



# Legislative Report

## Maternal and Infant Health Report

### Healthcare Administration

### Healthcare Research and Quality Division

July 2022

**For more information contact:**

Minnesota Department of Human Services  
Healthcare Research and Quality Division  
P.O. Box 64983  
St. Paul, MN 55164

651-431-2504



For accessible formats of this information or assistance with additional equal access to human services, [DHS.info@state.mn.us](mailto:DHS.info@state.mn.us), call 651-431-2504, or use your preferred relay service. ADA1 (2-18)

Minnesota Statutes, Chapter 3.197, requires the disclosure of the cost to prepare this report. The estimated cost of preparing this report is \$12,156.38.

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# I. Executive summary

This report was created to provide information to the legislature on the receipt of services and health outcomes for pregnant and post-partum women enrolled in the medical assistance program. The services and health outcomes reported are: prenatal services, doula services, birth by primary cesarean section, birth of an infant who received care in the neonatal intensive care unit, birth of an infant who was premature or who had a low birth weight, postpartum hemorrhage, postpartum care within six weeks of giving birth, and prenatal and postpartum follow-up home visit from a public health nurse. Reporting is aggregated by race-ethnicity. This is the first Maternal and Infant Health Report, and biennial updates are to be provided in subsequent years.

A summary of the findings are as follows:

- Black women had consistently higher rates than all known race and ethnicity groups, across all years, for prenatal visits and doula services. Although Black women had the highest rate of doula services, this rate never exceeded 2%. Black women also had the highest rates of low birth weight infants encroaching on 10% of births by 2019.
- American Indian women had the highest rate of cesarean sections (average rate of 30% between 2017 and 2020), infants born prematurely or with a low birth weight (average rate of 16% between 2017 and 2019), and infants who spent time in the NICU (average rate of 31% between 2017 and 2019), across all years and race and ethnicity groups.
- The percent change in the rate of post-partum hemorrhaging increased for all groups between 2017 and 2020. White women had the lowest rate of post-partum hemorrhaging, with an average rate of 5% across all years, and Hispanic women, Asian and Pacific Islanders, and American Indian women had an average rate of 7%; on average, Black women fell in the middle with a rate of 6%.
- Hispanic women saw the highest rates of post-partum care in 2017, 2018, and 2020, with rates of 75%, 75%, and 73% respectively.

## II. Legislation

Sec. 26. Minnesota Statutes 2021, section 256B.795:

(a) The commissioner of human services, in consultation with the commissioner of health, shall submit a biennial report beginning April 15, 2022, to the chairs and ranking minority members of the legislative committees with jurisdiction over health policy and finance on the effectiveness of state maternal and infant health policies and programs addressing health disparities in prenatal and postpartum health outcomes. For each reporting period, the commissioner shall determine the number of women enrolled in the medical assistance program who are pregnant or are in the 12-month postpartum period of eligibility and the percentage of women in that group who, during each reporting period:

- (1) received prenatal services;
- (2) received doula services;
- (3) gave birth by primary cesarean section;
- (4) gave birth to an infant who received care in the neonatal intensive care unit;
- (5) gave birth to an infant who was premature or who had a low birth weight;
- (6) experienced postpartum hemorrhage;
- (7) received postpartum care within six weeks of giving birth; and
- (8) received a prenatal and postpartum follow-up home visit from a public health nurse.

(b) These measurements must be determined through an analysis of the utilization data from claims submitted during each reporting period and by any other appropriate means. The measurements for each metric must be determined in the aggregate stratified by race and ethnicity.

(c) The commissioner shall establish a baseline for the metrics described in paragraph (a) using calendar year 2017. The initial report due April 15, 2022, must contain the baseline metrics and the metrics data for calendar years 2019 and 2020. The following reports due biennially thereafter must contain the metrics for the preceding two calendar years.

# III. Introduction

## Legislative Mandate

This report is submitted to the Minnesota Legislature pursuant to Minnesota Statutes 2021, section 256B.795, which requires the Minnesota Department of Human Services (DHS) to provide a biennial report to the Legislature on prenatal and post-partum services aggregated by race/ethnicity to identify existing disparities in health outcomes amongst medical assistance enrollees.

## Report Background, Implementation, and General Findings

This report was prepared by the Healthcare Research and Quality (HRQ) Division of DHS. The criteria used to identify the population of interest and the relevant pregnancy-related services is based on the use of medical billing codes submitted on medical claims data within the DHS data warehouse. These include the International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS), the Current Procedural Terminology (CPT), the Healthcare Common Procedure Coding System (HCPCS), and revenue codes. For more details about medical billing codes used to identify delivery, services during pregnancy and services following pregnancy, see appendix B. Claims and enrollment data, used to identify the women and services relevant to this report, were extracted from the DHS data warehouse. Additionally, birth-match / birth certificate data for years 2017-2019, provided by the Minnesota Department of Health (MDH), were used to link mothers included in the analysis to their newborns in order to address items (4) neonatal intensive care and (5) premature or low birth weight infants. Similar data for 2020 and beyond was not available at the time of this writing, but will be submitted as a supplemental update to the report as soon as possible. This is the first report provided to the Legislature under this requirement.

This report is intended to identify disparities in prenatal and postpartum health outcomes for women enrolled in a medical assistance program. Minnesota Health Care Programs (MHCP) enrollment data, along with claims data were used to identify healthcare coverage, approximate date of delivery, prenatal and post-partum periods, as well as services provided prior to delivery and following delivery. The MDH birth-match data was primarily used to link mothers to newborns. Data provided by MDH also includes infant-level descriptive data, which was used to supplement claims data. The birth-match files include fields, which flag newborns (1) who spent time in the neonatal-intensive care unit (NICU), (2) were born with a low birth weight, or (3) were born prematurely. These flags, along with revenue, diagnosis, and medical procedure codes found in DHS fee-for-service (FFS) claims and managed care (MC) encounter data, were used to identify newborns characterized in items #4 and #5 of the legislative requirement.

Inclusion in the report was limited to all women who had 1) a claim indicating delivery of a live newborn and 2) comprehensive Medicaid coverage during the prenatal and post-partum periods. Without the delivery claim, it would be impossible to know the timeline of a woman's pregnancy, given the nature of the data available for the analysis. As some Medicaid programs do not cover pregnancy related services,

the women included in the report were limited to those with comprehensive Medicaid coverage during both periods of pregnancy. Specifically, women included in this report had ten to eleven months of enrollment during the pregnancy/post delivery period. This included nine months of coverage prior to delivery and two months of coverage after delivery with no more than one month without coverage during the entire time period. This is a necessary requirement for individuals who may have had coverage through a private insurer during either period of the pregnancy as those claims would not be accessible to the State. In addition, reporting on non-livebirth outcomes is often incomplete making it challenging to identify women who have had these experiences. For this reason, women who experienced a stillbirth for example were not included in this report. However, it is important to acknowledge that these women may have received prenatal and/or postpartum care during their pregnancy period and these services are not captured in the report.

Race and ethnicity were determined using demographic data collected at the time of enrollment in health or other benefit programs. Women were categorized into one of six categories—Asian and Pacific Islanders, Black, Hispanic, American Indian, White and Unknown. Women who identified as Hispanic were categorized as such without taking race into consideration. All other non-Hispanic women were categorized into one of the five other groups accordingly. Women whose race and ethnicity could not be determined (about 8.5% of women that met the eligibility and pregnancy criteria) were categorized as ‘unknown’.

In addition to the inclusion criteria above, women included in report items #4 and #5 also needed to be linked to an infant who could be identified in the DHS data warehouse by way of the MDH birth-match data. This was a necessary restriction to ensure complete data of the newborns linked to the mothers in this report.

Rates for report items #1-3 and #6-8 were aggregated by race and ethnicity, with the number of women who delivered a live newborn in a given year as the denominator. Rates for items #4 and #5 were generated in a similar way, but with the additional denominator inclusion criteria of a woman having to be linked to their newborn in the DHS data warehouse. Rates were calculated for items #1-3 and #6-8 for years 2017, 2018, 2019, and 2020. Rates for items #4-5 were calculated for years 2017-2019; this is because 2020 MDH birth-match data was not available to DHS; so infant-mother matching for year 2020 could not be established. As noted previously, a supplemental report on these items including the updated data will be provided as soon as the data becomes available.

This report is based on observed trends in the data for the entire population that meets the inclusion criteria described previously. As such, no statistical tests of significance were performed for two reasons. First, population based data (i.e., all women with a live birth and comprehensive coverage rather than a partial sample of such women) are not subject to sampling error. Therefore, the numbers observed represent the population parameters rather than a statistical representation of those parameters. Second, with population sizes in the tens of thousands even minor differences across sub-populations are often seen as statistically significant. To better enable policy discussion, the decision was made to focus on the magnitude of differences and not the statistical significance of differences.

The report includes percentages based on small person counts i.e., infrequently occurring events within the breakouts of race and ethnic groups of smaller size. This is particularly true with infrequently used provider services such as care by doulas. Consequently, further investigation may be helpful to understand the circumstances concerning the low reporting and careful interpretation of the results may be warranted. Specifically, there may be a larger context driving the low reporting within service categories and/or across racial/ethnic groups.

It was found that Black women had consistently higher rates than all known race and ethnicity groups, across all years, for prenatal visits and use of doula services. Although Black women had the highest rate of doula services, this rate never exceeded 2%. The infrequent observation of doula services in our claims data makes this number of questionable value as the data does not allow for sufficient observation of Doula services. Black women also had the highest rates of low birth weight infants encroaching on 10% of births by 2019.

American Indian women had the highest rate of cesarean sections (with an average rate of 30% between 2017 and 2020), and infants born prematurely (ranging from about 12.5% to about 16.25% each year) and infants who spent time in the NICU (average rate of 31% between 2017 and 2019), across all years and race and ethnicity groups.

The percent change in the rate of post-partum hemorrhaging increased for all groups between 2017 and 2020. White women had the lowest rate of post-partum hemorrhaging, with an average rate of 5% across all years, and Hispanic women, Asian and Pacific Islanders, and American Indian women had an average rate of 7%; on average, Black women fell in the middle with a rate of 6%. Hispanic women saw the highest rates of post-partum care in 2017, 2018, and 2020, with rates of 75%, 75%, and 73% respectively.

While the overall rate of newborns born either prematurely or with a low birth weight (LBW) was relatively constant over time, at approximately 12% for all years between 2017 and 2019. Upon consultation with MDH, we were advised to report these rates separately for a more meaningful view of these outcomes. Thus in the data result sections of the report, these rates are reported separately.

Finally one can say that despite having generally higher rates of prenatal visits (both in terms of the number of women with at least one visit, and the average number of visits) both Hispanic and Black women trend towards worse birth outcomes on some of the measures included in the report. This speaks to the fact that other factors outside of prenatal visits, including important social determinants of health, contribute to overall birth outcomes. Additionally, the overall quality of prenatal care received is not well addressed by claims data analysis alone and this is particularly notable for communities of color whose prenatal care has been well documented to be frequently unequal.



# IV. Data Reports

## Demographic Summary

While not asked for by the legislature, DHS felt some demographic context of the population could be helpful to the reader. Age, as well as race/ethnic distributions are provided for purposes of context.

In terms of age composition, women who delivered a live newborn between 2017 and 2020 were between the ages of 12 and 53, with 50% of women between the ages of 24 and 32 years. The youngest 25% of women were between the age of 12 and 24 and the oldest 25% of were between 32 and 53.

For consistency of comparison, women from the Medicaid population were similarly selected with a minimum age of 12 and a maximum age of 53. In this comparative population 50% are between 19 and 38. The youngest 25% of women in the comparison group are between 12 and 24. The oldest 25% of women in the Medicaid equivalent group are between 38 and 53 years of age.

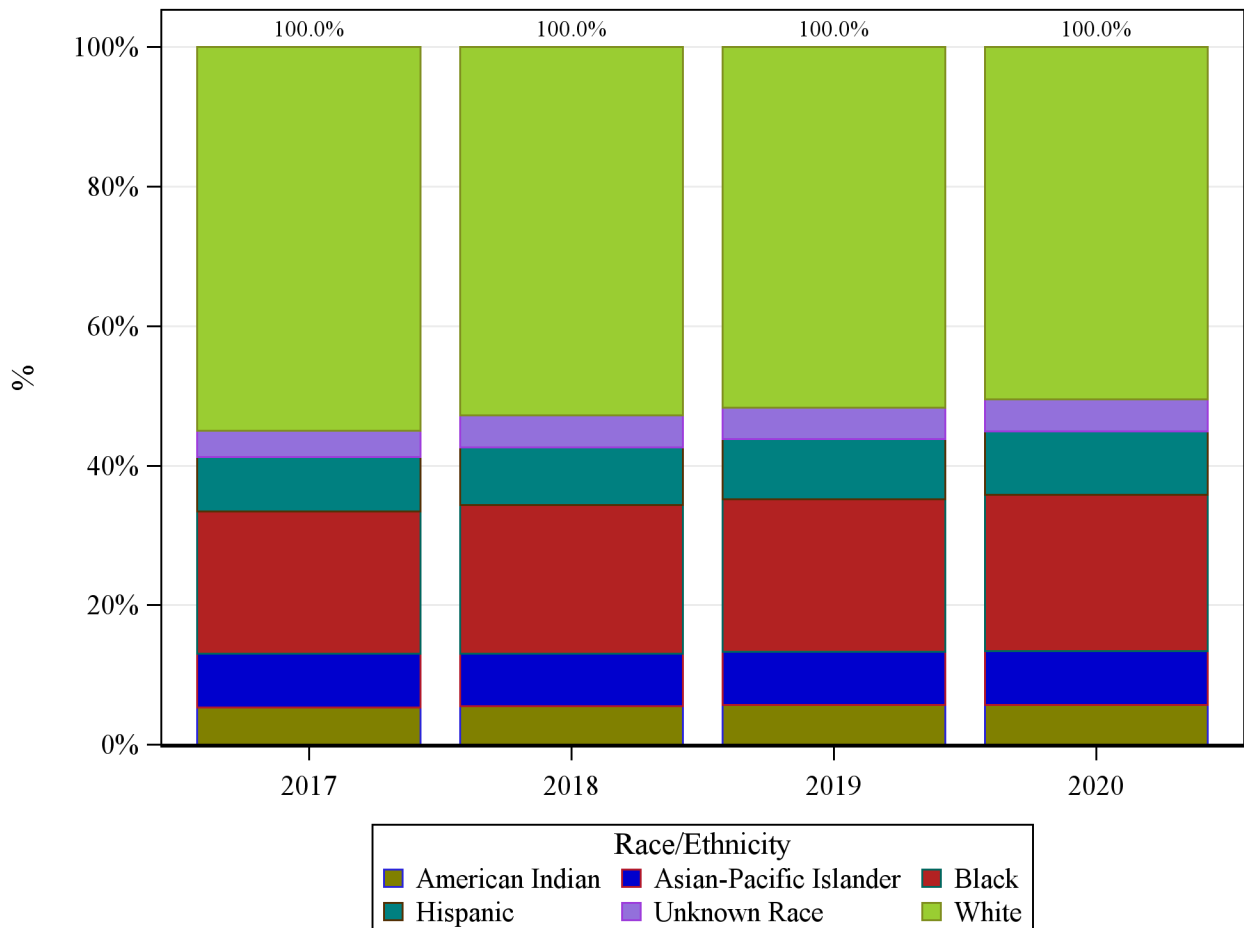
Table 1: Age of women included in analysis vs MA equivalent population

