins JPT, Logan S, Sheiham A. Fluoride toothpastes for preventing dental caries in children and adolescents. Cochrane Database of Systematic Reviews. Issue 1. Art. No.: CD002278. DOI: 10.1002/14651858.CD002278; 2003.

47. Casamassimo P, Holt K, eds. 2016. Bright futures: oral health — pocket guide (3rd ed.). Washington, DC: National Maternal and Child Oral Health Resource Center, 90 pp.

48. American Academy of Pediatrics. AAP agenda for children: medical home [cited 2018 Jan 25]. **Available from:** https://tinyurl.com/Plan-Medical-Home.

49. Child Health USA 2014. Medical home [cited 2018 Jan 26].
Available from: https://go.usa.gov/xUDyj.

50. Data Resource Center for Child & Adolescent Health [cited 2018 Jan 26].
Available from: http://www.childhealthdata.org/learn/NSCH.

51. Schwarz SW. Adolescent mental health in the United States: facts for policymakers 2009 June [cited 2018 Jan 25]. National Center for Children in Poverty.
Available from: http://www.nccp.org/publications/pub_878.

52. Kapphahn CJ, Morreale MC, Rickert VI, Walker LR. Financing mental health services for adolescents: a position paper of the Society for Adolescent Medicine 2006 Sept [cited 2018 Jan 25]. Journal of Adolescent Health.
Available from: https://tinyurl.com/Financing-Mental-Health2.

53. American College of Preventive Medicine. Adolescent wellness exam time tool [cited 2018 Jan 25]. **Available from:** http://www.acpm.org/?adwellness_timetool.

54. Banspach S, Zaza S, Dittus P, et al. CDC grand rounds: adolescence — preparing for lifelong health and wellness. Centers for Disease Control and Prevention 2016 Aug 5 [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDy5.

55. Centers for Disease Control and Prevention. Public health grand rounds: Adolescence: preparing for lifelong health and wellness 2015 Aug 18 [cited 2018 Jan 25].
Available from: https://go.usa.gov/xUDyN.

56. Freudenberg N, Ruglis J. Reframing school dropout as a public health issue. Preventing Chronic Disease 2007 Oct [cited 2018 Jan 25].
Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2099272/.

57. American Public Health Association. Public health and education: working collaboratively across sectors to improve high school graduation as a means to eliminate health disparities [cited 2018 Jan 25].
Available from: https://tinyurl.com/high-school-graduation2.

58. Association of Maternal & Child Health Programs. Life course indicators tip sheet: concentrated disadvantage (LC-06) [cited 2018 Jan 25].
Available from: https://tinyurl.com/Concentrated-Disadvantage2.

59. Association of Maternal & Child Health Programs. Life course indicator: concentrated disadvantage [cited 2018 Jan 25].
Available from: https://tinyurl.com/Concentrated-Disadvantage3.

60. New Mexico Department of Health. Concentrated disadvantage, stress and their effects on pregnancy [cited 2018 Jan 25].
Available from: https://nmhealth.org/data/view/maternal/1926/.

61. World Food Programme. What is food insecurity? [cited 2018 Feb. 20]. **Available from:** https://www.wfp.org/node/359289.

62. Association of Maternal & Child Health Programs. Life course indicator: household food insecurity [cited 2018 Jan 25]. **Available from:** https://tinyurl.com/Household-Food-Insecurity.

63. Ozbay F, Johnson D, Dimoulas E, Southwick S. Social support and resilience to stress: from neurobiology to clinical practice [cited 2018 Jan 25]. **Available from:** https://tinyurl.com/Clinical-Practice2.

64. Pinderhughes H, David R, Williams M. Adverse community experiences and resilience: a framework for addressing and preventing community trauma. Prevention Institute 2015 [cited 2018 Jan 25]. **Available from:** https://tinyurl.com/Experiences-and-Resilience.

65. Elsenbruch S, Benson S, Rucke M, et. al. Social support during pregnancy: effects on maternal depressive symptoms, smoking and pregnancy outcome 2007 March 1 [cited 2018 Jan 255]. **Available from:** http://humrep.oxfordjournals.org/content/22/3/869.full.

Oregon Health Authority
PUBLIC HEALTH DIVISION
Phone: 971-673-0383

You can get this document in other languages, large print, braille or a format you prefer. Contact 971-673-1490 (TTY 711). We accept all relay calls or you can dial 711.

OHA 8136 (12/2018)