

Structural barriers to community health: birth inequities in Lane County

Introduction

All data tells a story. Birth data – as captured in birth certificates – only tell a partial story. The individual lives and families represented in the counts and rates are more complex and varied than can ever truly be represented in the data presented here. Even so, these data tell a compelling story of how community health in Lane County is impeded by inequities and injustices. The inequities revealed in birth data tell a parallel story of structural barriers created by white supremacy, settler-colonialism, genocide, and exclusion that can be seen on other data on health inequities. The data presented here tell a story similar to Lane County's Community Health Assessment, which led the community to prioritize addressing historical injustices to improve health equity in the 2021-25 Community Health Improvement Plan.

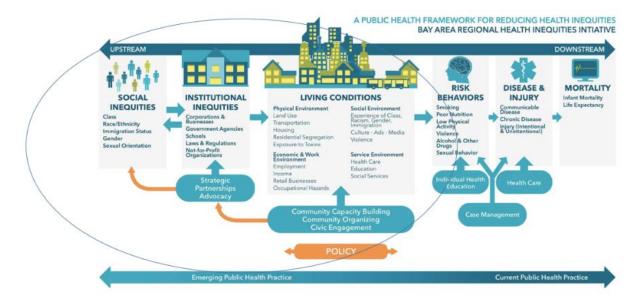
Indicators such as infant mortality rate, maternal mortality rate, low birth weight, and preterm birth, when viewed at the population level, offer an important snapshot into the health status of communities. Looking at these data broken down by different demographics, such as by race and ethnicity, by maternal age, or by health insurance status, reveals inequities. Seeing these inequities helps the community and policymakers better understand how resources are inequitably distributed across different populations within Lane County. The population-level patterns and differences in health outcomes seen in birth record data can help Public Health and our partners focus efforts to reduce inequities and improve community health.

Process

Data are from birth certificates in Lane County. All data are for singleton births to people living in Lane County unless otherwise indicated. Singleton births are those for which only one child was born – twin and multiple births are not included. Different year spans were used for this analysis to ensure that sufficient data were available for reliability. Events that are relatively rare (e.g., pre-term birth, infant mortality) require a wider year-span to ensure sufficient data for reported rates to be reliable. To provide the most recent data, the smallest year span that could yield a reliable data set was used for each indicator. Data for birth certificates are sometimes provided by the birthing parent and sometimes provided by the medical provider or facility where the birth took place. While every effort is made to ensure the accuracy and completeness of the data collected, sometimes there are errors or missing data. In order to provide wider context on indicators, Healthy People 2030 targets are provided where available. Healthy People 2030 is a national effort to improve health by setting decade-long targets for over 300 indicators of community health.

As part of the Community Partnerships Program's commitment to making public health data more accessible and to engage our community in framing health inequities in terms of historical harms and lived experiences, these data were shared with community organizations that work with pregnant people and new parents in Lane County. In December 2022, an initial convening of 10 community members representing 3 different community-based organizations helped to prioritize different data points and focused on contextualizing racial inequities. In May 2023, representatives from the same organizations reconvened and reviewed a draft of this report to provide feedback. We are grateful to our community partners for their input, which has informed this final report.

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The Bay Area Regional Health Inequity Initiative created this framework to demonstrate the connections between structural inequities and health. Part of the effort of public health modernization in Oregon is to move the work of public health more upstream, into the area of "emerging public health practice" on the diagram. The Community Partnerships Program at Lane County Public health is part of this effort and developed this report in consultation with community partners to draw attention to the effects of structural inequities on birth outcomes and community health.

Key findings

Birth outcomes do not happen in a vacuum. There are very real structural and systemic barriers faced by individuals and families based on their race or ethnicity, based on their age, based on their education level, and based on their socioeconomic status. These structural barriers influence what we know as the social determinants of health (e.g., access to housing, education, health care) which, in turn, influence health behaviors and health outcomes.

- Structural inequities rooted in the history of racism and exclusion in Lane County have a
 profound impact on risk factors like access to care or tobacco use which, in turn, have negative
 impacts on birth outcomes such as preterm birth and low birth weight.
- While inequities in birth outcomes are clearly related to social and structural drivers of health, they
 also point to opportunities to better serve the communities most impacted specifically, Black,
 Indigenous, Latine, Asian, and other communities of color, people with low-income, people with
 lower education levels, and people experiencing poverty.
- Harm reduction approaches such as those that seek to reduce tobacco use during pregnancy can have important impacts on outcomes.
- Although not reflected in available birth-record data, anecdotal data from our community
 partners support the urgent need to address houselessness, substance abuse, and mental health in
 order to improve birth outcomes and overall community health.
- One limitation of these data is that we are looking at each group/identity separately from each
 other. We know that things like poverty, education, age, and race/ethnic identity have compound
 effects, placing systemically marginalized people at greater risk of poor birth outcomes.

