

Trends for Selected Maternal & Child Health Indicators 2013-2017

Tennessee Pregnancy Risk
Assessment Monitoring System
(PRAMS)

Data on Tennessee
Mothers and Babies



Acknowledgements

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Executive Summary

Monitoring and continuously improving the health of mothers and babies is fundamental to supporting the overall health of a population. When babies begin on a healthy note, thanks to their mother's health, a healthy trajectory is set for the remainder of their lives.

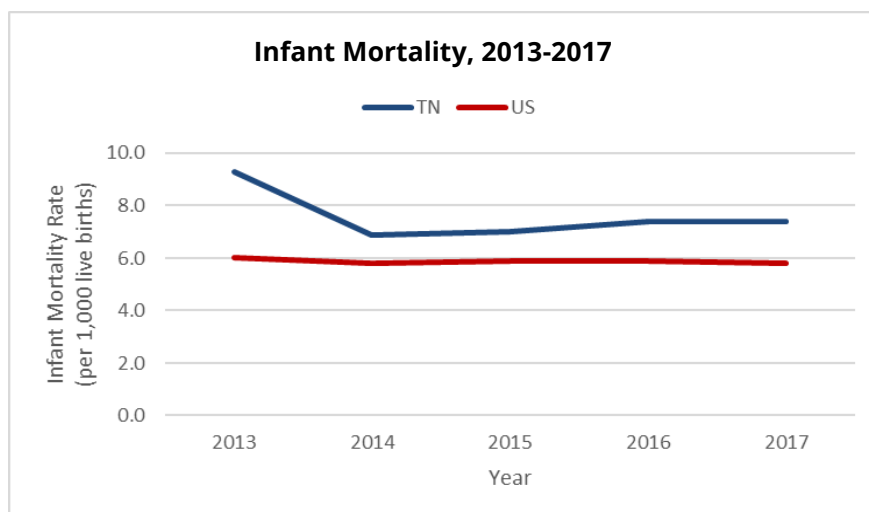
Historically, **Tennessee has consistently had higher rates of infant mortality, low birthweight and premature births compared to the United States.** Different factors and experiences before, during, and after a woman's pregnancy influence these indicators, and understanding data trends can help shape policies and programs that improve maternal and infant outcomes.

This report is based on the maternal and child health (MCH) indicator reports published by the Centers for Disease Control and Prevention (CDC) from 2012-2017, which provide trends for select MCH indicators that have been prioritized at the state and national level. While Tennessee has **not seen significant change** in any of the indicators presented in this report from 2013 to 2017, the following are highlights. . .

What is Tennessee Doing Well?

From 2013 to 2017:

- ◆ Women in Tennessee reported less **alcohol use** before (51.4%) or during (6.3%) pregnancy than U.S. women (55.6% and 8.0%, respectively).
- ◆ More Tennessee women (69.5%) reported having a **health care visit before pregnancy** compared to U.S. women (66.3%), and the percentage of Tennessee women that began **prenatal care** during the 1st trimester and had a **postpartum checkup** matched those for the U.S.
- ◆ Fewer Tennessee women (26.8%) reported having a **mistimed pregnancy** compared to the U.S. (28.1%), while more (81.2% vs. 78.2%) reported using any **postpartum contraceptives**; further, fewer women in Tennessee (20%) reported using any of the least effective methods compared to the U.S. average (24.0%).
- ◆ Fewer Tennessee women (9.3%) reported being **uninsured after pregnancy** compared to U.S. women (13%).
- ◆ More Tennessee women (68.4%) reported any **breastfeeding at 8 weeks** compared to U.S. women (65.9%).
- ◆ More Tennessee women reported that their babies were most often **laid to sleep on their backs** (79.4%) compared to the U.S. average (77.8%)
- ◇ Implementing safe sleep practices reduces the risk of infant mortality. Between 2013 and 2017, the infant mortality rate in Tennessee decreased by 20%.





What Can Tennessee Improve?

- ◆ **Multivitamin use** in Tennessee women is lower (34.7%) compared to U.S. women (40%).
- ◆ Tennessee women less frequently report **exercising** 3+ days per week before pregnancy (44.2%) compared to the U.S. (47.4%); which may contribute to the increased **obesity** reported in Tennessee women (26.2%) compared to the U.S. average (23.8%).
- ◆ **Cigarette smoking** in Tennessee women before (25.7%), during (14.5%) and after (19.2%) pregnancy is more common among compared to U.S. women (19.4%, 9.0%, and 12.8% respectively).
- ◆ Fewer Tennessee women (53.8%) report receiving a **flu shot** before or during pregnancy compared to U.S. women (57.5%).
- ◆ More women in Tennessee (16.7%) report experiencing **postpartum depressive symptoms** compared to U.S. women (12.3%).
- ◆ Only about 48% of Tennessee women reported having **intended pregnancies** compared to U.S. women (59.1%).
- ◆ Nearly 4 out of 5 babies (81.5%) were **ever breastfed** in Tennessee, a figure lower than the U.S. percentage (86.8%).

Background: What is PRAMS?

The **Tennessee Pregnancy Risk Assessment Monitoring System (PRAMS)** is a state-run surveillance study conducted in collaboration with the CDC that improves the understanding of the health and wellness of maternal and infant populations, to ultimately inform policies and programs to improve birth outcomes. State-specific, population-based information is collected by individual states on the attitudes, beliefs, and experiences of women before, during, and after pregnancy. Presently, 47 states and 4 independent regions/territories participate in PRAMS, representing nearly 87% of all U.S. births.

Data is collected and weighted in a manner that is **representative** of the entire Tennessee population of women who have given birth to a live-infant during that year. Currently, Tennessee's PRAMS program surveys approximately 100 women per month (~1,200 per year) from Tennessee birth records. To be selected for participation, women must be residents of Tennessee that delivered a live-born infant within the previous 2-6 months. Currently, out of the total sampled population of Tennessee births, around 800 women participate in the survey each year; this is known as the **response rate**.

The CDC sets a specific response rate threshold, currently 55%, that states must meet in order to be included in CDC's published national estimates and reports, such as the Selected Maternal and Child Health Indicators reports. Tennessee *did not* meet the threshold to be included in the United States estimates presented in those reports for the years included in this trend report.

