



Public Health
Prevent. Promote. Protect.



Williams County Prenatal Smoking Trends, 2016–2020

Michael Wright, MPH, CHES, Epidemiologist

Mendon Thomas, MPH, Epidemiologist

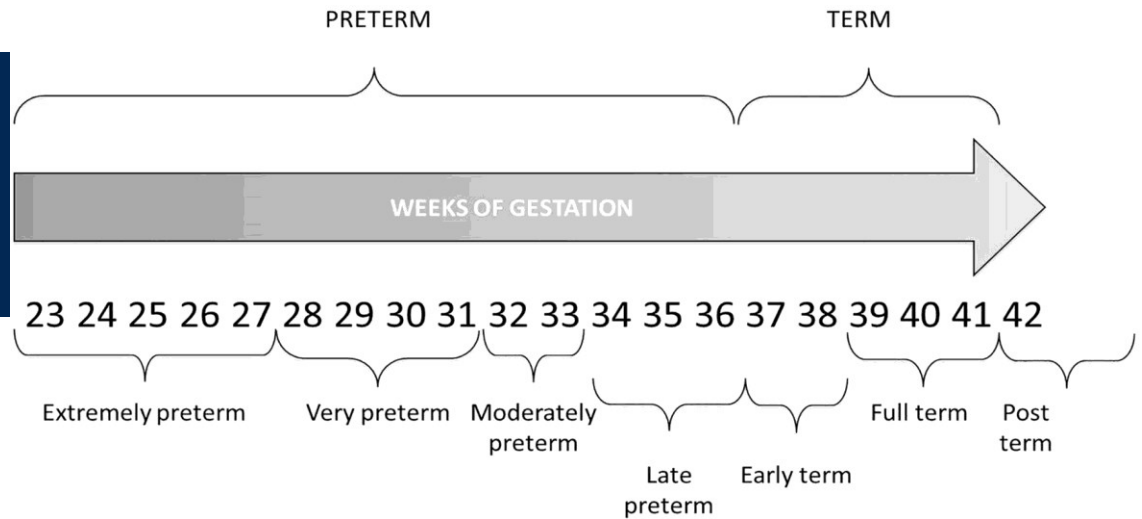
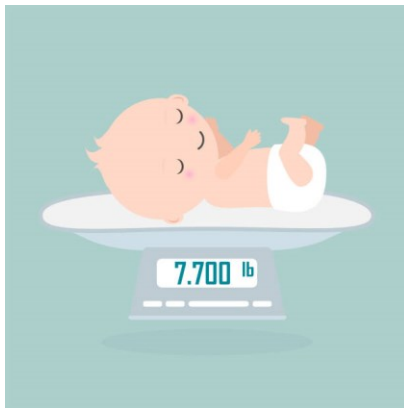
February 2023

Williams County Health Department

Data Collection

- The data for this report was pulled from Williams County birth certificates from 2016 through 2020.
- Limitations: One limitation is that these results only include births that occurred in Williams County. It does not record the number of Williams County residents that gave birth in another county; therefore, some data about Williams County residents may be missing and individuals who reside outside of Williams County may have been included.
- Another limitation is the small number of cases for certain races, ethnicities and age groups. These small numbers mean that the results cannot be generalized to that sub-population and trends for these groups cannot be determined with certainty.

Definitions



- **Low birth weight**- (<2,500 grams)
- **Normal birth weight**- (2,500-3,999 g)
- **High birth weight**- (4,000+ g)

- **Extremely preterm**- (<28 weeks)
- **Very preterm**- (28- <32 weeks)
- **Moderate to late preterm**- (32- <37 weeks)
- **Early term**- (37-39 weeks)
- **Term**- (39-41 weeks)
- **Post term**- (42+ weeks)



Public Health
Prevent. Promote. Protect.



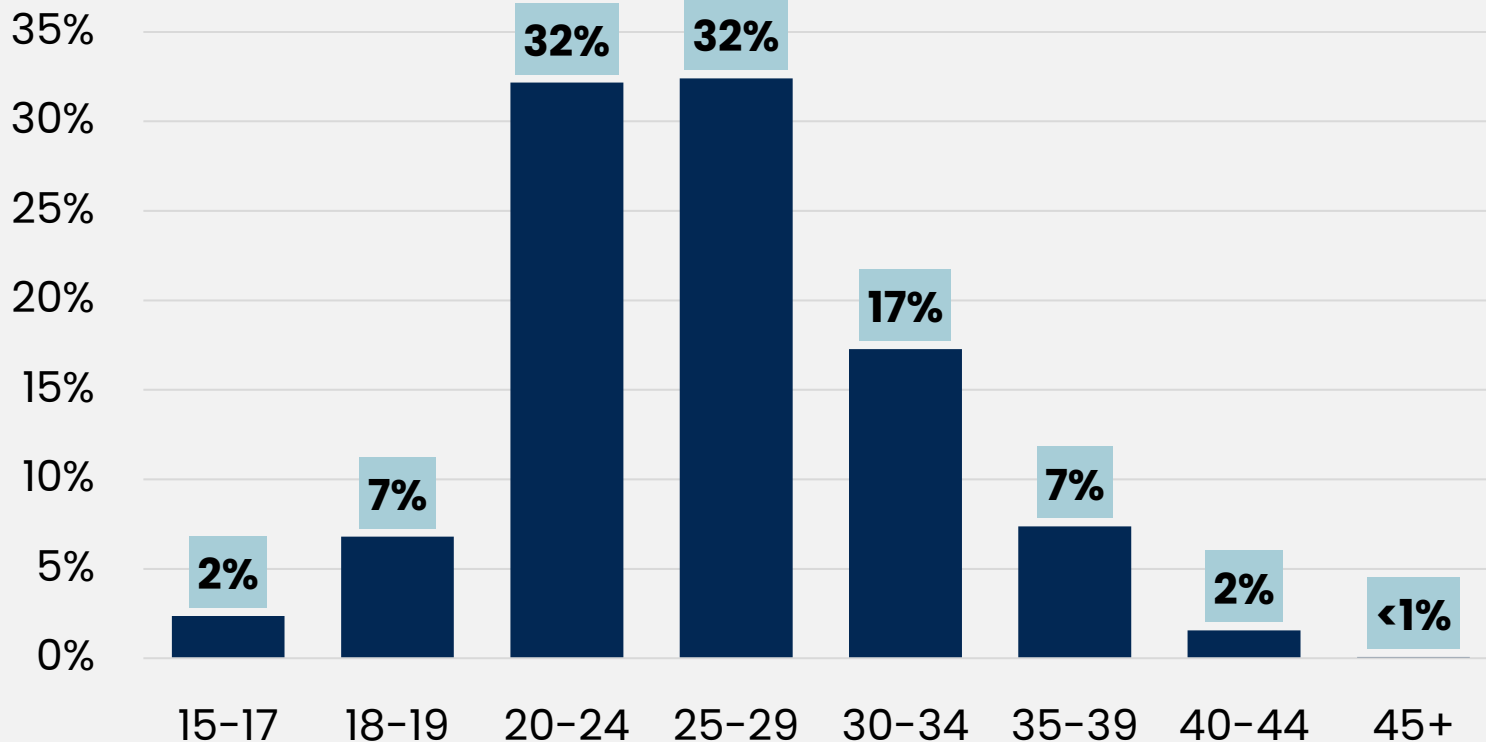
Demographics

Women Who Gave Birth, 2016–2020



Demographics- Age Group

Women Who Gave Birth from 2016-2020, by Age Group



Demographics- Age Group

64%

- 64% of all births in Williams County were from women aged **20-29 years** from 2016-2020.

82%

- 82% births in Williams County were from women between the ages of **20-34 years**.

**26.2
Years**

- The average age of women who gave birth was **26.2 years** old.

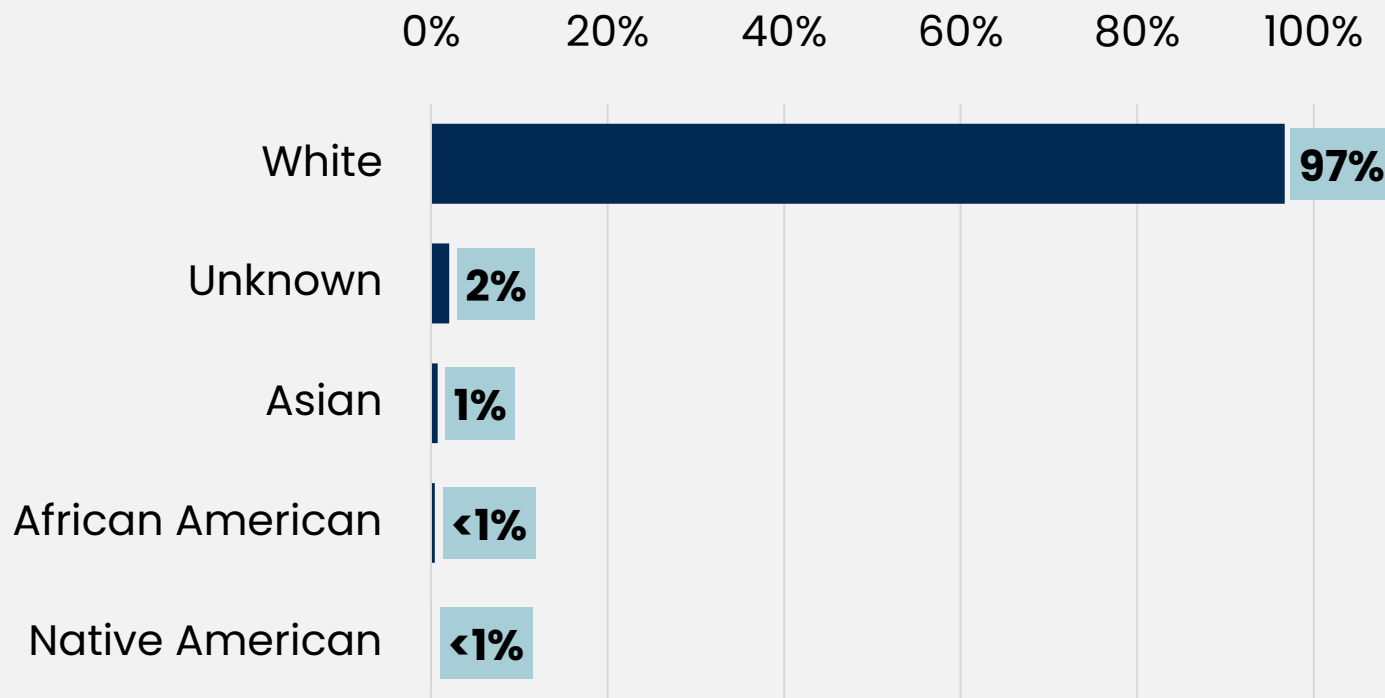


Public Health
Prevent. Promote. Protect.