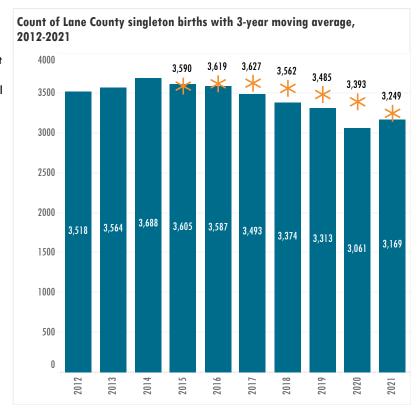
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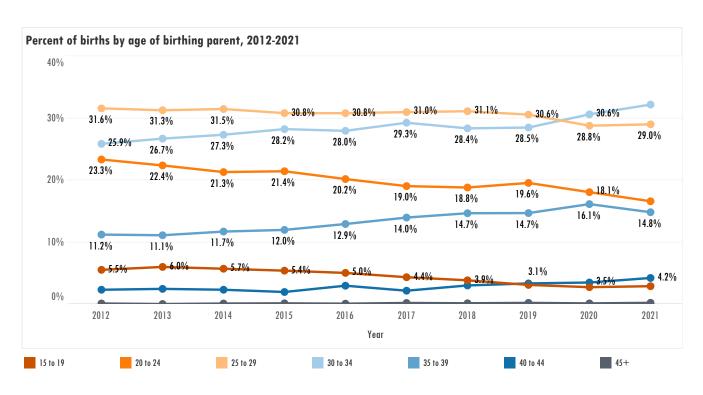
Count of births



Birth rates in the United States have been declining since 2005. This mirrors a global trend where declining fertility rates (number of births per population of people able to get pregnant) are found in countries where social policies - like paid family leave and universal childcare – that support families of young children are not resourced or considered a priority. Fertility rates are also declining in countries where people who can potentially get pregnant have opportunities to pursue higher education and careers.

The percent of births by age group in Lane County follows similar trend to both Oregon and the US: more babies are now born to people 30-34 years old than to people 25-29 years old. In part, this trend reflects that people are increasingly prioritizing their education and careers over getting married and having children. In addition, young adults facing economic and employment insecurity along with heightened levels of student debt have a strong economic disincentive for starting families and having children.





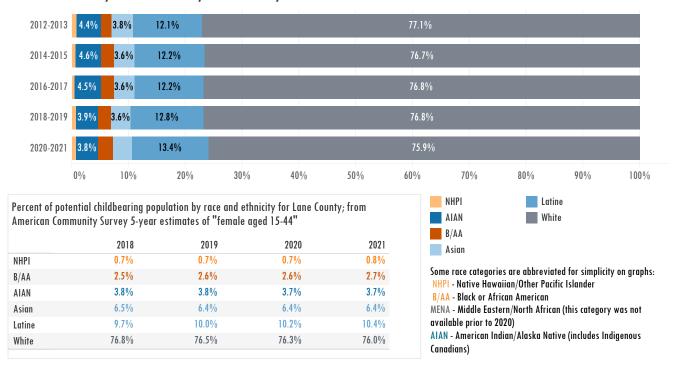
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Birth demographics

The rates of births in Lane County by race and ethnicity have remained fairly stable over time as is true for Oregon overall.



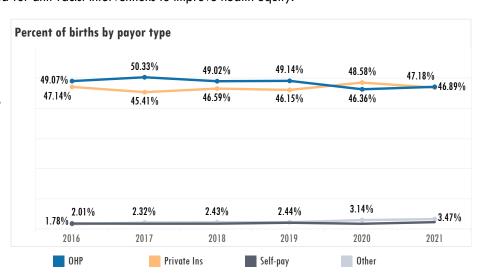
Percent of births by race and ethnicity in Lane County



Because inequities have a significant impact on the health of our community as a whole, it is important to be able to identify where inequities exist. We know, for example, that Lane County's history of genocide and exclusion based on white supremacy have created inequities based on race and ethnicity.

Racial and ethnic identity is complex and the racial and ethnic identity of an individual is only a proxy for how the social construct of race can shape an individual's experience. While racial and ethnic identities are not determinants of health, white supremacy culture has differing impacts on one's health that are dependent on one's racial or ethnic identity. Therefore, even though categorizing people based on race and ethnicity can be problematic, it is important to do so in order to better understand the need for anti-racist interventions to improve health equity.