With CDC support, states routinely revise PRAMS questionnaires into new **phases** every few years, and questions and available responses can vary between phases. *Because this report presents estimates from 2 different phases, some of the data available varies between years.*

Because only a small number of women with live births are selected for participation in PRAMS, **PRAMS should not be considered the primary data source** for maternal and child health measures. The birth certificate, which captures information on every TN residing mother-infant pair, is a better primary source for some measures. That said, PRAMS is unique in that it is the only data source that captures information before, during, and after pregnancy, and it also captures qualitative data about these time periods. For example, the birth certificate captures a woman's insurance status at the time of delivery, while PRAMS captures insurance status before, during, and after pregnancy, as well as any barriers in addition to health care coverage that the woman may have experienced in seeking first trimester prenatal care.

For more information on:

PRAMS methodology, visit: <https://www.cdc.gov/prams/index.htm>

Healthy People 2020 Goals for Maternal, Infant, and Child Health, visit:

<https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health>

TN Department of Health Maternal and Child Health Priorities: <https://www.tn.gov/health/health-program-areas/mch/mch-block-grant/mch-block-grant-priorities.html>



For questions related to Tennessee PRAMS, contact the **TN PRAMS Coordinator**:

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Demographics of Women with a Recent Live Birth in Tennessee*†



Nearly **55%** of TN women were between **20 and 34 years old**; 8% were teenagers, and 37% were 35 or older.

Around **55%** of TN women were **married** at the time of survey completion.

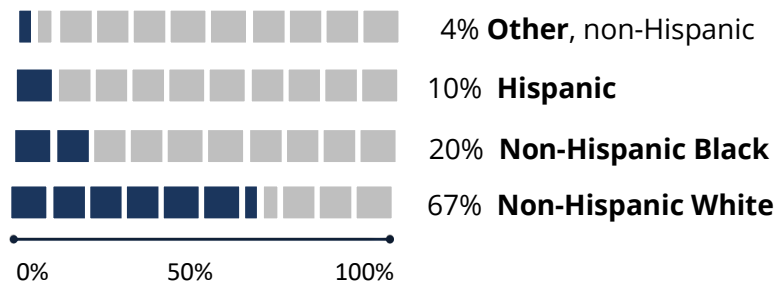


About **1 out of 2** women across Tennessee participated in **WIC during pregnancy**, the *Special Supplemental Nutrition Program for Women, Infants and Children*.

15% of TN women had not completed a high school education, **28%** had completed high school or obtained a GED, and **57%** of women had obtained beyond a high-school level education.



What about race & ethnicity#?



#Race and ethnicity estimates shown here depict only respondents to the PRAMS survey.

*PRAMS samples women with a recent live birth, and is weighted to be representative of that population, which will be referred to as “women” throughout this report.

†All presented estimates are based upon weighted PRAMS data.

Maternal Health Insurance Coverage

It is important for all women to receive medical care before, during, and after pregnancy to ensure a healthy pregnancy, birth and baby. To that end, health insurance is often essential to ensuring access to consistent medical care, whether it is employer based, self-purchased, or through Medicaid. Across the U.S., nearly half of infants deliveries are paid for through Medicaid.¹

From 2013 to 2017, more women in Tennessee were covered by private insurance than were covered by Medicaid before pregnancy, and the percentage of both stayed relative constant across years presented (figure 1).

Compared to U.S. rates, a lower percentage of Tennessee women have private insurance and a higher percentage of Tennessee women have Medicaid; percent uninsured was equal for both U.S. and Tennessee women. (figure 1).

Figure 1: Insurance Status Before Pregnancy Among Women with a Recent Live Birth in Tennessee

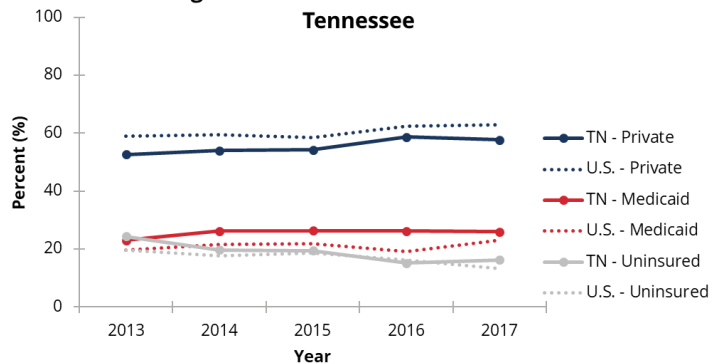
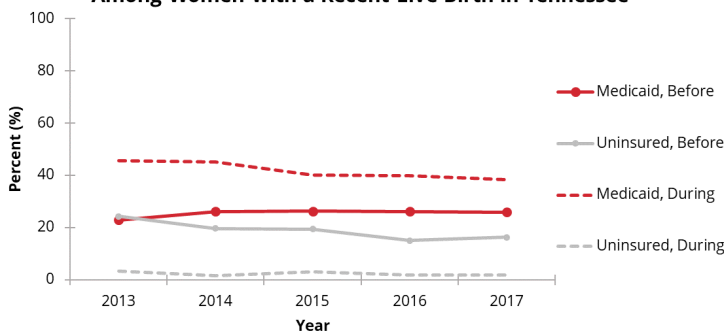


Figure 2: Insurance Status Before & During Pregnancy Among Women with a Recent Live Birth in Tennessee



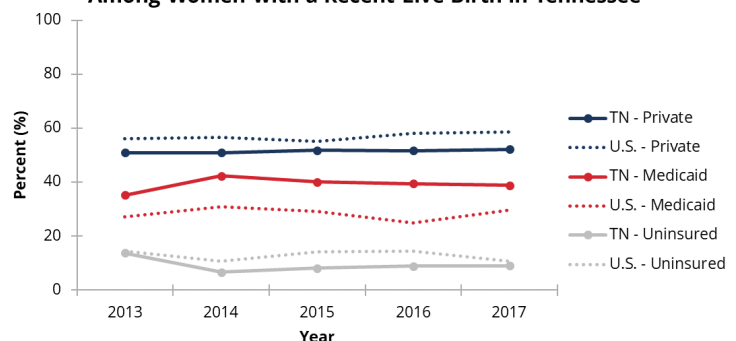
During pregnancy, fewer women (2.3%) remained uninsured compared to before pregnancy, while more women reported having insurance from Medicaid during pregnancy compared to before pregnancy (figure 2).