Demographics- Race

Women Who Gave Birth from 2016-2020, by Race



Demographics– Race

97%

- Most births in Williams County were from **White** females (97%).

1%

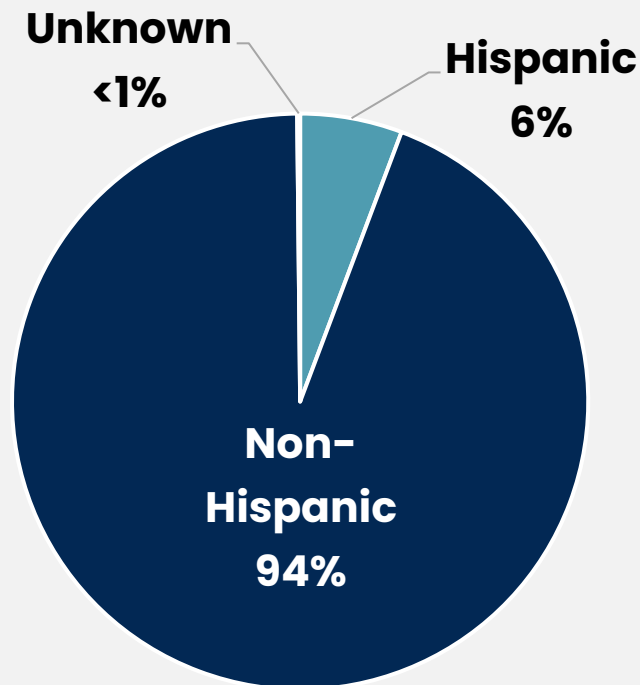
- 1% of births were from **Asian** females.

<1%

- <1% of births were from other races such as **African American** and **Native American**.

Demographics- Ethnicity

Women Who Gave Birth from 2016-2020, by Ethnicity



Demographics- Ethnicity

94%

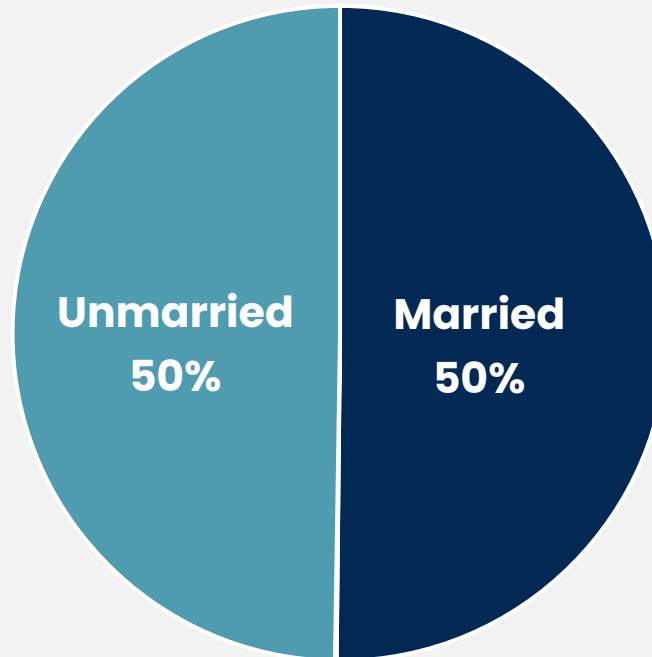
- The majority (94%) of all births from 2016-2020 were from **Non-Hispanic** women.

6%

- 6% of all births were from **Hispanic** women.

Demographics- Marital Status

Women Who Gave Birth from 2016-2020, by Marital Status



Demographics- Marital Status

50%
Married

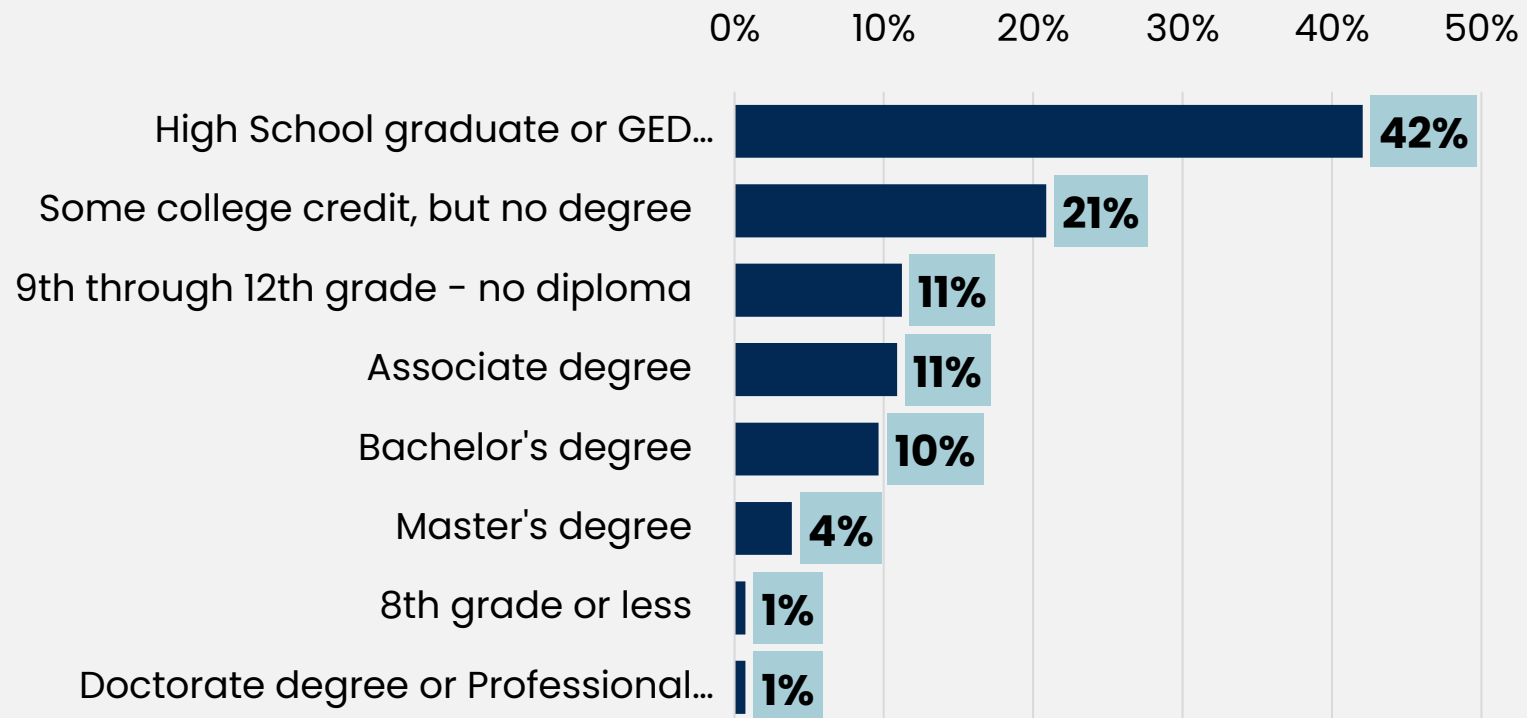


50%
Unmarried

- Half of all live births in Williams County were from **married** women and half were from **unmarried women**.

Demographics- Education Status

Women who gave Birth from 2016-2020, by Education Status



Demographics- Education Status



4x



- A woman's education status was shown to influence births. Women with **higher education** were less likely to give birth compared to women with lesser education.
- Women with a **high school graduate or GED** had **4x** births compared to a women with a bachelors degree.
- Overall, trends show that the higher the education a woman has, the less likely she will give birth, as shown by the previous graph.