Age										
Year	Minimum		25 <sup>th</sup> percentile		Median (50 <sup>th</sup> percentile)		75 <sup>th</sup> percentile		Maximum	
	Women in report	All women age 12-53	Women in report	All women age 12-53	Women in report	All women age 12-53	Women in report	All women age 12-53	Women in report	All women age 12-53
2017	12	12	24	19	28	28	32	38	53	53
2018	12	12	24	18	28	28	32	38	53	53
2019	14	12	24	18	28	28	32	38	52	53
2020	12	12	24	18	28	28	32	38	53	53

Since 2017, the racial and ethnic composition of all women (regardless of pregnancy/delivery status) of childbearing age enrolled in full-coverage Medical Assistance for at least eleven months between 2017 and 2020 has remained relatively constant. Across all years, Hispanic women made-up roughly 8.0% - 9.0% of the population, while Asian and Pacific Islander women represented about 7.5% of this population. American Indian women consistently represent nearly 5.5% - 6.0% of the population across all years. The percentage of Black women has been increasing steadily, with Black women comprising between 20.0% - 22.0% of the population in 2017 through 2020. The percent of women whose

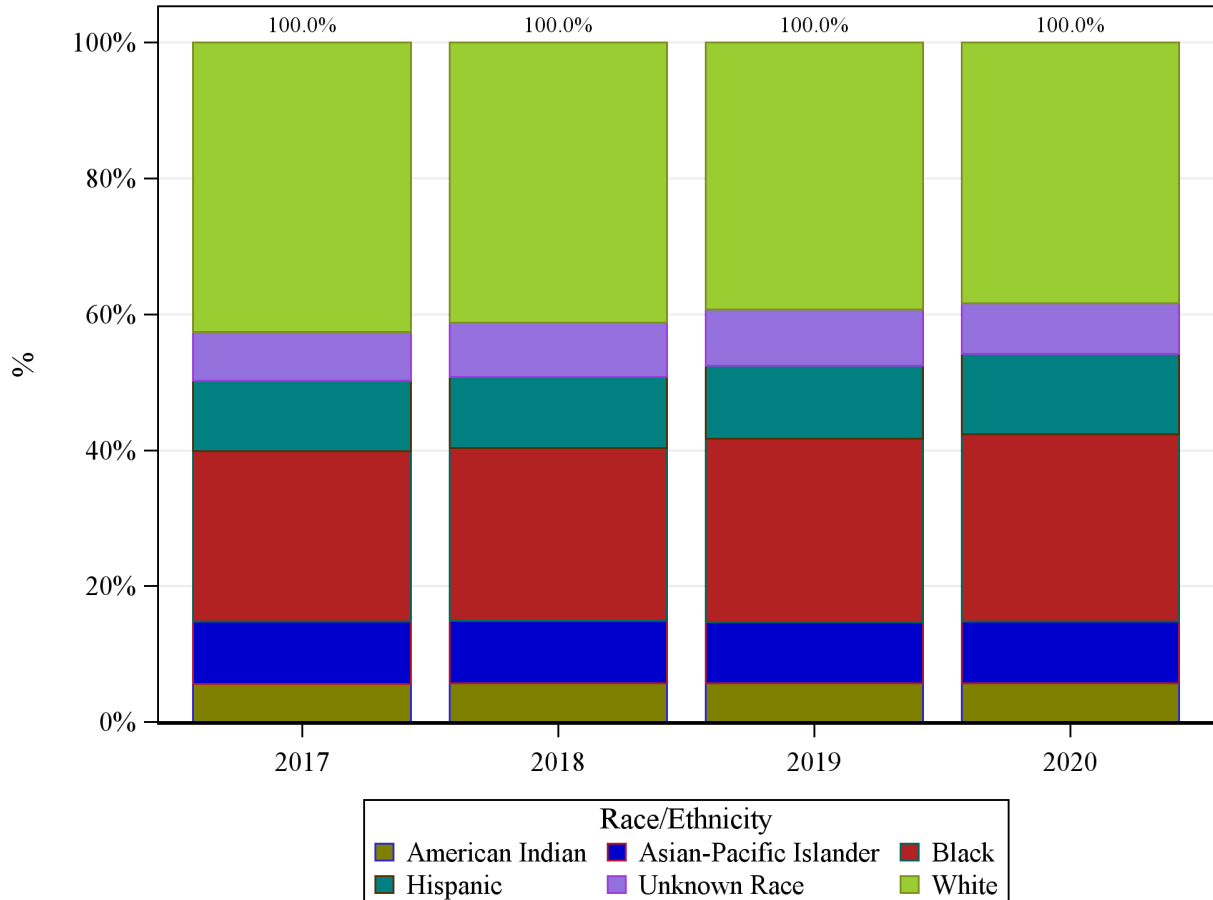
race/ethnicity is unknown has increased slightly from about 4.0% in 2017 to roughly 4.5% in 2018, 2019, and 2020. The percent of White women included in this population has been gradually decreasing over the years; nearly 55.0% in 2017 but declining to 50.0% by 2020.

Figure 1: Distribution of race/ethnicity by year, women with at least 11 months of MA coverage



The women included in this report, according to the selection criteria previously described, look relatively similar to the overall Medical Assistance population of women of childbearing age. Between 2017 and 2020, roughly 6.0% of women with comprehensive Medical Assistance coverage throughout the duration of their pregnancy that resulted in a live birth are American Indian. Asian and Pacific Islander women encompass approximately 9.0% of the women in this analysis. Of the women included in this report, roughly between 25.0% and 28.0% are Black between 2017 and 2020, respectively. Women whose race/ethnicity information could not be identified account for about 7.0% -8.0% of women included in the analysis. Nearly 43.0% of the women included in the 2017 figures are White; this percentage decreases gradually across all years dropping to 38.0% by 2020. Although not asked for by the legislature in this report, future versions will provide statewide context of Medicaid births and breakdowns by race and ethnicity.

Figure 2: Distribution of race/ethnicity by year, pregnant women included in analysis

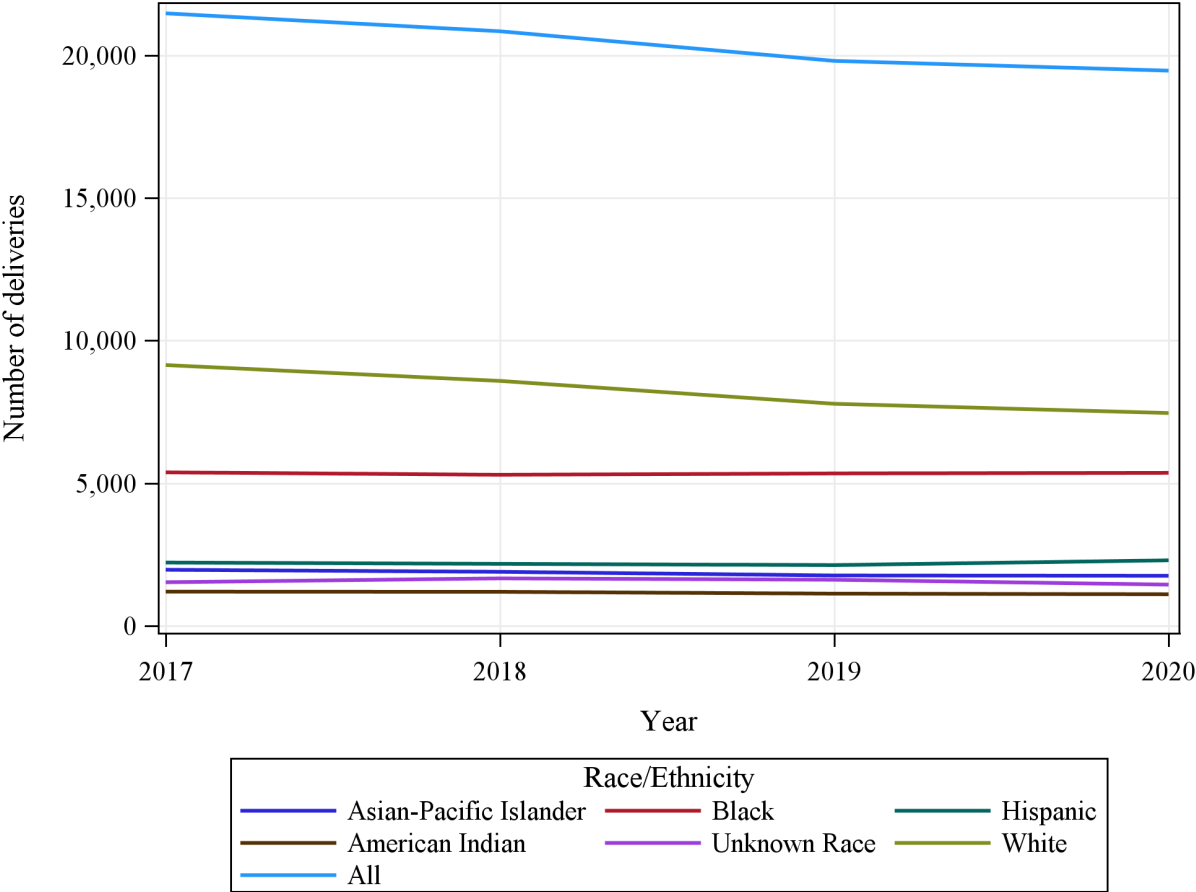


In terms of age composition, women who delivered a live newborn between 2017 and 2020 were between the ages of 12 and 53, with 50% of women between the ages of 24 and 32 years. The youngest 25% of women were between the age of 12 and 24; and the oldest 25% of women were between 32 and 53. Women in the general Medicaid population to which the women in the analysis were compared have a minimum age of 12, a maximum age of 53 and 50% are aged between 19 and 38. The youngest 25% of women in the comparison group are between 12 and 24. The oldest 25% of women in the Medicaid equivalent group are between 38 and 53 years of age.

# Required Reporting

## Medical Assistance Program Deliveries

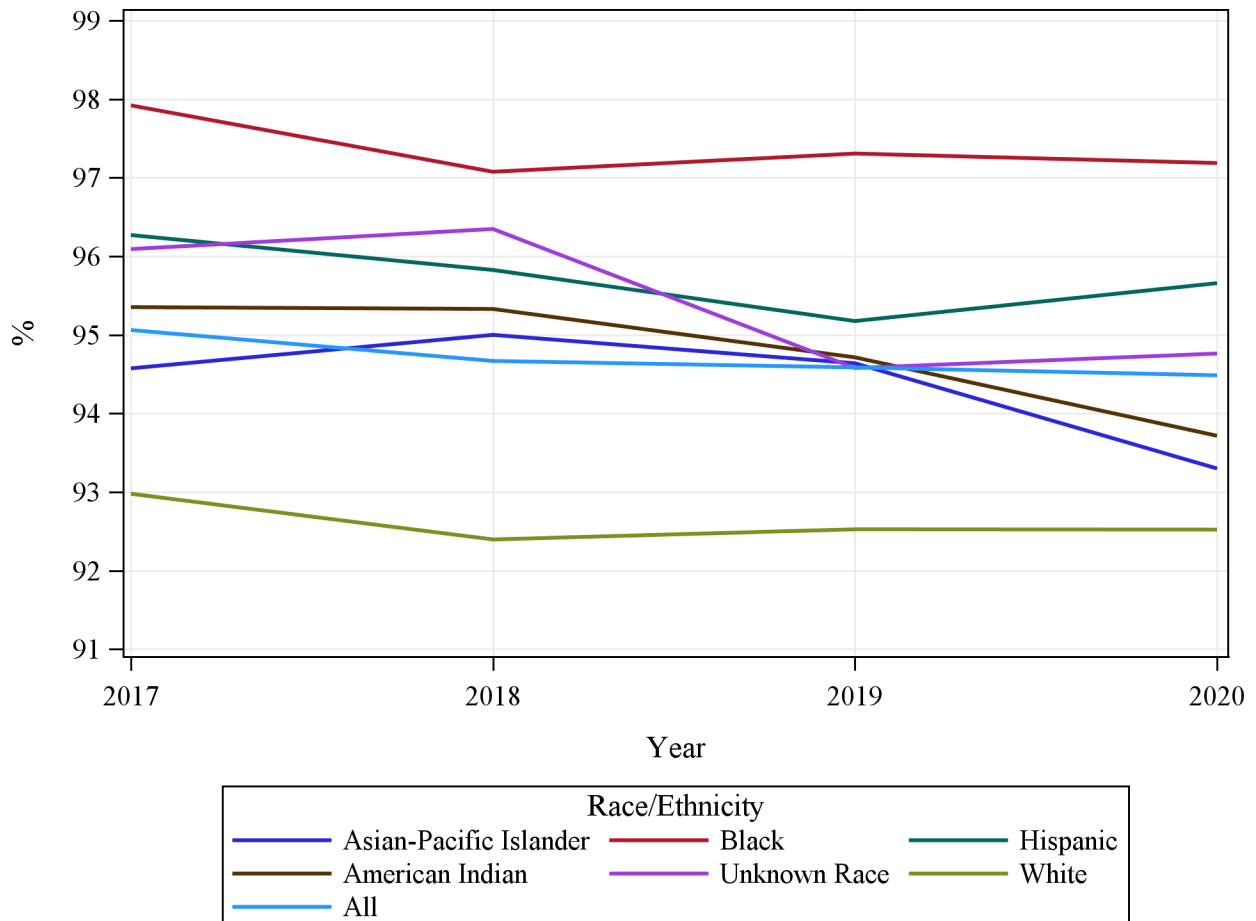
Figure 3: Number of live newborn deliveries by race/ethnicity



The number of live births has been slightly trending downward between 2017 and 2020 for all women overall, and specifically for the following groups: Asian and Pacific Islanders, American Indians, and Whites. The Hispanic population is the only group to see an increase in births, when comparing the number of deliveries in 2017 to that in 2020. The biggest decrease in number of births was seen in the White population. There were 18% fewer live birth deliveries in 2020 than in 2017. The rate of live deliveries for black women also decreased between 2017 and 2020, but the percent decrease for 2018, 2019, and 2020 relative to 2017 is only between -0.33% and -1.58%. White women account for between 38 and 43% of live births between 2017 and 2020. Black women account for roughly 25-27% of births during that same timeframe. See table 'Deliveries' in appendix A for more details.

