

Maternal and Infant Health Statistics

Prosperity Region 4

2014-2023

Prepared by Maternal and Child Health Epidemiology Section
Michigan Department of Health and Human Services
Published August 2025



Infant Mortality

Region 4

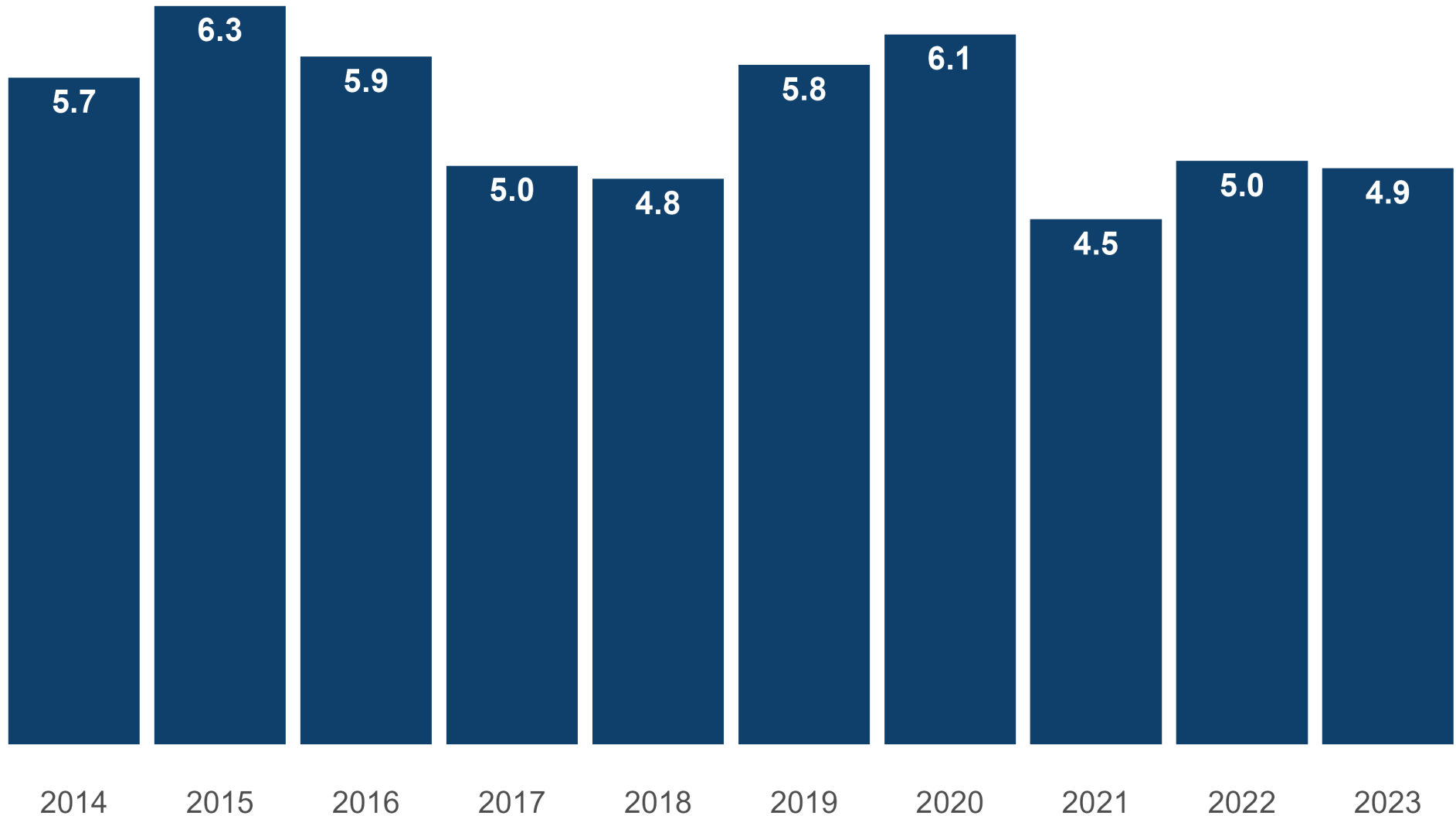
2014-2023

Infant mortality is defined as a death of a baby before his or her first birthday, and is expressed as a rate per 1,000 live births.

Infant Mortality Rate, 2014-2023

Region 4

Infant mortality is defined as the death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births.

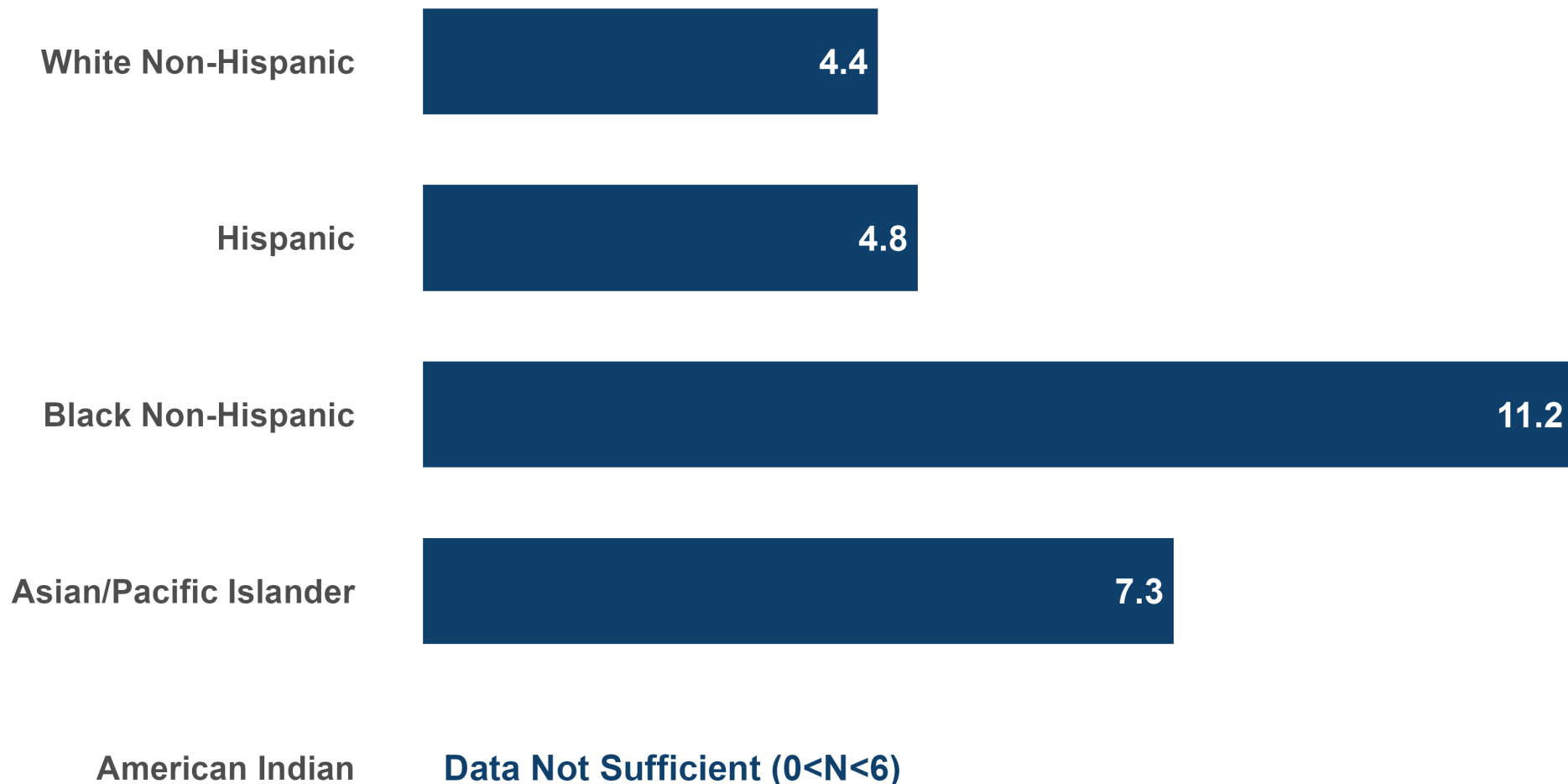


Data source: Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

Infant Mortality Rate by Maternal Race/Ethnicity, 2019-2023

Region 4

Infant mortality is defined as the death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births.

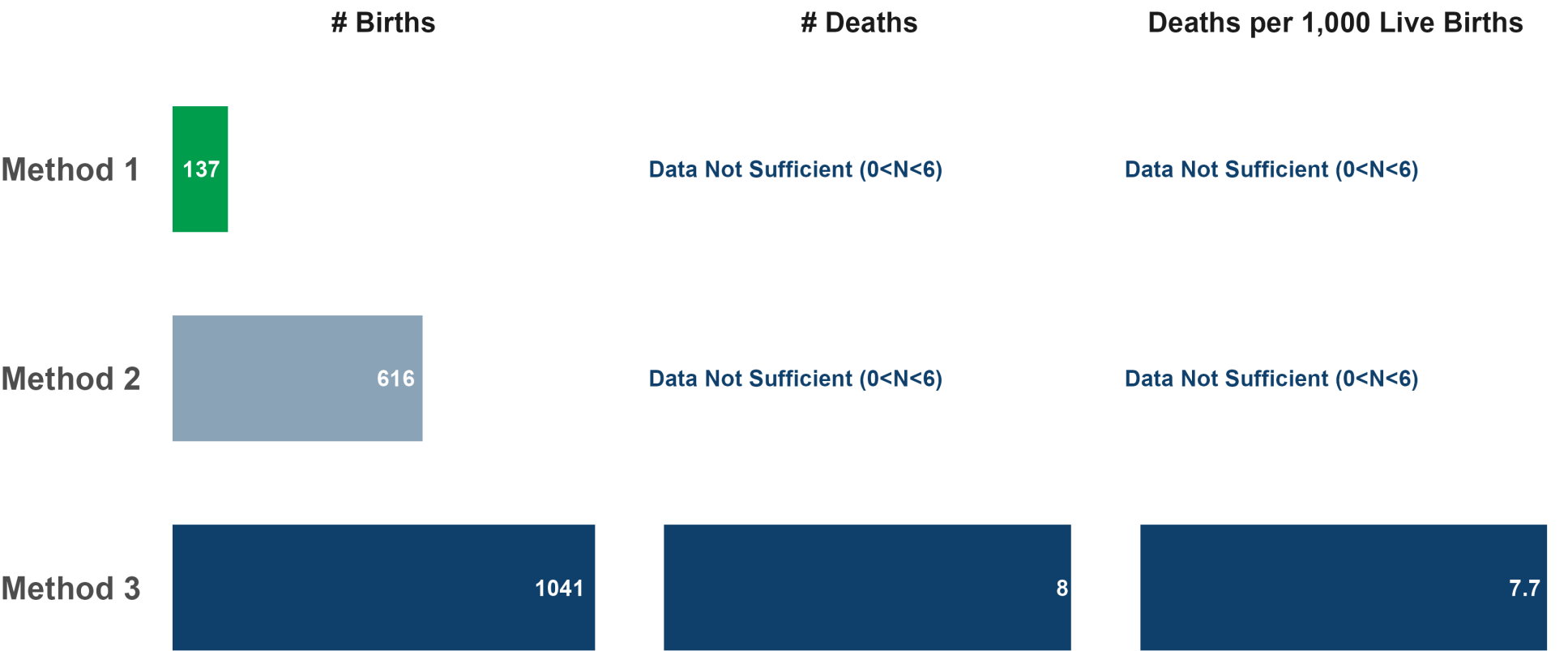


Data source: Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

Infant Mortality by Expanded Native American Race/Ethnicity Region 4, 2019-2023

Infant mortality is defined as the death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births. 'More than one race' refers to American Indian or Alaskan Native and another race; included only if AI/AN were reported first.