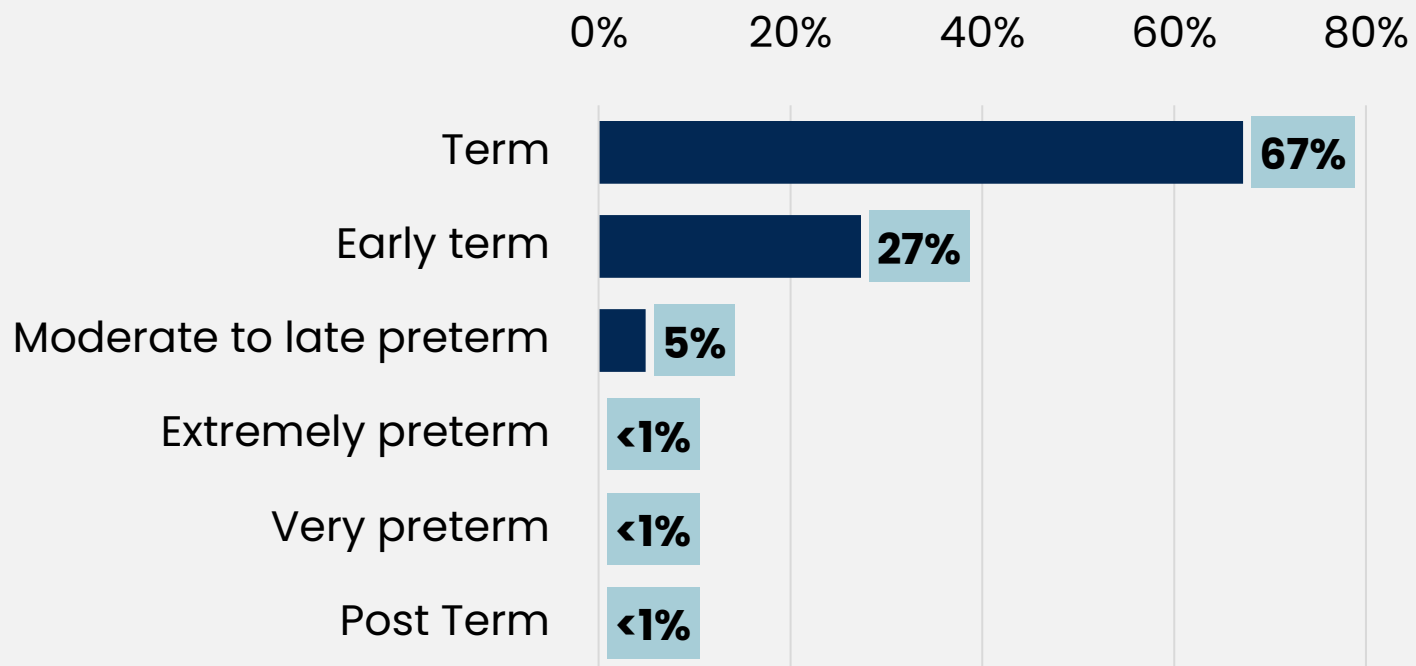
Public Health
Prevent. Promote. Protect.



Williams County Health District

Demographics- Gestation

Women Who Gave Birth from 2016-2020, by Gestation



Public Health
Prevent. Promote. Protect.



Demographics- Gestation



2 out of 3 births (67%)
were in **term**.

27%

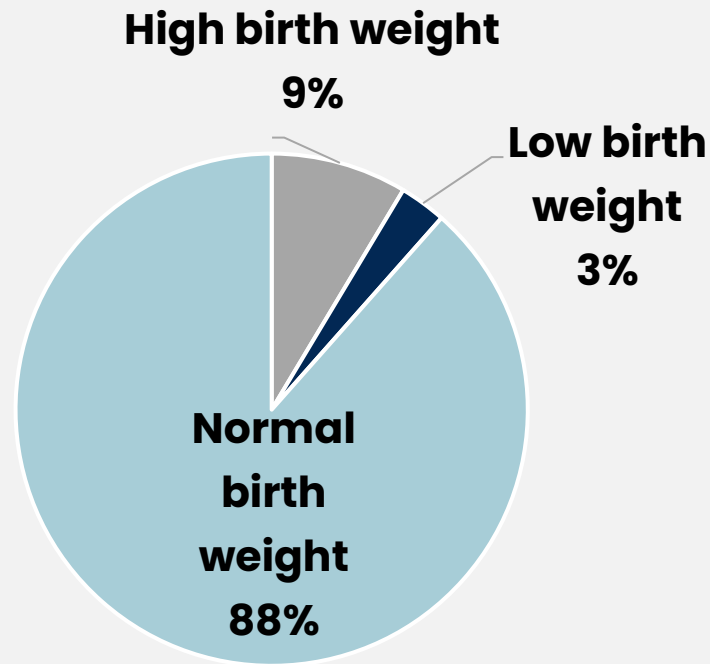
27% of all births were **early term**.

<1%

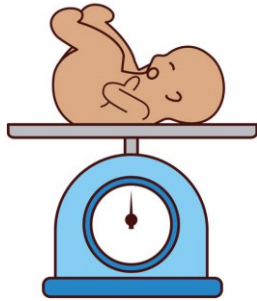
<1% of births were either **extremely preterm, very preterm, or post term**.

Demographics- Birth Weight

Women Who Gave Birth from 2016-2020, by Birth Weight



Demographics- Birth Weight

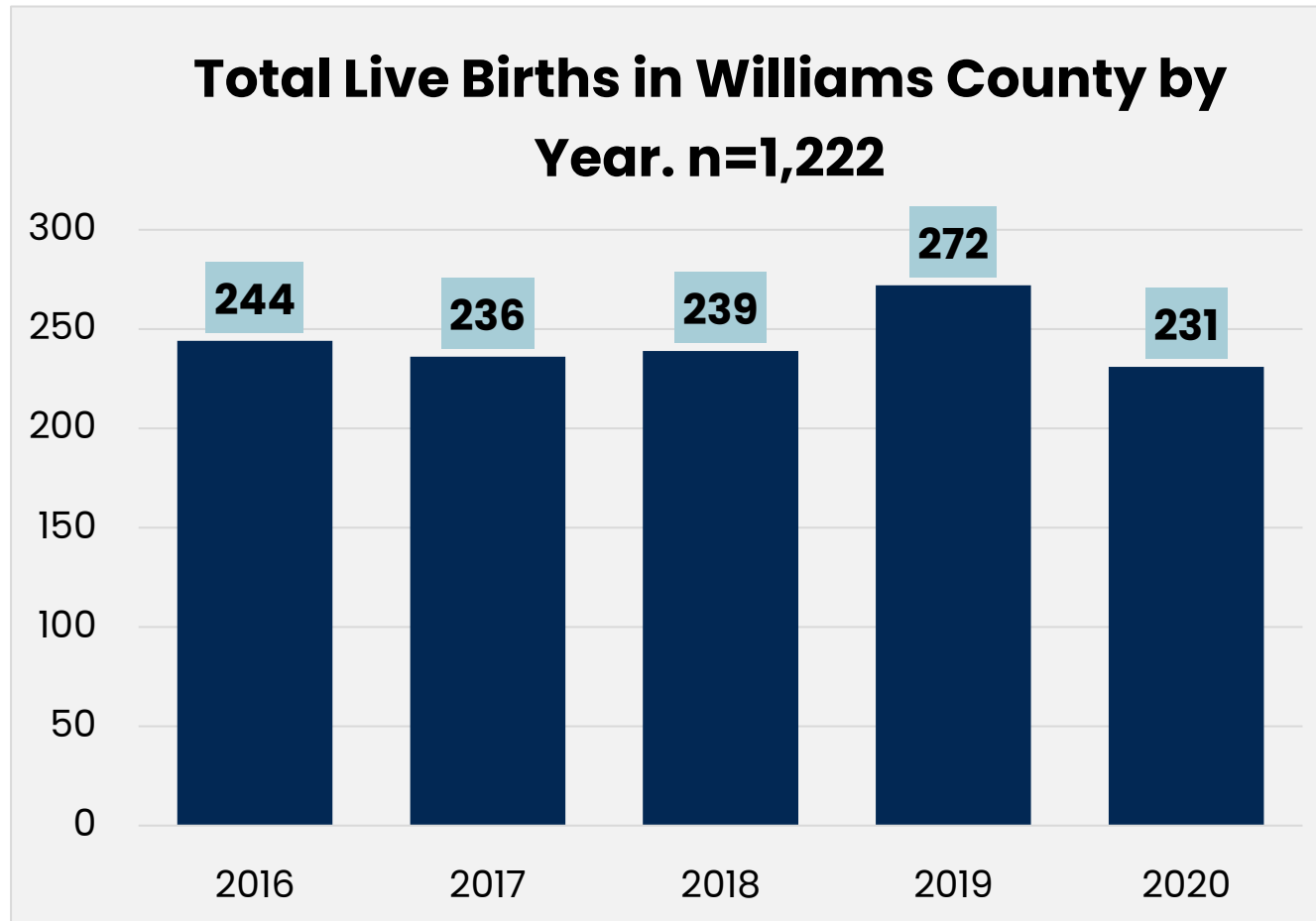


High **Low**
9% **3%**

3x

- 88% of all Williams County births were **normal** birth weight.
- 9% of all births were **high birth weight** and 3% were **low birth weight**.
- Williams County had **3x** more **high birth weight** births than Low Weight Births from 2016-2020.

Total Live Births— by Year



Total Live Births– by Year

Most:
2019

Least:
2020

 **5.3%**

1,222

- Every year had under 300 births and **2019** had the most births with 272.
- In **2020**, there were 41 fewer births compared to the previous year with 231 births which is also the least number of births over this 5-year time period.
- Since 2016, births have decreased by 5.3%
- Overall, there were **1,222** total live births in Williams County from 2016–2020.



Public Health
Prevent. Promote. Protect.