Nearly half the births in Lane County are paid for by the Oregon Health Plan (OHP) (Oregon's Medicaid), slightly more than the state overall (43%). In the US, about 41% of births are paid for by Medicaid. Ensuring insurance coverage for pregnant people helps make prenatal and post-partum care more accessible which can improve outcomes for both babies and their families.



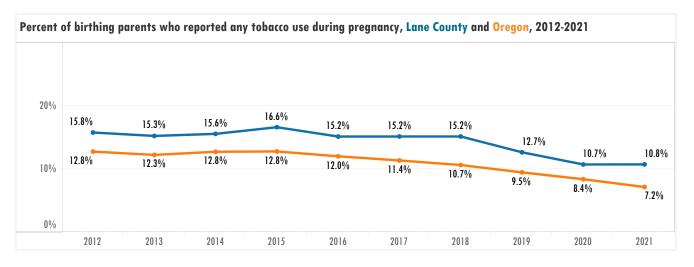
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Trends in tobacco use during pregnancy, 2012-2021

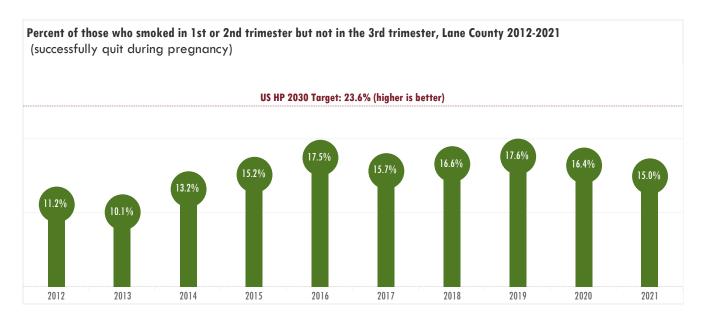


Tobacco use during pregnancy has been declining overall, both locally and nationally, for the past few years. However, in Lane County, pregnant people continue to use tobacco at higher rates compared to Oregon and the US. In 2021, tobacco use at any time during pregnancy and in the 3rd trimester are about twice as high in Lane County compared to the US rate, and 50% higher than the Oregon rate.

Tobacco use in pregnancy	At any point	In 3rd trimester
US	4.6%	3.7%
Oregon	7.2%	4.5%
Lane County	10.8%	6.9%



Healthy People 2030 has set a target for successful quit attempts during pregnancy at 23.6%, meaning of those who smoke during the 1st or 2nd trimester of pregnancy, 23.6% will not smoke during the 3rd trimester. Both Lane County and Oregon have a ways to go to meet that target. Quitting tobacco use can be very difficult. Tobacco is often used by people who are structurally marginalized as a means to cope with the trauma of racism, poverty, and other social streassors. Reducing tobacco use has many benefits and requires addressing the underlying reasons people use tobacco as well as offering support for healing from trauma and safer ways to deal with stress.



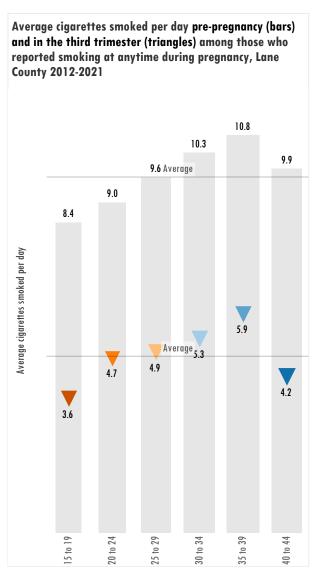
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Disparities in tobacco use

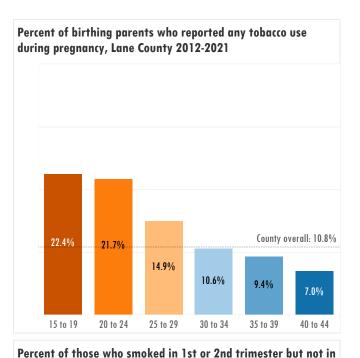


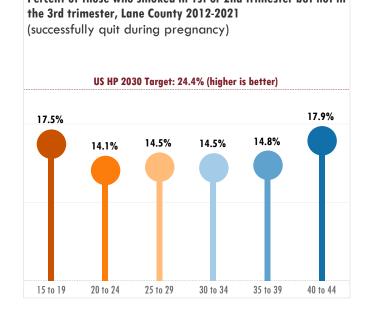
Commerical tobacco use is often used as a coping mechanism and populations that experience increased trauma due to systems of white supremacy, capitalism, and patriarchy have higher rates of tobacco use in their communities.

