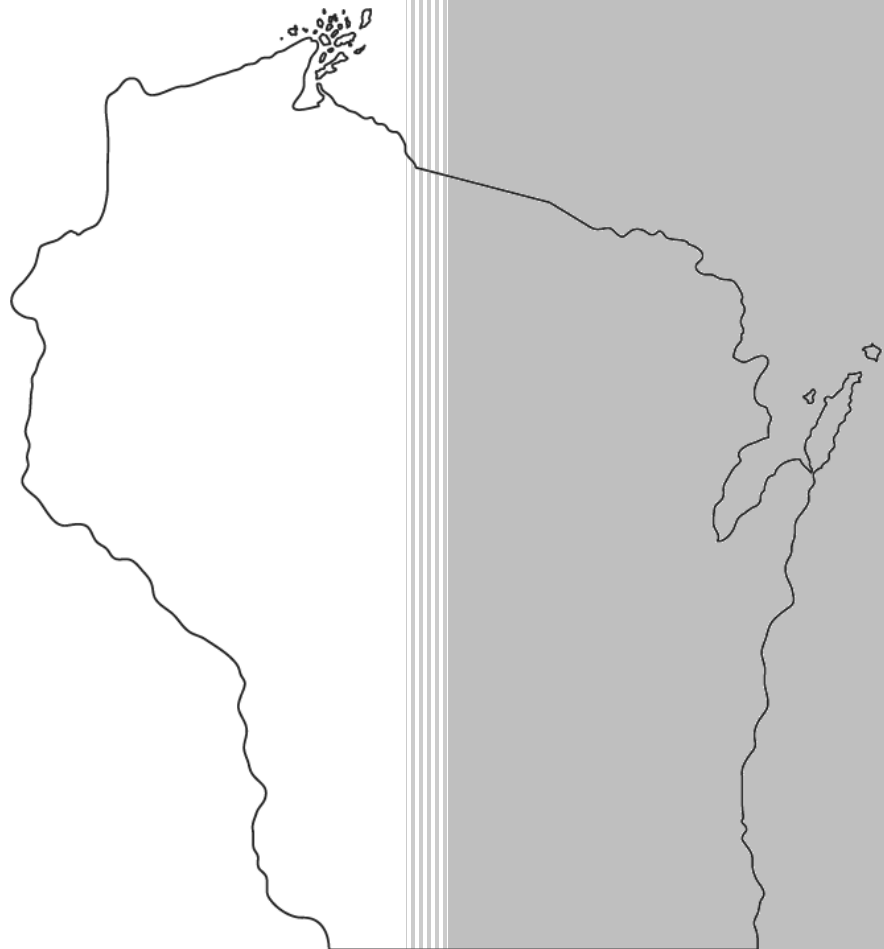


Wisconsin

2019

May

Tobacco Facts: Smoking During Pregnancy



Center for Urban
Population Health

Working together to improve the health of communities



Center for Urban Population Health
University of Wisconsin-Milwaukee

ACKNOWLEDGEMENTS

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The Center for Urban Population Health is a partnership of Aurora Health Care/Aurora Research Institute, LLC, the University of Wisconsin-Milwaukee, and the University of Wisconsin School of Medicine and Public Health.

Support for this report was provided by the Wisconsin Department of Health Services, Division of Public Health, Bureau of Community Health Promotion, Tobacco Prevention and Control Program.

Suggested citation: Palmersheim KA, Zusevics KL. *Wisconsin Tobacco Facts: Smoking During Pregnancy (May 2019)*. Milwaukee, WI: University of Wisconsin-Milwaukee, Center for Urban Population Health; 2019 (May).



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SMOKING DURING PREGNANCY: KEY FINDINGS

The purpose of this report is to examine demographic and social characteristics associated with an increased likelihood of smoking during pregnancy. None of the relationships presented in this report, however, should be construed as independently causal. Data presented in this report are intended to provide a resource for health professionals, state and local health departments, and local coalitions working towards the reduction of maternal smoking in Wisconsin.

Trends in Maternal Smoking in the United States

- In the United States, the prevalence of smoking during pregnancy decreased from 18.4% in 1990 to 6.9% in 2017, representing a relative decrease of 63%.

Trends in Maternal Smoking in Wisconsin

- In Wisconsin, the prevalence of smoking during pregnancy decreased from 22.9% in 1990 to 11.1% in 2017, representing a relative decrease of 52%.

Maternal Smoking in Wisconsin and Low Birthweight Babies

- In 2017, 13.9% of babies born to Wisconsin mothers that smoked during pregnancy were low birthweight, compared to 6.9% of babies born to mothers that did not smoke.

Maternal Smoking in Wisconsin and Infant Mortality

- In 2016, the infant mortality rate for babies born to Wisconsin mothers that smoked during pregnancy was 9.4, compared to 5.7 for babies born to mothers that did not smoke.