- Method 1: Maternal Race = American Indian + Hipsanic or Non-Hispanic
Method 2: Maternal Race = American Indian or more than 1 race + Hispanic or Non-Hispanic
Method 3: Maternal Race or Paternal Race = American Indian or more than 1 race + Hispanic or Non-Hispanic

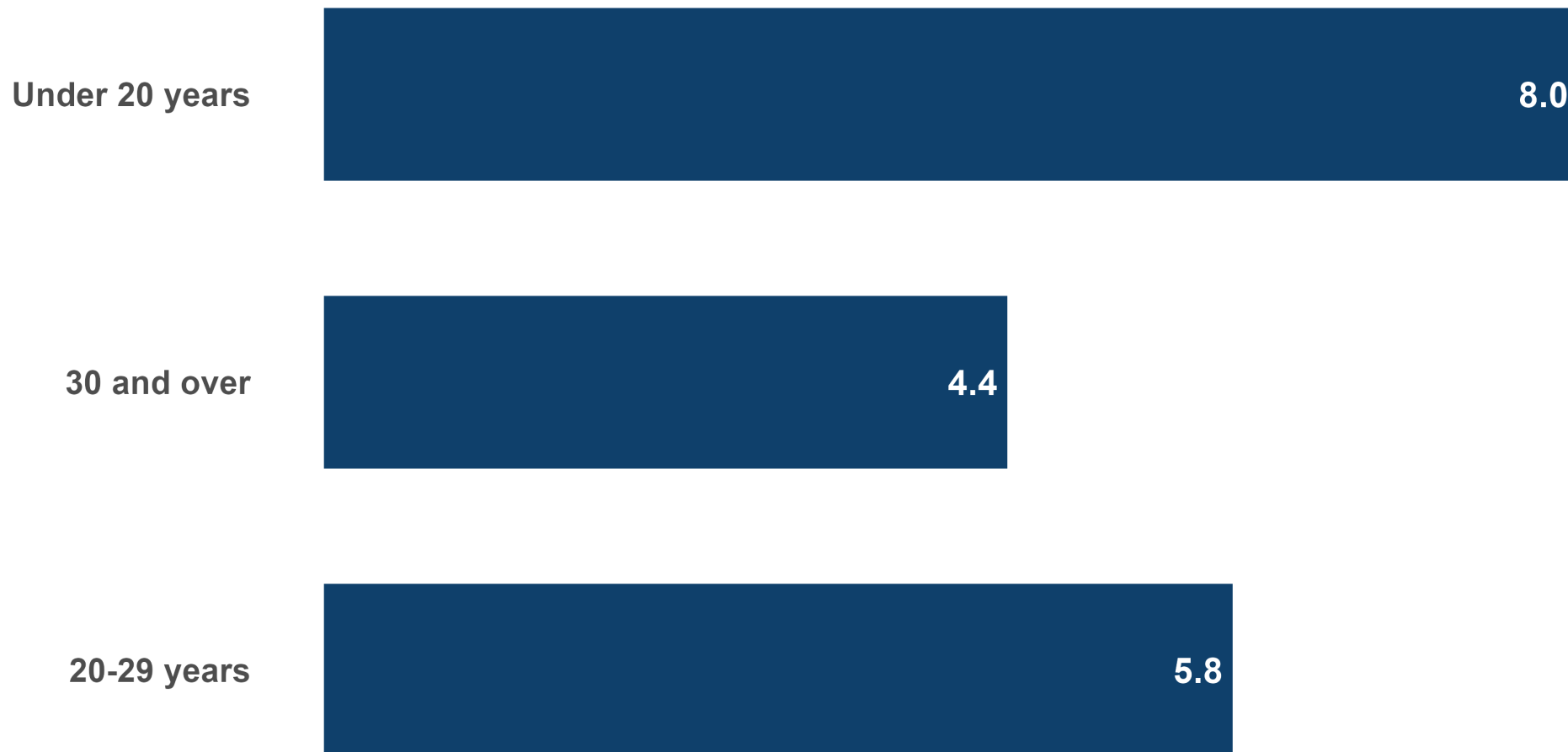


Data source: Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

Infant Mortality Rate by Maternal Age, 2019-2023

Region 4

Infant mortality is defined as the death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births.



Data source: Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

Infant Mortality Rate by Intended Payment Method, 2019-2023

Region 4

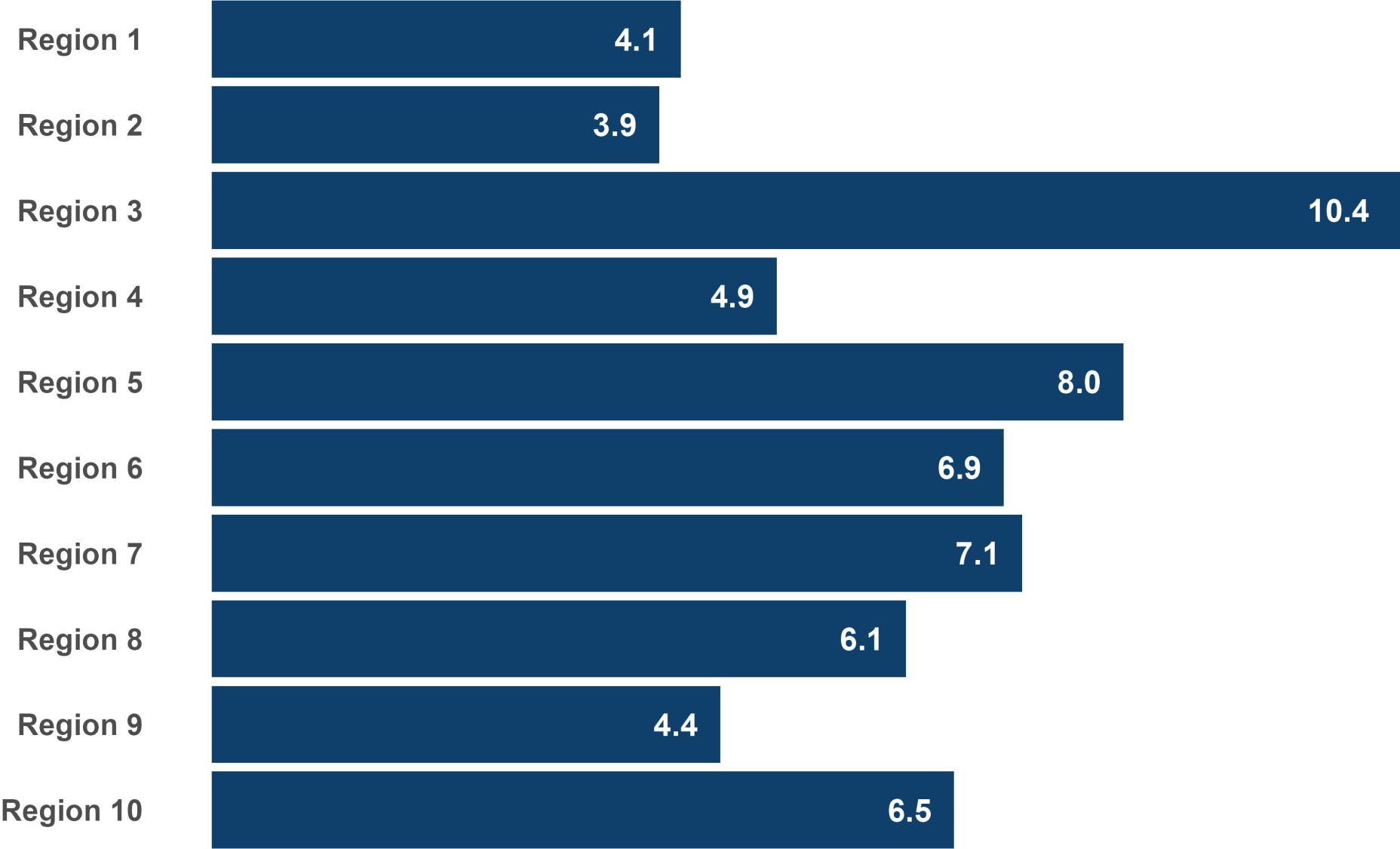
Infant mortality is defined as the death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births.



Data source: Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

Infant Mortality Rate by Prosperity Region, 2023

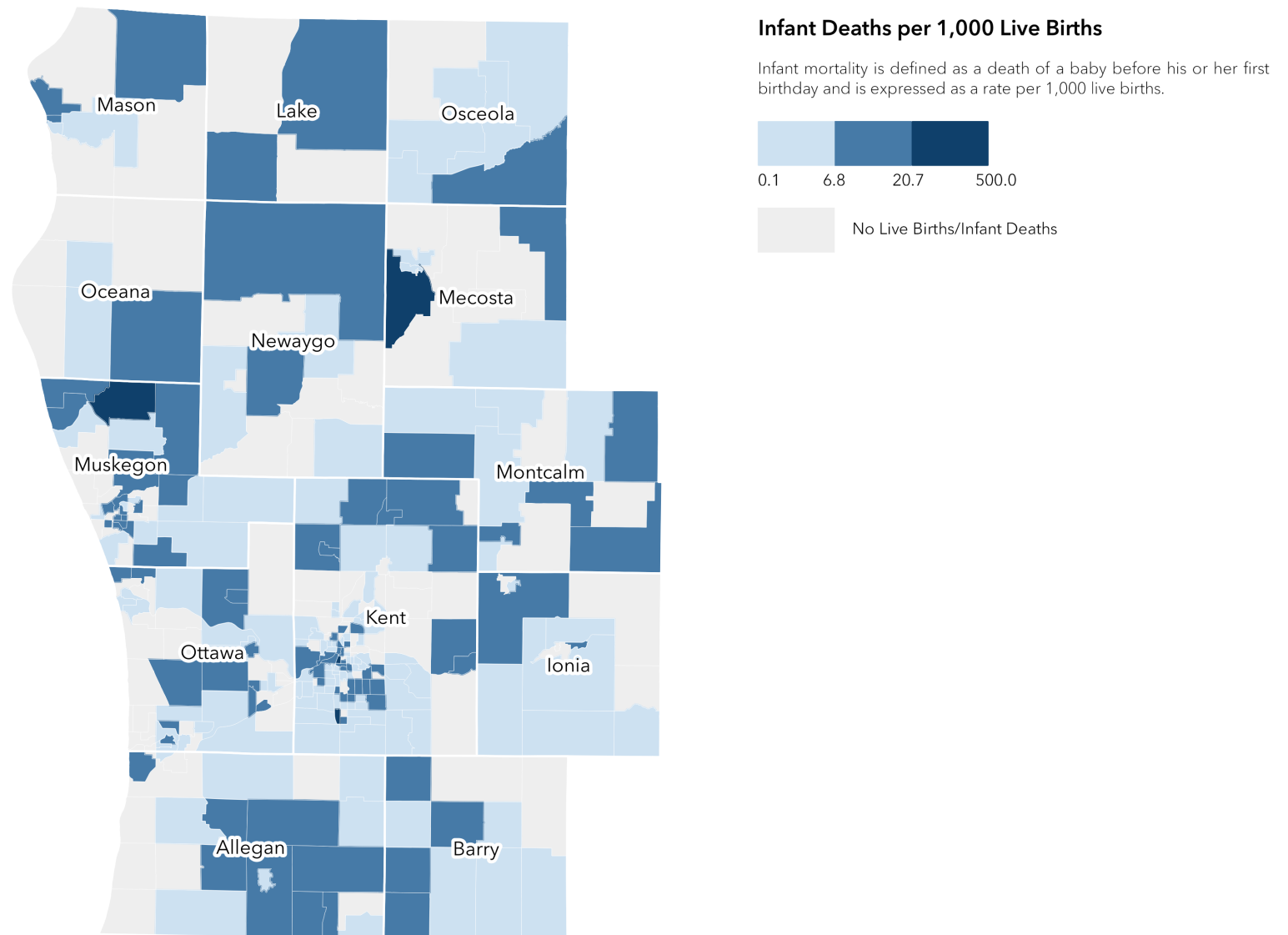
Infant mortality is defined as the death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births.