In Lane County, the highest rates of tobacco use are among young people, people on OHP, and people with less than a high school education. However, the groups with the highest rates of use are sometimes the groups with the greatest success in quitting. Both young people and Indigenous people have higher rates of use compared to the County overall but also have higher rates of successfully quitting tobacco use during pregnancy.



While older people tend to have lower rates of tobacco use during pregnancy, those who do smoke tend to smoke more, on average. While the youngest and oldest pregnant smokers seem to have more success in quitting, this could be because there are fewer of them in number, so rates are more volatile, as all other age groups appear to quit at similar rates.





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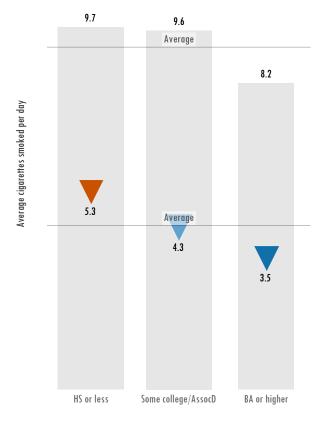
Disparities in tobacco use (cont'd)



Living in poverty is a substantial source of stress and trauma. One of the most significant disparities in commercial tobacco use is by payor type, which can be used as a rough proxy for income level. Pregnant people on OHP reported using tobacco during pregancy at almost 6 times the rate (24.%) of those who have private insurance (4.7%) during the period of 2012-2021.

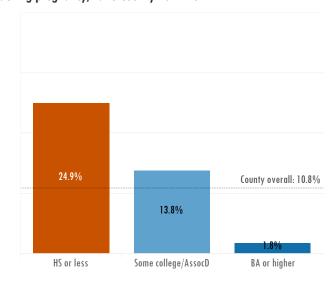
Another significant disparity in commercial tobacco use during pregnancy is by education level, with those having more education using tobacco at lower rates and in lower amounts. Because of the ways that education and income intersect these disparities are unsurprising. Given how racism contributes to less educational opportunities and higher poverty rates for Black, Indigenous, and other people of color, it is easy to understand how tobacco use might be higher in those communities.

Average cigarettes smoked per day pre-pregnancy (bars) and in the third trimester (triangles) among those who reported smoking at anytime during pregnancy, Lane County 2012-2021



The amount of cigarettes smoked tend to follow the same pattern as the rates of any tobacco use during pregancy when examined by education level - this a different pattern than examined by age group or race and ethnicity.

Percent of birthing parents who reported any tobacco use during pregnancy, Lane County 2012-2021



Percent of those who smoked in 1st or 2nd trimester but not in the 3rd trimester, Lane County 2012-2021 (successfully quit during pregnancy)



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Accessing prenatal care

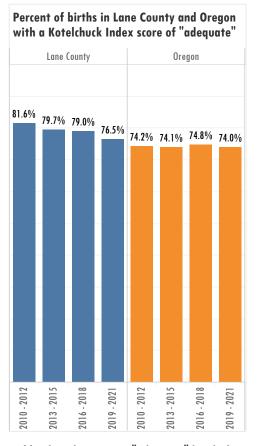


Delayed entry and/or underutilization of prenatal care are associated with multiple adverse pregnancy and infant outcomes. The Kotelchuck Index, or the Adequacy of Prenatal Care Utilization Index, uses two pieces of information to rate prenatal care received: the timing of the first prenatal care visit and the total number of prenatal care visits. The index does not measure the quality of care received and is based on the assumption that initiation of care early in pregnancy is preferable. The two components are combined into a score and rated on a scale of Inadequate to Adequate Plus. Adequate care is a considered a score of 80%-109%.

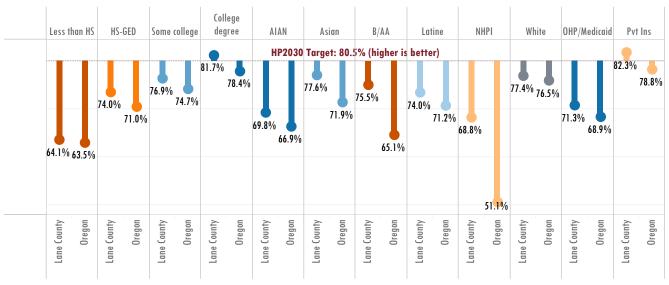
Healthy People 2030 has a target of 80.5% of births in the US achieving an "Adequate" score on the Kotelchuk Index. In 2021, 75.6% of births in the US were rated "Adequate". Lane County is closer to meeting the HP2030 target at 78.7% than both the state (75.5%) and the nation overall), however there also seems to be a downward trend since 2012 in Lane County.