Maternal Smoking in Wisconsin, by Age

- In general, women 18 to 24 years of age were most likely to smoke during pregnancy during 2015-2017.
- When age and race/ethnicity were considered in tandem, however, the prevalence of smoking during pregnancy for American Indian/Alaska Native women and black women was greater for slightly older age groups. For American Indian/Alaska Native women, the highest prevalence of maternal smoking was among those 25 to 34 years of age. For black women, the highest prevalence of maternal smoking was among those 30 to 39 years of age.

Maternal Smoking in Wisconsin, by Race/Ethnicity

- During 2015-2017, American Indian/Alaska Native women had the highest prevalence of smoking during pregnancy (37.0%), followed by multi-racial women (20.4%), black women (13.5%), white women (12.0%), Hispanic women (5.8%), and Asian/Pacific Islander women (4.5%).



Maternal Smoking in Wisconsin and the United States, by Race/Ethnicity

- During 2015-2017, the prevalences of smoking during pregnancy for American Indian/Alaska Native, black, Hispanic, and Asian/Pacific Islander women in Wisconsin were more than twice the prevalence for each corresponding group in the United States. For white women, the prevalence of maternal smoking in Wisconsin was approximately one-third greater than the average in the United States.

Maternal Smoking in Wisconsin, by Education

- During 2015-2017, the prevalence of smoking during pregnancy was highest among women with a high school degree (22.6%), followed by women with less than a high school degree (20.7%), women with some college (12.3%), and college graduates (1.2%).

Maternal Smoking in Wisconsin, by Marital Status

- During 2015-2017, 4.6% of married women smoked during pregnancy, compared to 23.2% of unmarried women.

Maternal Smoking in Wisconsin, by Prenatal Care

- During 2015-2017, 10.0% of women who initiated prenatal care during the first trimester of their pregnancy smoked during pregnancy, compared to 16.4% of women who initiated care during their second or third trimester, and 37.4% of women who did not receive prenatal care.

Maternal Smoking in Wisconsin Counties and the City of Milwaukee

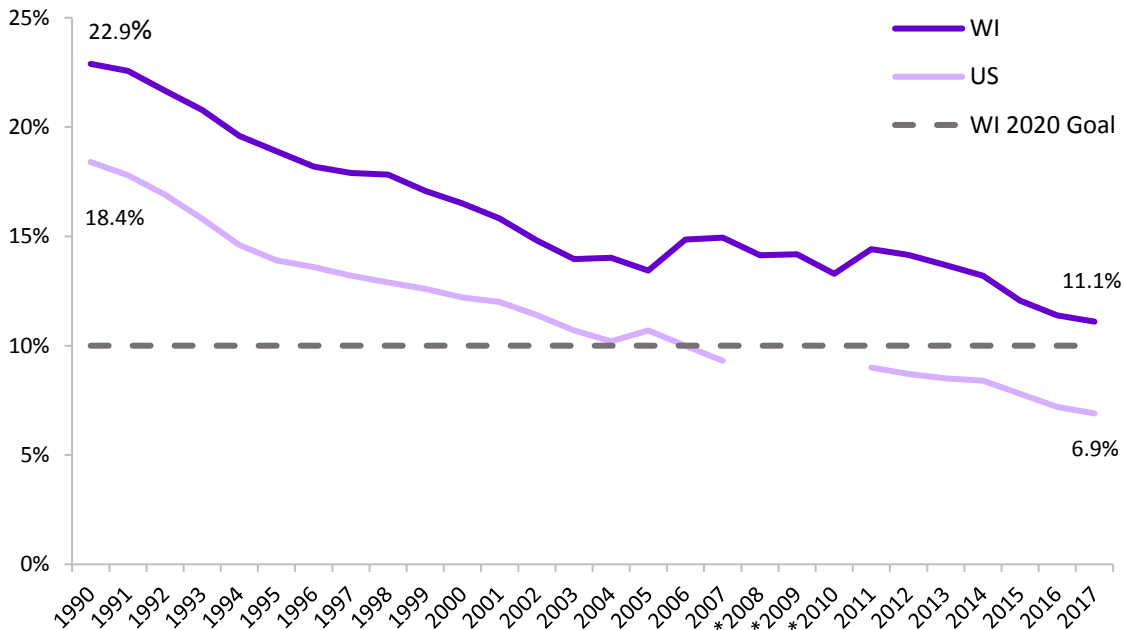
- During 2015-2017, the average prevalence of smoking during pregnancy among all Wisconsin women was 11.5%; however, in 52 of the state's counties, the prevalences were higher than the state average.
- The prevalence of smoking during pregnancy varied greatly among counties. During 2015-2017, Waukesha County had the lowest prevalence (4.6%) and Forest County had the highest prevalence (36.4%).
- In general, higher prevalences of smoking during pregnancy were observed in counties located in the northern third of the state, and in a few centrally located counties.
- The prevalence of smoking during pregnancy in the City of Milwaukee was 11.2% during 2015-2017.