## Medical Assistance Program Prenatal Visits

Figure 4a: Percent of women, by race/ethnicity, who received at least one prenatal service prior to delivery



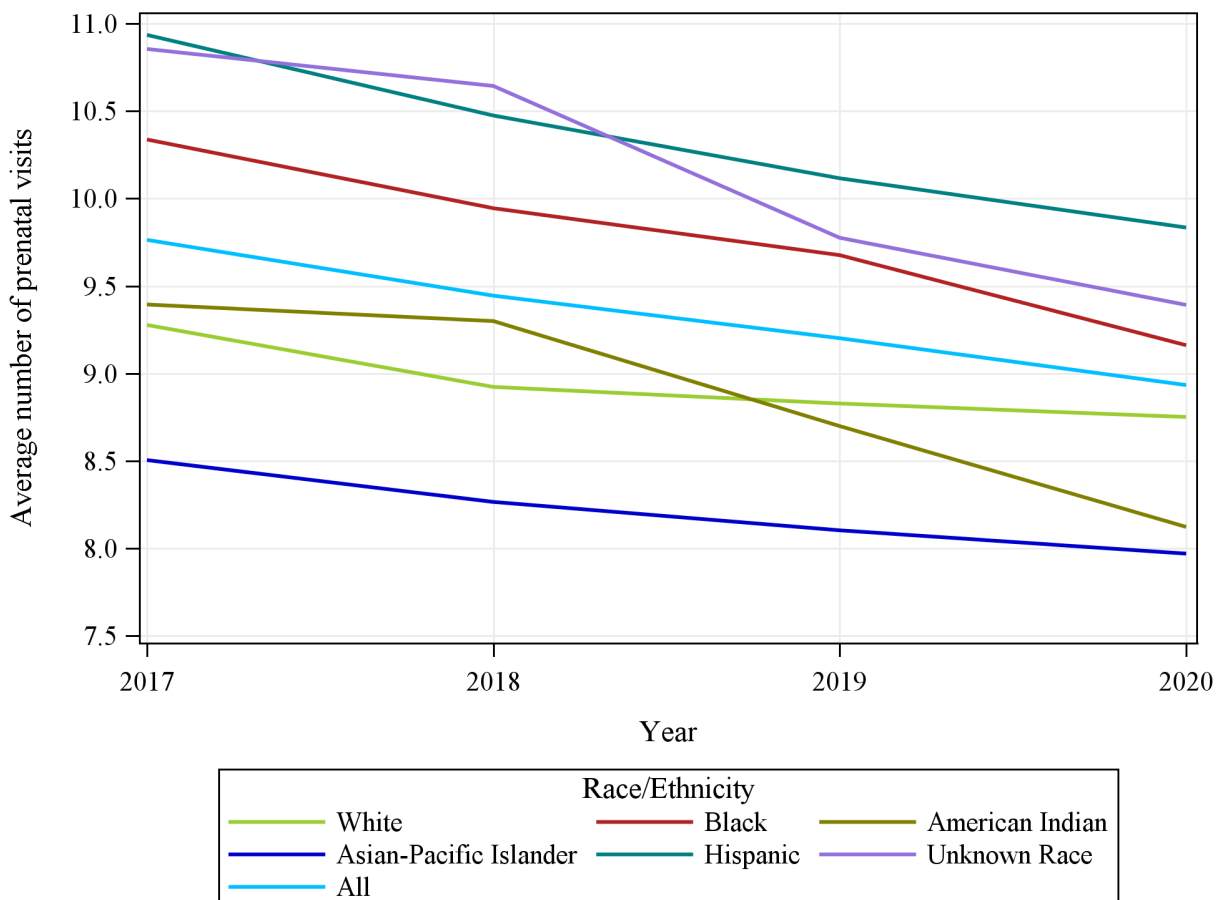
Across all four years, an average of 95% of women who delivered a live newborn had at least one prenatal visit. On average, across all years, about 96% of Hispanic women and 97% of Black women had at least one prenatal visit, which is roughly 1% - 2% points higher, respectively, than the average rate of all women who had at least one prenatal visit prior to delivery. For all race/ethnicity groups, the rate of women receiving at least one prenatal service decreased very slightly in all years relative to 2017, except for Asian and Pacific Islanders in 2018 and 2019 and the 'Unknown Race' group in 2018. The average decrease in the 2018, 2019, and 2020 rates relative to 2017, overall, is quite small. See table 'Prenatal Visits' in appendix A for more details.

While knowing if a woman received any prenatal care is important, a more telling indicator of utilization of these services is the average number of such visits during the course of a pregnancy. This information is provide in figure 2b. Once can see a general trend in reduced frequency of prenatal visits over time.

This could be for a number of reasons that are not explained by the data available but, for 2020 at least, this is consistent with other trends of reduced utilization due to pandemic resistance to provider visits.

These trends come with a note of caution about the source data. Specific pregnancy related services can be challenging to identify in claims data. To reduce the number of claims providers need to submit to a payer organization, services related to pregnancy can be billed on a single claim that is submitted on the day of, or shortly after, the date of delivery. This convenience is known as bundled billing. This claim, which includes a global maternity care billing code, can encompass a number of services, ranging from a few prenatal visits; all prenatal visits; or all prenatal visits, delivery, and post-partum care rendered within the six-week period following delivery. While this may reduce the complexity of billing on the provider-end, it makes it difficult to assess the precise number of prenatal visits that a person received, prior to delivery. For this reason, the average number of prenatal visits prior to delivery is an estimate, based on the midpoint of services indicated for a specific global maternity billing code. For more information about the global maternity billing CPT/HCPCs code, see 'Appendix C'.

Figure 2b: Average number of prenatal services by race/ethnicity

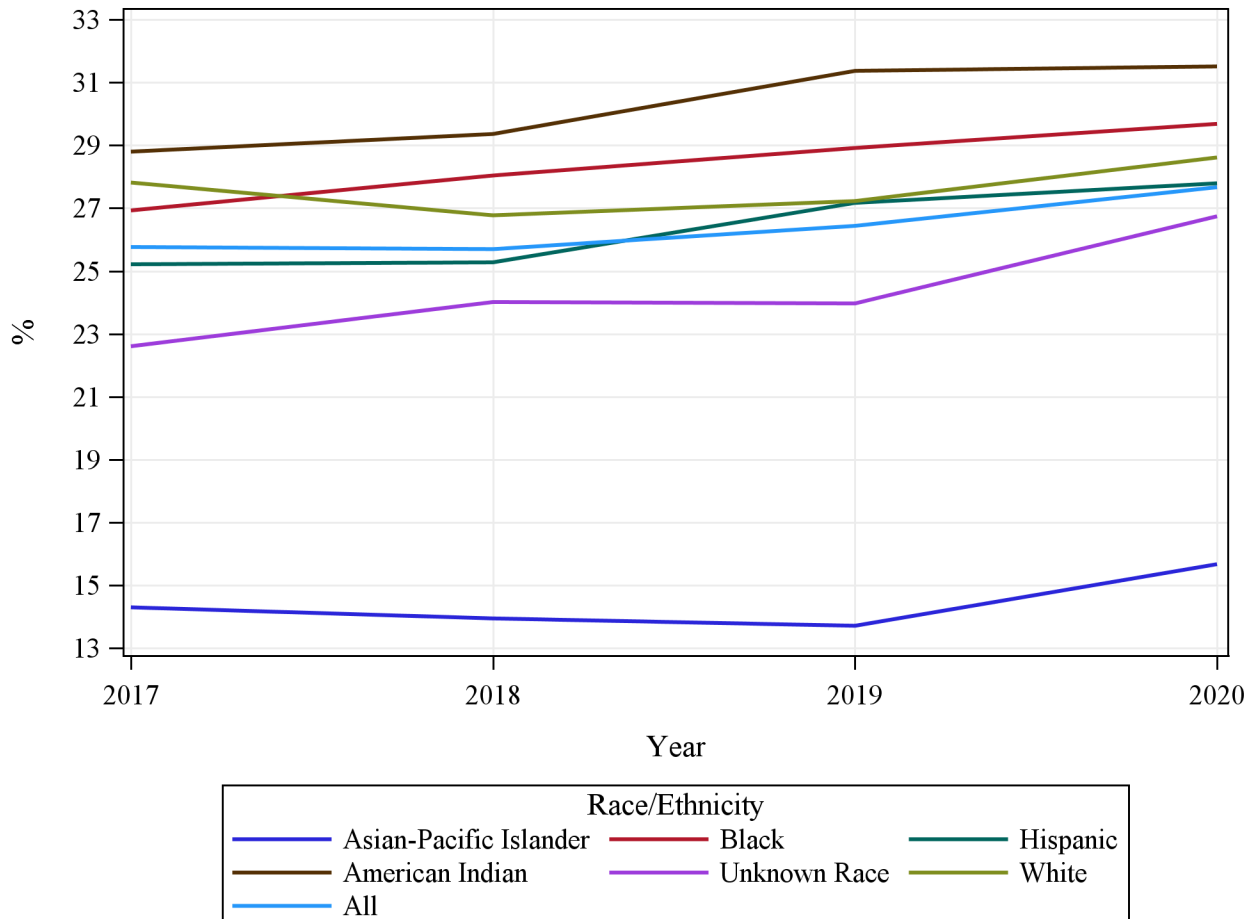


On average, across all years, a pregnant woman had roughly between 9 and 10 provider visits that can be classified as prenatal care. For all groups of women, the highest average number of visits were

observed in 2017 and decreased between 2018 and 2020. Excluding the unknown race category, which had the highest average number of visits per woman, Hispanic women had the highest average number of prenatal visits across all years. Excluding women whose race information is unknown, Black women had the second highest average number of prenatal visits, with averages between 9.1 and 9.9, across all years. The average number of visits for American Indian women dropped considerably between 2017 and 2020. White women had the smallest change in average visits between 2017 and 2020. Asian and Pacific Islander women consistently had the lowest average number of prenatal visits, with averages between roughly 11-13% lower than those of the total population of women.

## Medical Assistance Program Cesarean Section Deliveries

Figure 5: Percent of women who delivered a live newborn via cesarean section by race/ethnicity

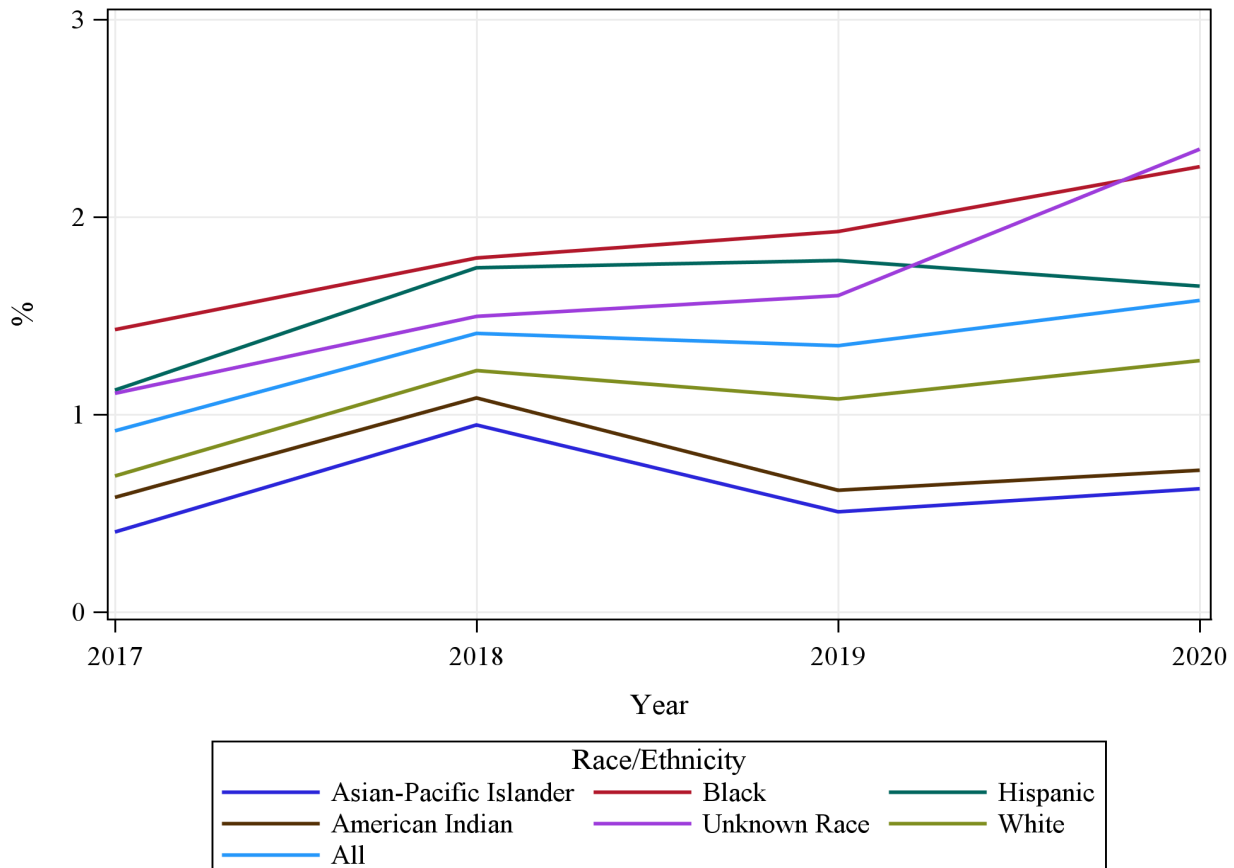


About 26% of women, on average, who delivered a live newborn between 2017 and 2020 delivered via cesarean section. For all women, the percent change in 2020 increased by about 2% points when compared to the 2017 rate. Relative to all other groups, for each year of data, Asian and Pacific Islanders delivered via cesarean section at a rate much lower than the other race/ethnicity groups considered, with an average rate of cesarean section across all years of 14%. Between 2017 and 2020, the cesarean section rate for Asian and Pacific Islanders is nearly half the rate observed for all women. Notably, the group associated with the highest rate of cesarean section and largest increases in those rates over time is the American Indian population. See table ‘Cesarean Section Deliveries’ in appendix A for more details.



## Medical Assistance Program Use of Doula Services

Figure 6: Percent of women who received at least one doula service by race/ethnicity

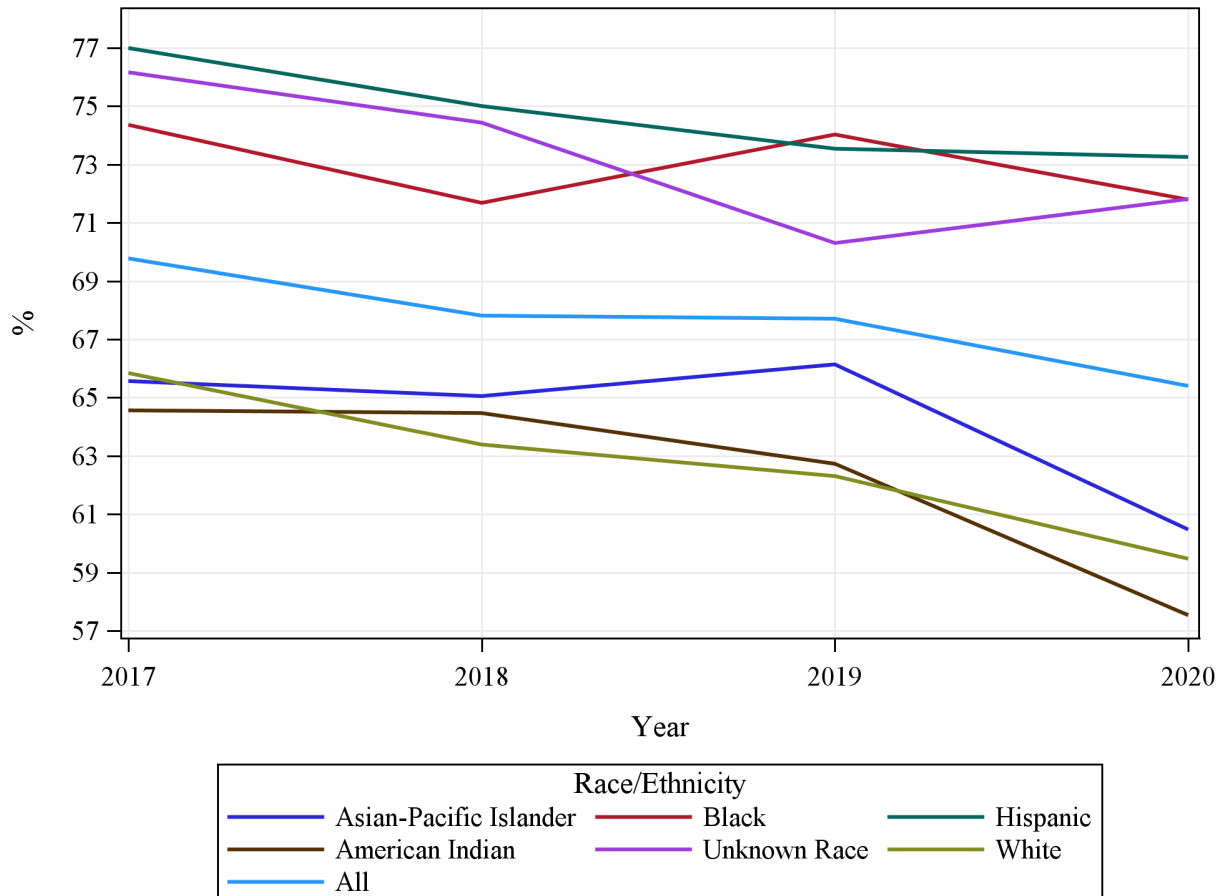


Doula services are difficult to track accurately in Medical Assistance claims data. As of the time of this writing, DHS does not enroll Doulas as part of the provider system. As a result, Doula's are rarely reported on paid Medicaid claims. Instead, the DHS provider manual provides guidance to providers that Doula service are to be performed under the supervision of another provider; physicians, nurse practitioners, or certified midwives. This likely results in a large under reporting issue in Medicaid claims data of Doula services and the results reported should be viewed with this limitation in mind. Of the few claims on which Doula services can be detected, nearly all are from claims that share the same supervising midwife. **As a result of the unavailability of information in the Medicaid data warehouse, DHS recommends the reader not attach too much meaning or interpretation into the small amount of data than can be reported.**

From Medicaid claims data, roughly 1.3% of all women who delivered a live newborn between 2017 and 2020 received at least one claims identifiable pregnancy-related service provided by a doula. While Blacks, Hispanic, and those of unknown race had higher rates of use in general, due to the small amount of data available, inferences about trends over time and differences between racial groups are not meaningful and can not be interpreted.