Data source: Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

Infant Mortality Rate by Census Tract, 2019-2023

Region 4



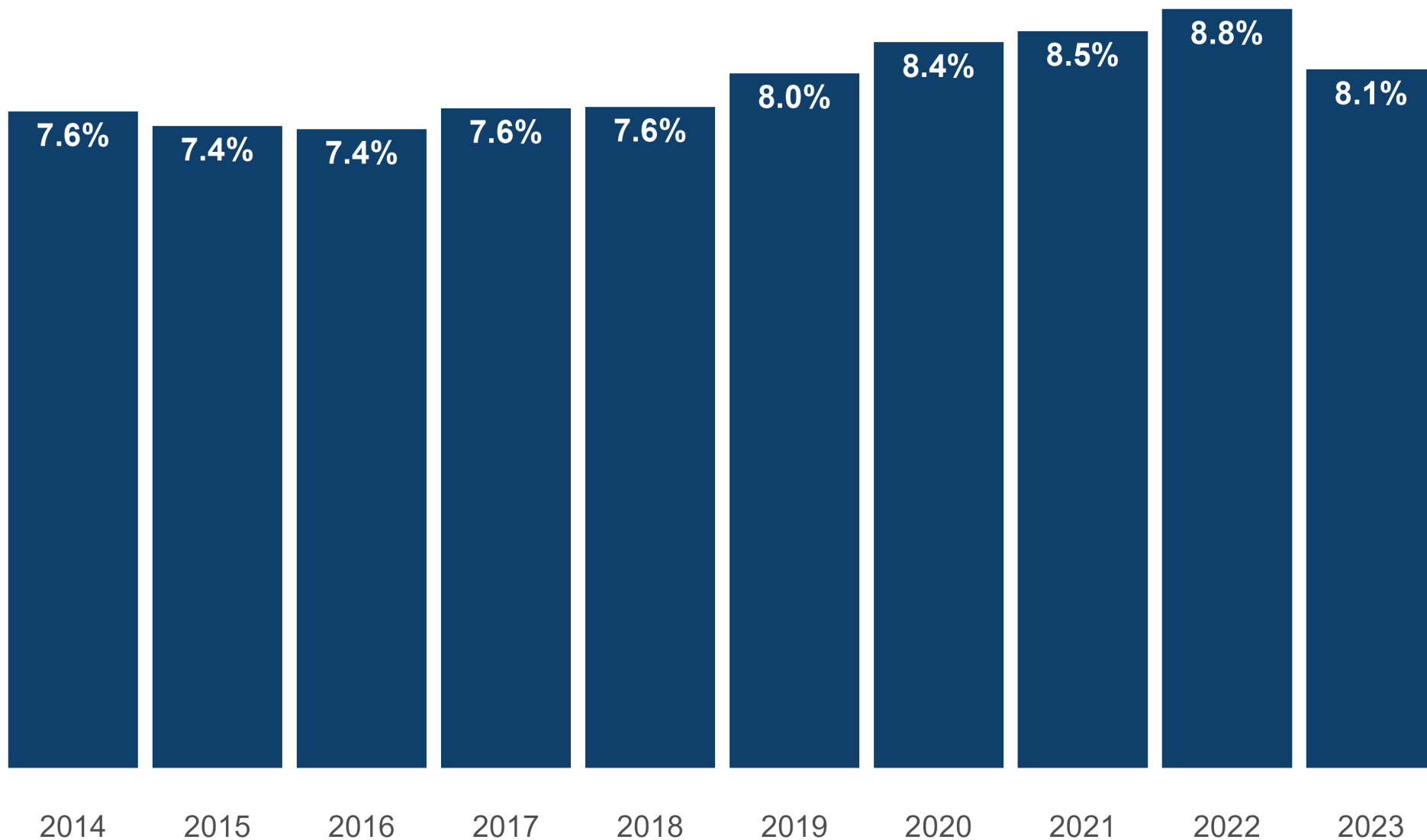
Low Birthweight Region 4 2014-2023

Low birthweight is defined as number of live births with birthweight less than 2,500 grams.

Low Birthweight, 2014-2023

Region 4

Low birthweight is defined as the number of births with a baby birthweight <2,500 grams per 100 live births.

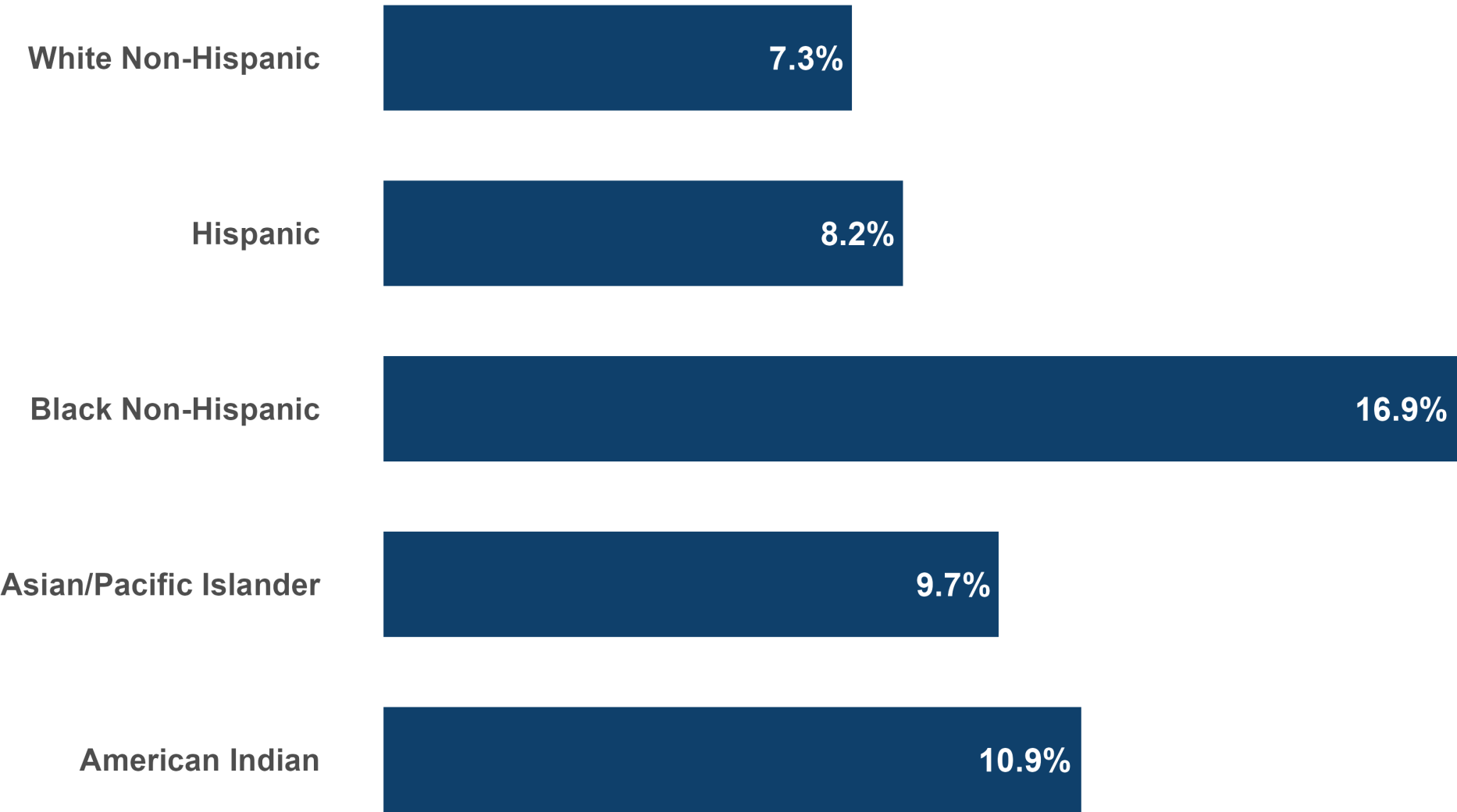


Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Low Birthweight by Maternal Race/Ethnicity, 2019-2023

Region 4

Low birthweight is defined as the number of births with a baby birthweight <2,500 grams per 100 live births.



Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

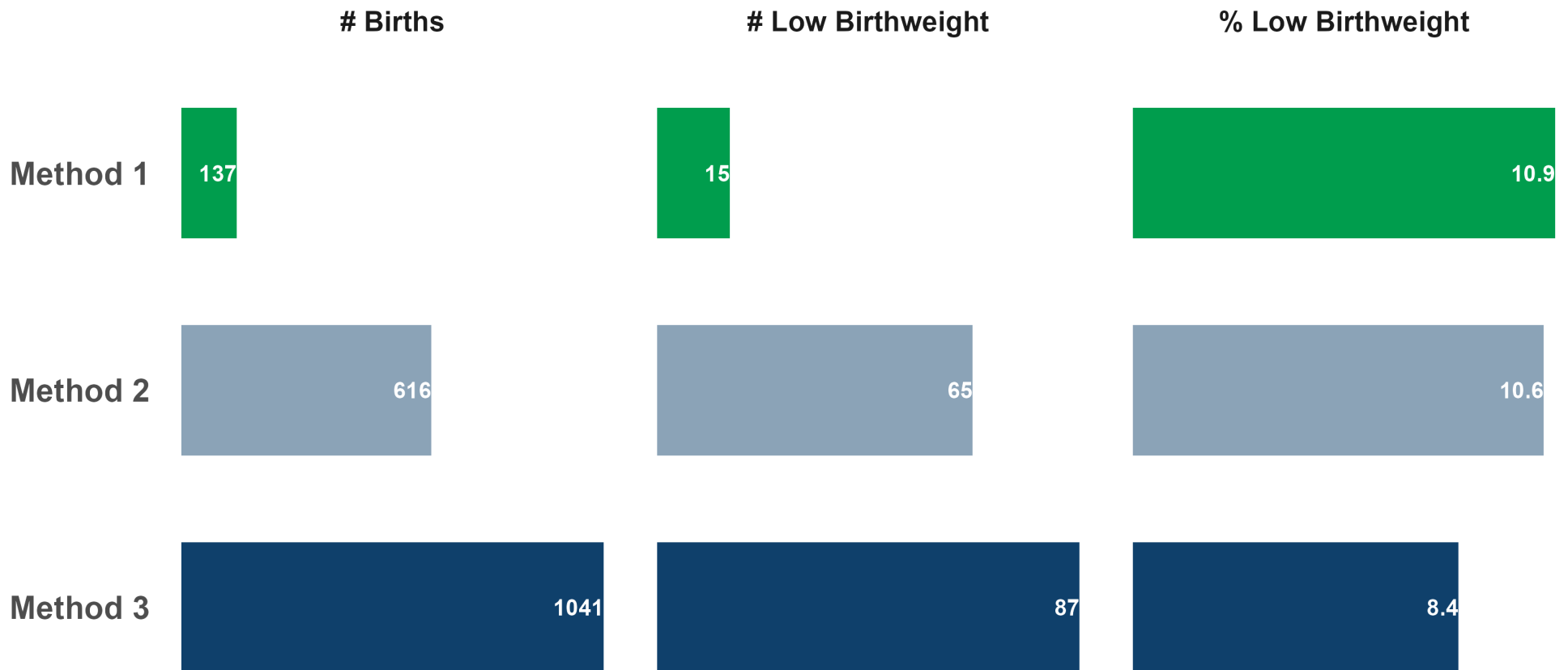
Low Birthweight by Expanded Native American Race/Ethnicity Region 4, 2019-2023

Low birthweight is defined as the number of births with a baby birthweight <2,500 grams per 100 live births.
'More than one race' refers to American Indian or Alaskan Native and another race; included only if AI/AN were reported first.

Method 1: Maternal Race = American Indian + Hispanic or Non-Hispanic

Method 2: Maternal Race = American Indian or more than 1 race + Hispanic or Non-Hispanic

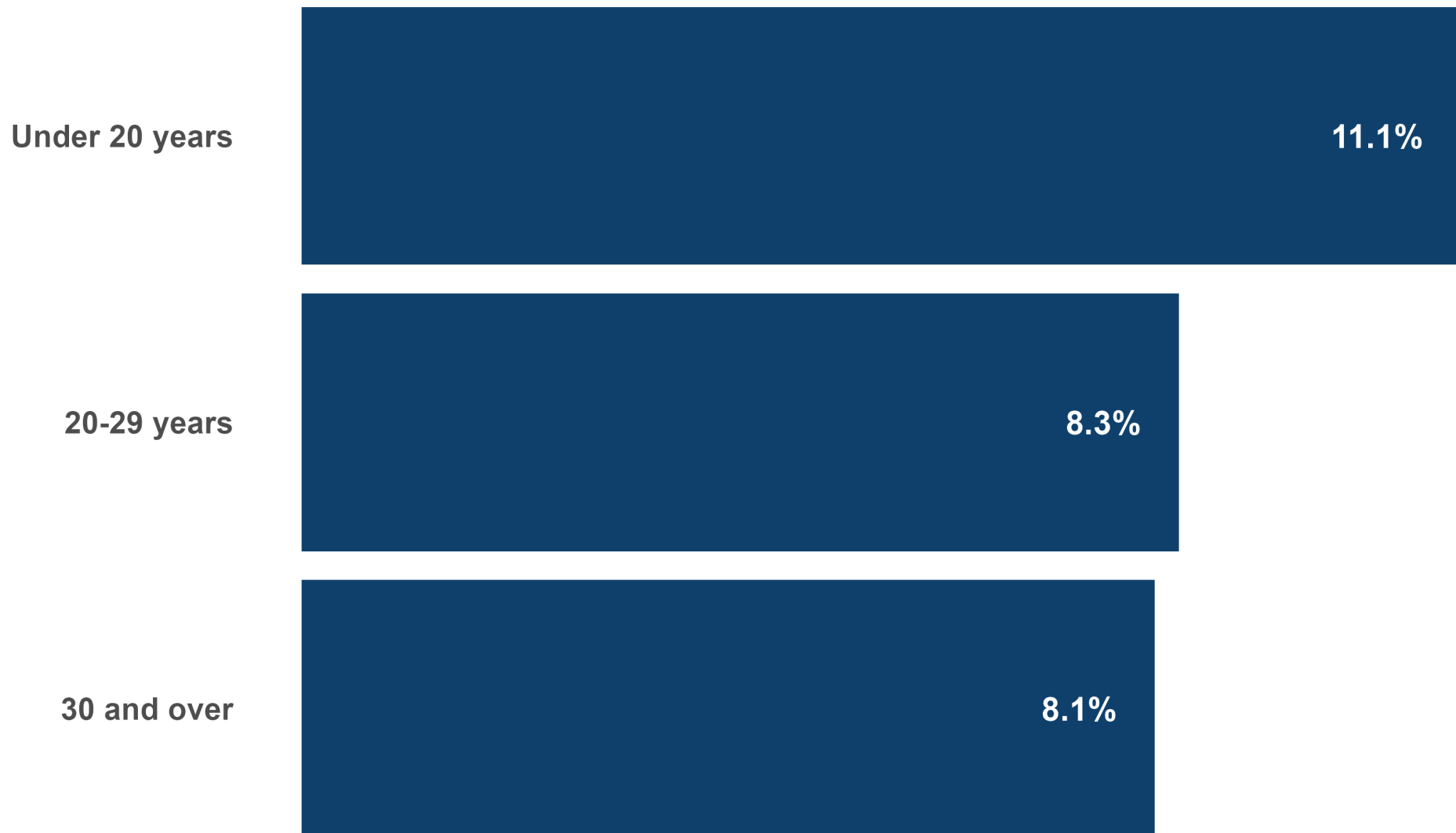
Method 3: Maternal Race or Paternal Race = American Indian or more than 1 race + Hispanic or Non-Hispanic



Low Birthweight by Maternal Age, 2019-2023

Region 4

Low birthweight is defined as the number of births with a baby birthweight <2,500 grams per 100 live births.