SMOKING DURING PREGNANCY: RESULTS

- ❖ Total Number of Live Births in Wisconsin in 2017: **64,994**
- ❖ Number (Percent) of Wisconsin Women Who Smoked During Pregnancy in 2017: **7,192 (11.1%)**

Data: Wisconsin Interactive Statistics on Health

Figure 1. Trends in the Prevalence of Smoking During Pregnancy, Wisconsin and the United States, 1990-2017

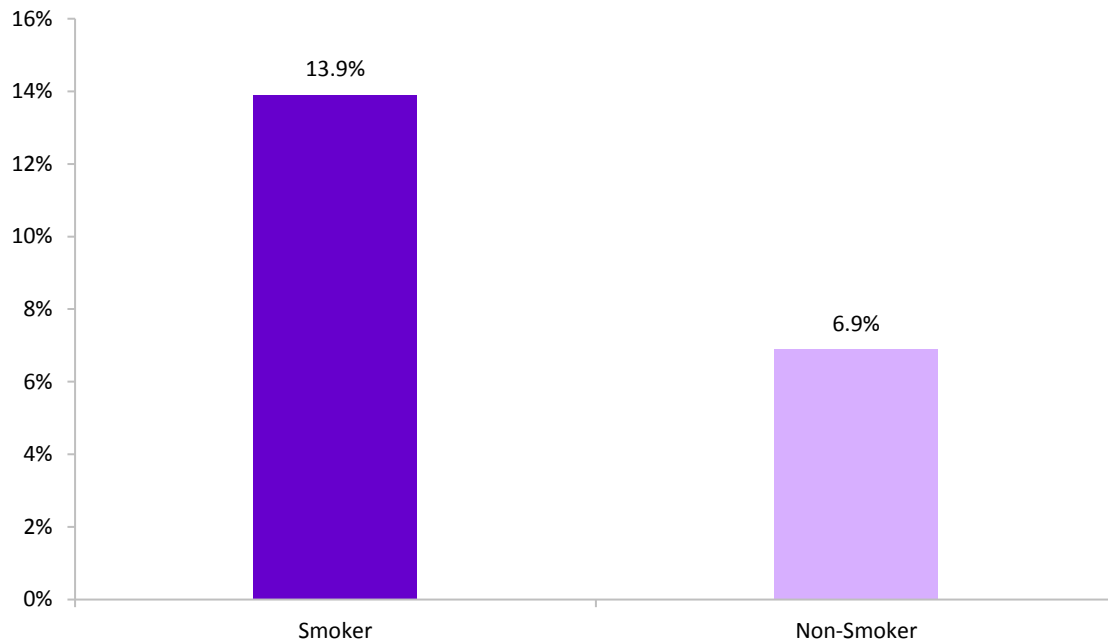


Note: Wisconsin data for 1990 through 2010, and U.S. data for 1990 through 2007, were collected using the 1989 U.S. Standard Certificate of Live Birth. Wisconsin and U.S. data for 2011 through 2017 were collected using the 2003 U.S. Standard Certificate of Live Birth.

* Because available U.S. data for 2008 through 2010 were collected using the 2003 Standard Certificate of Live Birth, they are not comparable to the Wisconsin data for those years, and thus are not included in this figure.

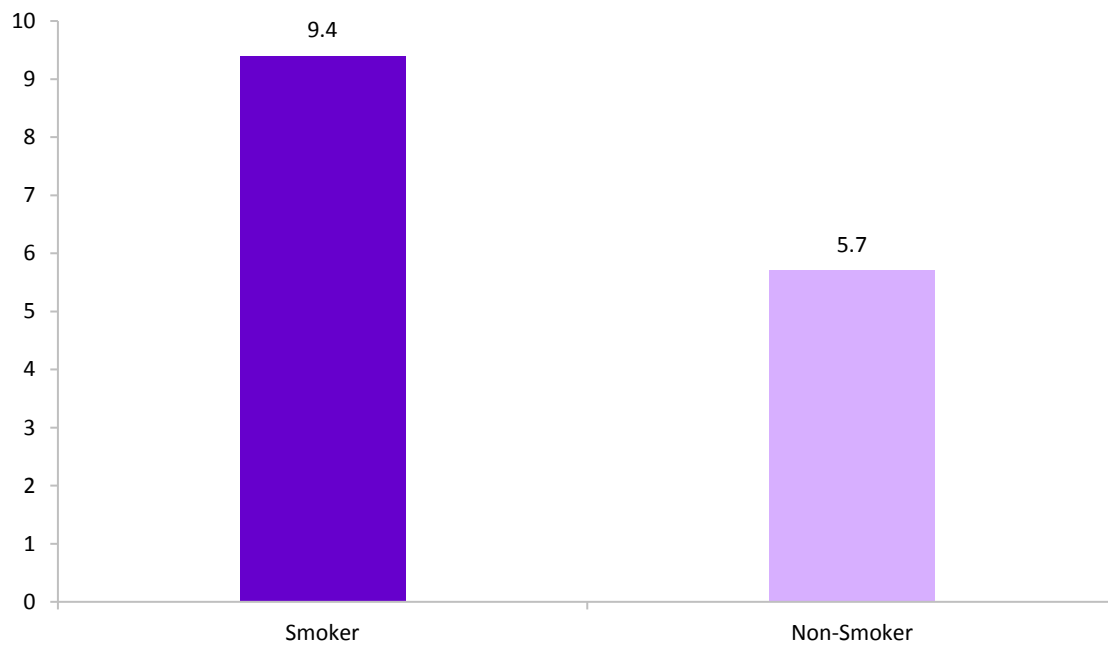
Data: Wisconsin Interactive Statistics on Health; CDC’s Wide-Ranging Online Data for Epidemiologic Research; CDC’s National Vital Statistics System; CDC’s annual report on trends in health statistics; U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. *Women’s Health USA 2010*. Rockville, Maryland: U.S. Department of Health and Human Services, 2010.