Low income women may become eligible for Medicaid during pregnancy, thus the percentage of women covered by Medicaid increased while the percentage of uninsured women decreased.

Between 2013 and 2017, the percentage of women who were uninsured 2-6 months after pregnancy was less than the U.S. average (figure 3).

The percentage of women lacking postpartum insurance has not changed significantly since 2014 and is similar to the U.S. percentage.

Figure 3: Post-Partum Insurance Status Among Women with a Recent Live Birth in Tennessee



Pregnancy Intention & Family Planning

Family planning helps improve the overall health and wellbeing of whole families, individual women, and infants alike.² Adequate time spacing between births and the prevention of pregnancies helps families reduce the number of **unintended pregnancies**—defined as being either *unwanted* or *mistimed* pregnancies (which account for approximately 45% of U.S. pregnancies each year), and can result in various negative financial and health outcomes for women and infants.²

Women who have less access to family planning services include those belonging to an ethnic/racial minority group (non-Hispanic black or Hispanic), having less education or income, or being uninsured. Women with less access to health care are more likely to have unintentional pregnancies.²

As shown in Table 1 below . . .

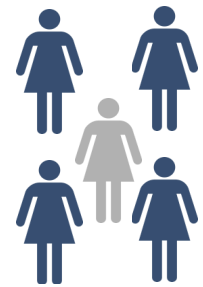
32% to 38% of pregnancies were “unintended” between 2013 and 2017.

Since 2013, the rates for intentional and unintentional pregnancies have not changed significantly.

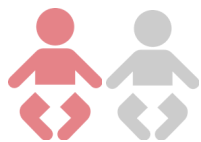


Nearly **4 in 5 women used any post-partum contraceptives** during 2013-2017.

The proportion of women who use post-partum contraception has remained largely the same since 2013.



Around **1 in 2 pregnancies were intended.**



Intended pregnancies have generally been stable from year-to-year, accounting for

between 46% and 50% of live births in Tennessee.



Between about **27% and 31% women** reported using **highly-effective contraception** methods. Yearly rates have not changed significantly since 2013.



17% to 22.5% reported using the **least effective methods** of contraceptives.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------------|------|------|------|------|------|
| | % * | % | % | % | % |
| Mistimed Pregnancy † | 30.4 | 28.7 | 27.5 | 24.7 | 22.6 |
| Unwanted Pregnancy | 7.3 | 9.6 | 9.2 | 8.3 | 9.8 |
| Unsure about pregnancy | 13.9 | 15.8 | 17.0 | 17.6 | 19.1 |
| Intended pregnancy | 48.4 | 45.9 | 46.4 | 49.4 | 48.5 |
| Any Postpartum Contraceptive Use | 81.3 | 79.9 | 82.3 | 82.0 | 80.7 |
| Highly Effective Method‡ | 26.5 | 26.9 | 31.0 | 31.3 | 28.5 |
| Moderately Effective Method | 37.2 | 33.3 | 29.3 | 31.5 | 29.5 |
| Least Effective Method | 17.1 | 19.3 | 21.8 | 19.0 | 22.5 |

Note: all 2013-2015 estimates are from the Phase 7 questionnaire; 2016-2017 estimates are from Phase 8. Full data may be found in Appendix A

† Pregnancy intention and ‡contraceptive effectiveness are defined in the Analysis Notes.

* All percentages presented in this report are weighted estimates.

Maternal Health Care Services

Health care before & after pregnancy is just as important as it is during pregnancy.

Women who are healthy before and at the time of conception typically have healthier pregnancies with fewer complications and improved outcomes. A woman's pre-pregnancy health status include her weight, physical activity, use of vitamins (especially folic acid), and even her oral health.^{3,4} These health status indicators are assessed and monitored during health care visits before, during, and after pregnancy.

Between 2013-2017, Tennessee had little change in the proportion of women who began prenatal care during the 1st trimester and those who received a post-partum check up.



On average, about **85%** of Tennessee women **began prenatal care during the 1st trimester** of pregnancy (figure 4).

About **9 in 10** Tennessee women **received a post-partum check up.**

Figure 4: Health Care Services: Prenatal Care and Post -Partum Check Up Among Women with a Recent Live Birth in Tennessee

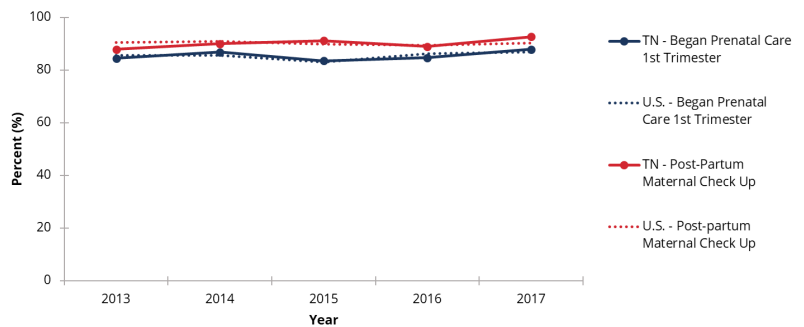
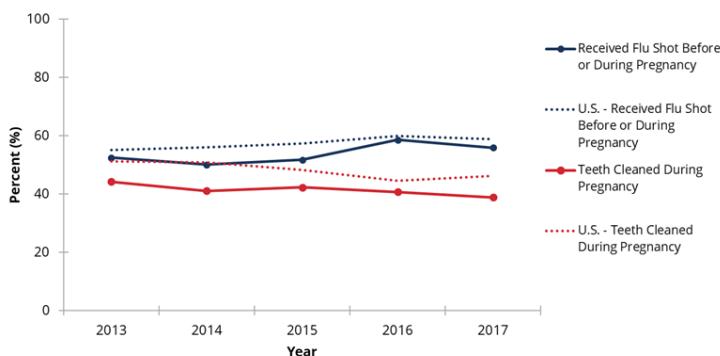
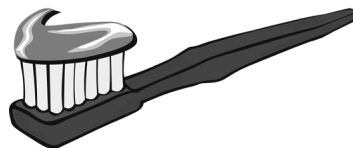


Figure 5: Health Care Services: Flu Vaccine and Teeth Cleaning Among Women with a Recent Live Birth in Tennessee



Between **50% and 65%** of Tennessee women received a flu before or during pregnancy; rates have not changed significantly since 2013 (figure 5).