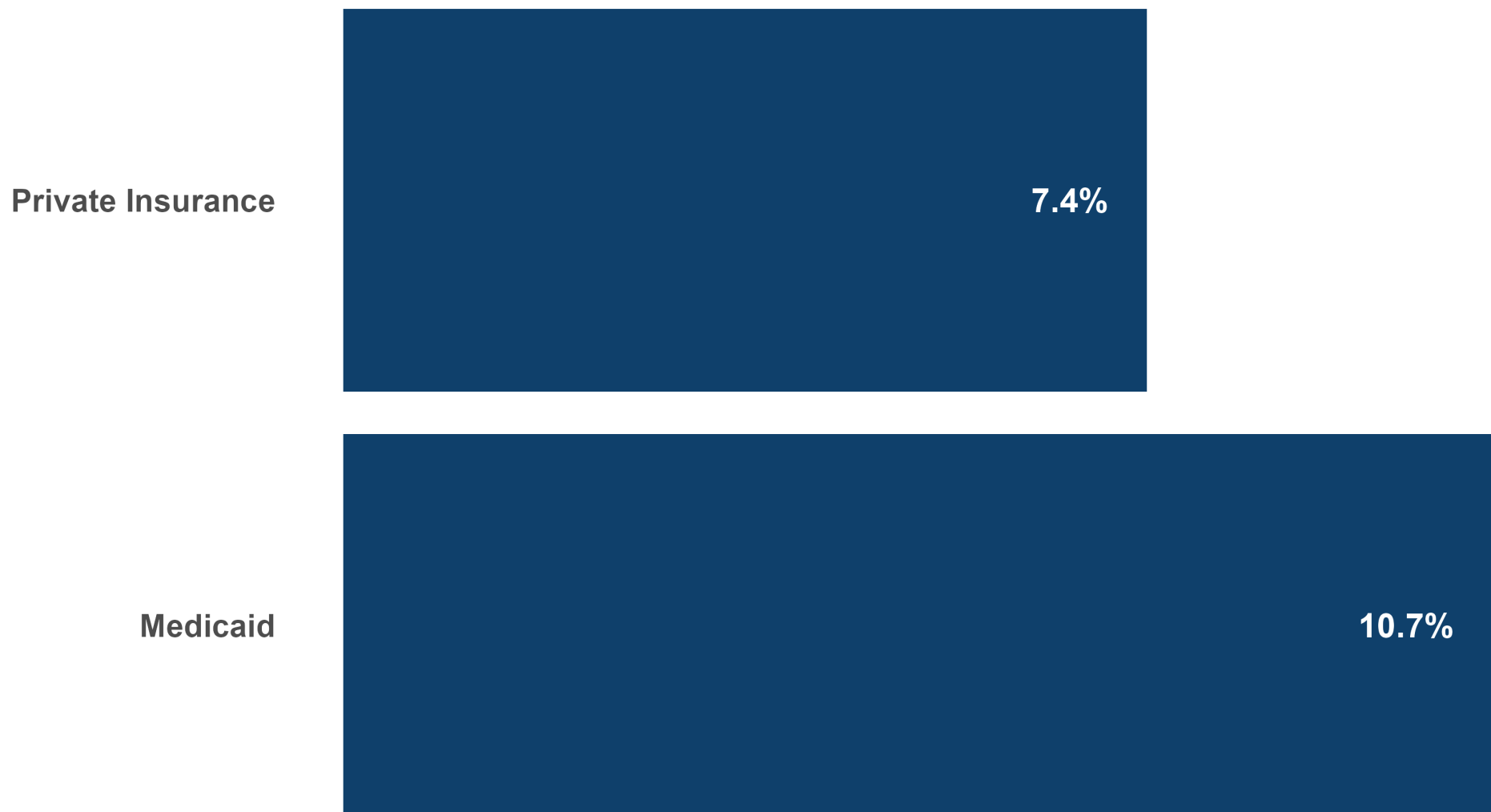


Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Low Birthweight by Intended Payment Method, 2019-2023

Region 4

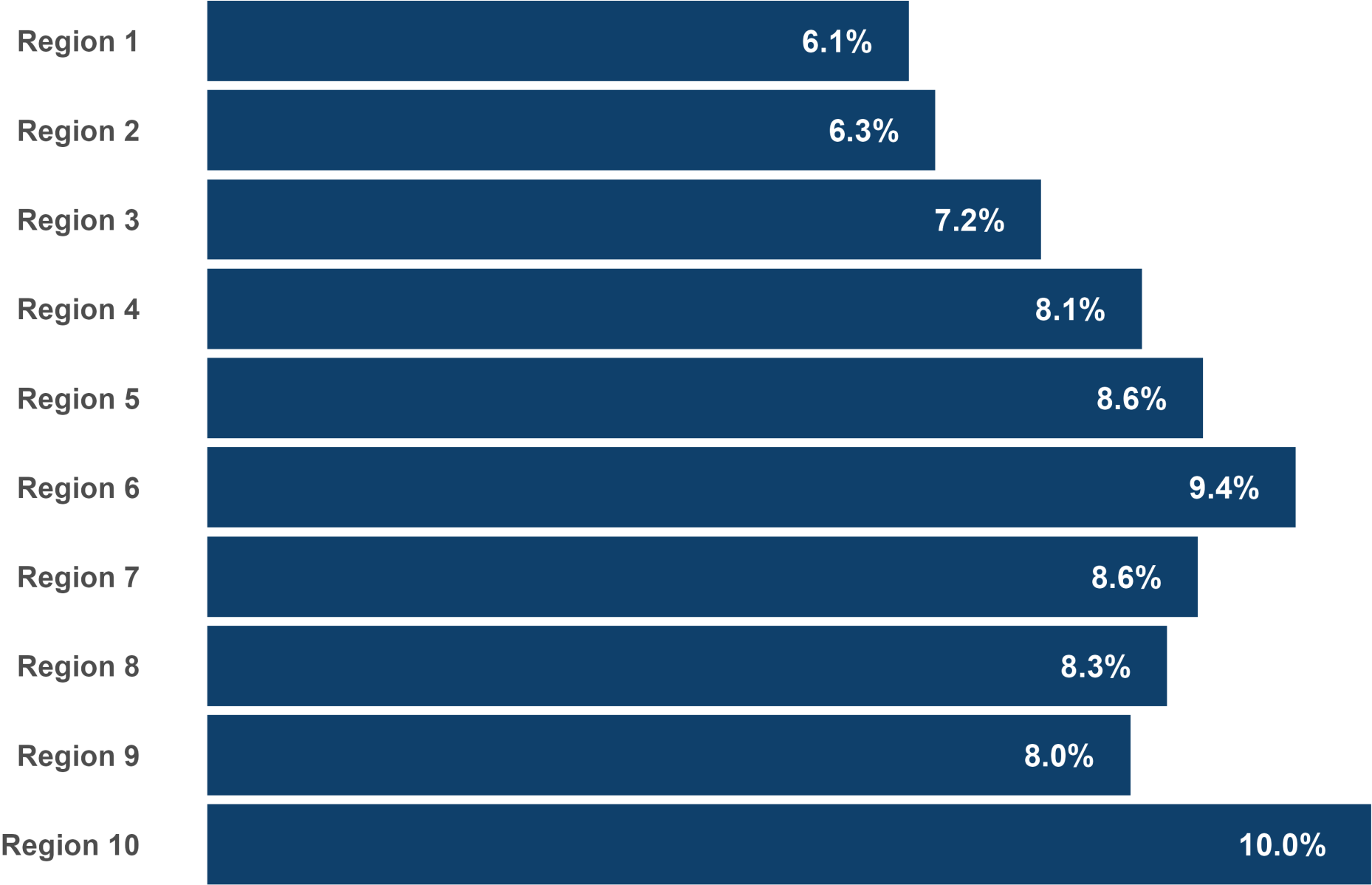
Low birthweight is defined as the number of births with a baby birthweight <2,500 grams per 100 live births.



Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Low Birthweight by Prosperity Region, 2023

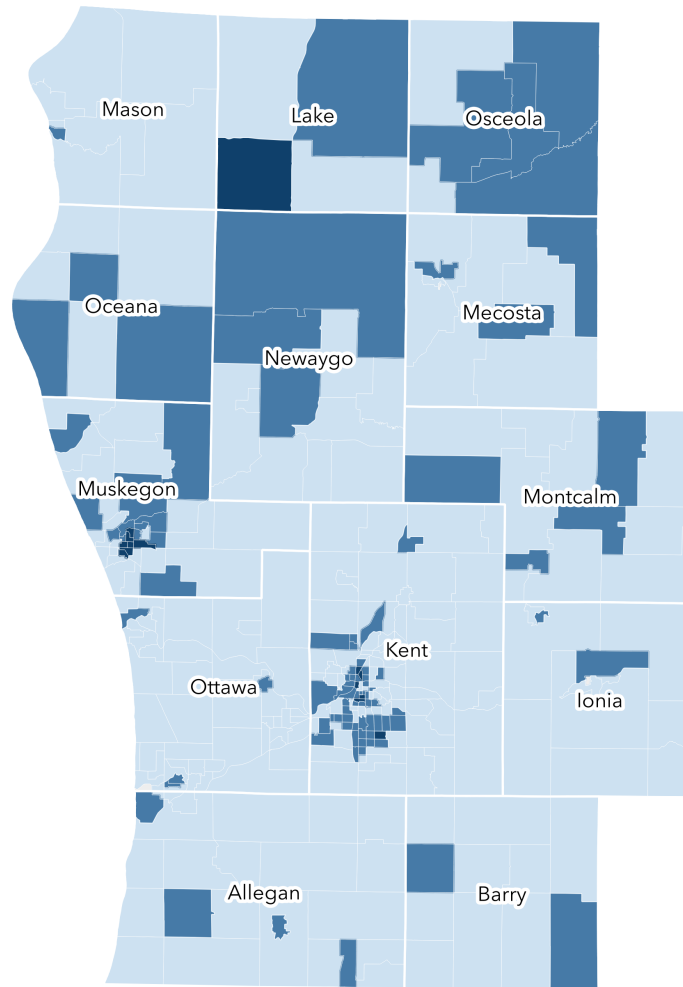
Low birthweight is defined as the number of births with a baby birthweight <2,500 grams per 100 live births.



Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

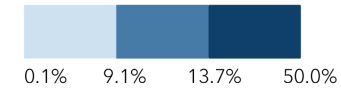
Low Birthweight by Census Tract, 2019-2023

Region 4



Percent Low Birthweight

Low birthweight rate is defined as number of births with baby birthweight less than 5.5lbs (<2,500 grams) per 100 live births.