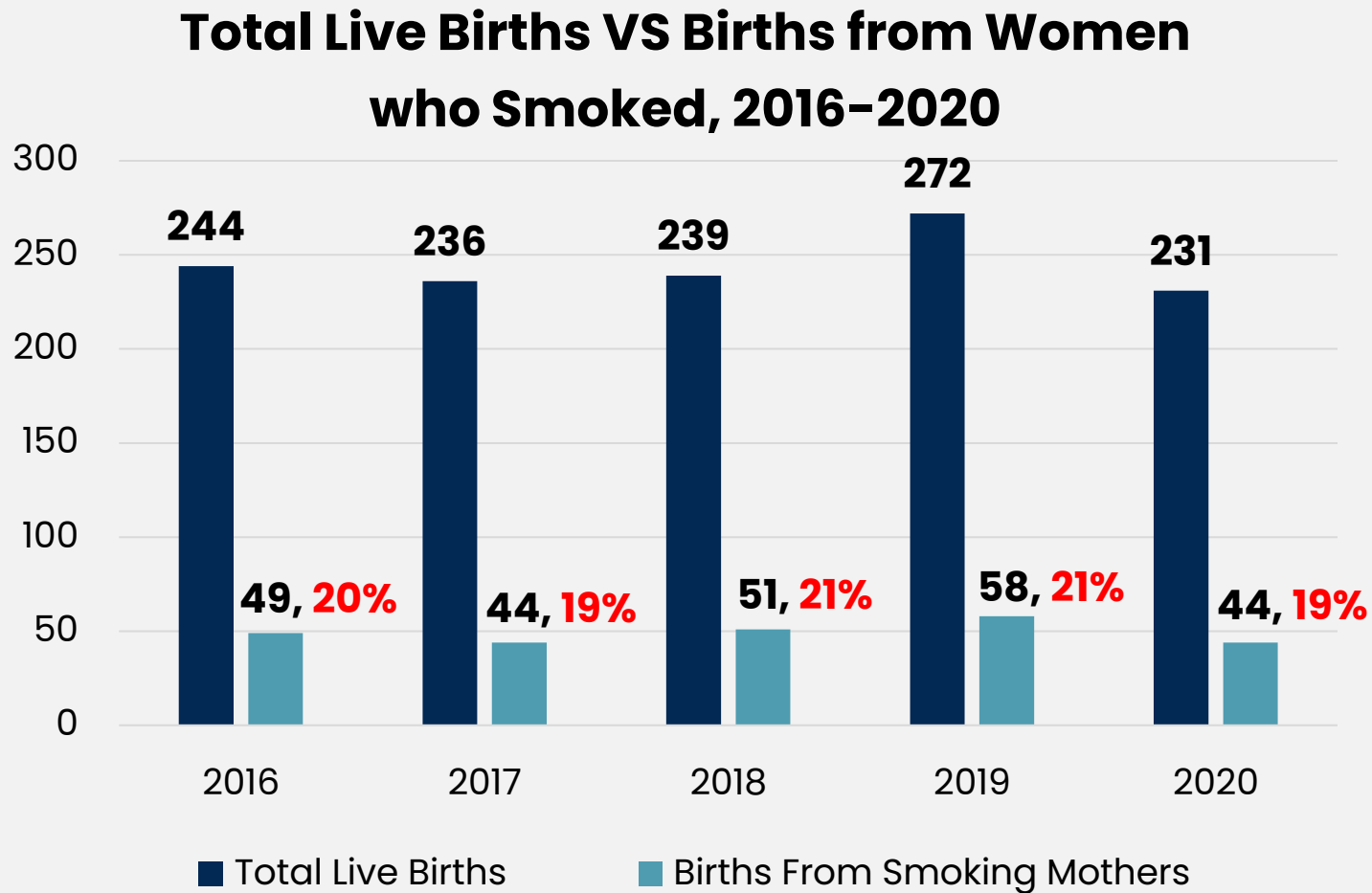
Smoking Status During Pregnancy

(Smoked vs Did Not Smoke)

*Cigarette smoking only



Total Live Births vs Births from Women who Smoked, 2016–2020



Total Live Births vs Births from Women who Smoked, 2016–2020

- The red percentages shown in the previous graph are percentages of births from smoking mothers each year.
- For example, in 2016, 20% of all births were from smoking mothers.
- Most years had around 20% of the births from smoking mothers and smoking rates followed birth rates.

Total Live Births vs Births from Women who Smoked, 2016–2020



2018 & 2019



2017 & 2021



246



2018 and **2019** had the highest % of births from smoking mothers at 21%, while **2017** and **2021** had the lowest % at 19%.

Total women who Smoked During Pregnancy: **246**

Overall, 20% of all births from 2016–2020 were from women who **smoked.**

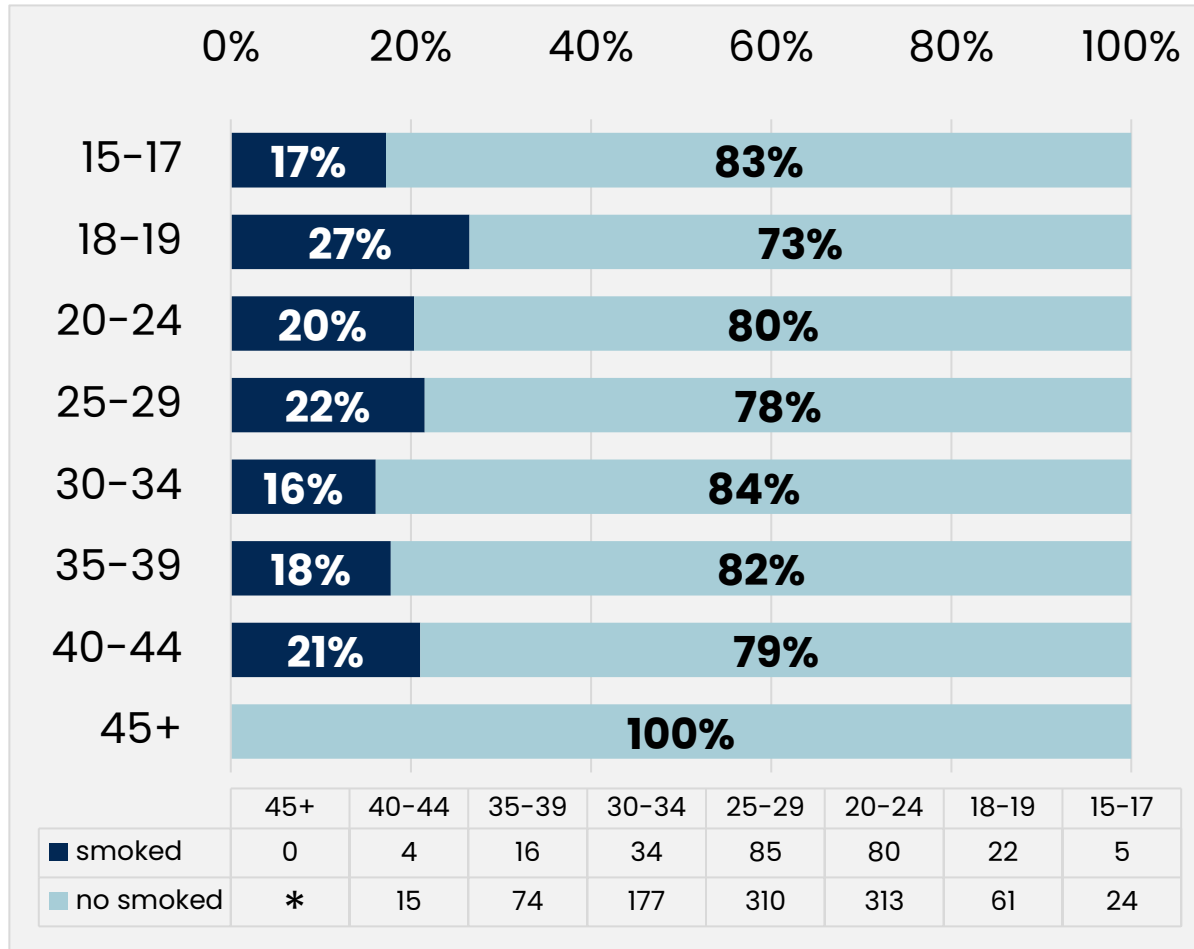


Public Health
Prevent. Promote. Protect.



Williams County Health District

Women's Smoking Status During Pregnancy, by Age Group



*Data suppressed due to low numbers

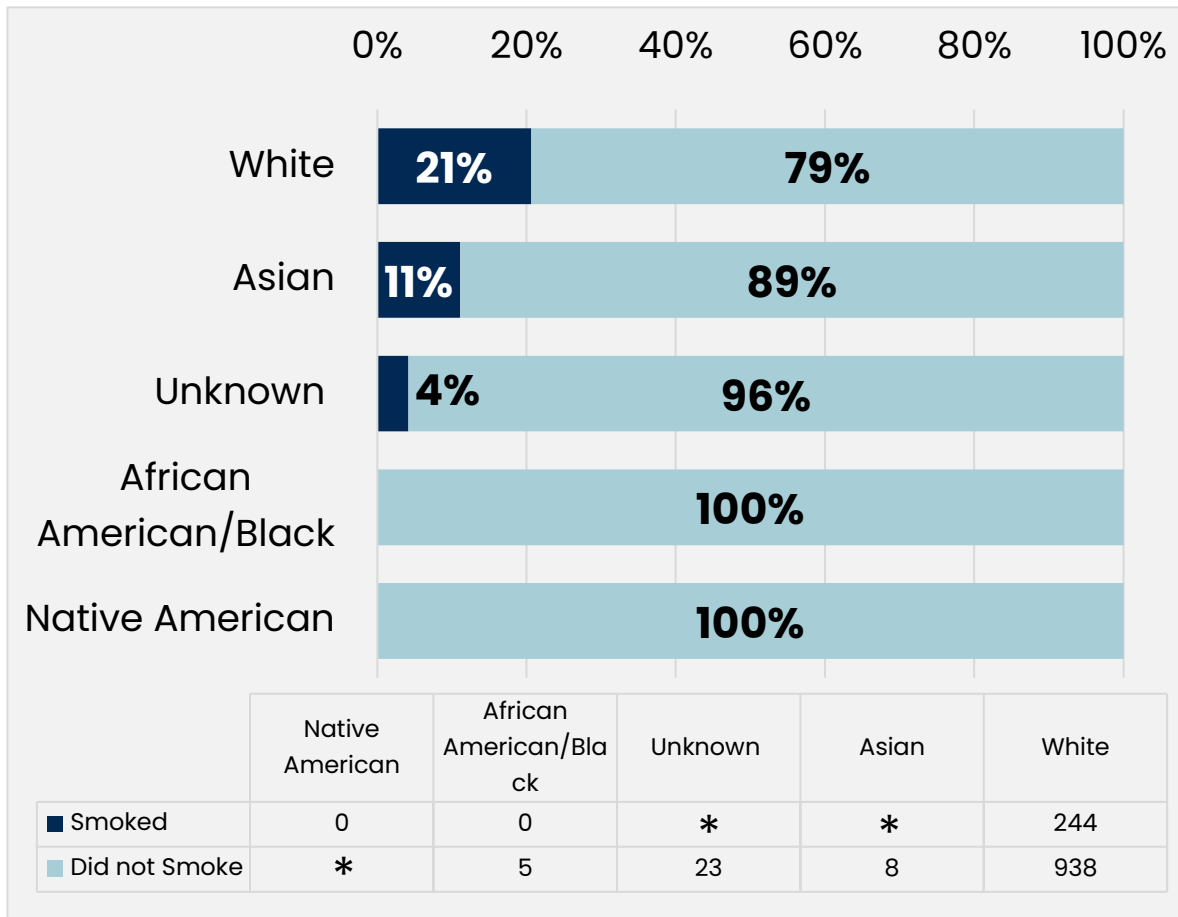
Women's Smoking Status During Pregnancy, by Age Group