Figure 2. Prevalence of Low Birthweight Babies* Born to Smoking and Non-Smoking Mothers, Wisconsin, 2017



* Low birthweight is defined as weighing less than 2,500 grams (approximately 5.5 pounds) at birth.
Data: Wisconsin Interactive Statistics on Health

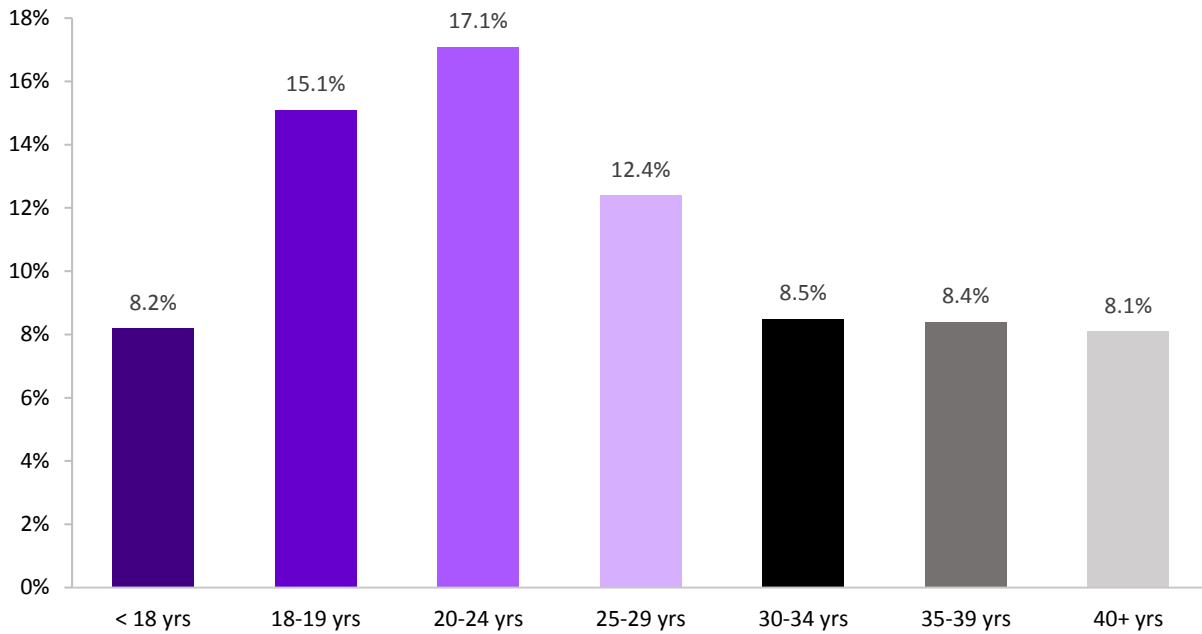
Figure 3. Mortality Rates† for Babies Born to Smoking and Non-Smoking Mothers, Wisconsin, 2016



† The infant mortality rate is per 100,000 live births.
Data: Wisconsin Interactive Statistics on Health