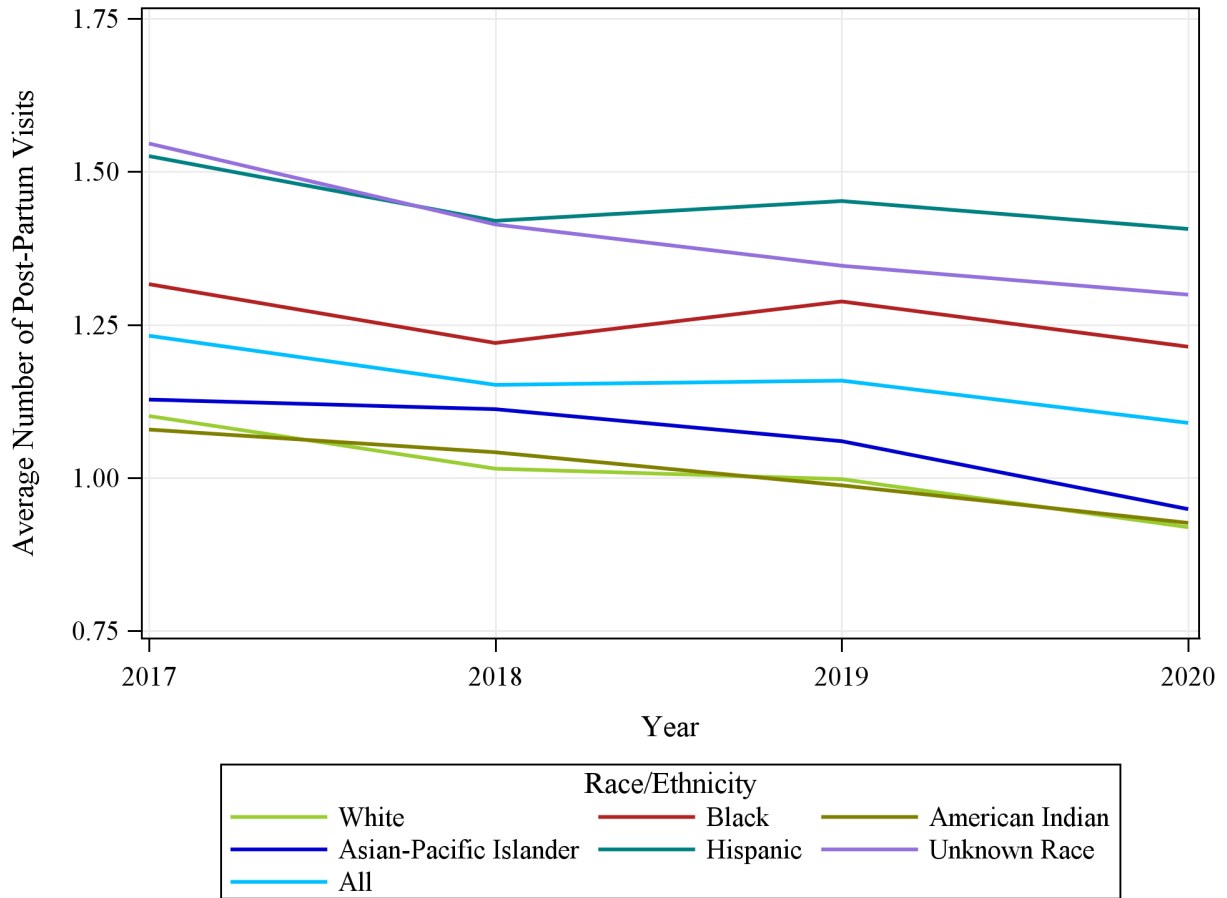
## Medical Assistance Program Post-Partum Visits

Figure 7a: Percent of women who received at least one post-partum service by race/ethnicity



Between 2017 and 2020 about 68% of all women who delivered a live newborn had at least one post-partum visit. This rate decreased from 70% in 2017 to 65% by 2020. Either the White or American Indian population had the lowest rate of women receiving at least one post partum visit; a rate substantially below the rate for all women. Across all years, the rates for Black and Hispanic women were much higher than those for all women. The rates were, on average 73% and 75% for Black and Hispanic women, respectively. The largest discrepancy was most notable in 2020. Over time, the rate of women receiving any post-partum care decreases for both White and Hispanic women. In 2017, the rate for White women was 66% and dropped to 59% in 2020. For Hispanic women, the rate fell from 77% in 2017 to 73% in 2020. By 2020 the rate of American Indian women who received post-partum care decreased from 65% in 2017 to 58%. See table 'Post-Partum Visits' in appendix A for more details.

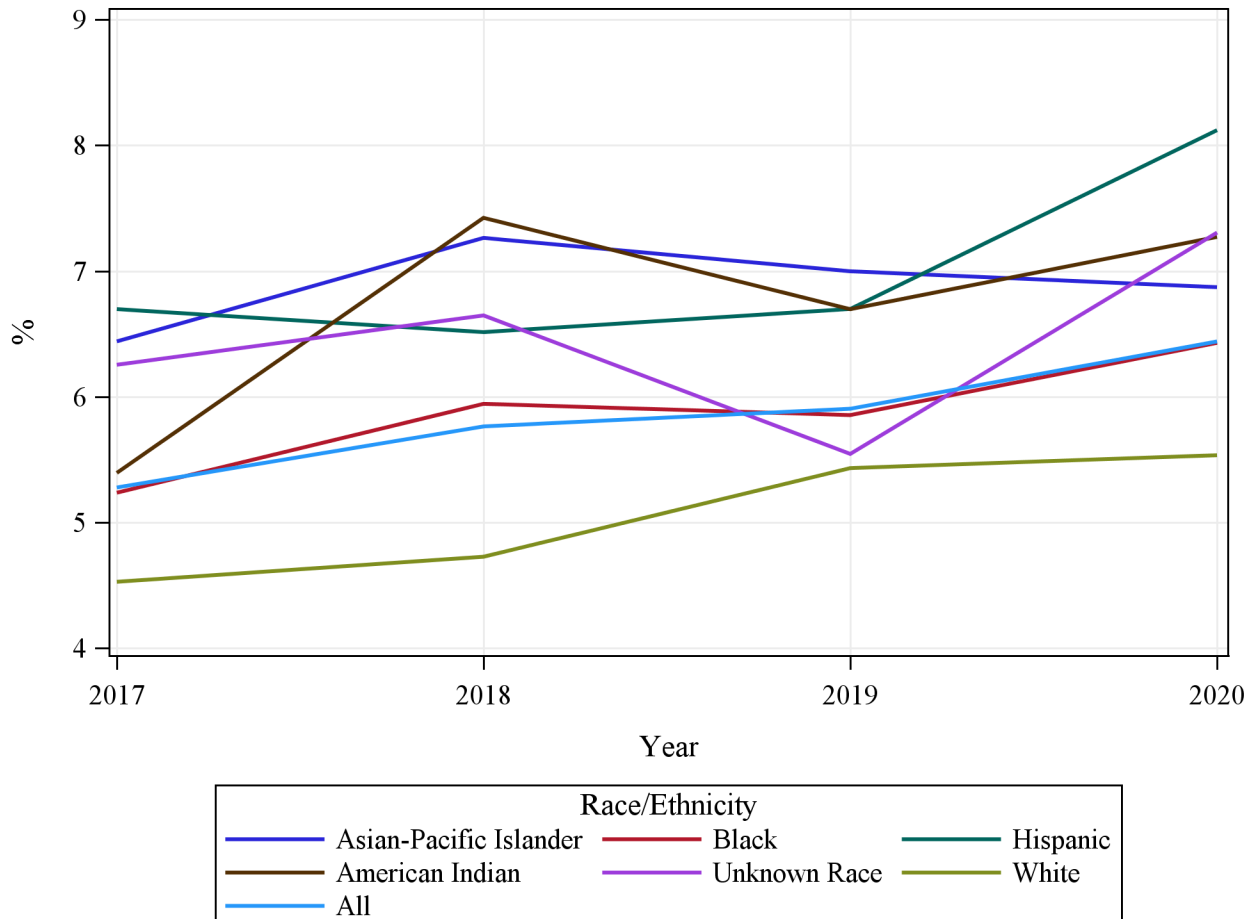
Figure 8b: Average number of post-partum visits within six weeks of delivery



Similar to prenatal visits, the average number of postpartum visits might be a better indicator of access to such care. For all women, the average number of post-partum visits within six weeks of delivery hovers around 1, with the highest average observed in 2017 at 1.23 visits per woman and the lowest average observed in 2020 at 1.15 visits per woman, which is a percent decrease of roughly 11.5%. For all race categories, the average falls between 2017 and 2018. The averages continue to fall from 2018 to 2019 for those in the unknown race category, Asian and Pacific Islander women, White women, and American Indian women. For all other groups, the average increases between 2018 and 2019, but never exceeds the averages observed in 2017. The averages across all groups of women continues to decrease in 2020, which has the lowest averages across all race/ethnicity groups, with averages between roughly 0.92 (White and American Indian women) and 1.4 (Hispanic women).

## Medical Assistance Program Post-Partum Hemorrhaging

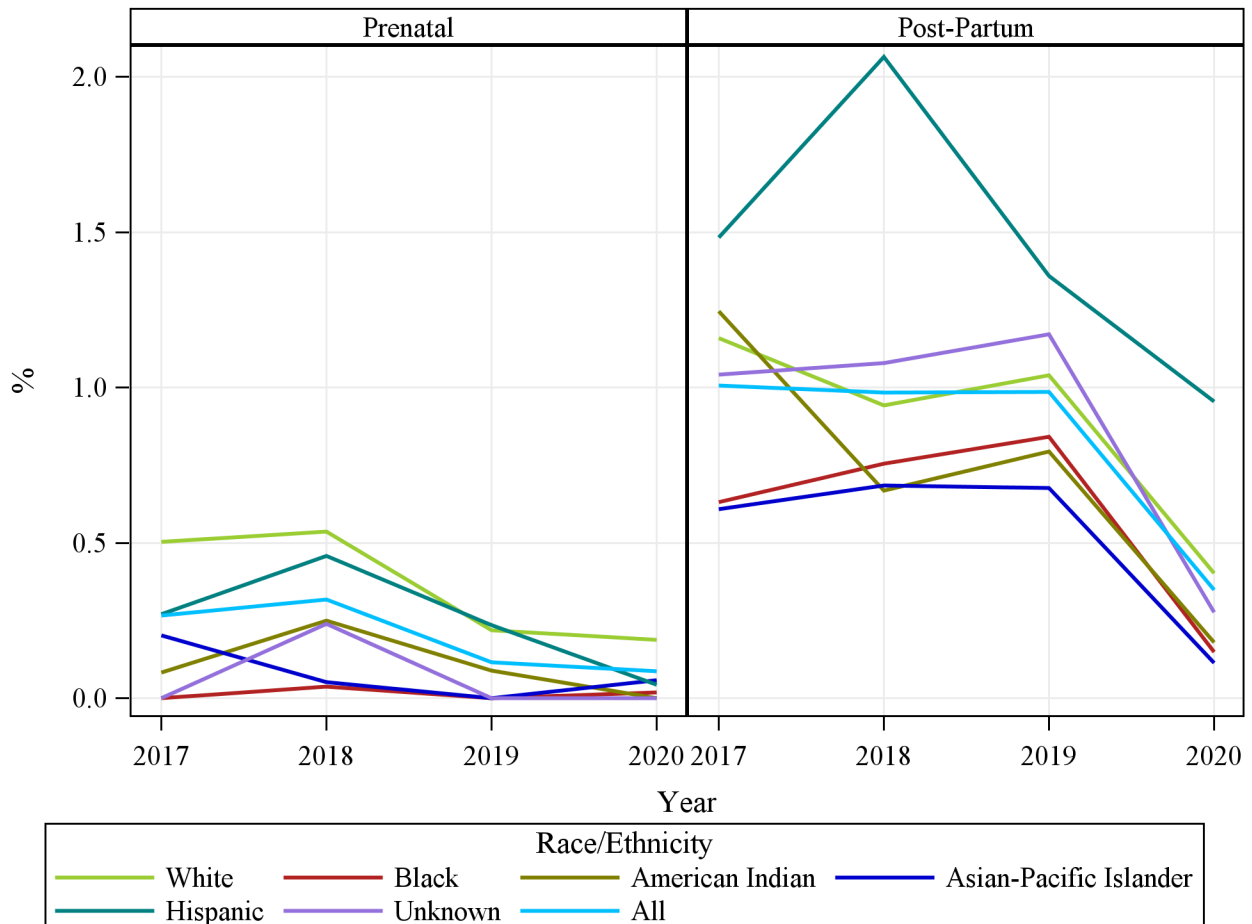
Figure 9: Percent of women who experienced post-partum hemorrhaging by race/ethnicity



Across all race groups and ethnicities, the rate of women who experienced post-partum hemorrhaging is greater in 2020 than 2017, but not by a large rate of change over time. This could indicate that it is happening more frequently, because it is being reported more frequently on medical claims, or some combination of both. American Indian women saw the biggest increase in that rate. Black, White and Hispanic women saw a similar increase rate of change. Asian and Pacific Islanders also saw rates trending upward over time. The Hispanic population, along with the 'unknown race' category, were the only groups to see a reduction in post-partum hemorrhaging rates. These decreases were most notable in 2018 for the Hispanic population and 2019 for those in the unknown race category. On average, across all years, American Indian, Asian and Pacific Islanders, and Hispanic women experienced the highest rate of post-partum hemorrhaging (7%). Black women and those in the unknown race category had an average rate of about 6% and White women had an average rate of about 5%. See table 'Post-Partum Hemorrhaging' in appendix A for more details.