27%

- **18-19 year olds** had the highest % of smoking during pregnancy with 27% of women who smoked.
- According to 2020 Williams County Community Health Assessment (CHA): 6% 9-12 graders smoked cigarettes. 16% adults age 19 + smoked cigarettes.



Women's Smoking Status During Pregnancy, by Race



*Data suppressed due to low numbers



Public Health
Prevent. Promote. Protect.



Women's Smoking Status During Pregnancy, by Race

2x

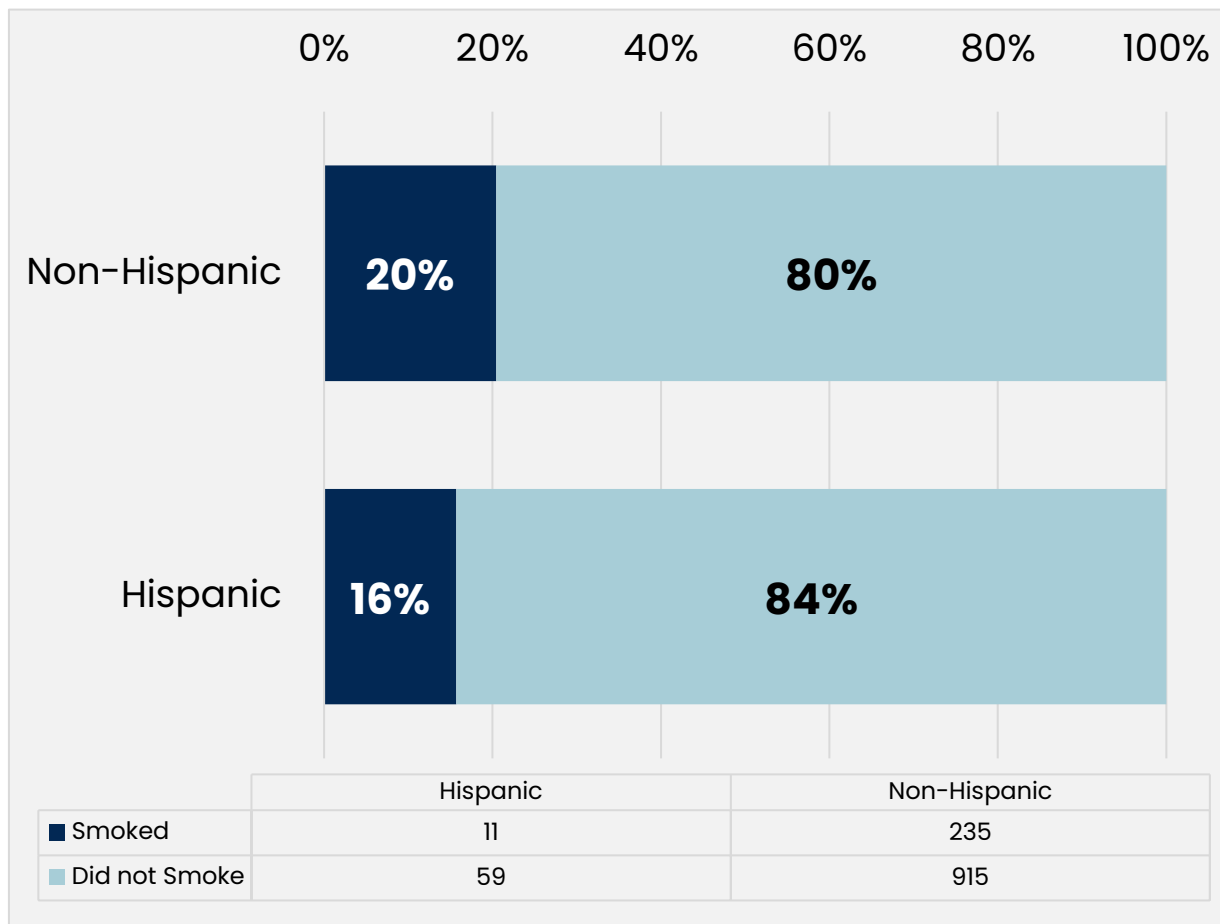
- **White** women were **2x** more likely to smoke during pregnancy than Asian women.

21%

- 21% of all **White** women who gave birth smoked.
- **African American** and **Native American** women did not have any smokers during pregnancy.



Women's Smoking Status During Pregnancy, by Ethnicity



Women's Smoking Status During Pregnancy, by Ethnicity

Non-Hispanic:
20%



Hispanic:
16%

- 20% of **Non-Hispanic** women smoked during pregnancy compared to 16% of **Hispanic** women.
- Hispanic and Non-Hispanic women had similar smoking rates during pregnancy.

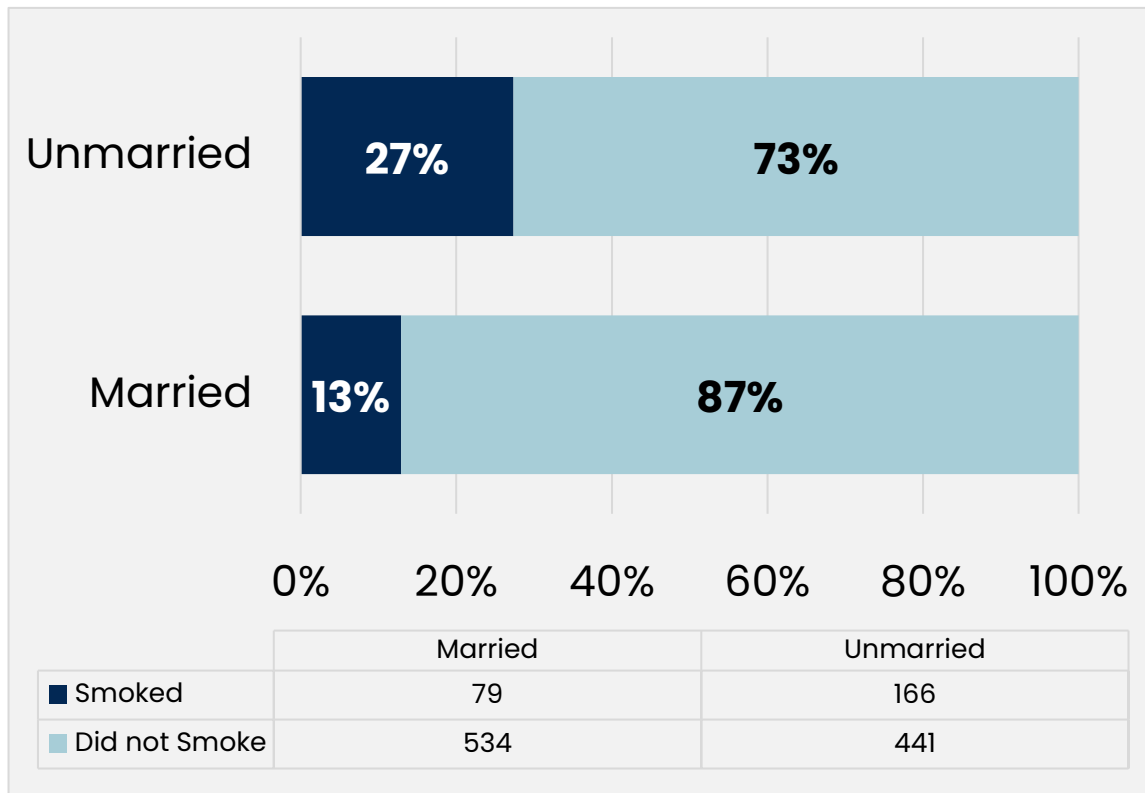


Public Health
Prevent. Promote. Protect.



Williams County Health District

Women's Smoking Status During Pregnancy, by Marital Status



Women's Smoking Status During Pregnancy, by Marital Status

13%

Married

27%

Unmarried

2x

- 27% of **unmarried** women smoked during pregnancy compared to 13% of **married** women.
- **Unmarried** women were 2x more likely to smoke during pregnancy compared to married women.