There are many structural factors that contribute to the timing and utilization of prenatal care, including transportation access, availability of childcare, and trust in providers - which may be influenced by the racial match of provider and pregnant person (whether the provider is of a shared racial or cultural background). Even though Lane County is close to to meeting the HP2030 target, inequities persist for structurally-disadvantaged groups.

People with private insurance and people with a college degree are the only groups in Lane County currently meeting or exceeding the HP2030 target. People on the Oregon Health Plan and people with lower levels of education are faring worse.



Lane County is generally closer to meeting the Healthy People 2030 target of 80.5% of births achieving an "adequate" level of care on the Kotelchuck Index compared to Oregon overall, 2019 - 2021



Length of bars indicates distance from meeting HP2030 target; percents indicate current rate.

People with less than a high-school education, people who identify as Black, Indigenous, Latine, Asian, or Pacific Islander, and people on OHP are the groups furthest from meeting the HP2030 target.

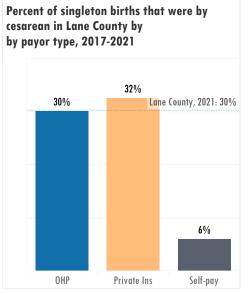
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Cesarean births



Cesarean birth can be a life-saving procedure when problems arise during delivery. According to the World Health Organization, cesarean birth rates higher than 10% at the population level are not associated with improved outcomes for either the birthing parent or the newborn. Cesarean birth is a major abdominal surgery that increases risk for other health conditions, such as infections or excessive bleeding. Overall, the cesarean birth rate in Lane County has remained steady at about 30% for the past decade. The Lane County rate is slightly higher than Oregon's rate of 27% and both are lower than the national rate of 32% in 2021. The overall rate does not vary much by demographic groups except by age. Older people have cesarean births at much higher rates than younger people.

Healthy People 2030 has a target of 23.6% cesarean rate for low-risk births – defined as full-term, singleton births with cephalic presentation (baby's head is down) and no prior births. Nationally, there is a body of research that suggests that Black and Latine people overall have higher rates of cesarean birth in low-risk pregnancies.

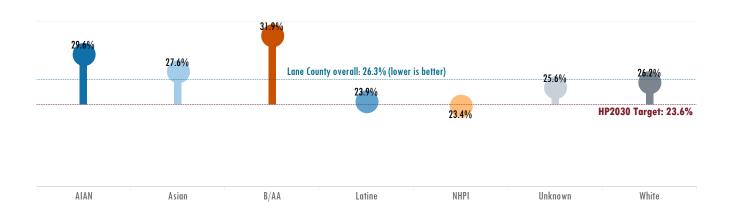


Given the history of obstetrics and gynecology in the United States and its roots in abhorrent and racist experiments conducted on enslaved Black people, on Indigenous and other people of color as well as disabled people, it is not suprising that these disparities continue to exist. Globally, cesarean birth is associated with privatized health care and higher rates of cesarean birth are associated with more affluent and white people. Interesting, the racial and ethnic distribution of cesarean birth does not follow the same pattern as the US overall: among low-risk births Black and Indigenous people have higher cesarean rates, while Latine and Asian people have lower rates. Since it is believed that cesarean rates in the US are largely driven by monetary factors (reimbursement rates, avoidance of litigation), it is possible that the interplay of economics and the structures of white supremacy interact in complicated ways in Lane County. There is a substantial body of research showing that the use of doulas - trained birth assistants - during labor can reduce the number of unplanned cesarean births.

Cesarean births among low-risk people in Lane County by race and ethnicity, 2017-2021

low risk is defined as full-term, singleton births with cephalic presentation and no prior births

Note that the data cannot differientiate between planned and unplanned cesareans and some low-risk people may choose a planned cesarean birth for any number of reasons.



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Preterm birth

births occuring before 37 weeks gestation

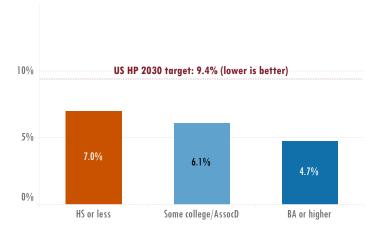
Preterm birth is the second leading cause of infant mortality in the US and preterm infants are at higher risk for multiple poor health outcomes in both childhood and adulthood.