## Medical Assistance Program Prenatal and Post-Partum Home Visits from a Public Health Nurse

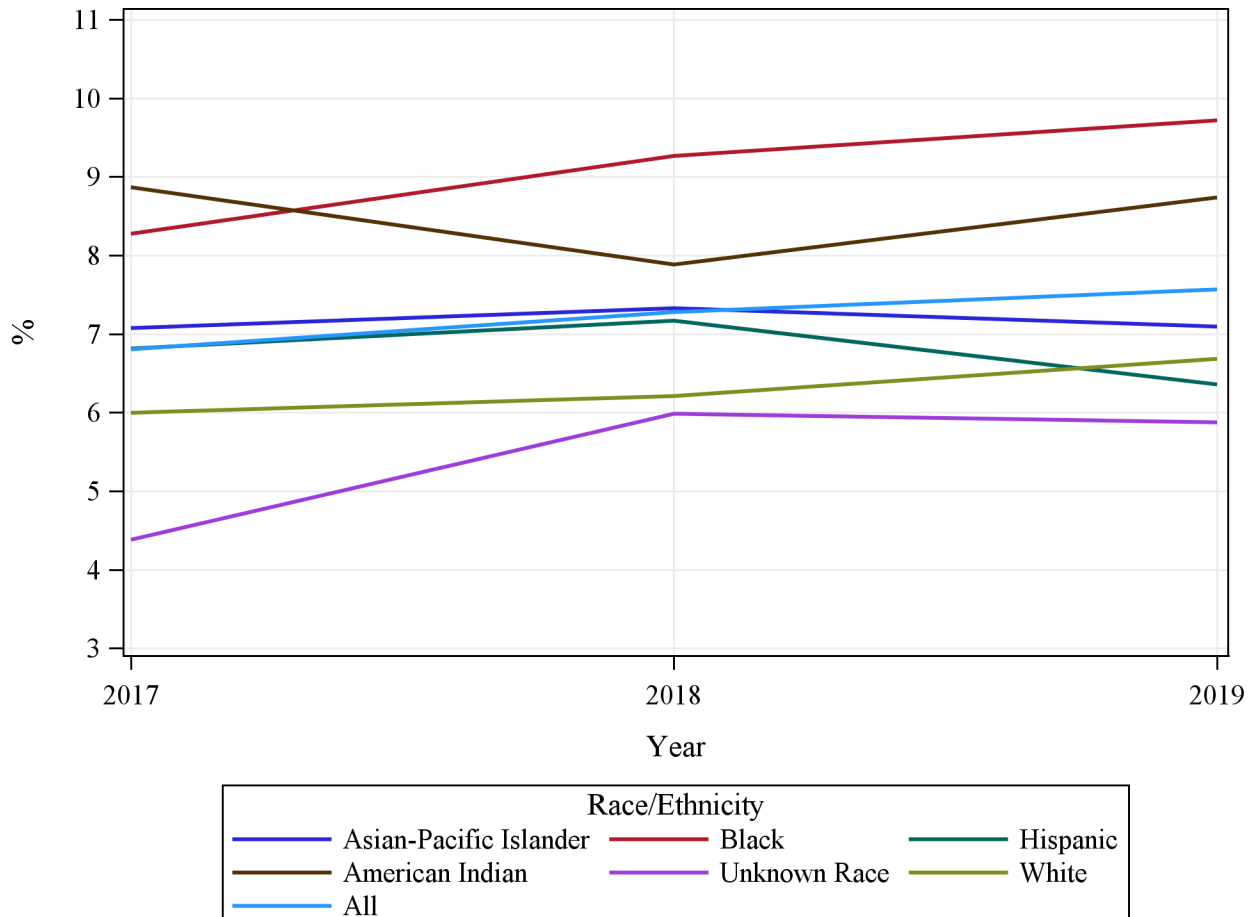
Figure 10: Percent of women receiving Prenatal and Post-Partum home visits by race and ethnicity



A very small percentage of women across all race and ethnicities received an at-home visit from a public health nurse between 2017 and 2020. It is possible these types of services are used more frequently but, like Doula services, can not be identified in claims data due to billing practices. The rate of women who had at least one of these visits peaked in 2018 for Hispanic women (2%). At home nurse visits appear to be more prevalent during the post-partum period than the prenatal period, across all groups. There does not appear to be a clear trend across years in either period for any of the groups considered; however, it is clear that during the post-partum period, at home public health nurse visits were lowest in 2020, across all groups. Nearly the same comment can be made for these visits during the prenatal period for all race and ethnicity groups, except for Asian and Pacific Islanders and Black women, who saw their lowest rates in 2019 (0%), and 2017 (0%) and 2019 (0%), respectively. The rate of women receiving a prenatal at home visit from a public health nurse across all racial groups peaked in 2018 for White women, with a rate of nearly 0.54%. See table 'Prenatal and Post-Partum Home Visits from a Public Health Nurse' in appendix A for more details.

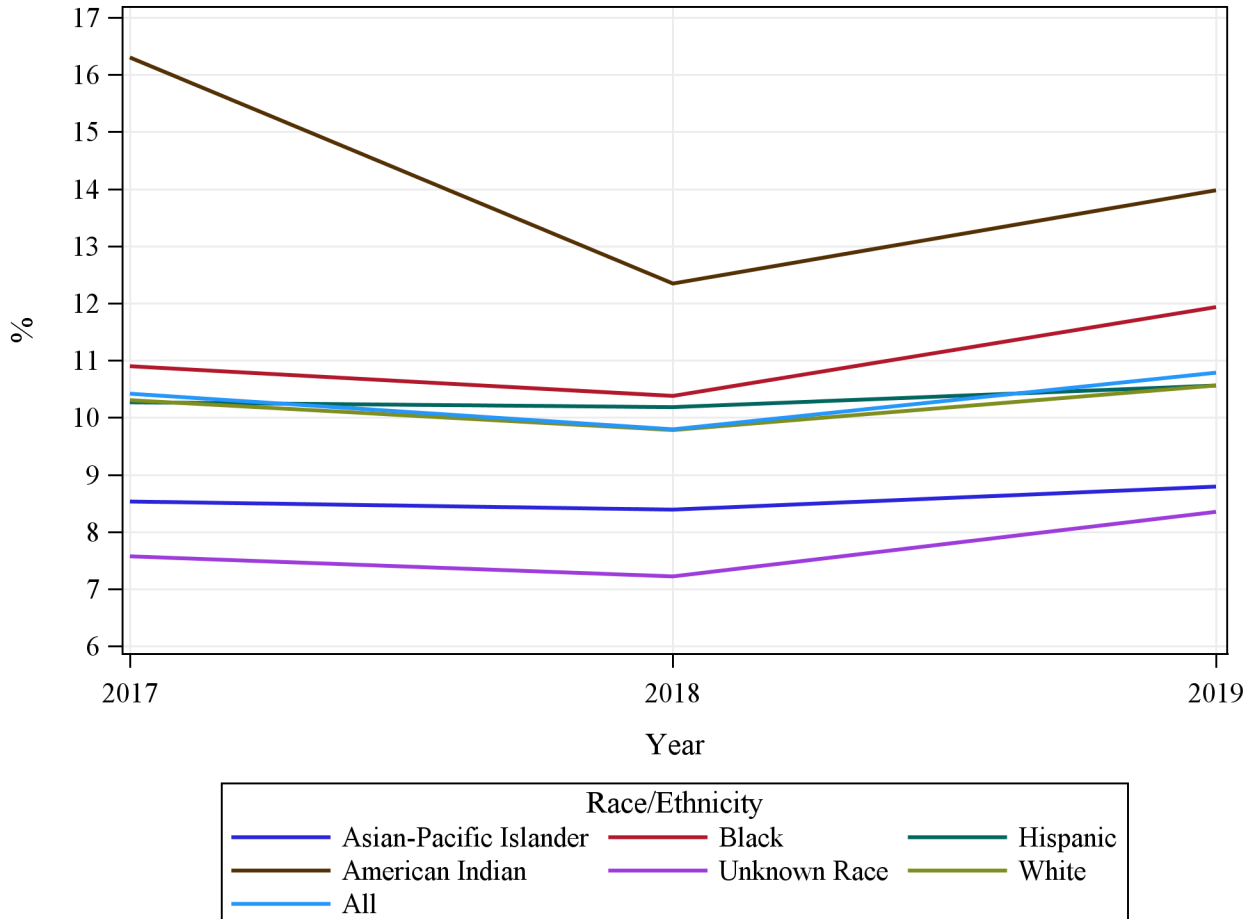
## Medical Assistance Program Premature or Low Birth Weight Newborns

Figure 8a: Percent of newborns born with low birth weight by race



For all women, between 2017 and 2019, the average rate of newborns born with a low birth rate is between 7%-8%. Black women experienced the highest rates in 2018 and 2019 with rates between 9% and 10%, respectively; American Indian women had the highest rate in 2017 (9%). Women in the unknown race category had the lowest rate across all years. White women had the second lowest rate across all years, with rates of 6% in 2017 and 2018 and a rate of 7% in 2019. American Indian and Hispanic women were the only groups to see a decrease in rates relative to 2017. For all other groups, the rates in 2018 and 2019 were greater than 2017. Asian and Pacific Islanders had a relatively consistent rate across all years, with rates of roughly 7%.

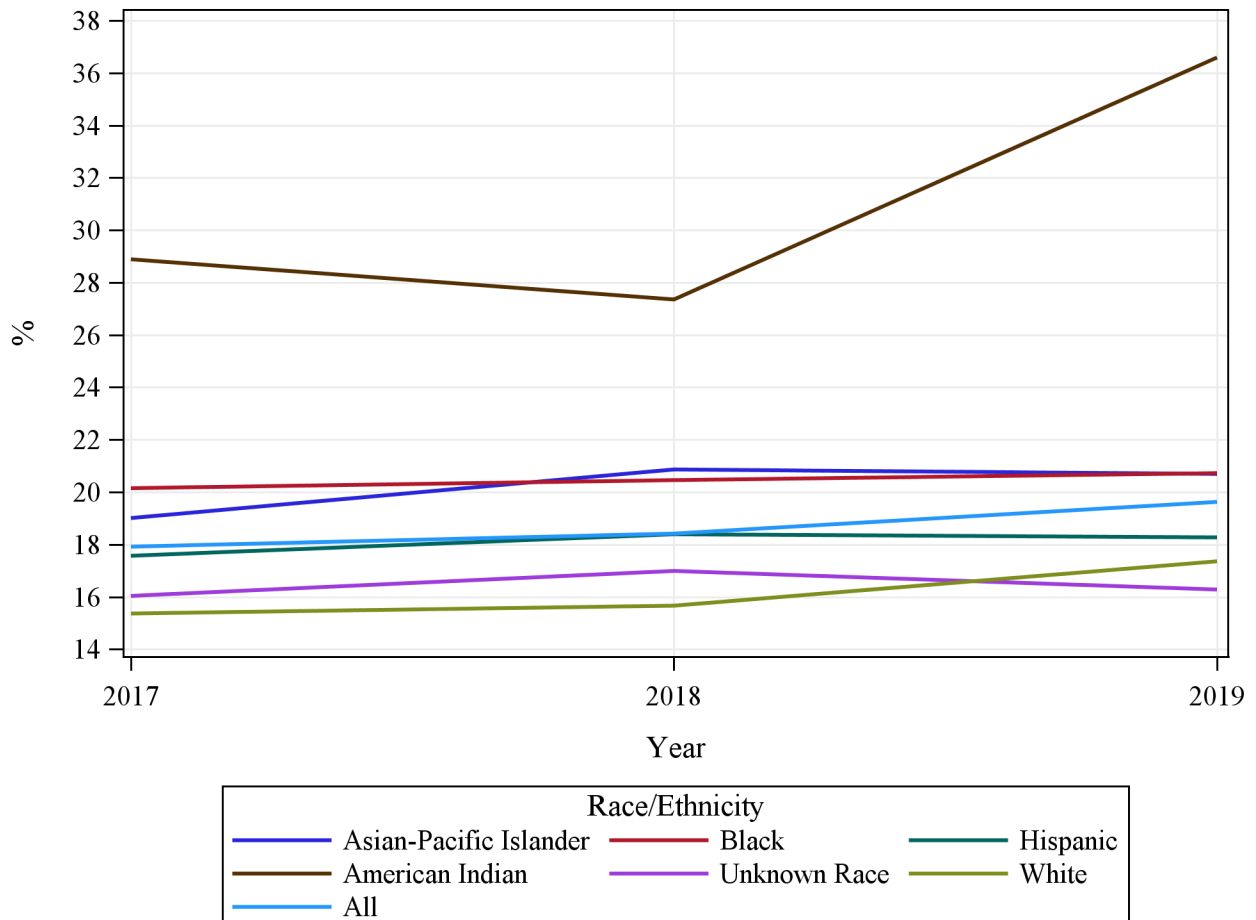
Figure 11b: Percent of newborns born prematurely by race



Overall, across all years, about 10% of newborns were born prematurely. American Indian women consistently have the highest rate of newborns born prematurely; with a rate of over 16% in 2017. In 2018, this rate decreased substantially to 12% but that rate remained greater than the rate for all women (10%) and increased to 14% in 2019. Black women had the second highest rates across all years; displaying similar trends to American Indian women. The rate for Black women was 11% in 2017, decreased slightly to 10%, and then increased to 12% in 2019. Hispanic and Asian and Pacific Islanders had the most consistent rates across all years, with very little difference over the three year period. Those in the unknown race category had the lowest rate across all years, with rates falling between 7.2% and 8.3%. Asian and Pacific Islanders had the second lowest rates, with rates lower than 8.8% between 2017 and 2019. Rates for White women followed the overall trend, with rates between 9.8% and 10.6%.

## Medical Assistance Program Neonatal Intensive Care Unit (NICU) Newborns

Figure 9: NICU newborns by race/ethnicity



Overall, regardless of race/ethnicity, the percent of women who gave birth to a child who spent time in the NICU remained relatively constant at about 18% in 2017 and 2018. In 2019, the rate increased to 20%. Relative to 2017, for all groups, except American Indian women in 2018, the rate of NICU newborns increased in 2018 and 2019. The rate of NICU newborns in the American Indian population was 29% in 2017. In 2018, that rate dropped to 27%, but increased sharply in 2019 to nearly 37% (nearly double that of all women, at 19%). In terms of trends over time, across all years, relative to all women, American Indian, Asian and Pacific Islander, and Black women had higher rates of NICU newborns. The average rate of newborns who spent time in the NICU across all years was highest for American Indian women (31%). The average rate for Asian and Pacific Islanders and Black women was 20%. White women, along with those in the unknown race category had an average rate of about 16%. See table 'Newborns who spent time in the NICU' in appendix A for more details.



## V. Conclusion

This report is intended to provide information to the legislature on receipt of services and birth health outcomes for pregnant and post-partum women enrolled in the medical assistance program. The information in this report is summarized by race/ethnicity to assist in identifying areas where disparities may exist.

In the analysis of this report, there was no attempt to evaluate the differences in rates over time or across demographic groups on the basis of statistical inference or statistical significance. These numbers represent the actual reported data, paid fee for service claims, and/or managed care encounters for the population of Medical Assistance beneficiaries who meet the reporting requirements (i.e., having had a live birth and live at the time of reporting). As such, the differences exist as part of the population of recipients in Medical Assistance. With groups of this size, the magnitude of the differences are more relevant factors on which to focus rather than statistical significance of those differences.

The observed trends across multiple measures suggest that there are few uniform patterns of disparity across all the reported items. There is no one single race or ethnic group that fairs worse or better on all items. Differences in disparity exist across each of the reported metrics but one cannot always say which group always fairs best or worst. However, in general terms, the American Indian population seems to regularly appear towards the lowest range of the performance spectrum on most indicators. Despite seemingly having more utilization of prenatal and postpartum services, Black and Hispanic women seem to have worse birth outcomes on many measures. While at first blush this is counter intuitive, it speaks to the impact of other factors that are not measured in medical claims data alone. In addition, the quality of the prenatal and postpartum visits these women receive is also not something that can be observed in claims data but could also be a contributing factor since volume of care does not necessarily translate to quality of care.