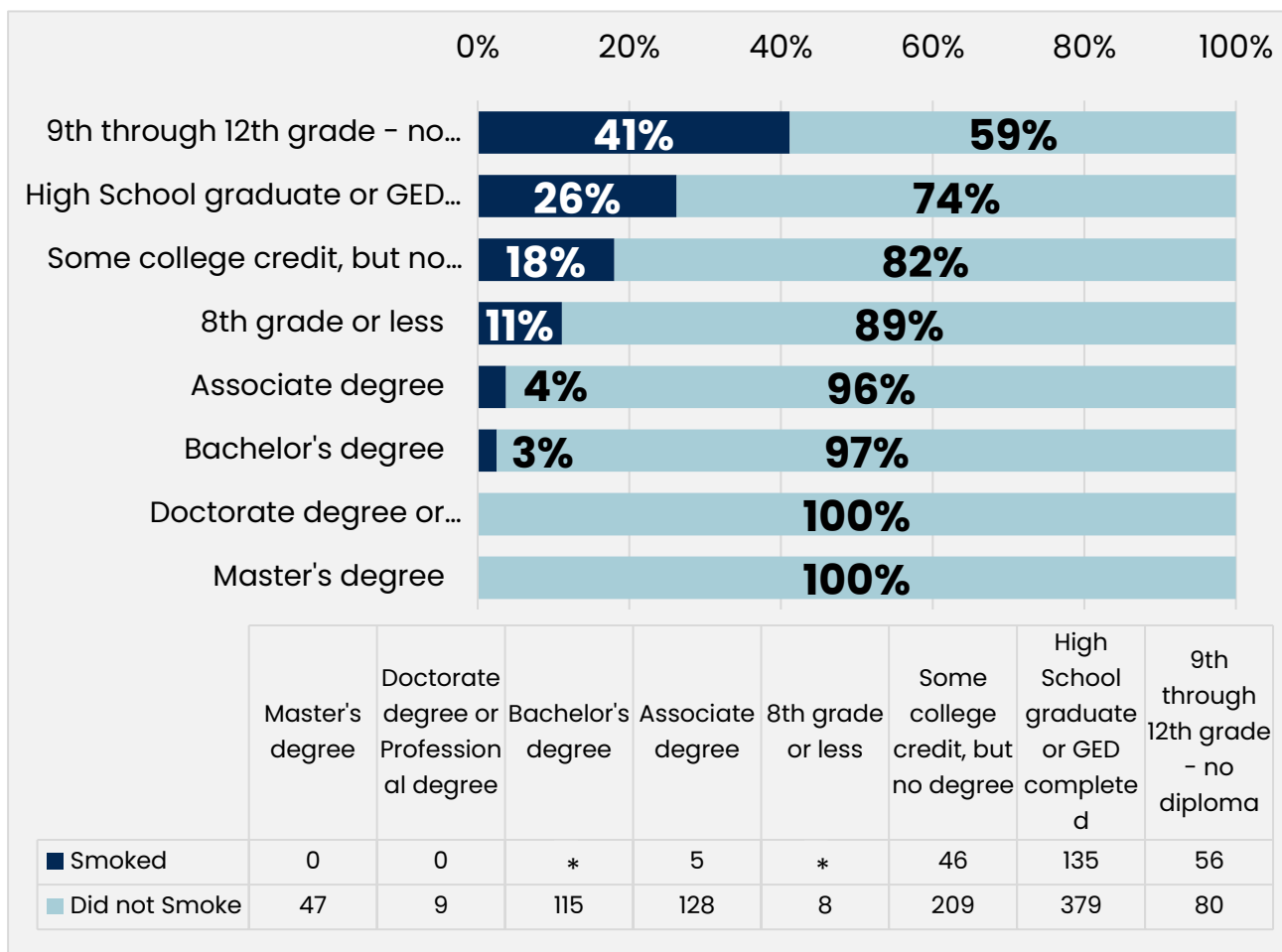


Public Health
Prevent. Promote. Protect.



Williams County Health District

Women's Smoking Status During Pregnancy, by Education Status



*Data suppressed due to low numbers

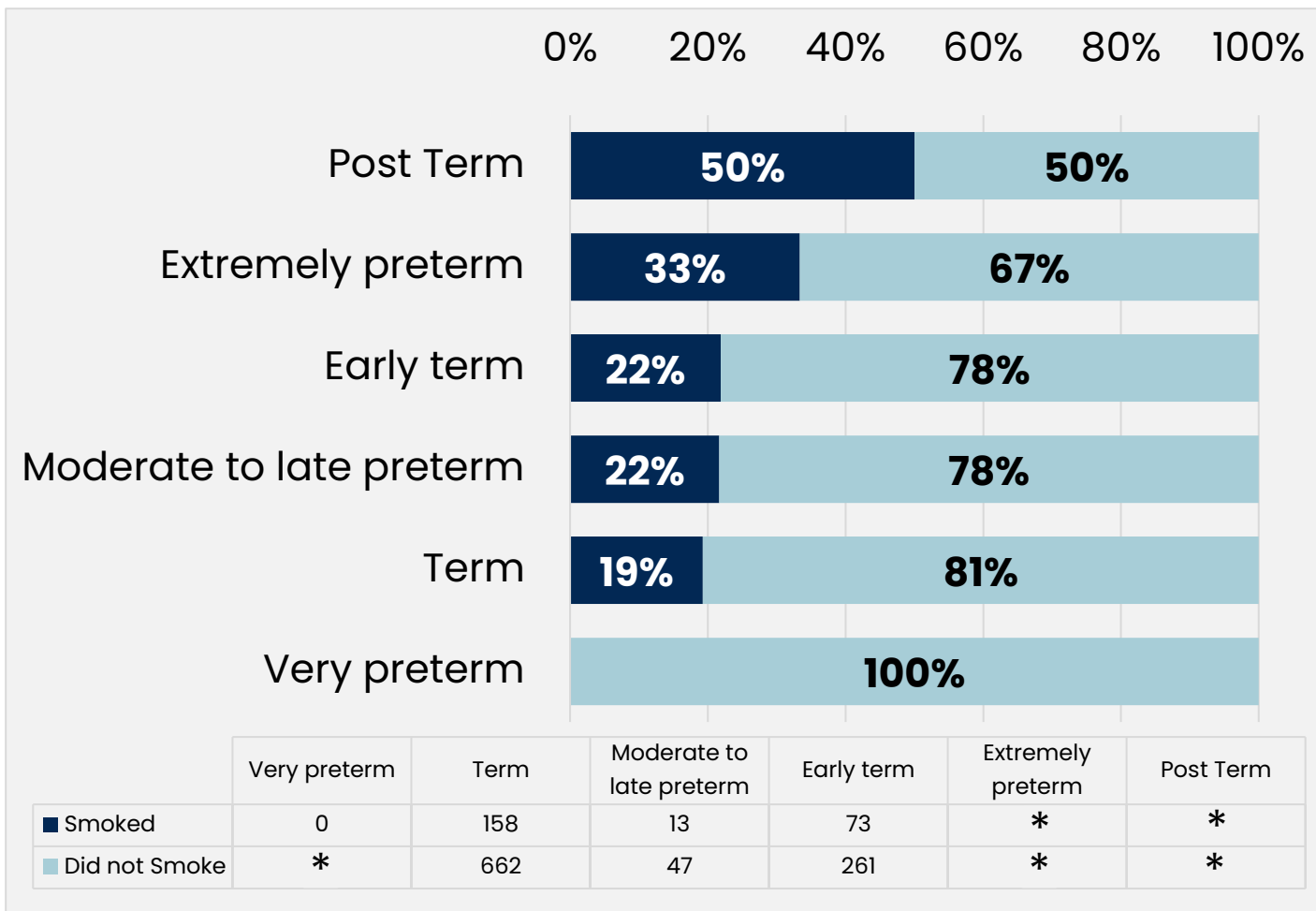
Women's Smoking Status During Pregnancy, by Education Status

41%



- 41% of women with **9-12th grade with no diploma** education smoked during pregnancy.
- Women with **higher education** had lower smoking rates compared to women with less education.
- No women with a **master's or doctorate or professional degree** smoked during pregnancy.

Women's Smoking Status, by Gestation



*Data suppressed due to low numbers



Public Health
Prevent. Promote. Protect.



Women's Smoking Status, by Gestation

According to the CDC, smoking has an effect on when a woman gives birth. If you smoke during pregnancy, you are more likely to give birth too early.



- 1 in 3 **extremely preterm births** were from women who smoked.

22%

- 22% of **early term births** were from women who smoked.

19%

- 19% of **term births** were from women who smoked.



Public Health
Prevent. Promote. Protect.



Williams County Health District



Public Health
Prevent. Promote. Protect.