As a proxy measure for dental care, nearly **42%** of women got their **teeth cleaned during pregnancy** (figure 5).



Healthy People 2020

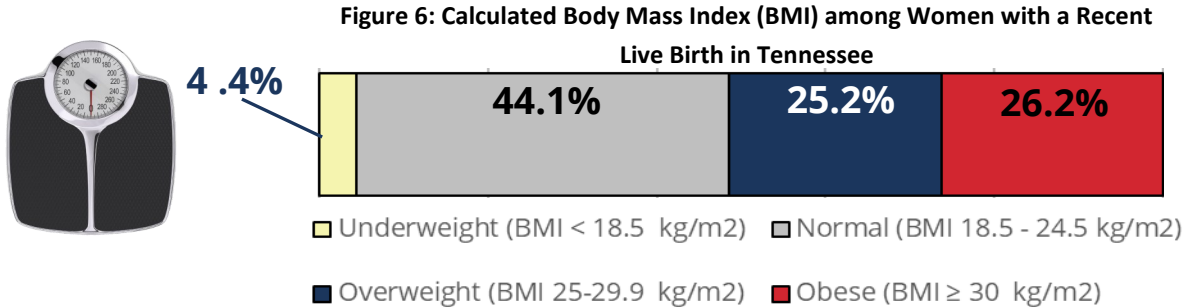
National Goal
84.8 %

The Healthy People (HP) 2020 goal is to increase the proportion of pregnant women who receive prenatal care beginning in the first trimester (MICH-10.1).

Since 2013, the proportion of women in Tennessee beginning prenatal care in their first trimester has increased from 84.40% to 87.82% in 2017; this increase has not been significant.

Maternal Nutrition & Wellness

Women that are under or overweight before pregnancy are more likely to have low- or high birthweight babies, and experience problems during pregnancy such as gestational diabetes, preeclampsia, or even miscarriages. Their babies are also at increased risk for birth defects, and impaired growth, as well as childhood obesity and asthma.^{4,5} For women that are overweight, weight loss through proper dieting before pregnancy can help improve their overall health, and prepare for a healthy pregnancy.⁶ Additional information on birth defects in Tennessee can be found in the **Tennessee Birth Defects Data Report**.⁷



About **31%** of Tennessee women reported **dieting to lose weight** during the 12 months before pregnancy.



Nearly **45%** of Tennessee women **exercised 3 or more days per week** during the 12 months before pregnancy.

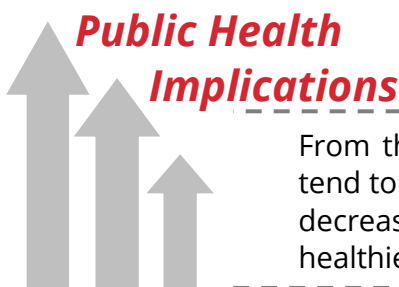
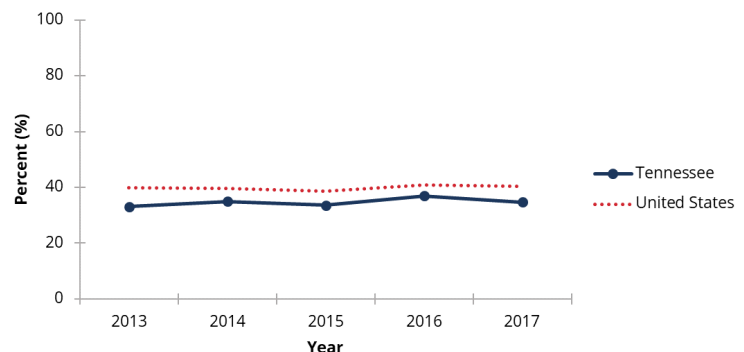
Another facet of maternal wellness is taking **multivitamins**, which not only ensure adequate nutrition before and during pregnancy, but provide folic acid, an important nutrient that prevents neural tube defects (defects of the brain and spinal cord) in infants.⁸ It is recommended to take folic acid even before pregnancy begins, as the neural tube forms before many women even know they are pregnant.⁹

33% to 37% of Tennessee women reported taking **multivitamins 4 or more times a week** during the month before pregnancy (figure 6).

This rate has not changed significantly from year to year.



Figure 6: Multivitamin Use 3 Months before Pregnancy Among Women with a Recent Live Birth in Tennessee



From this data, Tennessee women are often overweight or obese and tend to not exercise enough before pregnancy. Programs and policies to decrease obesity could lead to healthier pregnancies for moms and healthier birth outcomes for babies.

Maternal Substance Use



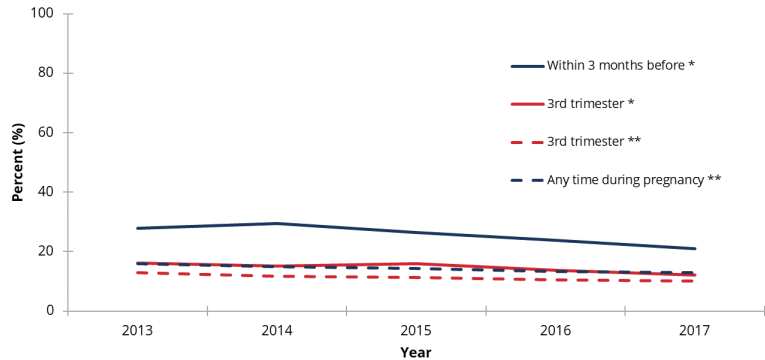
Smoking cigarettes or electronic-cigarettes (e-cigarettes) during pregnancy can lead to fetal death or birth defects.¹⁰ The Tennessee Department of Health estimates that approximately \$20 million in excess health care costs during pregnancy and the first year after birth can be attributed to prenatal smoking.

During 2013-2017, the proportion of Tennessee women who **smoked cigarettes within the 3 months before pregnancy** ranged from about **21% to 29%** (figure 7).

An average of **15%** of Tennessee women reported **smoking during the last 3 months** of pregnancy.