Numerous factors contribute to the differences observed in trends over time and between ethnic/racial groups seen in this report. It is important to remember that medical claims data such as those used in this report have many caveats, distinctions, and are often missing key pieces of information necessary to identify the true causes of these differences. This is because the primary purpose of claims data is to track a record of payer compensation to providers for services rendered. Factors such as environmental toxins, stable housing, food insecurity, comorbid medical conditions, disease severity, geographic variance in access to health care, provider enrollment rules, and socio-economic differences in the population of public health programs beneficiaries can be difficult, if not impossible to discern in these data alone.

DHS will supplement this report with a fall 2020 data update on low birth weight and neonatal intensive care as soon as the necessary data birth certificate data is made available. As required by statute, in 2024 DHS will replicate this report to show changes in these trends and disparities over time from the baseline years established in the current version.

## VI. Appendix A

### Tables

#### Demographic summary

Race/Ethnicity	Year	Number of women in MA w/CE by race/Ethnicity	Total number of women in MA w/CE	Percent of women in MA by race	Number of women in report by race	Total number of women in report	Percent of women in report by race
Asian-Pacific Islander	2017	19,742	257,606	7.66%	1,972	21,465	9.19%
Asian-Pacific Islander	2018	19,678	258,431	7.61%	1,900	20,837	9.12%
Asian-Pacific Islander	2019	18,433	244,107	7.55%	1,772	19,799	8.95%
Asian-Pacific Islander	2020	22,514	292,405	7.70%	1,761	19,458	9.05%
Black	2017	52,558	257,606	20.40%	5,385	21,465	25.09%
Black	2018	55,039	258,431	21.30%	5,300	20,837	25.44%
Black	2019	53,384	244,107	21.87%	5,347	19,799	27.01%
Black	2020	65,394	292,405	22.36%	5,367	19,458	27.58%
Hispanic	2017	20,160	257,606	7.83%	2,225	21,465	10.37%
Hispanic	2018	21,260	258,431	8.23%	2,180	20,837	10.46%
Hispanic	2019	21,043	244,107	8.62%	2,135	19,799	10.78%
Hispanic	2020	26,611	292,405	9.10%	2,303	19,458	11.84%
American Indian	2017	13,865	257,606	5.38%	1,205	21,465	5.61%
American Indian	2018	14,172	258,431	5.48%	1,199	20,837	5.75%
American Indian	2019	14,010	244,107	5.74%	1,135	19,799	5.73%
American Indian	2020	16,813	292,405	5.75%	1,114	19,458	5.73%
Unknown	2017	9,717	257,606	3.77%	1,535	21,465	7.15%
Unknown	2018	11,790	258,431	4.56%	1,670	20,837	8.01%

<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of women in MA w/CE by race/Ethnicity</b>	<b>Total number of women in MA w/CE</b>	<b>Percent of women in MA by race</b>	<b>Number of women in report by race</b>	<b>Total number of women in report</b>	<b>Percent of women in report by race</b>
Unknown	2019	10,961	244,107	4.49%	1,623	19,799	8.20%
Unknown	2020	13,441	292,405	4.60%	1,451	19,458	7.46%
White	2017	141,564	257,606	54.95%	9,143	21,465	42.59%
White	2018	136,492	258,431	52.82%	8,588	20,837	41.22%
White	2019	126,276	244,107	51.73%	7,787	19,799	39.33%
White	2020	147,632	292,405	50.49%	7,462	19,458	38.35%

## Deliveries

Race/Ethnicity	Year	Number of deliveries	Percent change relative to 2017	Percent of all deliveries
Asian-Pacific Islander	2017	1,972	.	9.19%
Asian-Pacific Islander	2018	1,900	-3.65%	9.12%
Asian-Pacific Islander	2019	1,772	-10.14%	8.95%
Asian-Pacific Islander	2020	1,761	-10.70%	9.05%
Black	2017	5,385	.	25.09%
Black	2018	5,300	-1.58%	25.44%
Black	2019	5,347	-0.71%	27.01%
Black	2020	5,367	-0.33%	27.58%
American Indian	2017	1,205	.	5.61%
American Indian	2018	1,199	-0.50%	5.75%
American Indian	2019	1,135	-5.81%	5.73%
American Indian	2020	1,114	-7.55%	5.73%
White	2017	9,143	.	42.59%
White	2018	8,588	-6.07%	41.22%
White	2019	7,787	-14.83%	39.33%
White	2020	7,462	-18.39%	38.35%
Hispanic	2017	2,225	.	10.37%
Hispanic	2018	2,180	-2.02%	10.46%
Hispanic	2019	2,135	-4.04%	10.78%
Hispanic	2020	2,303	3.51%	11.84%
Unknown Race	2017	1,535	.	7.15%
Unknown Race	2018	1,670	8.79%	8.01%

<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of deliveries</b>	<b>Percent change relative to 2017</b>	<b>Percent of all deliveries</b>
Unknown Race	2019	1,623	5.73%	8.20%
Unknown Race	2020	1,451	-5.47%	7.46%
All	2017	21,465	.	100.00%
All	2018	20,837	-2.93%	100.00%
All	2019	19,799	-7.76%	100.00%
All	2020	19,458	-9.35%	100.00%

## Prenatal Visits – Any Visits

Race/Ethnicity	Year	Number of deliveries	Number of women who received at least one prenatal visit prior to delivery	Percent of women who received at least one prenatal visit prior to delivery	Change relative to 2017	Change relative to total population	Average across all years
All	2017	21,465	20,405	95%	.	.	95%
All	2018	20,837	19,726	95%	-0.41%	.	95%
All	2019	19,799	18,727	95%	-0.50%	.	95%
All	2020	19,458	18,385	94%	-0.61%	.	95%
American Indian	2017	1,205	1,149	95%	.	0.31%	95%
American Indian	2018	1,199	1,143	95%	-0.02%	0.70%	95%
American Indian	2019	1,135	1,075	95%	-0.67%	0.14%	95%
American Indian	2020	1,114	1,044	94%	-1.72%	-0.81%	95%
Asian-Pacific Islander	2017	1,972	1,865	95%	.	-0.51%	94%
Asian-Pacific Islander	2018	1,900	1,805	95%	0.45%	0.35%	94%
Asian-Pacific Islander	2019	1,772	1,677	95%	0.07%	0.06%	94%
Asian-Pacific Islander	2020	1,761	1,643	93%	-1.35%	-1.26%	94%
Black	2017	5,385	5,273	98%	.	3.01%	97%
Black	2018	5,300	5,145	97%	-0.86%	2.54%	97%
Black	2019	5,347	5,203	97%	-0.63%	2.88%	97%
Black	2020	5,367	5,216	97%	-0.75%	2.86%	97%
Hispanic	2017	2,225	2,142	96%	.	1.27%	96%
Hispanic	2018	2,180	2,089	96%	-0.46%	1.22%	96%
Hispanic	2019	2,135	2,032	95%	-1.14%	0.62%	96%
Hispanic	2020	2,303	2,203	96%	-0.64%	1.24%	96%

Race/Ethnicity	Year	Number of deliveries	Number of women who received at least one prenatal visit prior to delivery	Percent of women who received at least one prenatal visit prior to delivery	Change relative to 2017	Change relative to total population	Average across all years
Unknown Race	2017	1,535	1,475	96%	.	1.08%	95%
Unknown Race	2018	1,670	1,609	96%	0.27%	1.77%	95%
Unknown Race	2019	1,623	1,535	95%	-1.57%	-0.01%	95%
Unknown Race	2020	1,451	1,375	95%	-1.38%	0.29%	95%
White	2017	9,143	8,501	93%	.	-2.19%	93%
White	2018	8,588	7,935	92%	-0.63%	-2.40%	93%
White	2019	7,787	7,205	93%	-0.49%	-2.18%	93%
White	2020	7,462	6,904	93%	-0.49%	-2.08%	93%

## Prenatal Visits – Average Visits

Race/Ethnicity	Year	Number of deliveries	Total number of prenatal visits	Average number of prenatal visits per woman	change relative to 2017	change relative to total population	Average across all years
All	2017	21,465	209,572	9.76	.	.	
All	2018	20,837	196,801	9.44	-3.26%	.	
All	2019	19,799	182,179	9.20	-5.76%	.	
All	2020	19,458	173,832	8.93	-8.50%	.	
American Indian	2017	1,205	11,320	9.39	.	-3.78%	8.88
American Indian	2018	1,199	11,150	9.30	-1.01%	-1.54%	8.88
American Indian	2019	1,135	9,874	8.70	-7.40%	-5.46%	8.88

Race/Ethnicity	Year	Number of deliveries	Total number of prenatal visits	Average number of prenatal visits per woman	change relative to 2017	change relative to total population	Average across all years
American Indian	2020	1,114	9,049	8.12	-13.53%	-9.07%	8.88
Asian-Pacific Islander	2017	1,972	16,772	8.50	.	-12.89%	8.21
Asian-Pacific Islander	2018	1,900	15,705	8.27	-2.81%	-12.48%	8.21
Asian-Pacific Islander	2019	1,772	14,360	8.10	-4.72%	-11.93%	8.21
Asian-Pacific Islander	2020	1,761	14,036	7.97	-6.29%	-10.79%	8.21
Black	2017	5,385	55,667	10.34	.	5.88%	9.78
Black	2018	5,300	52,706	9.94	-3.80%	5.29%	9.78
Black	2019	5,347	51,739	9.68	-6.40%	5.16%	9.78
Black	2020	5,367	49,170	9.16	-11.37%	2.55%	9.78
Hispanic	2017	2,225	24,331	10.94	.	12.00%	10.34
Hispanic	2018	2,180	22,834	10.47	-4.21%	10.90%	10.34
Hispanic	2019	2,135	21,597	10.12	-7.49%	9.94%	10.34
Hispanic	2020	2,303	22,648	9.83	-10.07%	10.08%	10.34
Unknown Race	2017	1,535	16,662	10.85	.	11.18%	10.17
Unknown Race	2018	1,670	17,775	10.64	-1.95%	12.69%	10.17
Unknown Race	2019	1,623	15,866	9.78	-9.94%	6.24%	10.17
Unknown Race	2020	1,451	13,628	9.39	-13.48%	5.13%	10.17
White	2017	9,143	84,821	9.28	.	-4.98%	8.94
White	2018	8,588	76,631	8.92	-3.82%	-5.52%	8.94
White	2019	7,787	68,745	8.83	-4.84%	-4.06%	8.94
White	2020	7,462	65,302	8.75	-5.67%	-2.04%	8.94



## Cesarean Section Deliveries

Race/Ethnicity	Year	Number of deliveries	Number of women who delivered at least one live infant via cesarean section	Percent of women who delivered at least one live infant via cesarean section	Change relative to 2017	Change relative to total population	Average across all years
All	2017	21,465	5,530	26%	.	.	26%
All	2018	20,837	5,354	26%	-0.26%	.	26%
All	2019	19,799	5,234	26%	2.61%	.	26%
All	2020	19,458	5,383	28%	7.38%	.	26%
American Indian	2017	1,205	347	29%	.	11.78%	30%
American Indian	2018	1,199	352	29%	1.95%	14.26%	30%
American Indian	2019	1,135	356	31%	8.92%	18.65%	30%
American Indian	2020	1,114	351	32%	9.42%	13.89%	30%
Asian-Pacific Islander	2017	1,972	282	14%	.	-44.49%	14%
Asian-Pacific Islander	2018	1,900	265	14%	-2.47%	-45.72%	14%
Asian-Pacific Islander	2019	1,772	243	14%	-4.10%	-48.13%	14%
Asian-Pacific Islander	2020	1,761	276	16%	9.60%	-43.35%	14%
Black	2017	5,385	1,450	27%	.	4.52%	28%
Black	2018	5,300	1,486	28%	4.13%	9.12%	28%
Black	2019	5,347	1,546	29%	7.38%	9.37%	28%
Black	2020	5,367	1,593	30%	10.23%	7.29%	28%
Hispanic	2017	2,225	561	25%	.	-2.13%	26%
Hispanic	2018	2,180	551	25%	0.24%	-1.63%	26%

<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of deliveries</b>	<b>Number of women who delivered at least one live infant via cesarean section</b>	<b>Percent of women who delivered at least one live infant via cesarean section</b>	<b>Change relative to 2017</b>	<b>Change relative to total population</b>	<b>Average across all years</b>
Hispanic	2019	2,135	580	27%	7.75%	2.76%	26%
Hispanic	2020	2,303	640	28%	10.22%	0.45%	26%
Unknown Race	2017	1,535	347	23%	.	-12.25%	24%
Unknown Race	2018	1,670	401	24%	6.22%	-6.55%	24%
Unknown Race	2019	1,623	389	24%	6.03%	-9.33%	24%
Unknown Race	2020	1,451	388	27%	18.29%	-3.34%	24%
White	2017	9,143	2,543	28%	.	7.96%	28%
White	2018	8,588	2,299	27%	-3.75%	4.18%	28%
White	2019	7,787	2,120	27%	-2.12%	2.99%	28%
White	2020	7,462	2,135	29%	2.87%	3.42%	28%

## Doula Services

Race/Ethnicity	Year	Number of deliveries	Number of women who received at least one doula service	Percent of women who received at least one doula service	Change relative to 2017	Change relative to total population	Average across all years
All	2017	21,465	197	0.92%	.	.	1%
All	2018	20,837	294	1.41%	53.74%	.	1%
All	2019	19,799	267	1.35%	46.94%	.	1%
All	2020	19,458	307	1.58%	71.91%	.	1%
American Indian	2017	1,205	7	0.58%	.	-36.70%	1%
American Indian	2018	1,199	13	1.08%	86.64%	-23.16%	1%
American Indian	2019	1,135	7	0.62%	6.17%	-54.27%	1%
American Indian	2020	1,114	8	0.72%	23.62%	-54.48%	1%
Asian-Pacific Islander	2017	1,972	8	0.41%	.	-55.80%	1%
Asian-Pacific Islander	2018	1,900	18	0.95%	133.53%	-32.86%	1%
Asian-Pacific Islander	2019	1,772	9	0.51%	25.20%	-62.34%	1%
Asian-Pacific Islander	2020	1,761	11	0.62%	53.98%	-60.41%	1%
Black	2017	5,385	77	1.43%	.	55.80%	2%
Black	2018	5,300	95	1.79%	25.36%	27.04%	2%
Black	2019	5,347	103	1.93%	34.72%	42.84%	2%
Black	2020	5,367	121	2.25%	57.67%	42.89%	2%
Hispanic	2017	2,225	25	1.12%	.	22.43%	2%
Hispanic	2018	2,180	38	1.74%	55.14%	23.54%	2%
Hispanic	2019	2,135	38	1.78%	58.41%	31.98%	2%

<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of deliveries</b>	<b>Number of women who received at least one doula service</b>	<b>Percent of women who received at least one doula service</b>	<b>Change relative to 2017</b>	<b>Change relative to total population</b>	<b>Average across all years</b>
Hispanic	2020	2,303	38	1.65%	46.85%	4.58%	2%
Unknown Race	2017	1,535	17	1.11%	.	20.67%	2%
Unknown Race	2018	1,670	25	1.50%	35.17%	6.10%	2%
Unknown Race	2019	1,623	26	1.60%	44.65%	18.79%	2%
Unknown Race	2020	1,451	34	2.34%	111.58%	48.52%	2%
White	2017	9,143	63	0.69%	.	-24.92%	1%
White	2018	8,588	105	1.22%	77.44%	-13.35%	1%
White	2019	7,787	84	1.08%	56.55%	-20.01%	1%
White	2020	7,462	95	1.27%	84.76%	-19.31%	1%