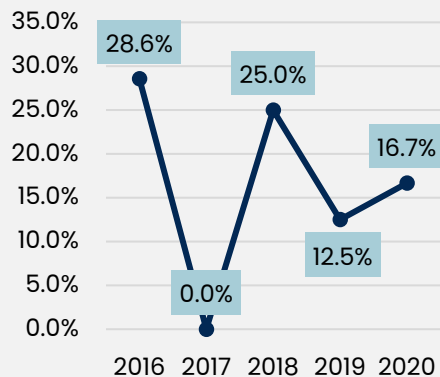


Women who Smoked during pregnancy

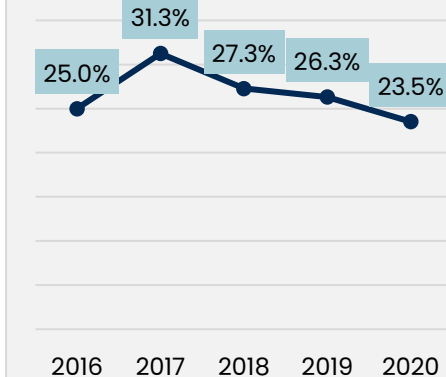


Women who Smoked during Pregnancy by Year and Age Group

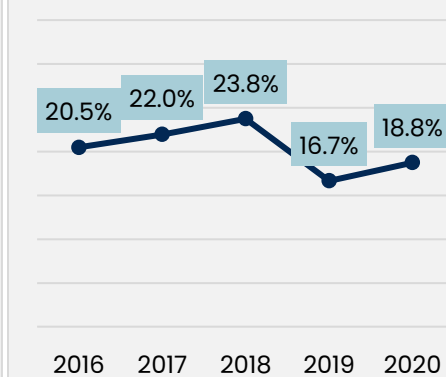
15-17



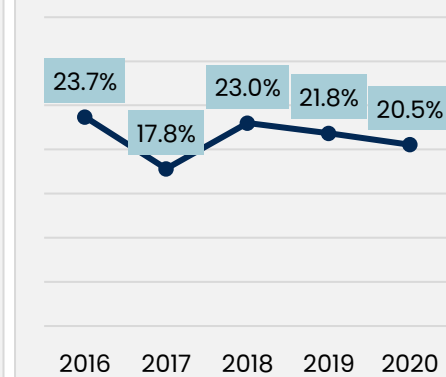
18-19



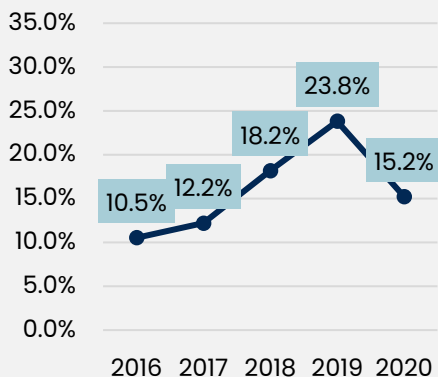
20-24



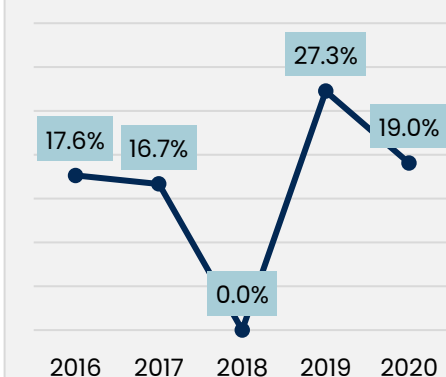
25-29



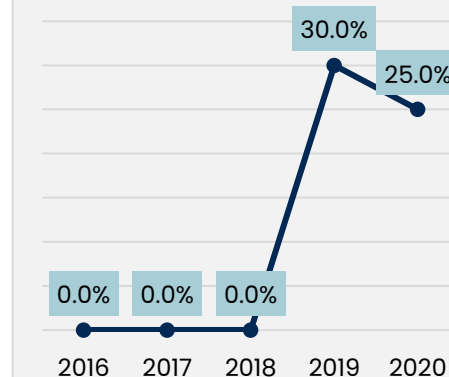
30-34



35-39



40-44



Public Health
Prevent. Promote. Protect.



Women who Smoked during Pregnancy by Year and Age Group

- The graphs shown above show the percentage of women who smoked during pregnancy among age groups by year.
- For example, in 2017, 0% of women age 15-17 smoked during pregnancy.

Women who Smoked during Pregnancy by Year and Age Group



- Since 2016, smoking during pregnancy has been decreasing among women <30 years old.



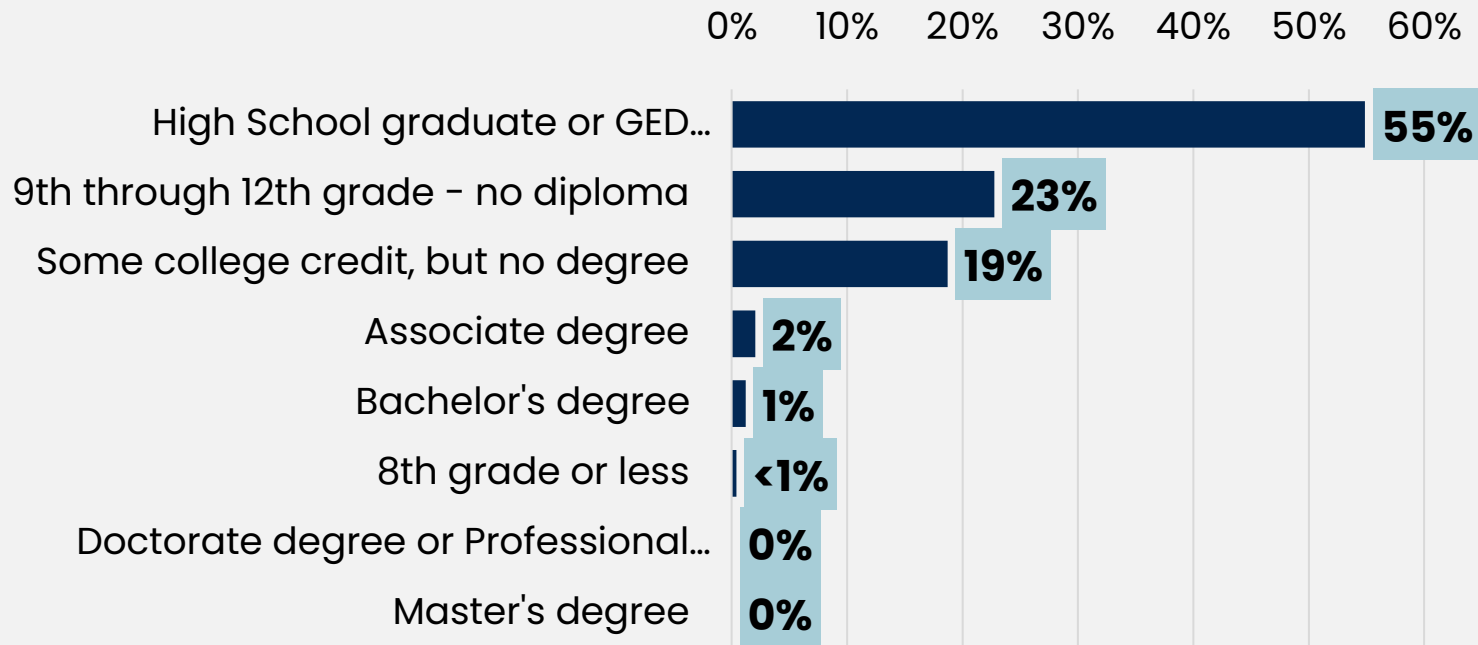
- **18-19 year olds** had the highest consistent smoking rates compared to other age groups.



- Overall, smoking rates have been decreasing.

Percentage of all Women who Smoked During Pregnancy by Education Status

Percentage of all Women who Smoked During Pregnancy by Education Status



Percentage of all Women who Smoked During Pregnancy by Education Status

23%



- Nearly 1 in 4 (23%) of women who smoked during pregnancy had **9th-12th grade-no diploma**.

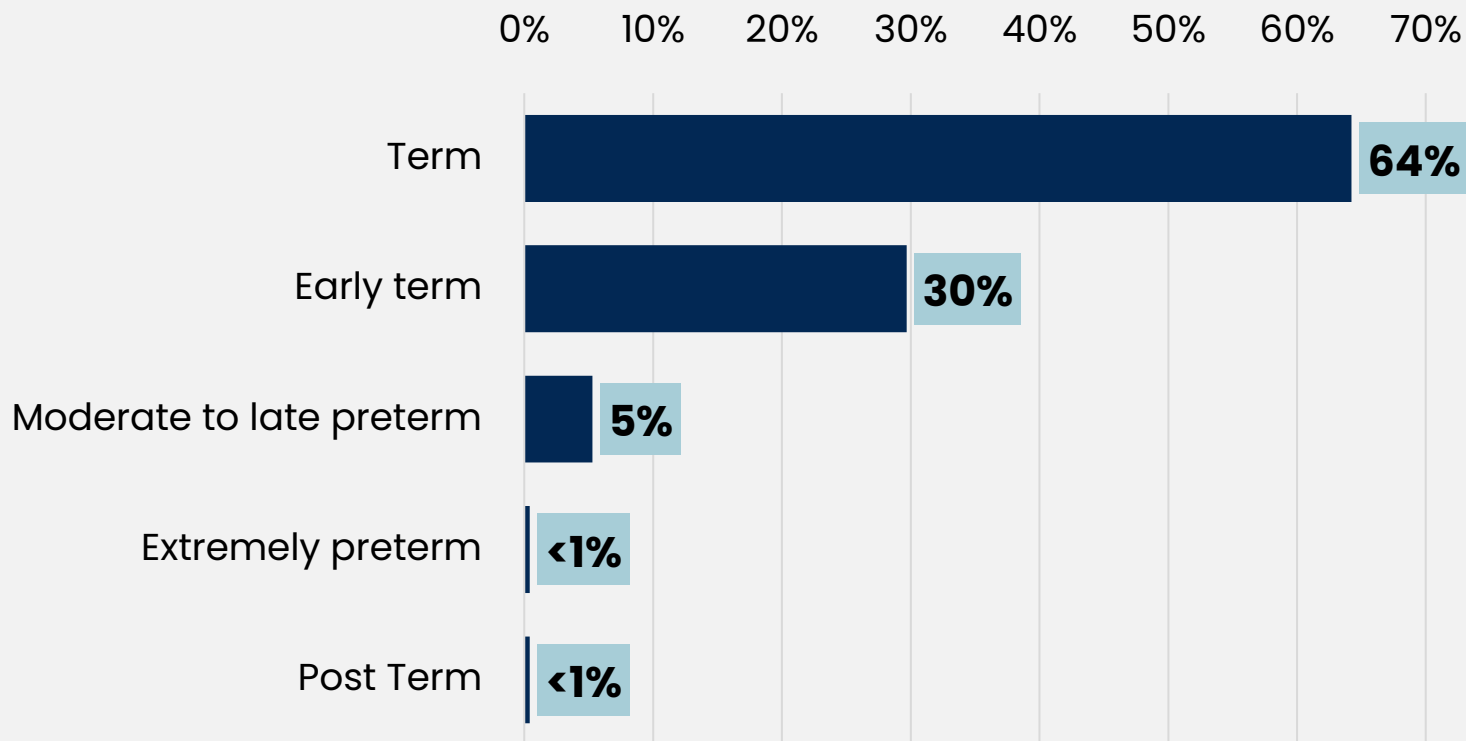
78%



- Women with **lower education** accounted for over 3 in 4 births (78%) from smoking mothers.