While the direct cause of preterm birth is often unknown, there are many risk factors associated with it including pre-existing chronic conditions (e.g., hypertension, diabetes), substance use, and infection. There is a growing body of evidence that the social, political, and economic context of white supremacy in the United States is a key driver of these health conditions as well as birth outcomes like preterm birth and low birth weight.

Rates of preterm birth have been rising in Oregon and Lane County since 2015, however the rates continue to meet the HP2030 target of less than 9.4% of births and are lower than the rate for the US overall.



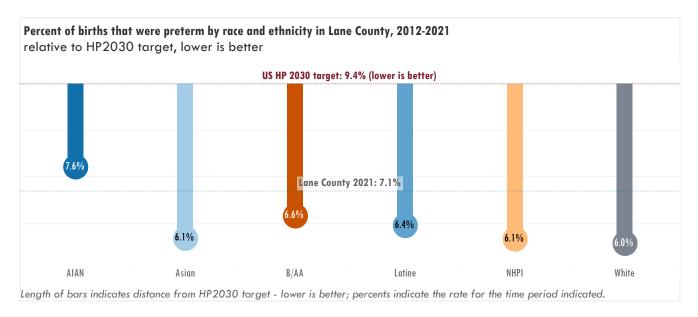
Percent of singleton births that were preterm (<37 weeks) in Lane County by education level, 2012-2021



Overall, Lane County is meeting the Healthy People 2030 target for preterm birth, even though rates have been increasing. There are, however, disparities in preterm birth rates based on age, race and ethnicity, education level and type of insurance. The groups with the highest rates of preterm birth in Lane County are:

- · People who identify as Black, Indigenous, or Latine
- People aged 15 to 24 or 35 to 44
- People on OHP
- · People whose highest level of education is less than a Bachelor's degree

There has been significant research into how racism impacts birth outcomes such as preterm birth. Much of this research has focused on how the experience of living in a racist society takes a toll on the bodies of Black, Indigenous, and other people of color, resulting in accumulated stress (an idea known as "weathering"), which can make people vulnerable to health complications during and after pregnancy and birth.



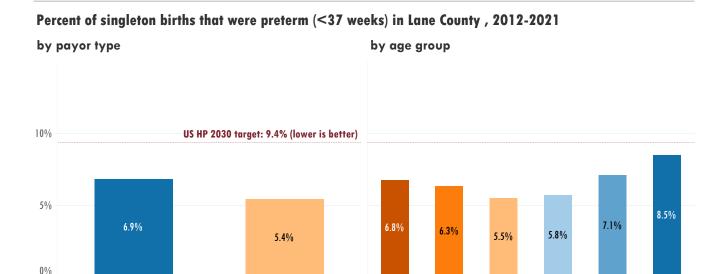
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Preterm birth (cont'd)

OHP



Houselessness and substance use are two intersecting factors that have been demonstrated by research to influence birth outcomes; however, limitations in our dataset prevent us from analyzing those factors here. Anecdotal data from our community partners and birth workers who serve people during and following pregnancy in Lane County substantiates that houselessness and substance use both present challenges for birthing people in our community. Both conditions can limit access to needed prenatal care and/or shape birthing experiences due to stigma and marginalization.



In June of 2020, OHA began collecting information about presumed and confirmed COVID-19 infection during pregnancy. The data for Oregon shows slight association between preterm birth and COVID-19 infection. On average, about 7% of birthing parents in Oregon between January 2021-December 2022 were diagnosed with a COVID infection.

15 to 19

20 to 24

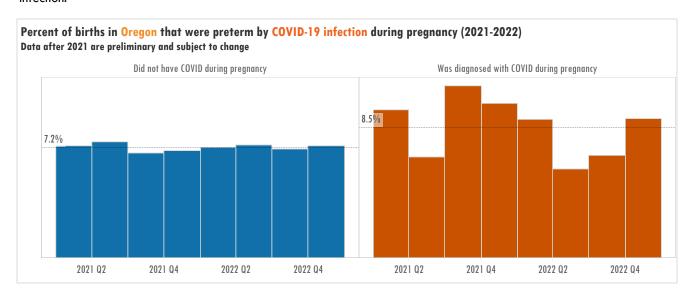
25 to 29

30 to 34

35 to 39

40 to 44

Private Ins



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Low birth weight

babies born weighing less than 2500 grams (5 lbs 8 oz)



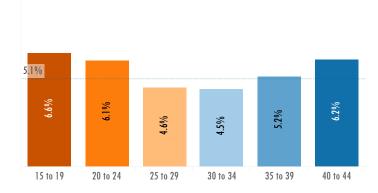
Like preterm birth, babies born with low birth weight (less than 2500 grams or 5lbs. 8 oz.) (LBW) have a higher risk of developing health conditions like diabetes, heart disease, or high blood pressure later in life. Some of the conditions associated with low birth weight include poor nutrition, drug and alcohol consumption and health complications during pregnancy. Lane County has a similar rate of LBW compared to Oregon and both rates are lower than the US overall. The patterns of disparities in LBW are the same as those in pre-term birth.