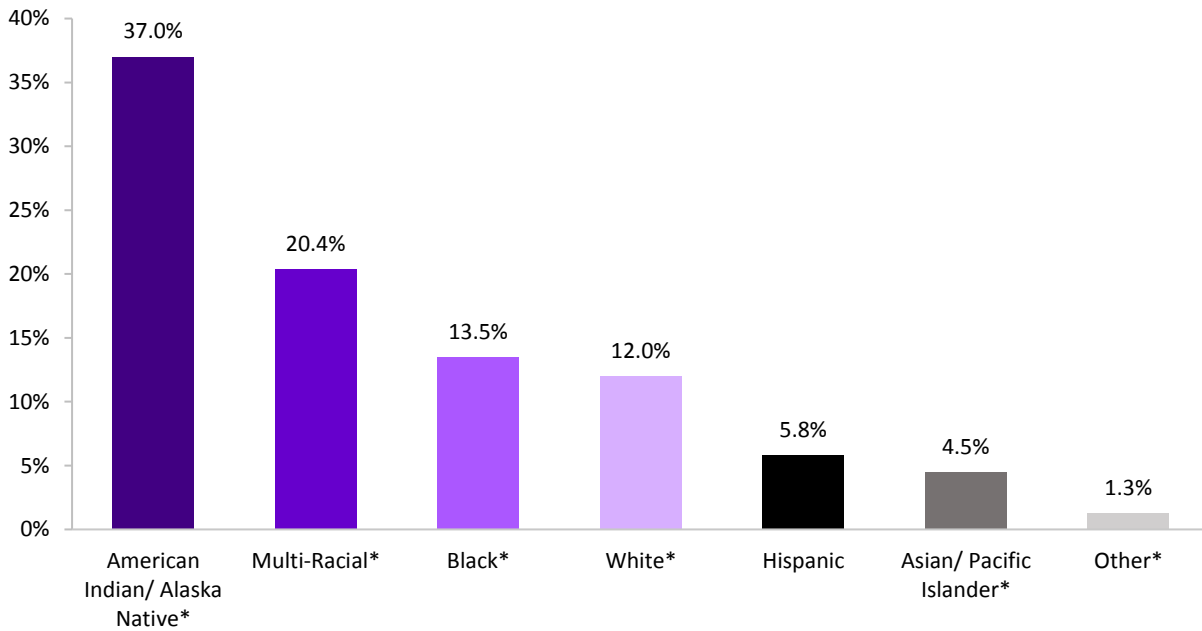


Figure 4. Prevalence of Smoking During Pregnancy by Age of Mother, Wisconsin, 2015-2017



Data: Wisconsin Interactive Statistics on Health

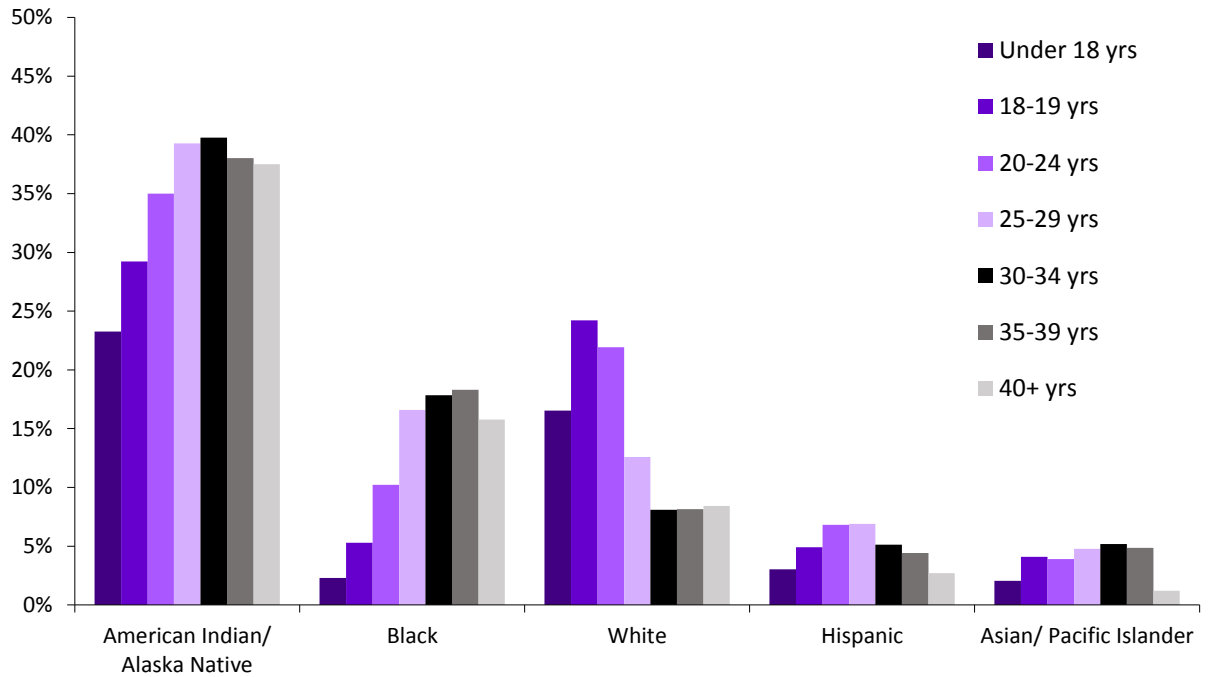
Figure 5. Prevalence of Smoking During Pregnancy by Race/Ethnicity, Wisconsin, 2015-2017