Birth Gestations from all Women who Smoked during Pregnancy

Birth Gestations from all Women who Smoked during Pregnancy



Public Health
Prevent. Promote. Protect.



Williams County Health District

Birth Gestations from all Women who Smoked during Pregnancy

Of all births from mothers who smoked during pregnancy...



3 in 10 births were **early term**.

64%

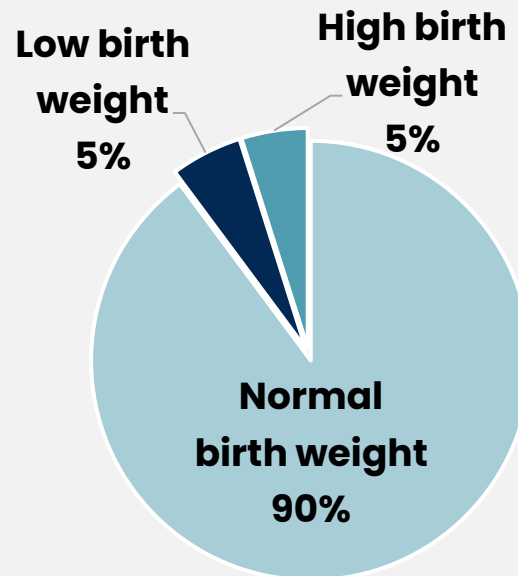
64% of births were **term** births.

<1%

<1% of births were **extremely preterm** and **post term**.

Birth Weights from all Women who Smoked during Pregnancy

Birth Weights from all Women who Smoked during Pregnancy



Birth Weights from all Women who Smoked during Pregnancy

Smoking during pregnancy can affect a babies' weight when they are born.

5%
**Low birth
Weight**



5%
**High birth
weight**

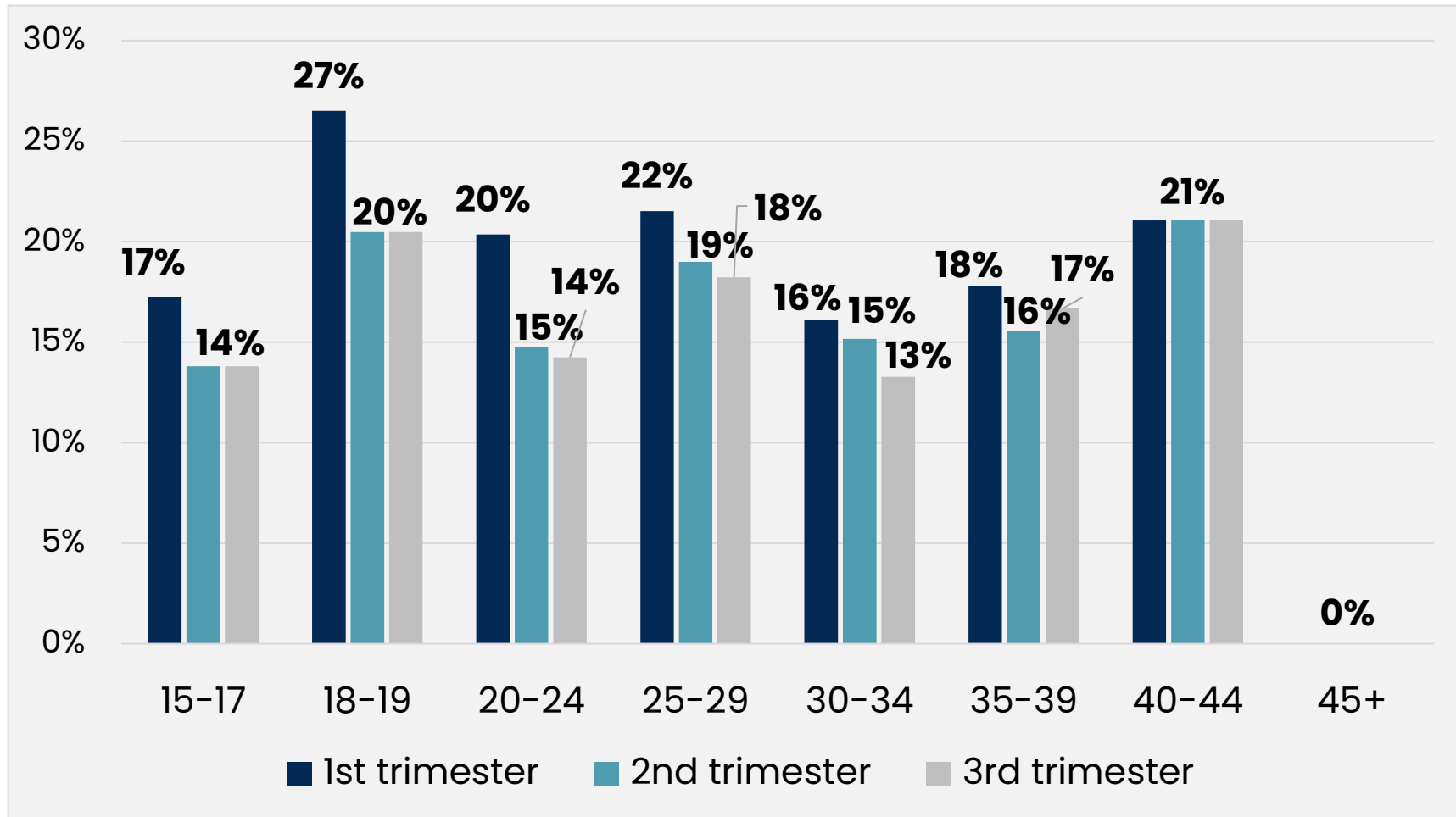
- 5% of the births from smoking mothers were **low birth weight** and 5% were **high birth weight**.



Public Health
Prevent. Promote. Protect.



Women from each Age Group who Smoked during Trimesters of Pregnancy, 2016–2020



Women from each Age Group who Smoked during Trimesters of Pregnancy, 2016–2020



- For most age groups, smoking during pregnancy has decreased over trimesters in almost every age group.
- The highest smoking rates in the first trimester was women age 18–19 with 27% smoking; and in the 2nd and 3rd trimesters, their smoking rates dropped to 20%.



Public Health
Prevent. Promote. Protect.



Data Summary- Demographics

- Total live births in Williams County have been decreasing since 2016. 
- 64% of all live births in Williams County were from women age 20-29:
 - **20-24 Years:** (32%)
 - **25-29 Years:** (32%)
- Women with **higher education** were less likely to give birth from 2016-2020.
- Half (50%) of all women who gave birth were **married**, and half (50%) were **unmarried**.
- Average age of women who gave birth: 26.2



Data Summary- Smoking Status During Pregnancy

- **1 in 5** births from 2016–2020 were from women who smoked.
- **18–19 year olds** had the highest percentage of smoking during pregnancy with 27% who smoked.
- Hispanic and Non-Hispanic women had similar smoking rates during pregnancy.
- **Unmarried** women were 2x more likely to smoke during pregnancy compared to Married women.
- Women with **higher education** had lower smoking rates compared to women with less education.



Data Summary- Women who Smoked During Pregnancy

- Overall, since 2016, smoking during pregnancy has been decreasing among women **<30 years old**.
- Women with **lower education** accounted for over 3 in 4 births from smoking women.
- 3 in 10 (30%) babies born to women who smoked were born **Early Term**.
- Smoking rates have decreased over trimesters of birth.



Health Effects of Prenatal Smoking



Women who smoke during pregnancy can have the following impact on babies:

- *Preterm birth*
- *Low birth weight*
- *Birth defects*
- *Miscarriages*
- Death from *Sudden Infant Death Syndrome (SIDS)*

Resources for Smokers



- <https://smokefree.gov/> (1-800-784-8669).
 - Provides support in quitting, including free quit coaching, a free quit plan, free educational materials, and referrals to local resources.
- <https://women.smokefree.gov/>
 - Provides information and resources on quitting smoking targeted at pregnant and non-pregnant women.
- <https://www.becomeanex.org/pregnant-smokers/>
 - A quit smoking program developed by the American Legacy Foundation.
- <https://www.cancer.org/healthy/stay-away-from-tobacco.html>
 - Provides general resources for quitting smoking and smokeless tobacco from the American Cancer Society.



Public Health
Prevent. Promote. Protect.



Williams County Health District

References:

- https://www.cdc.gov/tobacco/basic_information/health_effects/pregnancy/index.htm#:~:text=Health%20Effects%20of%20Smoking%20and%20Secondhand%20Smoke%20on%20Babies&text=One%20in%20every%20five%20babies,early%20are%20not%20as%20healthy.
- https://www.cdc.gov/reproductivehealth/maternalinfanthealth/tobacco_usepregnancy/resources.htm
- <https://www.williamscountyhealth.org/wp-content/uploads/2014/08/2019-Williams-County-CHA-10-7-19.pdf>
- Ohio Public Health Information Warehouse. "These data were provided by the Ohio Department of Health. The Department specifically disclaims responsibility for any analyses, interpretations or conclusions".



Public Health
Prevent. Promote. Protect.