The social, political and economic context of white supremacy in the United States influences the social determinants of health - like education. access to healthy food, income and access to health insurance – and has direct impacts on the body. Research on the impacts of stress from discrimination or just living in a social context where one's identity is not valued because of racism, homophobia, etc. has demonstrated shortand long-term health effects, particularly during pregnancy. One of the reasons that birth outcomes like preterm birth and low birth weight are so effective as community health indicators is because the impacts of social, economic, and political context - like racism and white supremacy - have such immediate effects on outcomes.

Social epidemiologists such as Arlene Geronimus and others have used the "weathering hypothesis" to describe how maternal age intersects with race for Black women in the U.S. – whose birth health outcomes are worse at higher maternal ages. Weathering is the idea that the chronic accumulation of stress associated with living in a racist society literally wears on Black women's bodies, showing up as LBW and other adverse outcomes for mothers at higher ages. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470581/

Percent of Lane County births that were low birth weight, 2012-2021

by age group



by education level



by insurance type





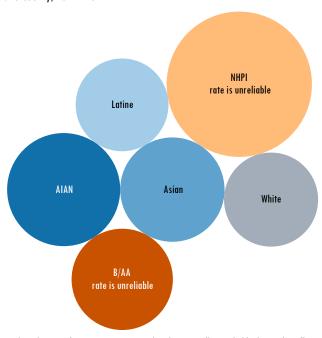
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Mortality rates of infants and birthing parents

Infant mortality is often a key indicator of overall community health. There has been a small, but not significant, decline in infant mortality in Lane County over the past decade, while the rate in Oregon has remained relatively stable.

Patterns of infant mortality by race and ethnicity in Lane County and Oregon are similar to the US overall, with Black and Indigenous people experiencing the highest rates. In Lane County, Asian people are also experiencing a higher rate of infant mortality compared to White and Latine people, which is different from the pattern in Oregon and the US.

Infant mortality per 1000 births by race and ethnicity Lane County, 2012 - 2021



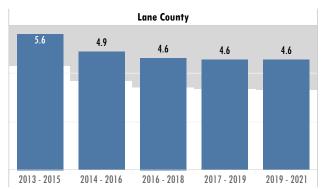
Rates based on 6 or fewer events are considered statistically unreliable due to the influence of random variability. In Oregon during this time period, people who identify as Native Hawaiian/Pacific Islander have similar rates of infant mortality to the Latine community and people who identify as Black/African American have rates similar to those who identify as Indigenous.

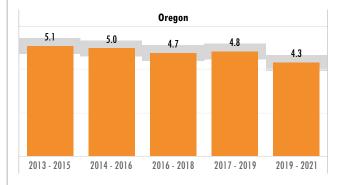
As with other birth outcomes, both infant mortality and mortality of the birthing parent have been linked to the stress of living in white supremacy culture for those groups who do not identify as white. The structures that contribute to chronic stress and chronic health conditions in populations of Black, Indigenous, Asian, Latine and Native Hawaiian/Pacific Islander communities are the same structures that limit access, opportunity, and resources for pregnant people in those populations.



Infant mortality per 1000 births

Grey bars indicate 95% confidence interval, rates are considered statistically different if their confidence interval does not overlap





Mortality of birthing parents Based on death certificate data, there were 13 deaths in Lane County between 2011 & 2022 (with a range of 0 to 2 deaths per year) that were attributed to pregnancy-related causes. According to OHA's Maternal Morbidity & Mortality Review Committee, due to how the data are collected & categorized that is likely to be an undercount, and the real number could be as much as 3 times higher. The review committee is currently undertaking extensive case review of maternal mortality in Oregon to determine underlying causes and common risk factors. Their first report – reviewing one year of data & released in 2021 - indicates that mental health issues are frequently a part of the pregnant person's life experience. Locally, based on the experiences of doulas and others who serve pregnant people, overdose and suicidality may be signficant factors in mortality rates.