## Post-Partum Visits – Any Visits

Race/Ethnicity	Year	Number of deliveries	Number of women who received at least one post-partum service following delivery	Percent of women who received at least one post-partum service following delivery	Change relative to 2017	Change relative to total population	Average across all years
All	2017	21,465	14,977	70%	.	.	68%
All	2018	20,837	14,130	68%	-2.81%	.	68%
All	2019	19,799	13,405	68%	-2.96%	.	68%
All	2020	19,458	12,726	65%	-6.27%	.	68%
American Indian	2017	1,205	778	65%	.	-7.47%	62%
American Indian	2018	1,199	773	64%	-0.15%	-4.93%	62%
American Indian	2019	1,135	712	63%	-2.84%	-7.35%	62%
American Indian	2020	1,114	641	58%	-10.88%	-12.02%	62%
Asian-Pacific Islander	2017	1,972	1,293	66%	.	-6.03%	64%
Asian-Pacific Islander	2018	1,900	1,236	65%	-0.79%	-4.07%	64%
Asian-Pacific Islander	2019	1,772	1,172	66%	0.87%	-2.31%	64%
Asian-Pacific Islander	2020	1,761	1,065	60%	-7.76%	-7.53%	64%
Black	2017	5,385	4,004	74%	.	6.56%	73%
Black	2018	5,300	3,799	72%	-3.60%	5.70%	73%
Black	2019	5,347	3,958	74%	-0.45%	9.33%	73%
Black	2020	5,367	3,853	72%	-3.45%	9.77%	73%
Hispanic	2017	2,225	1,713	77%	.	10.34%	75%
Hispanic	2018	2,180	1,635	75%	-2.58%	10.60%	75%
Hispanic	2019	2,135	1,570	74%	-4.48%	8.61%	75%

Race/Ethnicity	Year	Number of deliveries	Number of women who received at least one post-partum service following delivery	Percent of women who received at least one post-partum service following delivery	Change relative to 2017	Change relative to total population	Average across all years
Hispanic	2020	2,303	1,687	73%	-4.85%	12.00%	75%
Unknown Race	2017	1,535	1,169	76%	.	9.15%	73%
Unknown Race	2018	1,670	1,243	74%	-2.27%	9.76%	73%
Unknown Race	2019	1,623	1,141	70%	-7.69%	3.83%	73%
Unknown Race	2020	1,451	1,042	72%	-5.70%	9.80%	73%
White	2017	9,143	6,020	66%	.	-5.63%	63%
White	2018	8,588	5,444	63%	-3.72%	-6.52%	63%
White	2019	7,787	4,852	62%	-5.37%	-7.97%	63%
White	2020	7,462	4,438	59%	-9.67%	-9.06%	63%

## Post-Partum Visits – Average Number of Visits

Race/Ethnicity	Year	Number of women	Total number of post-partum visits	Average number of post-partum visits	change relative to 2017	change relative to total population	Average across all years
All	2017	21,465	26,445	1.23	.	.	1.16
All	2018	20,837	24,001	1.15	-6.51%	.	1.16
All	2019	19,799	22,941	1.16	-5.95%	.	1.16
All	2020	19,458	21,203	1.09	-11.55%	.	1.16
American Indian	2017	1,205	1,300	1.08	.	-12.43%	1.01
American Indian	2018	1,199	1,249	1.04	-3.44%	-9.56%	1.01
American Indian	2019	1,135	1,121	0.99	-8.45%	-14.76%	1.01

Race/Ethnicity	Year	Number of women	Total number of post-partum visits	Average number of post-partum visits	change relative to 2017	change relative to total population	Average across all years
American Indian	2020	1,114	1,032	0.93	-14.13%	-14.99%	1.01
Asian-Pacific Islander	2017	1,972	2,224	1.13	.	-8.46%	1.06
Asian-Pacific Islander	2018	1,900	2,113	1.11	-1.39%	-3.45%	1.06
Asian-Pacific Islander	2019	1,772	1,878	1.06	-6.03%	-8.53%	1.06
Asian-Pacific Islander	2020	1,761	1,671	0.95	-15.86%	-12.92%	1.06
Black	2017	5,385	7,088	1.32	.	6.84%	1.26
Black	2018	5,300	6,467	1.22	-7.30%	5.93%	1.26
Black	2019	5,347	6,887	1.29	-2.15%	11.16%	1.26
Black	2020	5,367	6,516	1.21	-7.76%	11.42%	1.26
Hispanic	2017	2,225	3,394	1.53	.	23.81%	1.45
Hispanic	2018	2,180	3,095	1.42	-6.93%	23.26%	1.45
Hispanic	2019	2,135	3,100	1.45	-4.81%	25.31%	1.45
Hispanic	2020	2,303	3,239	1.41	-7.80%	29.07%	1.45
Unknown Race	2017	1,535	2,373	1.55	.	25.48%	1.40
Unknown Race	2018	1,670	2,361	1.41	-8.55%	22.74%	1.40
Unknown Race	2019	1,623	2,185	1.35	-12.92%	16.19%	1.40
Unknown Race	2020	1,451	1,885	1.30	-15.97%	19.22%	1.40
White	2017	9,143	10,066	1.10	.	-10.64%	1.01
White	2018	8,588	8,716	1.01	-7.82%	-11.89%	1.01
White	2019	7,787	7,770	1.00	-9.37%	-13.88%	1.01
White	2020	7,462	6,860	0.92	-16.50%	-15.63%	1.01

## Post-Partum Hemorrhaging

Race/Ethnicity	Year	Number of deliveries	Number of women who experienced post-partum hemorrhaging following pregnancy	Percent of women who experienced post-partum hemorrhaging following pregnancy	Change relative to 2017	Change relative to total population	Average across all years
All	2017	21,465	1,133	5%	.	.	6%
All	2018	20,837	1,201	6%	9.20%	.	6%
All	2019	19,799	1,169	6%	11.86%	.	6%
All	2020	19,458	1,253	6%	22.00%	.	6%
American Indian	2017	1,205	65	5%	.	2.19%	7%
American Indian	2018	1,199	89	7%	37.61%	28.78%	7%
American Indian	2019	1,135	76	7%	24.13%	13.41%	7%
American Indian	2020	1,114	81	7%	34.79%	12.91%	7%
Asian-Pacific Islander	2017	1,972	127	6%	.	22.01%	7%
Asian-Pacific Islander	2018	1,900	138	7%	12.78%	26.01%	7%
Asian-Pacific Islander	2019	1,772	124	7%	8.66%	18.52%	7%
Asian-Pacific Islander	2020	1,761	121	7%	6.69%	6.70%	7%
Black	2017	5,385	282	5%	.	-0.79%	6%
Black	2018	5,300	315	6%	13.49%	3.12%	6%
Black	2019	5,347	313	6%	11.78%	-0.86%	6%
Black	2020	5,367	345	6%	22.75%	-0.18%	6%
Hispanic	2017	2,225	149	7%	.	26.87%	7%
Hispanic	2018	2,180	142	7%	-2.73%	13.01%	7%
Hispanic	2019	2,135	143	7%	0.02%	13.44%	7%
Hispanic	2020	2,303	187	8%	21.25%	26.09%	7%



<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of deliveries</b>	<b>Number of women who experienced post-partum hemorrhaging following pregnancy</b>	<b>Percent of women who experienced post-partum hemorrhaging following pregnancy</b>	<b>Change relative to 2017</b>	<b>Change relative to total population</b>	<b>Average across all years</b>
Unknown Race	2017	1,535	96	6%	.	18.49%	6%
Unknown Race	2018	1,670	111	7%	6.28%	15.32%	6%
Unknown Race	2019	1,623	90	6%	-11.33%	-6.08%	6%
Unknown Race	2020	1,451	106	7%	16.81%	13.45%	6%
White	2017	9,143	414	5%	.	-14.21%	5%
White	2018	8,588	406	5%	4.41%	-17.98%	5%
White	2019	7,787	423	5%	19.97%	-8.00%	5%
White	2020	7,462	413	6%	22.23%	-14.05%	5%

## Prenatal and Post-Partum Home Visits from a Public Health Nurse

Race/Ethnicity	Year	Number of deliveries	Number of prenatal services	Prenatal %	Change PreNat relative to 2017, in %	Change PreNat relative to total population, in %	Number of prenatal services	Post-Partum %	Change PostPartum relative to 2017 in %	Change PostPartum relative to total population in %
All	2017	21,465	57	0.27	.	.	216	1.01	.	.
All	2018	20,837	66	0.32	19.28	.	205	0.98	-2.23	.
All	2019	19,799	23	0.12	-56.25	.	195	0.98	-2.13	.
All	2020	19,458	17	0.09	-67.1	.	68	0.35	-65.27	.
American Indian	2017	1,205	1	0.08	.	-68.75	15	1.24	.	23.7
American Indian	2018	1,199	3	0.25	201.5	-21.01	8	0.67	-46.4	-32.18
American Indian	2019	1,135	1	0.09	6.17	-24.16	9	0.79	-36.3	-19.49
American Indian	2020	1,114	0	0	-100	-100	2	0.18	-85.58	-48.63
Asian-Pacific Islander	2017	1,972	4	0.2	.	-23.61	12	0.61	.	-39.53
Asian-Pacific Islander	2018	1,900	1	0.05	-74.05	-83.38	13	0.68	12.44	-30.45
Asian-Pacific Islander	2019	1,772	0	0	-100	-100	12	0.68	11.29	-31.24
Asian-Pacific Islander	2020	1,761	1	0.06	-72	-35	2	0.11	-81.34	-67.5
Black	2017	5,385	0	0	.	-100	34	0.63	.	-37.26
Black	2018	5,300	2	0.04	.	-88.09	40	0.75	19.53	-23.29
Black	2019	5,347	0	0	.	-100	45	0.84	33.29	-14.55
Black	2020	5,367	1	0.02	.	-78.67	8	0.15	-76.39	-57.35
Hispanic	2017	2,225	6	0.27	.	1.55	33	1.48	.	47.39
Hispanic	2018	2,180	10	0.46	70.11	44.82	45	2.06	39.18	109.82

Race/Ethnicity	Year	Number of deliveries	Number of prenatal services	Prenatal %	Change PreNat relative to 2017, in %	Change PreNat relative to total population, in %	Number of prenatal services	Post-Partum %	Change PostPartum relative to 2017 in %	Change PostPartum relative to total population in %
Hispanic	2019	2,135	5	0.23	-13.15	101.6	29	1.36	-8.42	37.91
Hispanic	2020	2,303	1	0.04	-83.9	-50.3	22	0.96	-35.59	173.35
Unknown	2017	1,535	0	0	.	-100	16	1.04	.	3.58
Unknown	2018	1,670	4	0.24	.	-24.38	18	1.08	3.41	9.56
Unknown	2019	1,623	0	0	.	-100	19	1.17	12.31	18.86
Unknown	2020	1,451	0	0	.	-100	4	0.28	-73.55	-21.12
White	2017	9,143	46	0.5	.	89.46	106	1.16	.	15.21
White	2018	8,588	46	0.54	6.46	69.11	81	0.94	-18.65	-4.13
White	2019	7,787	17	0.22	-56.61	87.93	81	1.04	-10.28	5.61
White	2020	7,462	14	0.19	-62.71	114.74	30	0.4	-65.32	15.04

## Low birth weight newborns

Race/Ethnicity	Year	Number of women who delivered at least one live newborn and whose infant is identified by Medicaid-claims data	Total number of Medicaid-covered infants born to a mother covered by a MHCP	Number of newborns born with LBW	Percent of newborns born with LBW	Change relative to 2017	Change relative to total population	Avg across all years
All	2017	19,460	19,754	1,344	7%	.	.	7%
All	2018	18,866	19,143	1,393	7%	6.95%	.	7%
All	2019	18,105	18,386	1,391	8%	11.20%	.	7%
American Indian	2017	1,025	1,049	93	9%	.	30.31%	8%
American Indian	2018	1,031	1,053	83	8%	-11.09%	8.32%	8%
American Indian	2019	962	973	85	9%	-1.46%	15.47%	8%
Asian-Pacific Islander	2017	1,839	1,852	131	7%	.	3.96%	7%
Asian-Pacific Islander	2018	1,771	1,788	131	7%	3.58%	0.68%	7%
Asian-Pacific Islander	2019	1,687	1,706	121	7%	0.27%	-6.25%	7%
Black	2017	4,953	5,028	416	8%	.	21.61%	9%
Black	2018	4,844	4,933	457	9%	11.97%	27.31%	9%
Black	2019	4,952	5,053	491	10%	17.44%	28.44%	9%
Hispanic	2017	2,023	2,055	140	7%	.	0.13%	7%
Hispanic	2018	1,993	2,023	145	7%	5.21%	-1.50%	7%
Hispanic	2019	1,974	1,998	127	6%	-6.70%	-15.98%	7%
Unknown Race	2017	1,336	1,347	59	4%	.	-35.62%	5%
Unknown Race	2018	1,437	1,454	87	6%	36.61%	-17.77%	5%
Unknown Race	2019	1,396	1,413	83	6%	34.11%	-22.36%	5%
White	2017	8,284	8,423	505	6%	.	-11.88%	6%

<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of women who delivered at least one live newborn and whose infant is identified by Medicaid-claims data</b>	<b>Total number of Medicaid-covered infants born to a mother covered by a MHCP</b>	<b>Number of newborns born with LBW</b>	<b>Percent of newborns born with LBW</b>	<b>Change relative to 2017</b>	<b>Change relative to total population</b>	<b>Avg across all years</b>
White	2018	7,790	7,892	490	6%	3.56%	-14.68%	6%
White	2019	7,134	7,243	484	7%	11.46%	-11.67%	6%

## Newborns born prematurely

Race/Ethnicity	Year	Number of women who delivered at least one live newborn and whose infant is identified by Medicaid-claims data	Total number of Medicaid-covered infants born to a mother covered by a MHCP	Number of newborns born prematurely	Percent of newborns born prematurely	Change relative to 2017	Change relative to total population	Avg across all years
All	2017	19,460	19,754	2,058	10%	.	.	10%
All	2018	18,866	19,143	1,875	10%	-5.98%	.	10%
All	2019	18,105	18,386	1,983	11%	3.52%	.	10%
American Indian	2017	1,025	1,049	171	16%	.	56.47%	14%
American Indian	2018	1,031	1,053	130	12%	-24.27%	26.04%	14%
American Indian	2019	962	973	136	14%	-14.26%	29.60%	14%
Asian-Pacific Islander	2017	1,839	1,852	158	9%	.	-18.11%	9%
Asian-Pacific Islander	2018	1,771	1,788	150	8%	-1.67%	-14.35%	9%
Asian-Pacific Islander	2019	1,687	1,706	150	9%	3.06%	-18.48%	9%
Black	2017	4,953	5,028	548	11%	.	4.62%	11%
Black	2018	4,844	4,933	512	10%	-4.77%	5.97%	11%
Black	2019	4,952	5,053	603	12%	9.49%	10.65%	11%
Hispanic	2017	2,023	2,055	211	10%	.	-1.44%	10%
Hispanic	2018	1,993	2,023	206	10%	-0.83%	3.96%	10%
Hispanic	2019	1,974	1,998	211	11%	2.85%	-2.08%	10%
Unknown Race	2017	1,336	1,347	102	8%	.	-27.32%	8%
Unknown Race	2018	1,437	1,454	105	7%	-4.63%	-26.27%	8%
Unknown Race	2019	1,396	1,413	118	8%	10.28%	-22.57%	8%
White	2017	8,284	8,423	868	10%	.	-1.08%	10%