No Live Births/Low Birthweight Births

Data source: Linked Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

Preterm Births

Region 4

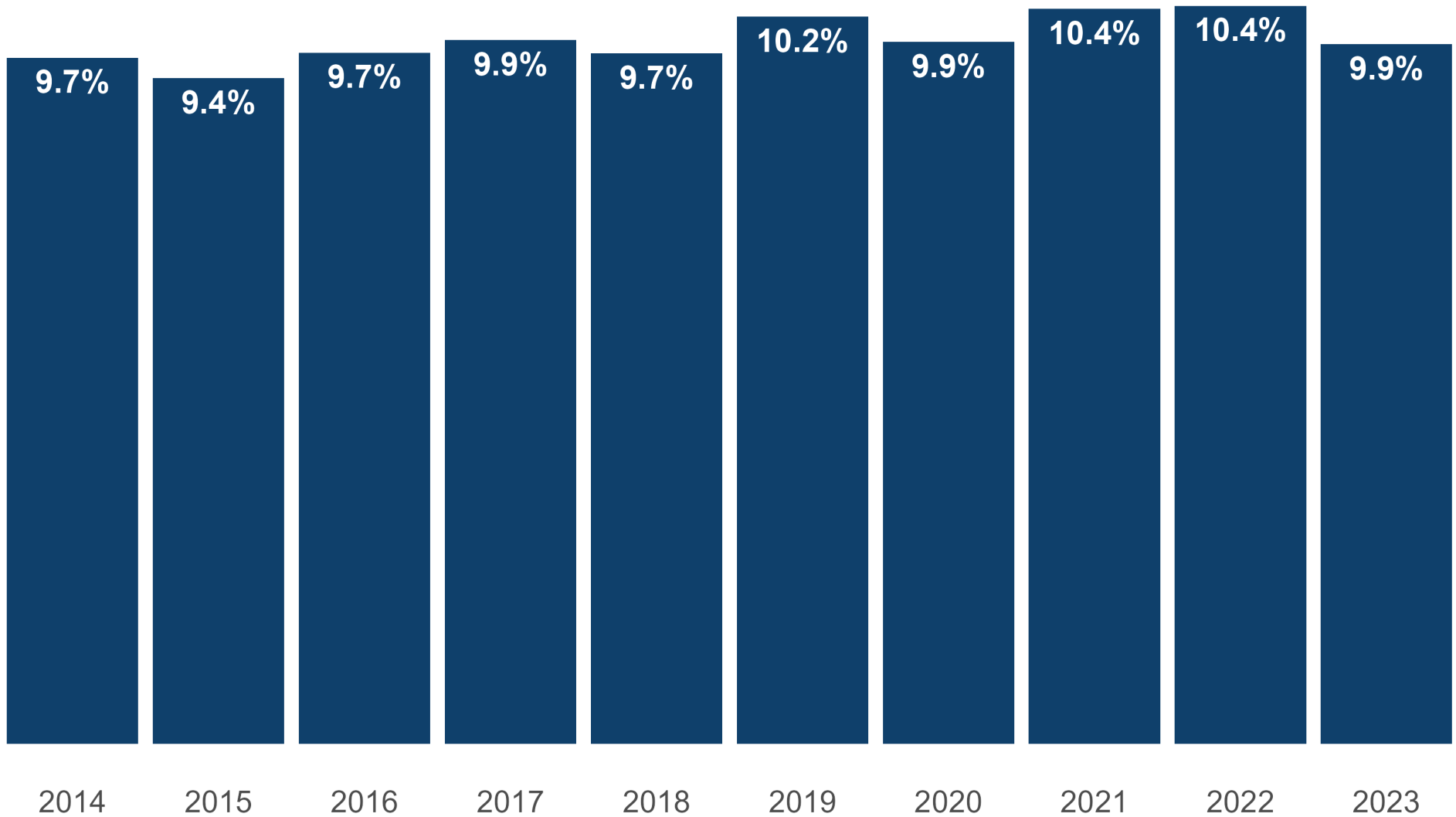
2014-2023

Preterm birth is defined as number of live births delivered before 37 completed weeks of gestation.
Gestational age is based on the obstetric estimate of gestation.

Preterm Birth, 2014-2023

Region 4

Preterm Birth is defined as the number of births delivered before 37 completed weeks gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.

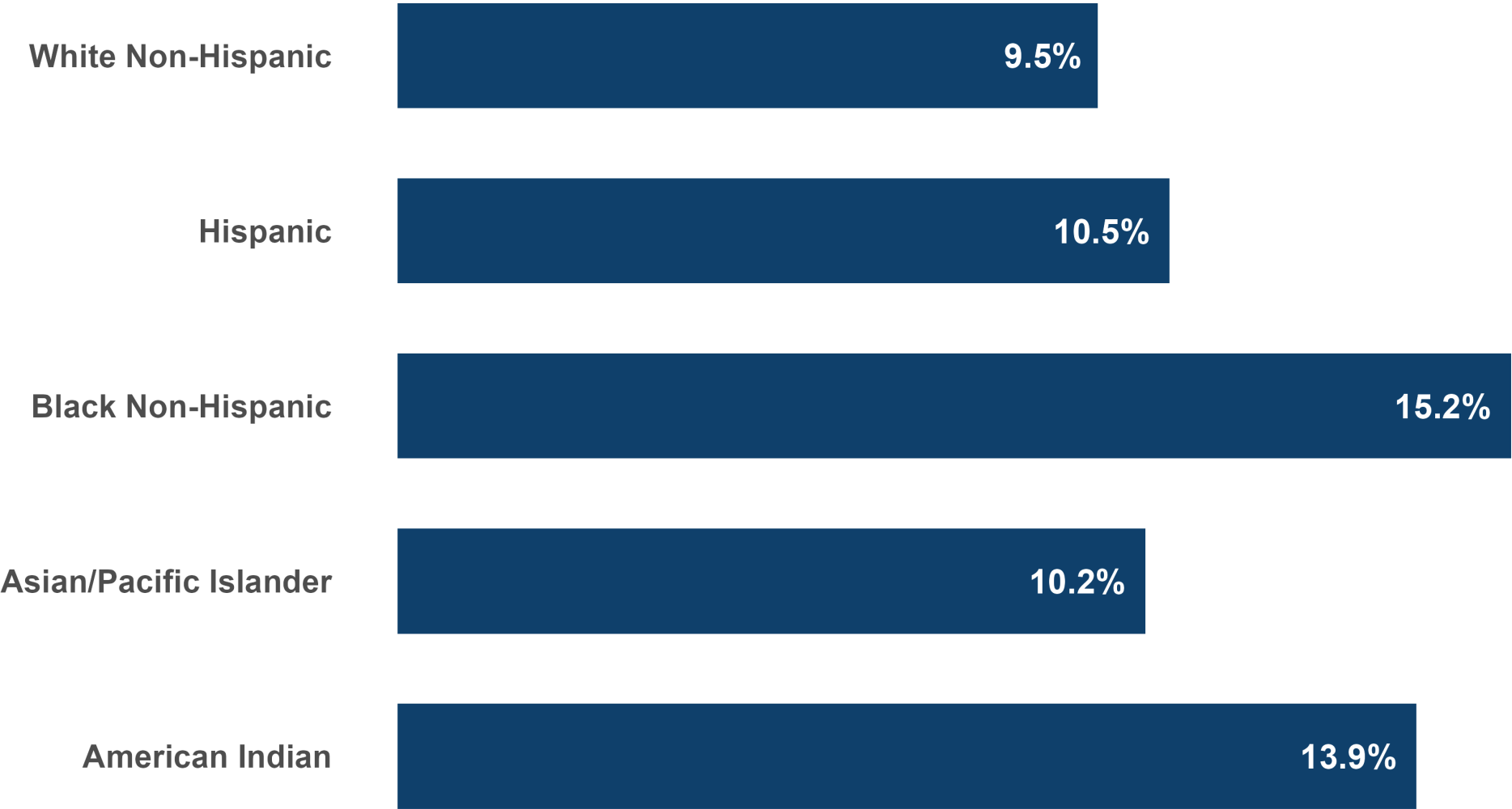


Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Preterm Birth by Maternal Race/Ethnicity, 2019-2023

Region 4

Preterm Birth is defined as the number of births delivered before 37 completed weeks gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.



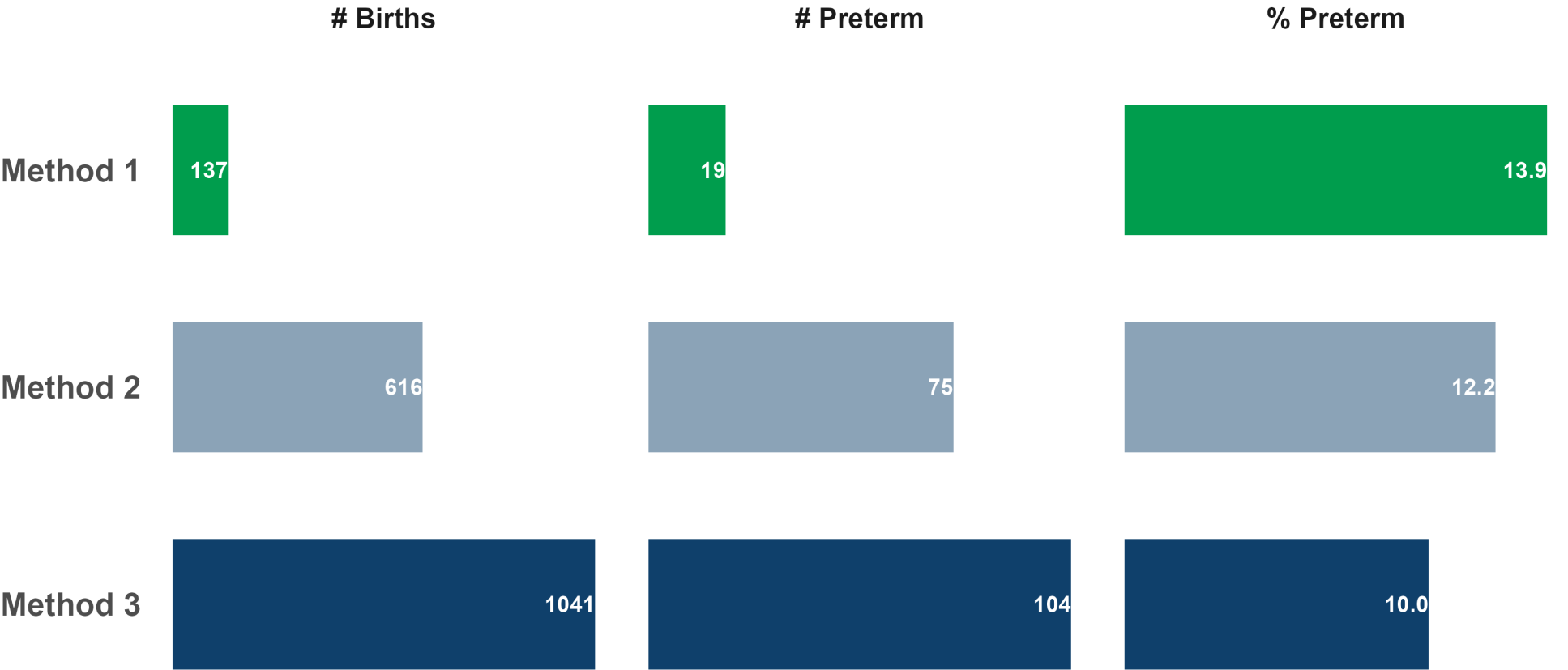
Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Preterm by Expanded Native American Race/Ethnicity

Region 4, 2019-2023

Preterm Birth is defined as the number of births delivered before 37 completed weeks gestation per 100 live births. 'More than one race' refers to American Indian or Alaskan Native and another race; included only if AI/AN were reported first.

Method 1: Maternal Race = American Indian + Hispanic or Non-Hispanic
Method 2: Maternal Race = American Indian or more than 1 race + Hispanic or Non-Hispanic
Method 3: Maternal Race or Paternal Race = American Indian or more than 1 race + Hispanic or Non-Hispanic



Preterm Birth by Maternal Age, 2019-2023

Region 4

Preterm Birth is defined as the number of births delivered before 37 completed weeks gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.



Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Preterm Birth by Intended Payment Method, 2019-2023

Region 4

Preterm Birth is defined as the number of births delivered before 37 completed weeks gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.