Rates of **post-partum smoking** ranged from approximately **17% to 22%** in Tennessee women.

Figure 7: Smoking Before and During Pregnancy Among Women with a Recent Live Birth in Tennessee



* Source: Tennessee PRAMS (2013-2017)

** Source: Tennessee birth certificate data, Office of Vital Records and Statistics (2013-2017)

Smoking data from PRAMS tends to be a higher compared to data from birth certificates due to a variety of factors affecting self-reporting, but research has suggested numbers from both sources may be underestimating the true percentage of smokers.¹¹



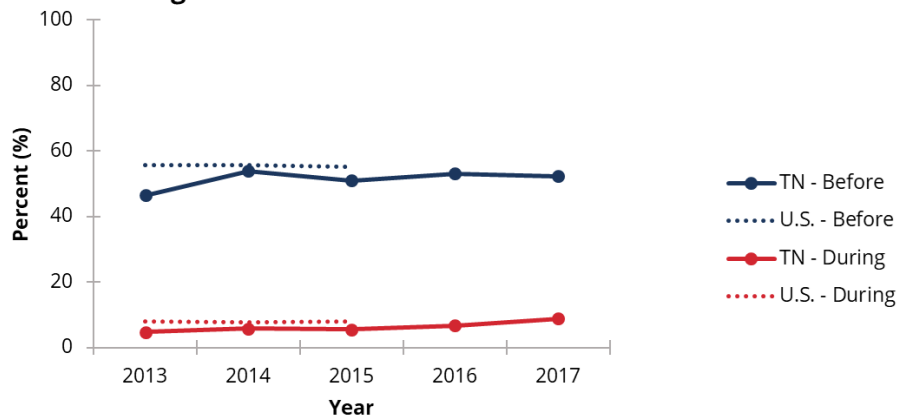
There is *no safe level of alcohol consumption* during pregnancy; alcohol use during this time can affect the brain of an unborn baby. This can ultimately restrict the baby's mental and physical development and result in a condition known as **fetal alcohol spectrum disorder (FASD)**—or it can lead to miscarriage or stillbirth.¹²

Nearly **50%** of Tennessee women **used alcohol** during the **3 months before pregnancy** (figure 8).

About **7%** of Tennessee women used alcohol **during pregnancy**.

Alcohol use both before and during pregnancy have had insignificant year-to-year change in Tennessee.

Figure 8: Alcohol Use Before & During Pregnancy Among Women with a Recent Live Birth in Tennessee



*National U.S. data not published 2016-2017

Intimate Partner Violence & Maternal Depression

Experiencing **Intimate partner violence (IPV)** during pregnancy leaves women with an increased risk of poor pregnancy outcomes for both herself and her baby.¹³ These risks are brought about not only by the physical violence, but also by stress from the lasting psychological effects.



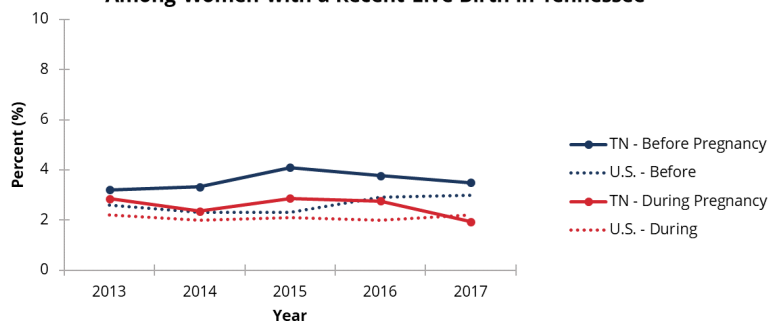
More Tennessee women appear to experience IPV compared to the U.S. average.

Between about **3% and 4%** of Tennessee women reported experiencing **IPV before pregnancy** by a current or ex-partner (figure 9).

Between **2% and 3%** of women in Tennessee reported experiencing **IPV during pregnancy**.

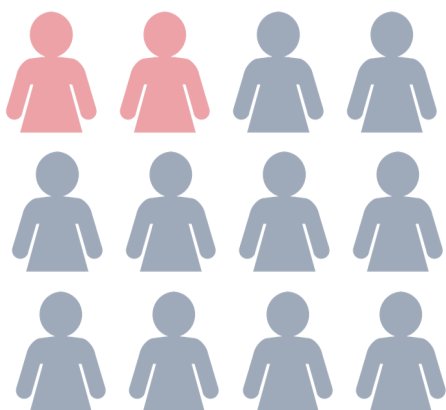
Rates of IPV among Tennessee women have not changed significantly since 2013.

Figure 9: Intimate Partner Violence Before & During Pregnancy Among Women with a Recent Live Birth in Tennessee



Post-partum depression (PPD)—depression that occurs at any time during the post-partum period is another complication women can face after giving birth.¹⁴ Pre-pregnancy depression, family history of mental illness or substance use disorder, as well as young maternal age are thought to be some of the risk factors for PPD.¹⁵ PPD has been shown to have lasting effects on both mother and infant.¹⁶ Women can experience low self esteem, increased anxiety and illness, as well as lowered quality of life and home environment.¹⁶ Infants can experience lowered overall health, gain less weight, and have reduced cognitive and motor-skill development.¹⁶

An average of **2 in 12** Tennessee women reported **experiencing PPD symptoms** between 2013 and 2017.



From year-to-year, women reporting **PPD symptoms** in

Tennessee has remained mostly constant, ranging between **14% and 20%** of women experiencing PPD.



Infant Sleep Practices & Breastfeeding

Sudden Infant Death Syndrome (SIDS)—the sudden and unexplained death of an infant under 12 months of age—is the leading cause of death among infants aged 1-12 months, and the fourth leading cause among all infants in the U.S.¹⁷ While other factors such as substance use during or after pregnancy and low birth weight may play a role, the majority of SIDS cases are linked to improper sleeping position in babies. Research indicates that placing babies on their backs to sleep and breastfeeding them can help dramatically decrease the risk of SIDS.¹⁸

Between about **78% and 83%** of Tennessee women reported that they most often **place their baby on his or her back to sleep** (figure 10).

While the rates have been stable between 2013 and 2017, they have nearly matched the U.S. average.