<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of women who delivered at least one live newborn and whose infant is identified by Medicaid-claims data</b>	<b>Total number of Medicaid-covered infants born to a mother covered by a MHCP</b>	<b>Number of newborns born prematurely</b>	<b>Percent of newborns born prematurely</b>	<b>Change relative to 2017</b>	<b>Change relative to total population</b>	<b>Avg across all years</b>
White	2018	7,790	7,892	772	10%	-5.08%	-0.13%	10%
White	2019	7,134	7,243	765	11%	2.49%	-2.07%	10%

## Newborns who spent time in the NICU

Race/Ethnicity	Year	Number of women who delivered at least one live newborn and whose infant is identified by Medicaid-claims data	Total number of Medicaid-covered infants born to a mother covered by a MHCP	Number of newborns who spent time in the NICU	Percent of newborns who spent time in the NICU	Change relative to 2017	Change relative to total population	Avg across all years
All	2017	19,460	19,754	3,539	18%	.	.	19%
All	2018	18,866	19,143	3,525	18%	2.78%	.	19%
All	2019	18,105	18,386	3,608	20%	9.54%	.	19%
American Indian	2017	1,025	1,049	303	29%	.	61.23%	31%
American Indian	2018	1,031	1,053	288	27%	-5.31%	48.53%	31%
American Indian	2019	962	973	356	37%	26.67%	86.45%	31%
Asian-Pacific Islander	2017	1,839	1,852	352	19%	.	6.09%	20%
Asian-Pacific Islander	2018	1,771	1,788	373	21%	9.76%	13.29%	20%
Asian-Pacific Islander	2019	1,687	1,706	353	21%	8.87%	5.44%	20%
Black	2017	4,953	5,028	1,013	20%	.	12.46%	20%
Black	2018	4,844	4,933	1,009	20%	1.52%	11.08%	20%
Black	2019	4,952	5,053	1,047	21%	2.85%	5.59%	20%
Hispanic	2017	2,023	2,055	361	18%	.	-1.94%	18%
Hispanic	2018	1,993	2,023	372	18%	4.68%	-0.14%	18%
Hispanic	2019	1,974	1,998	365	18%	3.99%	-6.91%	18%
Unknown Race	2017	1,336	1,347	216	16%	.	-10.49%	16%
Unknown Race	2018	1,437	1,454	247	17%	5.94%	-7.75%	16%
Unknown Race	2019	1,396	1,413	230	16%	1.51%	-17.05%	16%
White	2017	8,284	8,423	1,294	15%	.	-14.25%	16%



<b>Race/Ethnicity</b>	<b>Year</b>	<b>Number of women who delivered at least one live newborn and whose infant is identified by Medicaid-claims data</b>	<b>Total number of Medicaid-covered infants born to a mother covered by a MHCP</b>	<b>Number of newborns who spent time in the NICU</b>	<b>Percent of newborns who spent time in the NICU</b>	<b>Change relative to 2017</b>	<b>Change relative to total population</b>	<b>Avg across all years</b>
White	2018	7,790	7,892	1,236	16%	1.94%	-14.95%	16%
White	2019	7,134	7,243	1,257	17%	12.97%	-11.56%	16%

## VII.Appendix B – Medical coding values

Metric	Code type	Code	Description
Deliveries	ICD10PCS	10D00Z0	Extraction of Products of Conception, Hi
Deliveries	ICD10PCS	10D00Z1	Extraction of Products of Conception, Lo
Deliveries	ICD10PCS	10D00Z2	Extraction of POC, Extraperitoneal, Open
Deliveries	ICD10PCS	10D07Z3	Extraction of POC, Low Forceps, Via Open
Deliveries	ICD10PCS	10D07Z4	Extraction of POC, Mid Forceps, Via Open
Deliveries	ICD10PCS	10D07Z5	Extraction of POC, High Forceps, Via Ope
Deliveries	ICD10PCS	10D07Z6	Extraction of Products of Conception, Va
Deliveries	ICD10PCS	10D07Z7	Extraction of POC, Int Version, Via Open
Deliveries	ICD10PCS	10D07Z8	Extraction of Products of Conception, Ot
Deliveries	ICD10PCS	10E0XZZ	Delivery of Products of Conception, Exte
Deliveries	CPT	59400	OBSTETRICAL CARE
Deliveries	CPT	59409	MATERNITY CARE AND DELIVERY
Deliveries	CPT	59410	OBSTETRICAL CARE
Deliveries	CPT	59510	CESAREAN DELIVERY
Deliveries	CPT	59514	MATERNITY CARE AND DELIVERY
Deliveries	CPT	59515	CESAREAN DELIVERY
Deliveries	CPT	59610	Vbac delivery
Deliveries	CPT	59612	Vbac delivery only
Deliveries	CPT	59614	Vbac care after delivery
Deliveries	CPT	59618	Attempted vbac delivery
Deliveries	CPT	59620	Attempted vbac delivery only
Deliveries	CPT	59622	Attempted vbac after care
Deliveries	CPT	59510	CESAREAN DELIVERY
Deliveries	CPT	59514	MATERNITY CARE AND DELIVERY
Deliveries	CPT	59515	CESAREAN DELIVERY
Deliveries	CPT	59525	REMOVE UTERUS AFTER CESAREAN
Deliveries	CPT	59618	Attempted vbac delivery

Metric	Code type	Code	Description
Deliveries	CPT	59620	Attempted vbac delivery only
Deliveries	CPT	59622	Attempted vbac after care
Prenatal Services	HCPCS	S9442	Birthing class
Prenatal Services	HCPCS	S9443	Lactation class
Prenatal Services	HCPCS	S9446	PT education noc group
Prenatal Services	CPT	98969	Online service by hc pro
Prenatal Services	CPT	98970	Qnhp ol dig e/m svc 5-10min
Prenatal Services	CPT	98971	Qnhp ol dig em svc 11-20min
Prenatal Services	CPT	98972	Qnhp ol dig e/m svc 21+ min
Prenatal Services	CPT	99421	Ol dig e/m svc 5-10 min
Prenatal Services	CPT	99422	Ol dig e/m svc 11-20 min
Prenatal Services	CPT	99423	Ol dig e/m svc 21+ min
Prenatal Services	CPT	99444	Online e/m by phys
Prenatal Services	CPT	99457	Rem physiol mntr 20 min mo
Prenatal Services	HCPCS	G0071	COMM SVCS BY RHC/FQHC 5 MIN
Prenatal Services	HCPCS	G2010	Remot image submit by pt
Prenatal Services	HCPCS	G2012	Brief check in by md/qhp
Prenatal Services	HCPCS	G2061	Qual nonmd est pt 5-10m
Prenatal Services	HCPCS	G2062	Qual nonmd est pt 11-20m
Prenatal Services	HCPCS	G2063	Qual nonmd est pt 21>min
Prenatal Services	CPT	59400	OBSTETRICAL CARE
Prenatal Services	CPT	59425	MATERNITY CARE AND DELIVERY
Prenatal Services	CPT	59426	ANTEPARTUM CARE ONLY
Prenatal Services	CPT	59510	CESAREAN DELIVERY
Prenatal Services	CPT	59610	Vbac delivery
Prenatal Services	CPT	59618	Attempted vbac delivery
Prenatal Services	HCPCS	H1005	Prenatalcare enhanced srv pk
Prenatal Services	CPT	99201	OFFICE/OUTPATIENT VISIT, NEW

<b>Metric</b>	<b>Code type</b>	<b>Code</b>	<b>Description</b>
Prenatal Services	CPT	99202	OFFICE/OUTPATIENT VISIT, NEW
Prenatal Services	CPT	99203	OFFICE/OUTPATIENT VISIT, NEW
Prenatal Services	CPT	99204	OFFICE/OUTPATIENT VISIT, NEW
Prenatal Services	CPT	99205	OFFICE/OUTPATIENT VISIT, NEW
Prenatal Services	CPT	99211	OFFICE/OUTPATIENT VISIT, EST
Prenatal Services	CPT	99212	OFFICE/OUTPATIENT VISIT, EST
Prenatal Services	CPT	99213	OFFICE/OUTPATIENT VISIT, EST
Prenatal Services	CPT	99214	OFFICE/OUTPATIENT VISIT, EST
Prenatal Services	CPT	99215	OFFICE/OUTPATIENT VISIT, EST
Prenatal Services	CPT	99241	OFFICE CONSULTATION
Prenatal Services	CPT	99242	OFFICE CONSULTATION
Prenatal Services	CPT	99243	OFFICE CONSULTATION
Prenatal Services	CPT	99244	OFFICE CONSULTATION
Prenatal Services	CPT	99245	OFFICE CONSULTATION
Prenatal Services	CPT	99483	Assmt & care pln pt cog imp
Prenatal Services	HCPCS	G0463	Hospital outpt clinic visit
Prenatal Services	HCPCS	T1015	Clinic service
Prenatal Services	CPT	99500	Home visit, prenatal
Prenatal Services	HCPCS	H1000	Prenatal care atrisk assessm
Prenatal Services	HCPCS	H1001	Antepartum management
Prenatal Services	HCPCS	H1002	CARE COORDINATION PRENATAL
Prenatal Services	HCPCS	H1003	Prenatal at risk education
Prenatal Services	HCPCS	H1004	Follow up home visit/prenatal
Prenatal Services	CPT	98966	Hc pro phone call 5-10 min
Prenatal Services	CPT	98967	Hc pro phone call 11-20 min
Prenatal Services	CPT	98968	Hc pro phone call 21-30 min
Prenatal Services	CPT	99441	Phone e/m by phys 5-10 min
Prenatal Services	CPT	99442	Phone e/m by phys 11-20 min

Metric	Code type	Code	Description
Prenatal Services	CPT	99443	Phone e/m by phys 21-30 min
Doula Services	CPT	99199	SPECIAL SERVICE OR REPORT
Doula Services	HCPCS	S9445	PT education noc individ
NICU	REV	0172	NURSERY/LEVEL II
NICU	REV	0173	NURSERY/NEWBORN - LEVEL III
NICU	REV	0174	NURSERY/NEWBORN - LEVEL IV
LBW / Premature	CPT	99478	lc, lbw inf < 1500 gm subsq
LBW / Premature	CPT	99479	lc lbw inf 1500-2500 g subsq
Post-Partum Visits	CPT	99221	INITIAL HOSPITAL CARE
Post-Partum Visits	CPT	99222	INITIAL HOSPITAL CARE
Post-Partum Visits	CPT	99223	INITIAL HOSPITAL CARE
Post-Partum Visits	CPT	99231	SUBSEQUENT HOSPITAL CARE
Post-Partum Visits	CPT	99232	SUBSEQUENT HOSPITAL CARE
Post-Partum Visits	CPT	99233	SUBSEQUENT HOSPITAL CARE
Post-Partum Visits	CPT	99238	HOSPITAL DISCHARGE DAY
Post-Partum Visits	CPT	99239	Hospital discharge day
Post-Partum Visits	CPT	99251	INITIAL INPATIENT CONSULT
Post-Partum Visits	CPT	99252	INITIAL INPATIENT CONSULT
Post-Partum Visits	CPT	99253	INITIAL INPATIENT CONSULT
Post-Partum Visits	CPT	99254	INITIAL INPATIENT CONSULT
Post-Partum Visits	CPT	99255	INITIAL INPATIENT CONSULT
Post-Partum Visits	CPT	99291	CRITICAL CARE, FIRST HOUR
Post-Partum Visits	CPT	59400	OBSTETRICAL CARE
Post-Partum Visits	CPT	59410	OBSTETRICAL CARE
Post-Partum Visits	CPT	59510	CESAREAN DELIVERY
Post-Partum Visits	CPT	59515	CESAREAN DELIVERY
Post-Partum Visits	CPT	59610	Vbac delivery
Post-Partum Visits	CPT	59614	Vbac care after delivery

Metric	Code type	Code	Description
Post-Partum Visits	CPT	59618	Attempted vbac delivery
Post-Partum Visits	CPT	59622	Attempted vbac after care
Post-Partum Visits	CPT	57170	FITTING OF DIAPHRAGM/CAP
Post-Partum Visits	CPT	58300	INSERT INTRAUTERINE DEVICE
Post-Partum Visits	CPT	59430	CARE AFTER DELIVERY
Post-Partum Visits	CPT	99501	Home visit, postnatal
Post-Partum Visits	HCPCS	G0101	CA screen;pelvic/breast exam

## VII.Appendix C – Global maternity care billing codes

Global Maternity Code <sup>1</sup>	Description
59618, Under Delivery Procedures After Previous Cesarean Delivery	In this global service, the provider provides all of the antepartum care, admission to the hospital for delivery, intensive management of labor followed by delivery of the fetus and placenta via an abdominal incision, and inpatient and outpatient postpartum care. The patient’s attempt at a vaginal delivery after a previous cesarean delivery fails, resulting in a repeat cesarean. Typical global services begin at eight to ten weeks gestation, with a full-term cesarean delivery at thirty–nine to forty weeks gestation, and routine outpatient postpartum care of one or more visits up to six weeks following delivery.

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<sup>1</sup> Descriptions from aapc.com

<b>Global Maternity Code<sup>1</sup></b>	<b>Description</b>
59426, Under Vaginal Delivery, Antepartum and Postpartum Care Procedures	This service is considered a mini global code for the provider who provides seven or more antepartum visits. This can happen when the patient transfers out of the practice prior to delivery or the pregnancy terminates prior to delivery. In some cases, the provider must use this code when he does not provide all of the antepartum care, but does perform the delivery with or without postpartum care because the patient transfers in from another practice and the payer does not allow the physician to report the global services code, such as 59400.
59425, Under Vaginal Delivery, Antepartum and Postpartum Care Procedures	This service is considered a mini global code for the provider who provides only four to six of the patient’s antepartum visits. This can happen when the patient transfers out of the practice prior to delivery or the pregnancy terminates prior to delivery. In some cases, the provider must use this code when he does not provide all of the antepartum care, but does perform the delivery with or without postpartum care because the patient transfers in from another practice, and the payer does not allow the provider to bill a global services code such as 59400.
59510, Under Cesarean Delivery Procedures	In this global service, the provider provides all of the antepartum care, admission to the hospital for delivery, delivery of the fetus and placenta via an abdominal incision, and inpatient and outpatient postpartum care. Typical global services begin at eight to ten weeks gestation and include a full-term cesarean delivery at thirty-nine to forty weeks gestation and routine inpatient and outpatient postpartum care of one or more visits up to six weeks following delivery.

<b>Global Maternity Code<sup>1</sup></b>	<b>Description</b>
59610, Under Delivery Procedures After Previous Cesarean Delivery	In this global service, the provider provides all of the antepartum care, admission to the hospital for delivery, intensive labor management, including fetal monitoring, use of low forceps, and episiotomy, vaginal delivery of the fetus and placenta, and inpatient and outpatient postpartum care. The patient has had a previous cesarean delivery but was able to deliver vaginally at this delivery. Typical global services begin at eight to ten weeks gestation, with a full term vaginal delivery at thirty–nine to forty weeks gestation, and routine outpatient postpartum care at six weeks following delivery.
59400, Under Vaginal Delivery, Antepartum and Postpartum Care Procedures	In this global service, the provider and non-physician healthcare providers in the practice provide all of the antepartum care, admission to the hospital for delivery, labor management, including induction of labor, fetal monitoring, use of low forceps and episiotomy, vaginal delivery of the fetus and placenta, and inpatient and outpatient postpartum care. Typical global services begin at eight to ten weeks gestation, with a full term vaginal delivery at thirty–nine to forty weeks gestation, and routine outpatient postpartum care for six weeks following delivery.