Private Insurance

9.7%

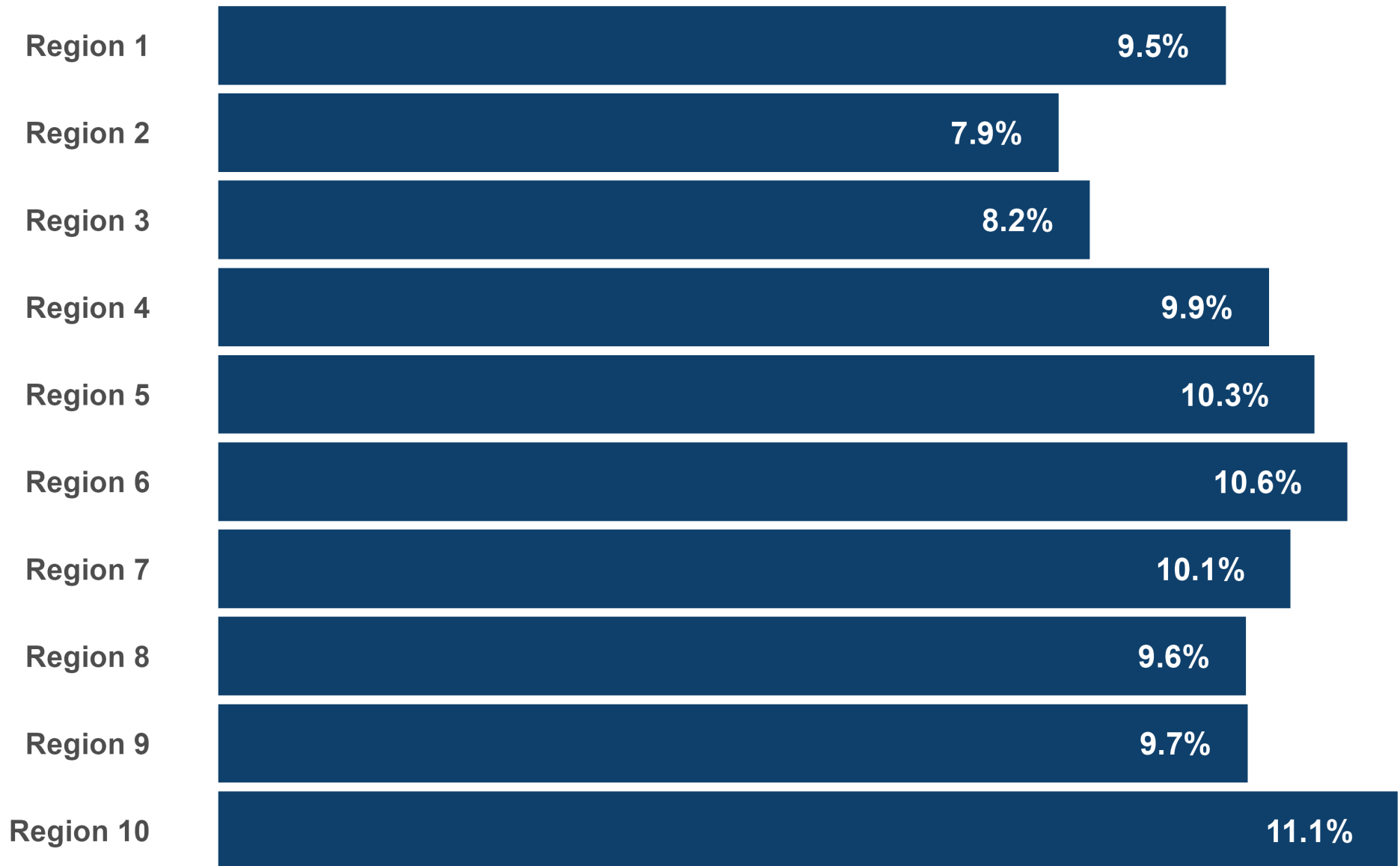
Medicaid

11.7%

Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Preterm Birth by Prosperity Region, 2023

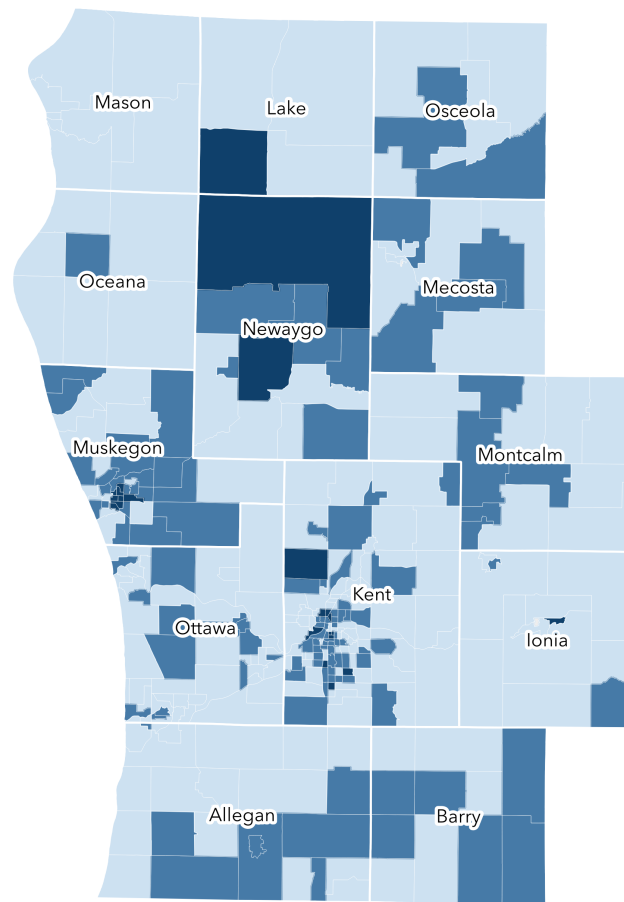
Preterm Birth is defined as the number of births delivered before 37 completed weeks gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.



Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

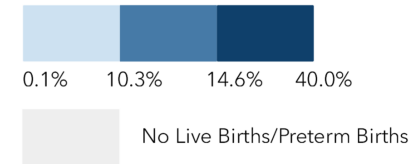
Preterm Birth Rate by Census Tract, 2019-2023

Region 4



Percent Preterm

Preterm birth rate is defined as number of births delivered before 37 completed weeks of gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.



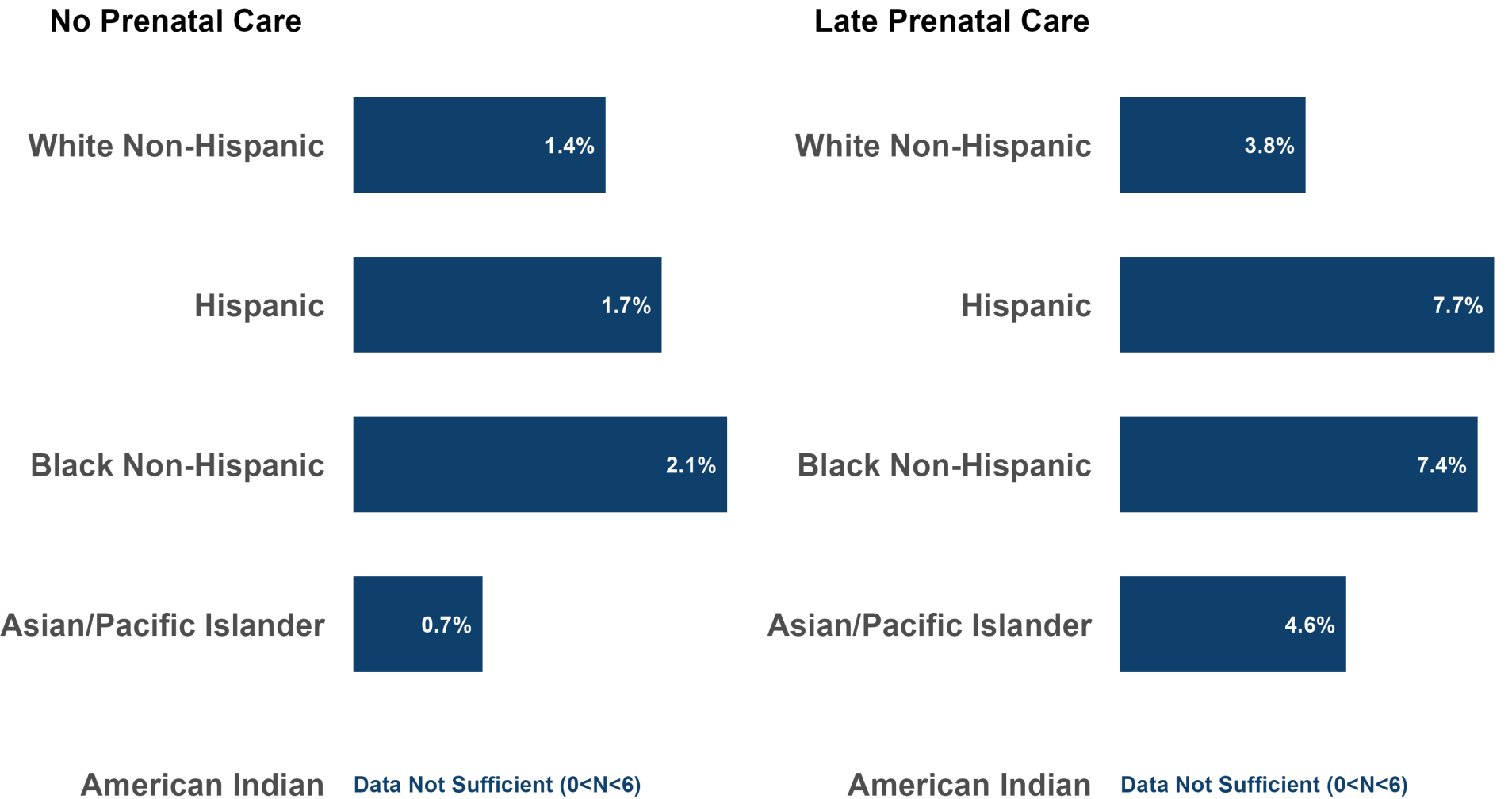
Data source: Linked Michigan resident live birth files and infant mortality files, Division for Vital Records and Health Statistics, MDHHS

**Prenatal Care Utilization
Region 4
2014-2023**

Prenatal Care Utilization by Maternal Race/Ethnicity, 2019-2023

Region 4

Late entry into prenatal care refers to prenatal care beginning in the third trimester. 'No prenatal care' and 'late prenatal care' are calculated as proportion of all live births.

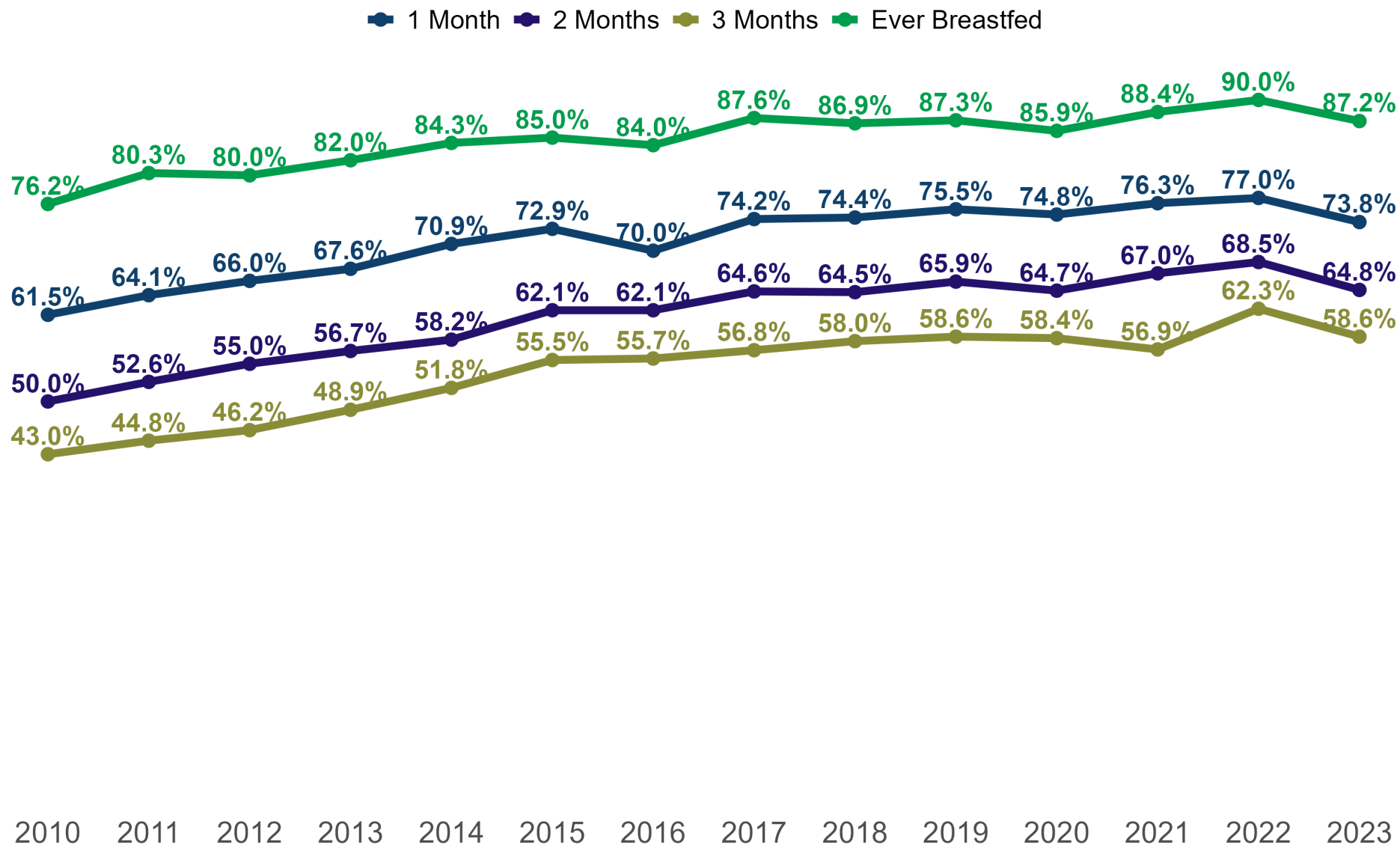


Data source: Michigan resident live birth files, Division for Vital Records and Health Statistics, MDHHS

Breastfeeding Initiation and Duration
Region 4
2010-2023

Breastfeeding Initiation and Duration Michigan, 2010-2023

Data represents the weighted proportion of mothers.