Figure 10: Infant Sleep Practices: Baby Most often Laid on Back to Sleep Among Women with a Recent Live Birth in Tennessee

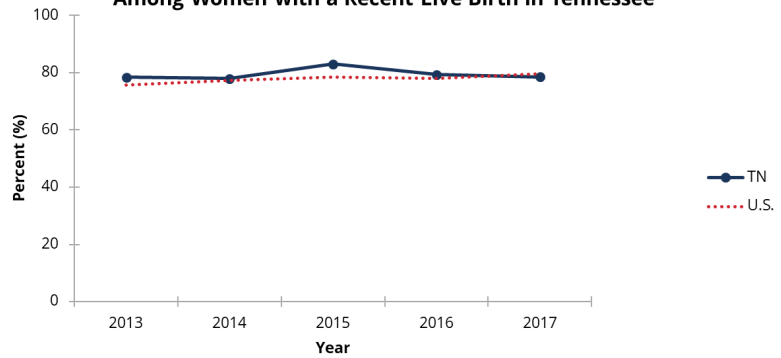
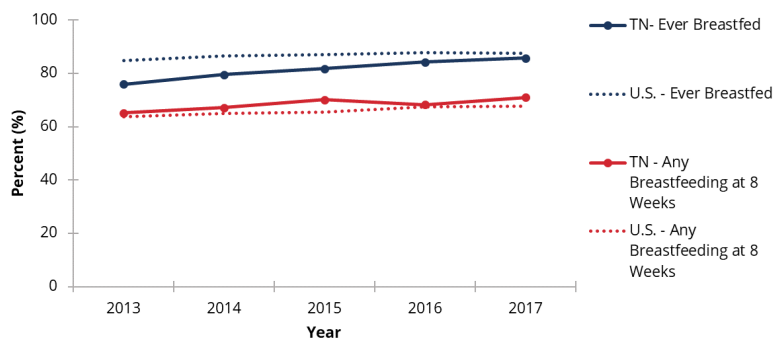


Figure 11: Breastfeeding Practices Among Women with a Recent Live Birth in Tennessee



Between about **76% and 86%** women reported **ever breastfeeding their babies** (figure 11).

While these rates have not changed significantly since 2013, they have exceeded the Healthy People 2020 goal of 81.9%!



Healthy People 2020

National Goal
81.9%

The Healthy People (HP) 2020 goal has been to increase the proportion of infants who are **ever breastfed** to 81.9% (MICH-21.1) and reduce the rate of infant deaths from SIDS by 10% (MICH-1.8).

In 2017, the proportion of Tennessee babies ever breastfed was 85.7%, surpassing the HP 2020 goal.

Appendix A: 2013—2017 Trends

| Selected Maternal and Child Health Indicators for Tennessee, 2013-2017 | | | | | | | | | | |
|------------------------------------------------------------------------|------|--------------|------|--------------|------|--------------|------|--------------|------|--------------|
| Health Indicator | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | |
| | %* | 95% CI | %* | 95% CI | %* | 95% CI | %* | 95% CI | %* | 95% CI |
| Nutrition | | | | | | | | | | |
| Multivitamin use 4+ days a week during the month before pregnancy | 33.1 | 28.73, 37.47 | 35.0 | 30.65, 39.36 | 33.6 | 29.64, 37.54 | 36.9 | 32.48, 41.37 | 34.7 | 30.80, 38.64 |
| Dieting during the 12 months before pregnancy | 29.9 | 25.67, 34.05 | 34.2 | 29.78, 38.53 | 30.3 | 26.47, 34.15 | 29.7 | 25.54, 33.90 | 28.0 | 24.19, 31.78 |
| Exercising 3+ days a week during the 12 months before pregnancy | 45.4 | 40.81, 49.99 | 46.7 | 42.11, 51.30 | 45.6 | 41.39, 49.72 | 42.1 | 37.64, 46.54 | 41.5 | 37.31, 45.62 |
| Pre-Pregnancy Weight | | | | | | | | | | |
| Underweight (BMI < 18.5 kg/m ²) | 3.9 | 2.14, 5.55 | 4.5 | 2.53, 6.38 | 4.5 | 2.72, 6.31 | 4.7 | 2.54, 6.97 | 4.4 | 2.77, 6.06 |
| Overweight (BMI 25-29.9 kg/m ²) | 27.2 | 22.96, 31.35 | 22.9 | 18.96, 26.80 | 24.6 | 20.91, 28.25 | 26.4 | 22.20, 30.62 | 25.2 | 21.32, 28.98 |
| Obese (BMI ≥ 30 kg/m ²) | 24.9 | 20.89, 28.10 | 26.5 | 22.29, 30.66 | 25.3 | 21.54, 29.14 | 26.4 | 22.38, 30.34 | 28.0 | 24.17, 31.92 |
| Substance Abuse | | | | | | | | | | |
| Any cigarette smoking during the 3 months before pregnancy | 27.9 | 23.74, 32.08 | 29.4 | 25.13, 33.77 | 26.5 | 22.70, 30.27 | 23.8 | 19.88, 27.74 | 21.1 | 17.62, 24.56 |
| Any cigarette smoking during the last 3 months of pregnancy | 16.1 | 12.69, 19.51 | 15.1 | 11.78, 18.50 | 16.0 | 12.93, 19.17 | 13.6 | 10.56, 16.72 | 12.1 | 9.33, 14.93 |
| Any cigarette smoking postpartum | 22.4 | 18.55, 26.31 | 20.4 | 16.54, 24.16 | 18.2 | 14.93, 21.45 | 17.7 | 14.25, 21.16 | 17.2 | 13.94, 20.43 |
| Hookah use in the last 2 years | ** | ** | ** | ** | ** | ** | 4.9 | 2.77, 6.97 | 6.5 | 4.15, 8.87 |
| Any E-cigarette use, 3 months before pregnancy | ** | ** | ** | ** | ** | ** | 7.0 | 4.65, 9.29 | 6.1 | 3.94, 8.17 |
| Any E-Cigarette use, Last 3 months of pregnancy | ** | ** | ** | ** | ** | ** | 2.1 | 0.81, 3.40 | 2.0 | 0.57, 3.36 |
| Any alcohol use during the 3 months before pregnancy | 46.5 | 41.87, 51.05 | 53.9 | 49.28, 58.54 | 51.0 | 46.83, 55.25 | 53.1 | 48.54, 57.60 | 52.3 | 48.11, 56.56 |
| Any alcohol use during the last 3 months of pregnancy | 4.8 | 2.90, 6.63 | 5.8 | 3.73, 7.89 | 5.5 | 3.06, 7.36 | 6.8 | 4.55, 9.01 | 8.8 | 6.26, 11.32 |