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Closing thoughts

One of the essential functions of public health is to provide data to inform decision-making that will improve community health. To improve birth outcomes for all people in Lane County, we need to better understand and address the structural determinants of those outcomes. Understanding the underlying causes of inequities starts with data that reveal those inequities. While it is beyond the scope of this report to offer specific policy and program recommendations, the data and our conversations with community partners do illustrate the need to focus resources on historically- and systematically-marginalized communities. Harm reduction approaches, such as those interventions seeking to reduce tobacco use during pregnancy, and programs supporting pregnant people who are vulnerable due to younger or older age, houselessness or poverty, lower education levels, and those people who suffer racist discrimination, can all go a long way in reducing birth inequities. This report is meant to be the beginning of a community conversation to undo the culture of white supremacy and settler-colonialism and the deeply rooted social and economic disparities that contribute to poor health for everyone in our community. Through ongoing collaboration with our community partners, we will continue to develop and support policies, programs, and services that undo the historical harms of racism and address the structural drivers of community health inequities.

References

Information on declining birth rates

https://www.nytimes.com/2021/06/16/us/declining-birthrate-motherhood.html

Cesarean birth

https://pubmed.ncbi.nlm.nih.gov/29912840/

Birth outcomes and racism

- https://pubmed.ncbi.nlm.nih.gov/16579214/,
- https://www.americanprogress.org/article/eliminating-racial-disparities-maternal-infantmortality/
- https://www.kff.org/racial-equity-and-health-policy/issue-brief/racial-disparities-in-maternal-and-infant-health-current-status-and-efforts-to-address-them/

Racism and weathering

- https://www.npr.org/series/543928389/lost-mothers
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470581/
- https://www.npr.org/sections/health-shots/2023/03/28/1166404485/weathering-arline-geronimus-poverty-racism-stress-health

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Impacts of houselessness on birth outcomes

- https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05156
- https://housingmatters.urban.org/research-summary/homelessness-during-pregnancy-puts-young-children-risk

COVID-19 and birth outcomes

- https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/special-populations/pregnancy-data-on-covid-19/what-cdc-is-doing.html
- https://pubmed.ncbi.nlm.nih.gov/33741725/

Resources for additional data

The following are resources that may be able to address additional data needs:

- OHA's Birth and Pregnancy Dashboards include state and county comparisons of some of the data included at the data party
- Oregon Title V Data Needs Assessment Report
- Oregon Statewide Maternal, Infant & Early Childhood Home Visiting Program 2020 Needs Assessment
- Oregon Health Authority: OHP Data and Reports: Oregon Health Plan: State of Oregon
- Page 4 of <u>this outcomes summary</u> addresses the impact of Quit Tobacco in Pregnancy (QTiP) on tobacco use and compares outcomes for OHP members in Lane County to OHP members statewide (the full report also has a description of QTiP)
- Past QTiP report(s) are available (pdfs can be emailed upon request)
- A collection of <u>research</u> on birth outcomes impacted by use of doulas and by natural disasters

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APPENDIX: Community recommendations to address inequities

On September 26, 2023, the Community Partnerships Program hosted a Data Release Party to share the results of this report with our partners and the broader community and to solicit recommendations for action.

Participants were invited to offer their thoughts and ideas on the data and to answer the question "what can we do as a community" and "what systems changes are needed" to address the root causes of inequities in access to care, tobacco use, preterm birth, and infant mortality.

A thematic analysis of the responses revealed close alignment with the priorities in <u>Lane County's 2021-25 Community Health Improvement Plan</u>. The themes were the same across all indicators – indicating widespread understanding that the root causes of inequities are similar across multiple dimensions. Themes from the community responses are organized by CHP priorities.

Ensure everyone has the income needed to meet basic needs

Many of the recommendations focused on ensuring pregnant people had access to basic needs: guaranteed income, free housing, free childcare, free medical and mental health care, etc. Others indicated community-wide needs like increasing minimum wages and guaranteeing paid family leave.

Create conditions that support good mental health and physical well-being

The recommendations that align with this priority tended to fall into two categories:

- Ensure systems of care are accessible
 - Provide care in community settings
 - Better coordination between different medical providers
 - Ensure access to contraception and abortion
 - Access to pre-pregnancy and post-pregnancy care
- Ensure systems of care address the needs of the whole person
 - Provide case management
 - Use harm reduction practices
 - o Improve access to alternative medicine (e.g., massage, acupuncture)
 - o Improve access to doula care and traditional health workers

Address the injustices that create inequities

Ensuring that providers are trained to provide culturally competent, antiracist, and trauma-informed care was mentioned frequently, as was diversifying the workforce. Additionally, ensuring that BIPOC-led services — such as doula care, childcare, mental health — are adequately resourced was a common theme. Wider, community-level suggestions included restorative justice policies such as reparations and land back.

While some of the recommendations can (and should) be implemented at an organizational level, many will require collective, community-wide advocacy and coordination.

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