* All racial groups are non-Hispanic

Data: Wisconsin Interactive Statistics on Health

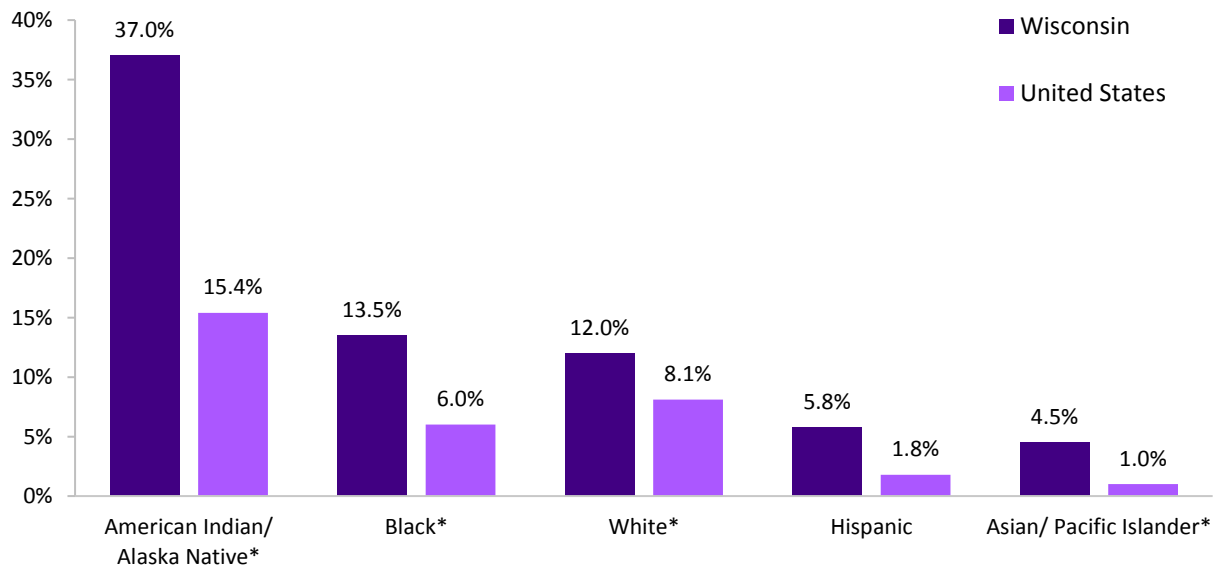
Figure 6. Prevalence of Smoking During Pregnancy by Race/Ethnicity and Age, Wisconsin, 2015-2017



* All racial groups are non-Hispanic

Data: Wisconsin Interactive Statistics on Health

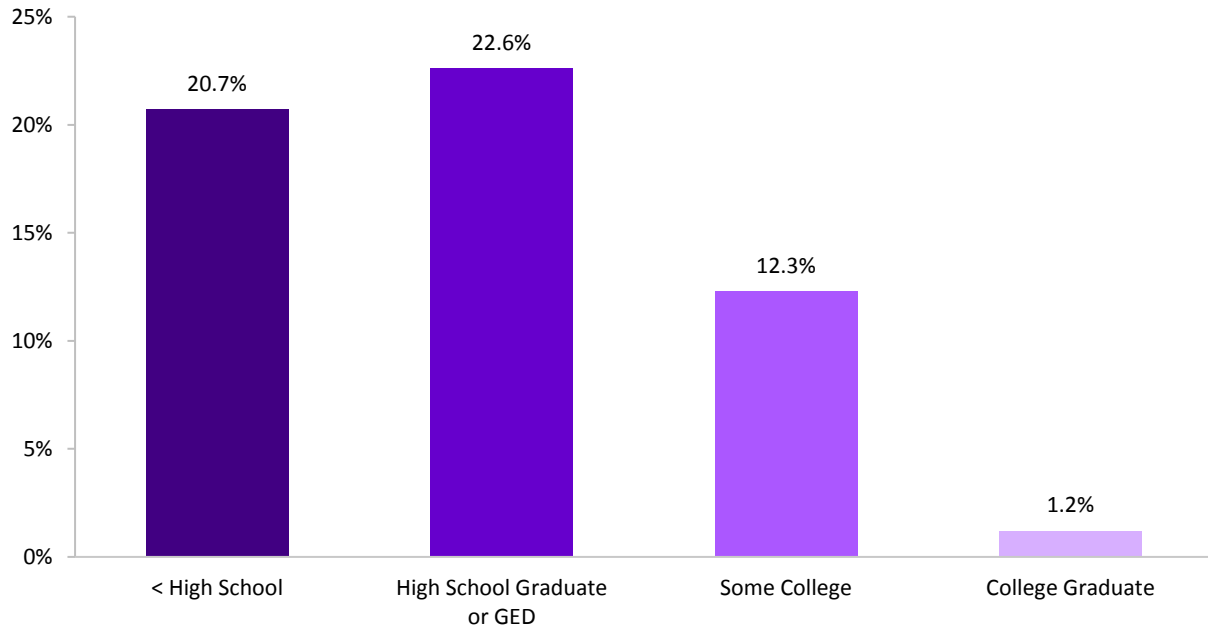
Figure 7. Prevalence of Smoking During Pregnancy by Race/Ethnicity, Wisconsin and the United States, 2015-2017