Data Source: Pregnancy Risk Assessment Monitoring System (PRAMS), MDHHS

**Birth Defects
Michigan
2022**

Birth Defects Prevalence Michigan, 2022

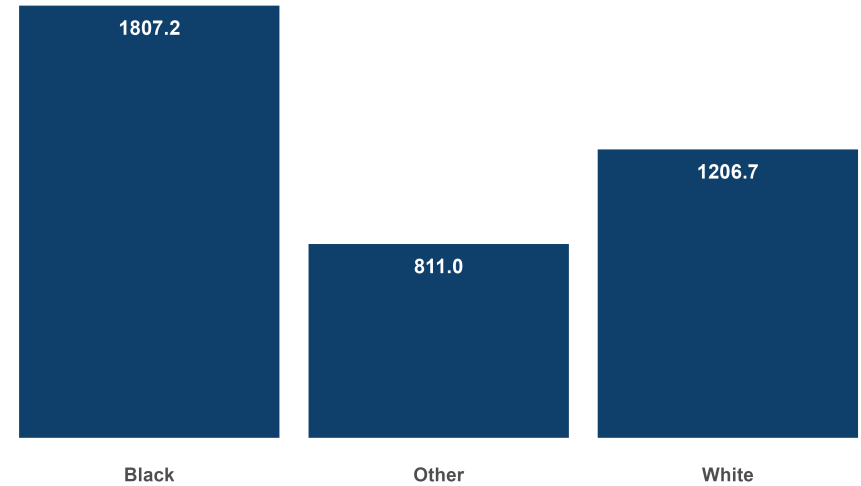
In 2022, Michigan birth defect prevalence rates were lower than observed in previous years, with approximately 1,400 babies per 10,000 being born with a birth defect.

In 2022, demographic data of birth defect prevalence shifted from what was observed in 2021. While the prevalence rates of white babies born with birth defects remained similar, the prevalence of black babies with birth defects increased by nearly 300 per 10,000 live births. This could potentially be attributed to quality improvement measures that has improved data collection from reporting facilities throughout the state, resulting in less missing race data.

In 2022, the ethnicity-specific birth defect prevalence rate for cases born to a mother reporting Hispanic ethnicity (948.8 cases per 10,000 live births) was less than that of cases born to a mother reporting Arabic ethnicity (1298.0 cases per 10,000 live births).

Birth Defects Prevalence by Maternal Race Michigan, 2022

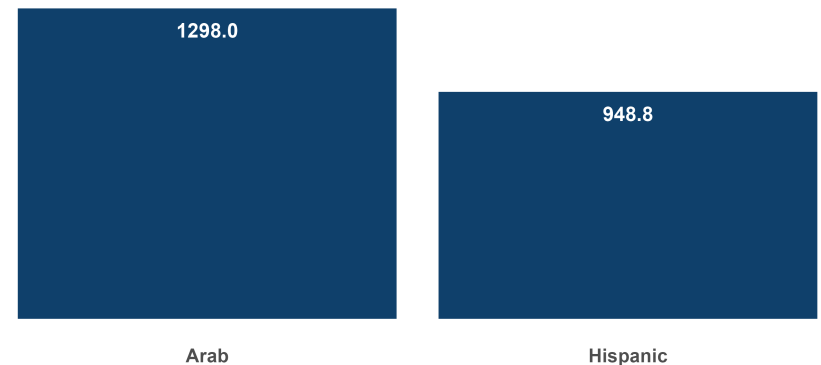
Cases per 10,000 Live Births



Data Source: Michigan Birth Defects Registry (MBDR) and Live Birth Files

Birth Defects Prevalence by Maternal Ethnicity Michigan, 2022

Cases per 10,000 Live Births



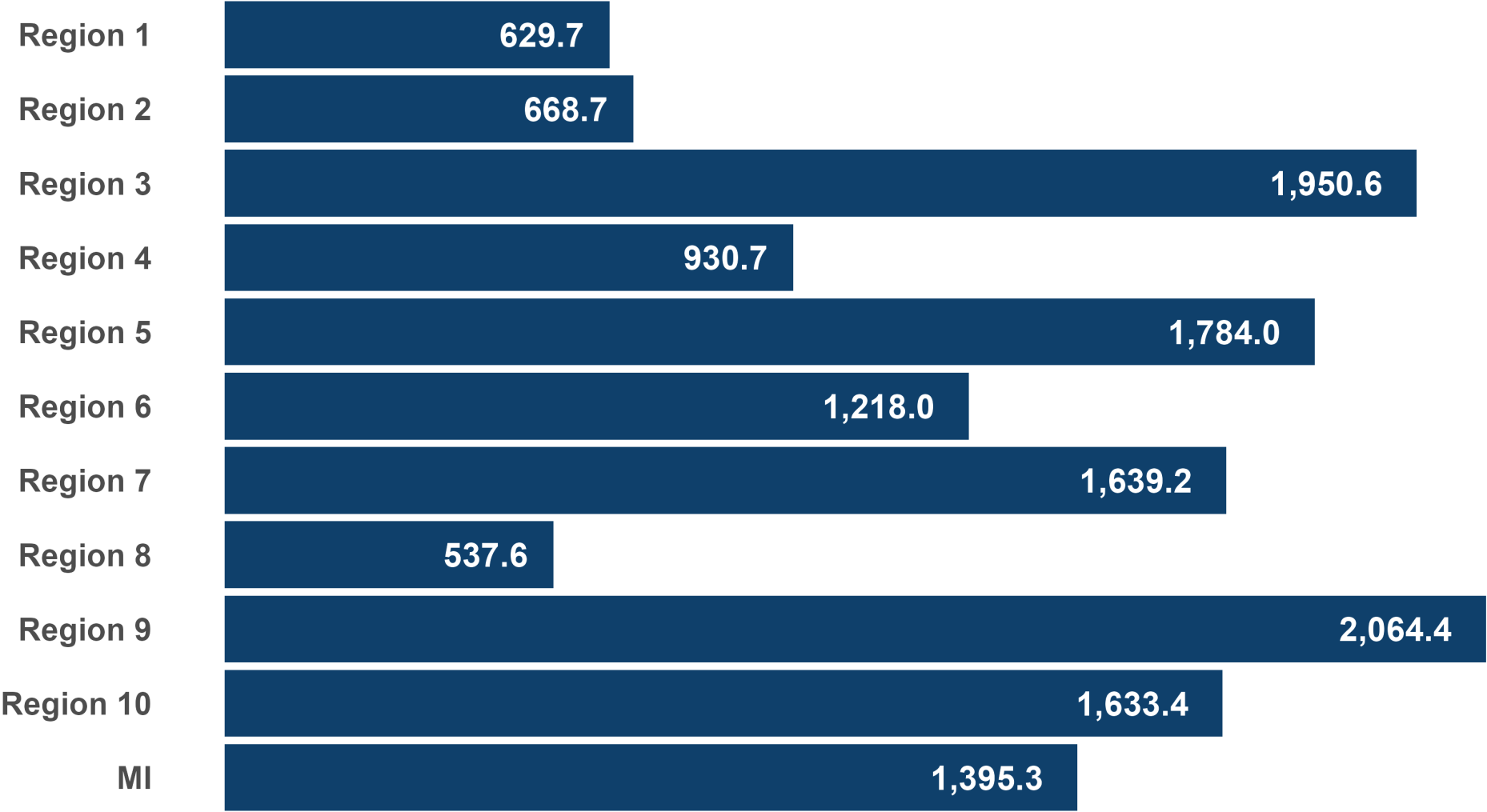
Data Source: Michigan Birth Defects Registry (MBDR) and Live Birth Files

Birth Defects Prevalence by Prosperity Region

Michigan, 2022

Regions 3 and 9 reported the highest birth defect prevalence rates in 2022. Region 8 had the lowest birth defect prevalence.

Cases per 10,000 Live Births



Data Source: Michigan Birth Defects Registry (MBDR) and Live Birth Files

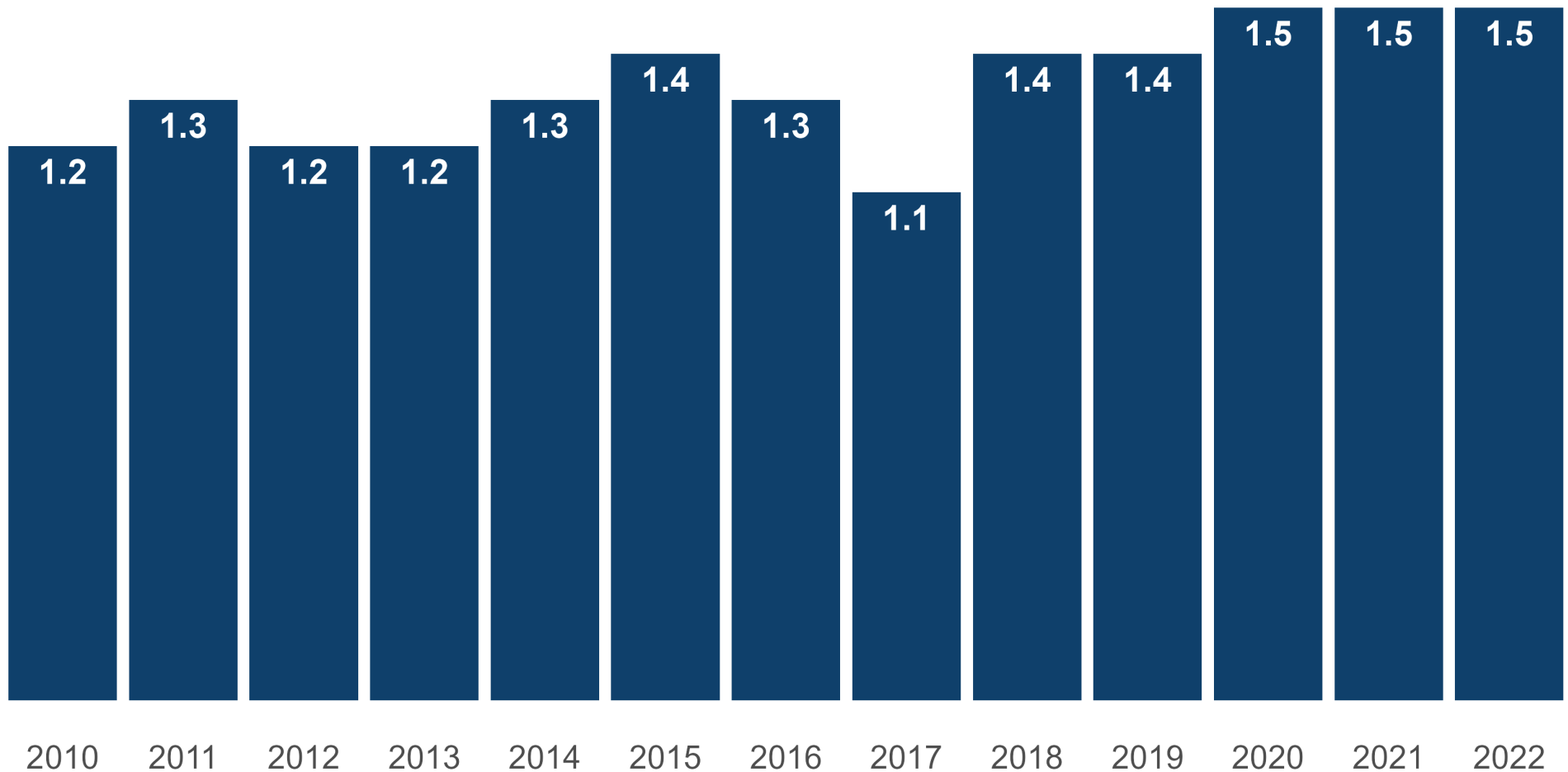
Sleep-Related Infant Deaths 2010-2022

Deaths to infants less than 1 year of age that occur suddenly and unexpectedly due to suffocation/positional asphyxia, sudden infant death syndrome, undetermined/unexpected infant death, and other causes where the sleep environment was likely to have contributed to the death.