Appendix A: 2013—2017 Trends

| Selected Maternal and Child Health Indicators for Tennessee, 2013-2017 | | | | | | | | | | |
|----------------------------------------------------------------------------------------------|------|--------------|------|--------------|------|---------------|------|--------------|------|--------------|
| Health Indicator | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | |
| | % * | 95% CI | % * | 95% CI | % * | 95% CI | % * | 95% CI | % * | 95% CI |
| Intimate Partner Violence (IPV) | | | | | | | | | | |
| Experienced any IPV during the 12 months before pregnancy (by current or ex-husband/partner) | 3.2 | 1.62, 4.78 | 3.3 | 1.62, 5.04 | 4.1 | 2.42, 5.76 | 3.8 | 2.13, 5.41 | 3.5 | 1.88, 5.09 |
| By Current Husband or Partner only | ** | ** | ** | ** | ** | ** | 2.2 | 0.92, 3.39 | 2.5 | 1.07, 3.97 |
| By Ex-husband or partner only | ** | ** | ** | ** | ** | ** | 2.4 | 1.15, 3.73 | 2.4 | 1.04, 3.75 |
| Experienced any IPV during the <i>during</i> pregnancy | 2.9 | 1.30, 4.40 | 2.4 | 0.89, 3.81 | 2.9 | 1.43, 4.31 | 2.8 | 1.37, 4.15 | 1.9 | 0.84, 3.01 |
| By Current Husband or Partner only | ** | ** | ** | ** | ** | ** | 1.8 | 0.64, 2.89 | 1.1 | 0.30, 1.90 |
| By Ex-husband or partner only | ** | ** | ** | ** | ** | ** | 1.2 | 0.41, 2.08 | 1.6 | 0.58, 2.58 |
| Depression | | | | | | | | | | |
| Self-reported depressive symptoms | 18.1 | 14.44, 21.67 | 13.6 | 10.41, 16.79 | 15.6 | 12.33, 18.56 | 19.8 | 16.08, 23.54 | 16.4 | 13.22, 19.68 |
| Health Care Services | | | | | | | | | | |
| Had health care visit in 12 months before pregnancy | ** | ** | ** | ** | ** | ** | 72.0 | 67.84, 76.16 | 67.0 | 62.96, 70.95 |
| Began prenatal care in 1st trimester | 84.4 | 80.97, 87.83 | 86.8 | 83.54, 90.04 | 83.5 | 80.24, 86.81 | 84.7 | 81.25, 88.10 | 87.8 | 84.97, 90.67 |
| Had flu shot before or during pregnancy | 52.5 | 47.85, 57.17 | 50.1 | 45.33-54.76 | 51.7 | 47.43, 56.04 | 58.6 | 54.13, 63.13 | 55.9 | 51.69, 60.13 |
| Had maternal postpartum checkup | 87.8 | 84.72, 90.86 | 90.0 | 87.22, 92.80 | 91.1 | 88.76, 93.520 | 88.9 | 85.93, 91.85 | 92.7 | 90.34, 94.99 |
| Pregnancy Intention and Family Planning | | | | | | | | | | |
| Mistimed Pregnancy | 30.4 | 26.00, 34.73 | 28.7 | 24.44, 33.03 | 27.5 | 23.68, 31.36 | 24.7 | 20.76, 28.71 | 22.6 | 19.07, 26.08 |
| Unwanted Pregnancy | 7.3 | 4.80, 9.79 | 9.6 | 6.77, 12.46 | 9.2 | 6.630, 11.70 | 8.3 | 5.98, 10.60 | 9.8 | 7.15, 12.46 |
| Unsure about pregnancy | 13.9 | 10.64, 17.20 | 15.8 | 12.35, 19.19 | 17.0 | 13.73, 20.19 | 17.6 | 14.21, 20.95 | 19.1 | 15.73, 22.53 |
| Intended pregnancy | 48.4 | 43.74, 53.11 | 45.9 | 41.27, 50.49 | 46.4 | 42.12, 50.60 | 49.4 | 44.80, 53.95 | 48.5 | 44.27, 52.71 |
| Any Postpartum Contraceptive Use | 81.3 | 77.66, 84.90 | 79.9 | 76.20, 83.66 | 82.3 | 79.11, 85.43 | 82.0 | 78.46, 85.52 | 80.7 | 77.24, 84.10 |
| Highly Effective Method | 26.5 | 22.34, 30.61 | 26.9 | 22.82, 31.07 | 31.0 | 27.11, 34.97 | 31.3 | 27.01, 35.55 | 28.5 | 24.71, 32.28 |
| Moderately Effective Method | 37.2 | 32.63, 41.74 | 33.3 | 28.82, 37.74 | 29.3 | 25.48, 33.14 | 31.5 | 27.17, 35.84 | 29.5 | 25.69, 33.39 |
| Least Effective Method | 17.1 | 13.65, 20.63 | 19.3 | 15.63, 23.04 | 21.8 | 18.22, 25.37 | 19.0 | 15.51, 22.40 | 22.5 | 16.07, 22.96 |