* All racial groups are non-Hispanic

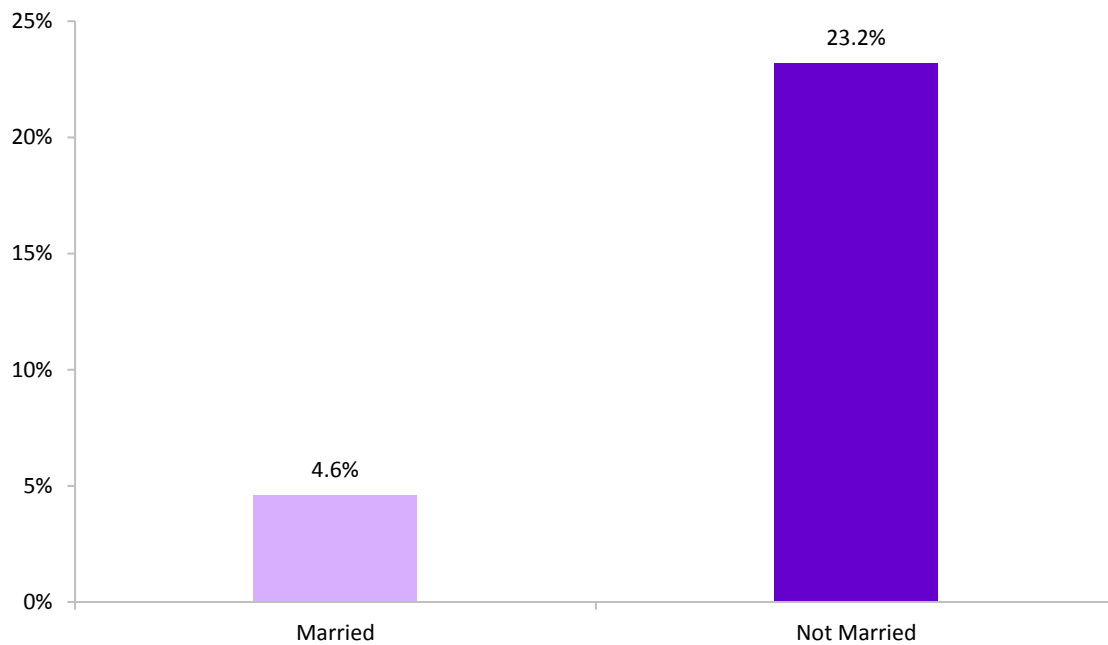
Data: Wisconsin Interactive Statistics on Health; CDC Wide-Ranging Online Data for Epidemiologic Research

Figure 8. Prevalence of Smoking During Pregnancy by Educational Attainment, for Women 20 Years Old and Older, Wisconsin, 2015-2017



Data: Wisconsin Interactive Statistics on Health

Figure 9. Prevalence of Smoking During Pregnancy by Marital Status, Wisconsin, 2015-2017



Data: Wisconsin Interactive Statistics on Health

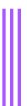
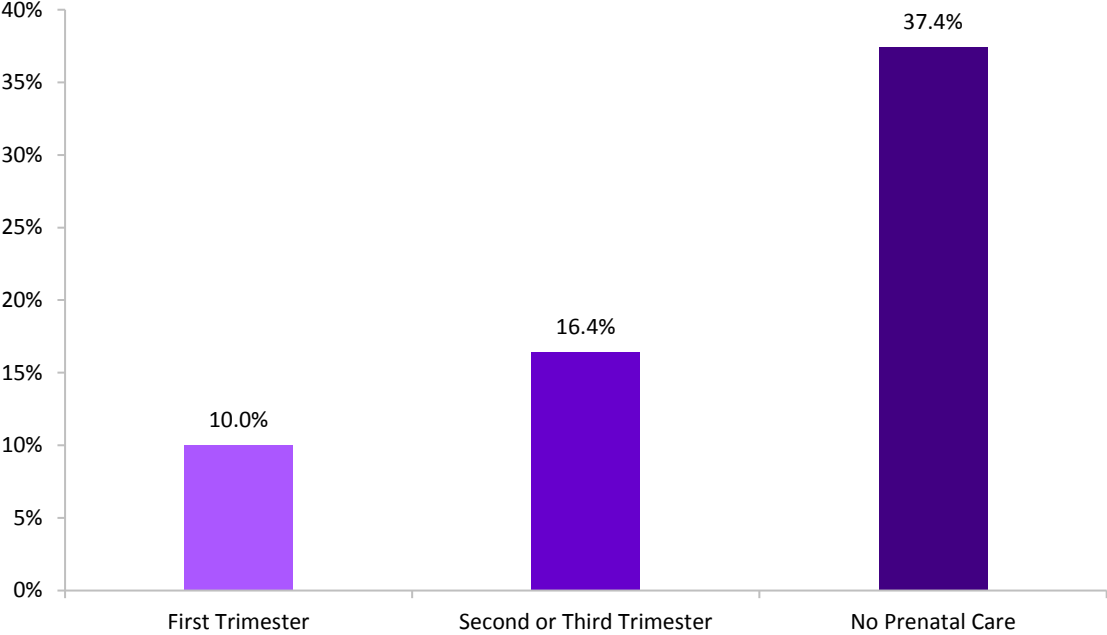


Figure 10. Prevalence of Smoking During Pregnancy by Trimester of Prenatal Care, Wisconsin, 2015-2017



Data: Wisconsin Interactive Statistics on Health

Table 1. Prevalence of Smoking During Pregnancy in Wisconsin, by County and the City of Milwaukee, 2015-2017