Appendix A: 2013—2017 Trends

| Selected Maternal and Child Health Indicators for Tennessee, 2013-2017 | | | | | | | | | | | | |
|------------------------------------------------------------------------|------|--------------|------|---------------|------|--------------|------|---------------|------|---------------|--|--|
| Health Indicator | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | | | |
| | % * | 95% | % * | 95% | % * | 95% | % * | 95% | % * | 95% | | |
| Oral Health | | | | | | | | | | | | |
| Teeth cleaned during pregnancy | 44.2 | 39.62, 48.82 | 41.1 | 36.56, 45.69 | 42.3 | 38.12, 46.49 | 40.7 | 36.26, 45.16 | 38.9 | 34.80, 42.98 | | |
| Health Insurance Status Pre-Pregnancy * | | | | | | | | | | | | |
| Private insurance | 52.6 | 47.78, 57.43 | 54.0 | 49.30, 58.73 | 54.2 | 49.87, 58.55 | 58.7 | 54.00, 63.34 | 57.7 | 53.49, 62.00 | | |
| Medicaid (public) | 23.0 | 18.90, 21.12 | 26.2 | 22.01, 30.47 | 26.3 | 22.48, 30.22 | 26.2 | 22.04, 30.40 | 26.0 | 22.13, 29.83 | | |
| No insurance | 24.4 | 20.17, 28.60 | 19.7 | 15.89, 23.60 | 19.4 | 15.96, 22.93 | 15.1 | 11.58, 18.63 | 16.3 | 13.10, 19.45 | | |
| Insurance Status for Prenatal Care During Pregnancy | | | | | | | | | | | | |
| Private insurance | 50.9 | 46.11, 55.79 | 53.3 | 48.53, 58.12 | 56.8 | 52.38- 61.19 | 58.4 | 53.37, 63.38 | 59.7 | 55.002, 64.41 | | |
| Medicaid | 45.7 | 40.86, 50.54 | 45.2 | 40.39, 49.98 | 40.1 | 35.76, 44.47 | 39.8 | 34.87, 44.80 | 38.4 | 33.74, 43.08 | | |
| No insurance | 3.4 | 1.60, 5.11 | 1.5 | 0.28, 2.69 | 3.1 | 1.38, 4.81 | 1.8 | 0.22, 3.37 | 1.9 | 0.46, 3.31 | | |
| Health Insurance Status: Postpartum | | | | | | | | | | | | |
| Private insurance | 51.0 | 46.21, 55.71 | 51.0 | 46.26, 55.66 | 51.8 | 47.54, 56.13 | 51.6 | 47.00, 56.26 | 52.2 | 47.92, 56.44 | | |
| Medicaid | 35.3 | 30.69, 39.85 | 42.4 | 37.69, 47.06 | 40.1 | 35.83, 44.29 | 39.4 | 34.85, 43.95 | 38.8 | 34.60, 43.05 | | |
| No insurance | 13.8 | 10.44, 17.11 | 6.7 | 4.24, 9.09 | 8.1 | 5.72, 10.48 | 9.0 | 6.19, 11.74 | 9.0 | 6.74, 11.25 | | |
| Infant Sleep Practices | | | | | | | | | | | | |
| Baby most often laid on back to sleep | 78.4 | 74.48, 82.29 | 78.0 | 73.97, 81.940 | 83.0 | 79.83 86.14 | 79.4 | 75.57, 83.12 | 78.5 | 74.85, 82.14 | | |
| Breastfeeding Practices | | | | | | | | | | | | |
| Baby ever breastfed | 76.0 | 71.97, 80.03 | 79.5 | 75.64, 83.37 | 81.8 | 78.53, 85.11 | 84.3 | 80.933, 87.69 | 85.7 | 82.56, 88.89 | | |
| Any breastfeeding at 8 weeks | 65.2 | 60.01, 70.34 | 67.2 | 62.16, 72.24 | 70.2 | 65.84, 74.48 | 68.3 | 63.61, 73.03 | 70.9 | 66.77, 75.12 | | |

* Weighted %

** Data not available

Appendix B: Data Analysis Notes

SAS 9.4 (Cary, NC) was used for all analyses; appropriate survey procedures were used to account for the nature of complex survey data.

1. **PRAMS site aggregate for 2015:** Alabama, Alaska, Arkansas, Colorado, Connecticut, Delaware, Hawaii, Illinois, Iowa, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York City, New York State, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming met the required 55% response rate threshold for inclusion.
2. **PRAMS site aggregate for 2016:** Alaska, Arkansas, Colorado, Connecticut, Delaware, Hawaii, Illinois, Iowa, Louisiana, Maine, Maryland, Massachusetts, Michigan, Missouri, Nebraska, New Hampshire, New Jersey, New Mexico, New York City, New York State, Oklahoma, Pennsylvania, Rhode Island, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming met the required 55% response rate threshold for inclusion.
3. **PRAMS site aggregate for 2017:** Alabama, Alaska, Colorado, Connecticut, Delaware, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Missouri, Montana, New Hampshire, New Jersey, New Mexico, New York City, New York State, North Carolina, North Dakota, Oklahoma, Pennsylvania, Puerto Rico, Rhode Island, South Dakota, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming met the required 55% response rate threshold for inclusion.
4. Substance use estimates include *all women with a recent live birth* as the denominator.
5. *Intimate Partner Violence:* Defined as being pushed, hit, slapped, kicked, choked, or physically hurt in any way by a husband/partner and/or an ex-husband/ex-partner. Beginning in 2016 (Phase 8), the question response options were expanded to include “my ex-husband or ex-partner” in addition to “my husband or partner”. For this report, TN PRAMS data has been calculated to reflect this change.
6. *Pregnancy intention:* Defined as the woman’s reported feelings about becoming pregnant just before she became pregnant. Intention was assessed 2-6 months postpartum. **Mistimed** pregnancies are those that were wanted, but later. **Unwanted** pregnancies are those not wanted then or any time in the future. **Intended** pregnancies were those that were wanted then or sooner. **Unsure** describes those women who were unsure about their desire for pregnancy.
7. *Post-partum contraceptive use:* Defined as using any kind of birth control at the time when the PRAMS survey was completed. Women who selected the “other” write-in option were excluded from the analysis. **Long-Acting Reversible Contraception (LARC) methods** include Intra-uterine Device (IUD) or contraceptive implant. **Moderately effective methods** include birth control pills, shots or injections (e.g., Depo-Provera), contraceptive patch, and vaginal ring. **Least effective methods** include condom, rhythm method/natural family planning, and withdrawal.
8. *Insurance:* other state-specific government plans or programs such as SCHIP/CHIP were *excluded* from estimates; those selecting “other” types were also excluded.
 - Private** includes private only, any other insurance in combination with private, TRICARE, or other military-type insurance.
 - Medicaid** includes Medicaid or other state-named Medicaid program (e.g., TennCare).
 - None** is defined as no selected insurance or selecting only Indian Health Service (IHS).

Appendix C: References

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