State / County	Total live births 2015-2017	Smoking Prevalence 2015-2017	State / County	Total live births 2015-2017	Smoking Prevalence 2015-2017
Wisconsin	198,591	11.5%			
Adams	386	22.9%	Marathon	4,707	13.2%
Ashland	551	23.8%	Marinette	1,132	20.8%
Barron	1,486	17.9%	Marquette	422	22.3%
Bayfield	353	22.7%	Menominee	291	33.7%
Brown	10,076	11.2%	Milwaukee	40,993	9.8%
Buffalo	429	13.4%	Monroe	1,793	15.4%
Burnett	403	23.8%	Oconto	1,063	19.4%
Calumet	1,466	8.7%	Oneida	922	19.6%
Chippewa	2,046	15.7%	Outagamie	6,891	10.1%
Clark	1,717	8.1%	Ozaukee	2,491	4.8%
Columbia	1,814	14.4%	Pepin	247	9.7%
Crawford	476	16.1%	Pierce	1,170	12.6%
Dane	18,119	5.5%	Polk	1,226	19.7%
Dodge	2,374	15.9%	Portage	2,040	11.0%
Door	678	14.1%	Price	349	21.8%
Douglas	1,265	17.0%	Racine	7,103	10.6%
Dunn	1,350	16.2%	Richland	527	14.9%
Eau Claire	3,604	13.2%	Rock	5,850	15.4%
Florence	93	---	Rusk	424	23.7%
Fond du Lac	3,177	14.7%	St. Croix	3,012	8.1%
Forest	320	36.5%	Sauk	2,314	14.3%
Grant	1,747	11.3%	Sawyer	499	30.8%
Green	1,115	12.6%	Shawano	1,296	17.7%
Green Lake	613	17.9%	Sheboygan	3,771	12.3%
Iowa	801	10.4%	Taylor	676	12.2%
Iron	95	---	Trempealeau	1,269	12.5%
Jackson	719	19.0%	Vernon	1,259	8.3%
Jefferson	2,539	13.7%	Vilas	527	29.8%
Juneau	844	23.2%	Walworth	2,940	11.9%
Kenosha	5,708	11.9%	Washburn	431	19.1%
Kewaunee	603	10.6%	Washington	4,005	8.8%
La Crosse	3,643	12.1%	Waukesha	11,576	4.6%
Lafayette	644	8.3%	Waupaca	1,497	19.2%
Langlade	586	22.6%	Waushara	670	17.4%
Lincoln	826	22.0%	Winnebago	5,651	13.8%
Manitowoc	2,359	16.3%	Wood	2,523	18.8%
City of Milwaukee	29,080	11.2%			

Data Source: Wisconsin Interactive Statistics on Health
 --- Data not reported due to small sample size

SMOKING DURING PREGNANCY: DATA SOURCES & TECHNICAL NOTES

Wisconsin Data. All Wisconsin data are from Wisconsin Interactive Statistics on Health (WISH), which employs multiple sources from protected databases. WISH is developed and maintained by the Wisconsin Department of Health Services, Division of Public Health, Office of Health Informatics. Available from: <https://www.dhs.wisconsin.gov/wish/>

National Data. Data for the United States trend analysis have been routinely accessed and collected over the years in order to track and compare the U.S average maternal smoking prevalence to that of Wisconsin. Accordingly, multiple sources (published and data repositories) have been used, including:

- Centers for Disease Control and Prevention's annual report on trends in health statistics, *Health, United States, with Chartbook on Trends in the Health of Americans*. Available from: <https://www.cdc.gov/nchs/hus/index.htm>
- Centers for Disease Control and Prevention's National Vital Statistics System. Available from: <https://www.cdc.gov/nchs/nvss.htm>
- Centers for Disease Control and Prevention's Wide-Ranging Online Data for Epidemiologic Research (WONDER). Available from: <https://wonder.cdc.gov/>
- U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau. *Women's Health USA 2010*. Rockville, Maryland: U.S. Department of Health and Human Services, 2010. Online version available from: <https://mchb.hrsa.gov/whusa10/>

Maternal cigarette use is based on the mother's report of smoking during pregnancy. Information on smoking during pregnancy is obtained from the woman during prenatal care visits or at the time of delivery and is recorded on the birth certificate by the attending physician, nurse, or other health professional at the time of delivery.

The 28 years of data analyzed for this report were collected using two different birth certificates, the 1989 U.S. Standard Certificate of Live Birth and the 2003 revision. The 1989 version reports smoking at any time during pregnancy, using one "yes/no" question. In 2003, the birth certificate was revised to assess cigarette use during the three months prior to pregnancy and during each trimester of pregnancy. States have the option of determining which certificate they will use.

Wisconsin data presented in this report for the years 1990 through 2010 are from the 1989 U.S. Standard Certificate of Live Birth. Comparable U.S data (those using the 1989 birth certificate) were available through 2007.

Wisconsin and U.S. data presented in this report for the years 2011 through 2017 are from the 2003 U.S. Standard Certificate of Live Birth.

By 2008, a majority of U.S. states were using the 2003 revision of the birth certificate. Wisconsin, however, used the 1989 version through 2010. Thus, comparable U.S data (those using the 1989 birth certificate) were not being reported or published in readily accessible databases for 2008 through 2010. Accordingly, Wisconsin data on smoking during pregnancy are not compared to U.S. data for the years 2008, 2009, and 2010.

A three-year time period (2015-2017) was utilized for select analyses in order to increase sub-sample sizes. Missing data were excluded from all analyses.