Sleep-Related Infant Death Rate Michigan, 2010-2022

Between 2010 and 2022, there were 1,904 sleep-related infant deaths in Michigan. The rate of sleep-related infant deaths fluctuated slightly but has not statistically significantly differed between years.

Deaths per 1,000 Live Births



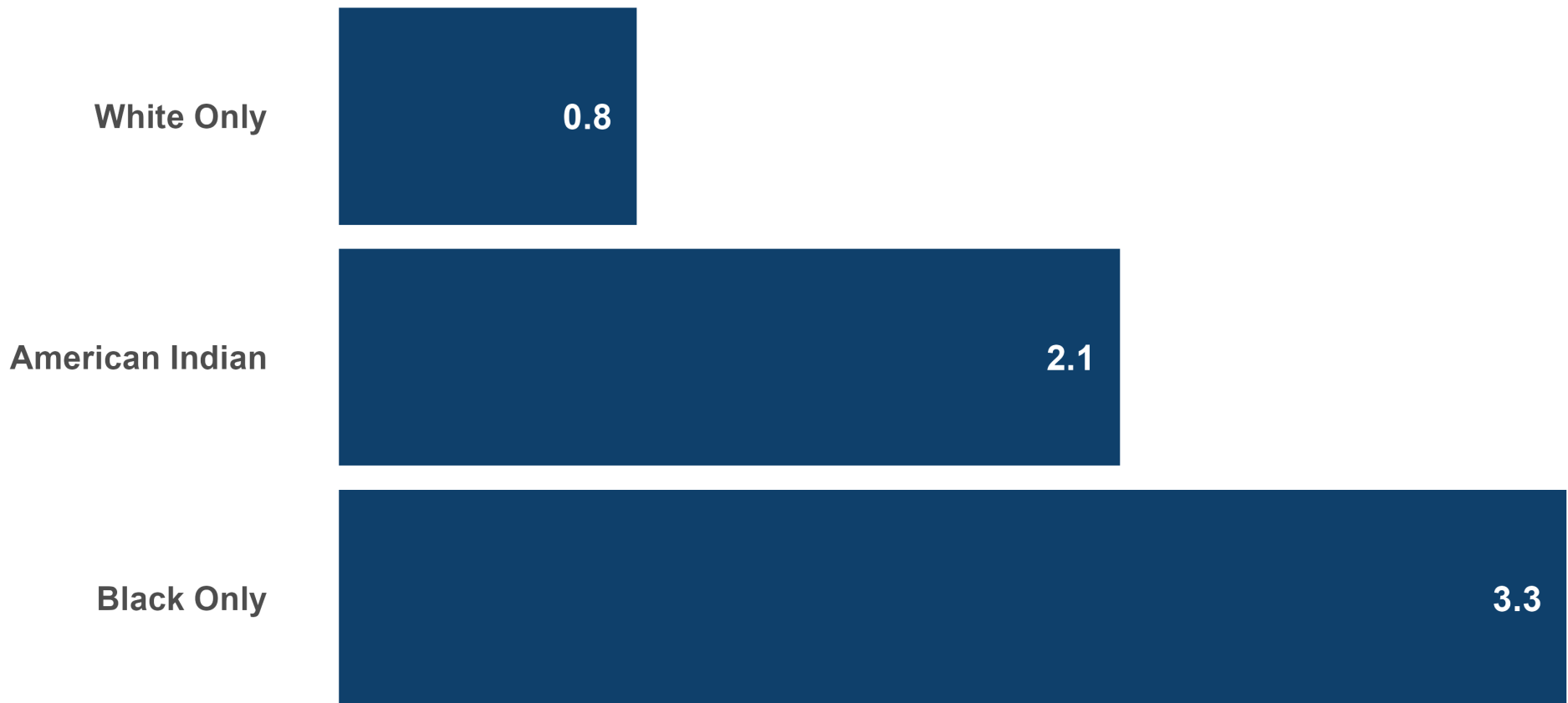
Data Source: Centers for Disease Control and Prevention (CDC), SUID Case Registry, MPHI

Sleep-Related Infant Deaths by Race

Michigan, 2010-2022

Between 2010 and 2022, Black infants were 4.0 times more likely to die of sleep-related causes as compared to White infants. American Indian infants were 2.6 times more likely to die of sleep-related causes as compared to White infants.

Deaths per 1,000 Live Births



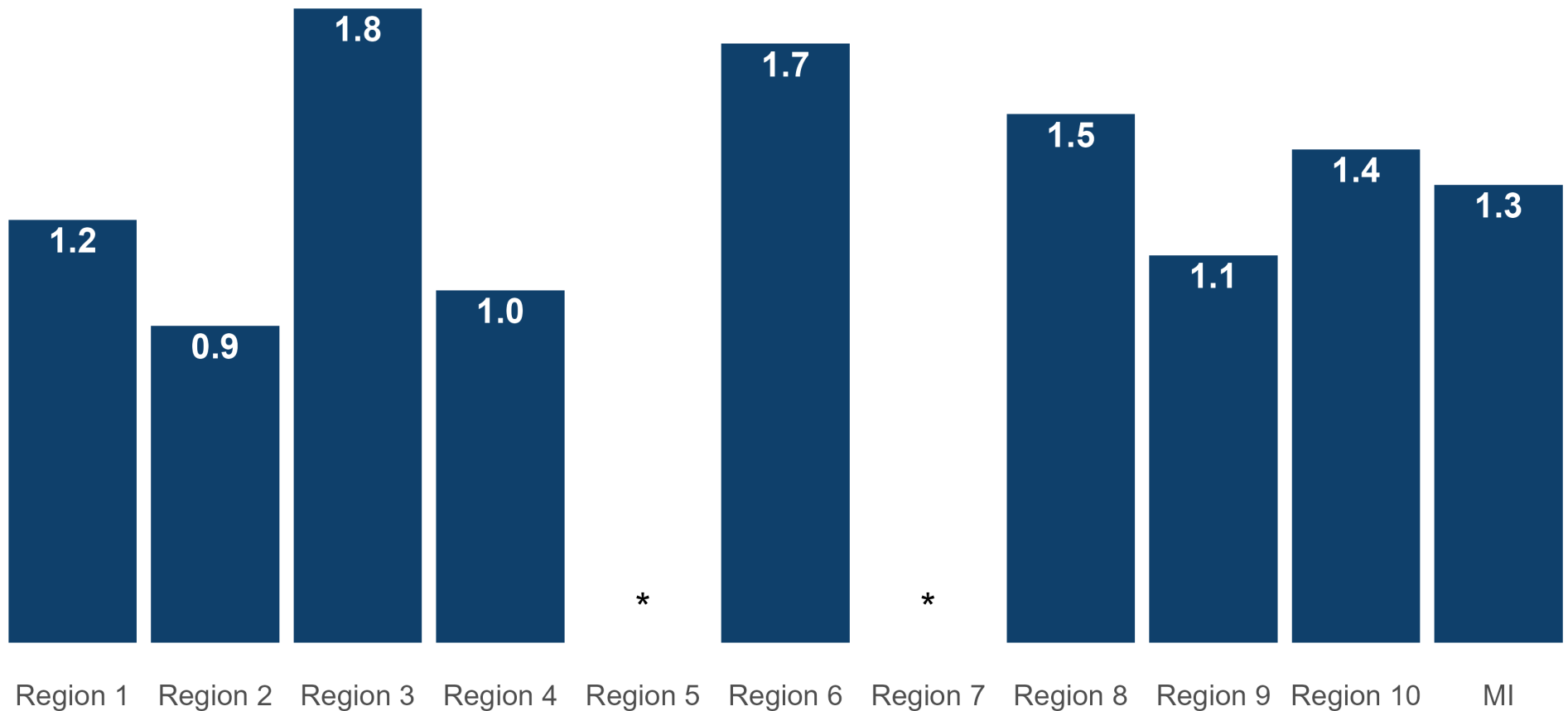
Data Source: Centers for Disease Control (CDC), SUID Case Registry, Michigan Public Health Institute

Sleep-Related Infant Deaths by Prosperity Region, 2010-2022

* Data for regions 5 and 7 is suppressed as to not inadvertently identify suppressed county level statistics.

Between 2010 and 2022 there were 252 sleep-related infant deaths in Region 4. The Region 4 sleep-related infant death rate was lower than the Michigan sleep-related infant death rate. The difference was statistically significant.

Deaths per 1,000 Live Births



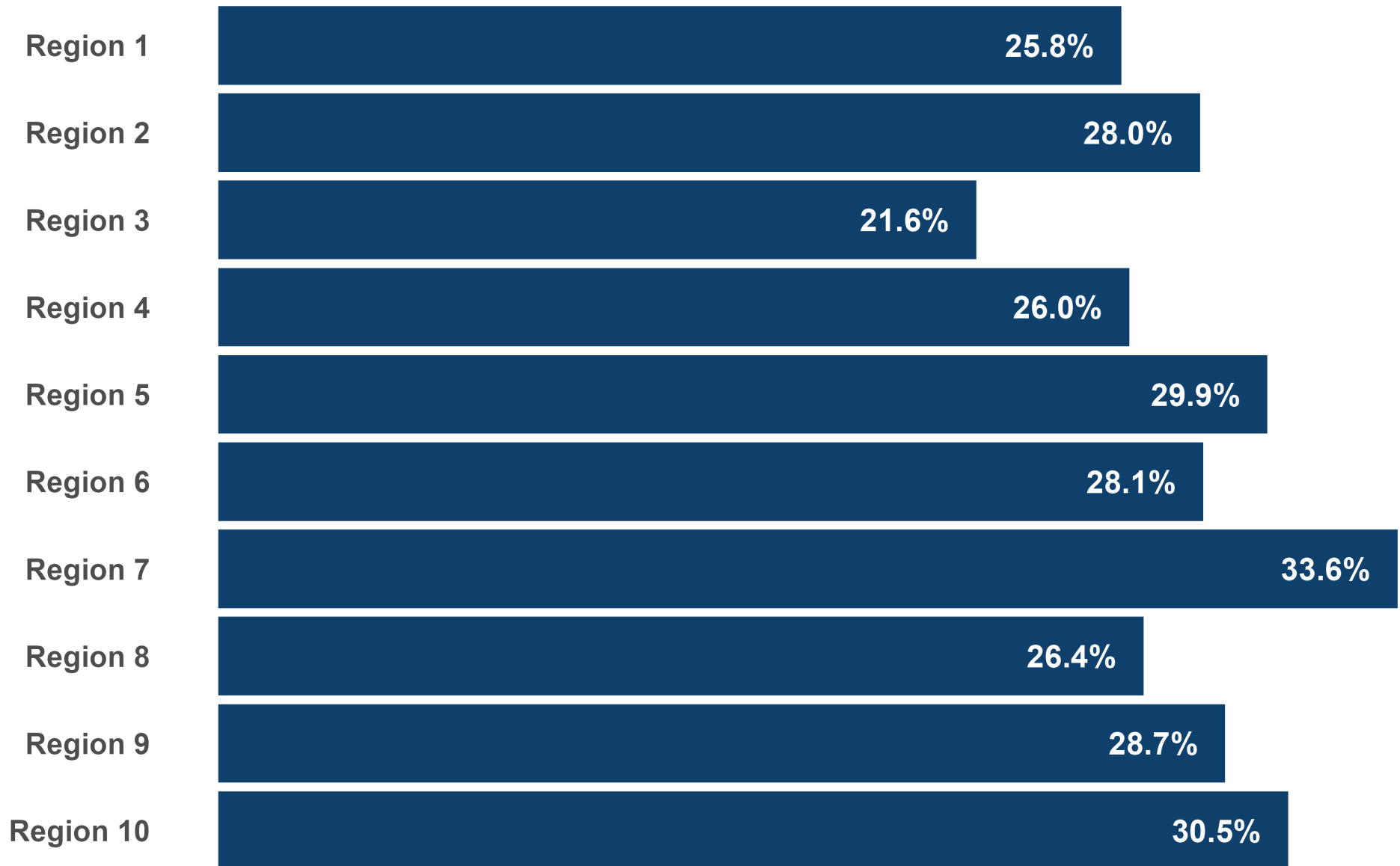
Data Source: Centers for Disease Control and Prevention (CDC), SUID Case Registry, MPHI

Low Risk Cesarean Region 4 2023

Low-risk cesarean is a ratio of the number of first births delivered by cesarean section among low-risk females (full-term, singleton births, vertex presentation) to the number of first births among low-risk females (full-term, singleton births, vertex presentation).

Low Risk Cesarean by Prosperity Region, 2023

Low risk cesarean is a ratio of the number of first births delivered by cesarean section among low risk females (full-term, singleton births, vertex presentation) to the number of first births among low-risk females.



Data Source: Michigan Resident Live Birth Files, Division for Vital Records and Health Statistics, MDHHS

Severe Maternal Morbidity (excluding transfusions) 2023

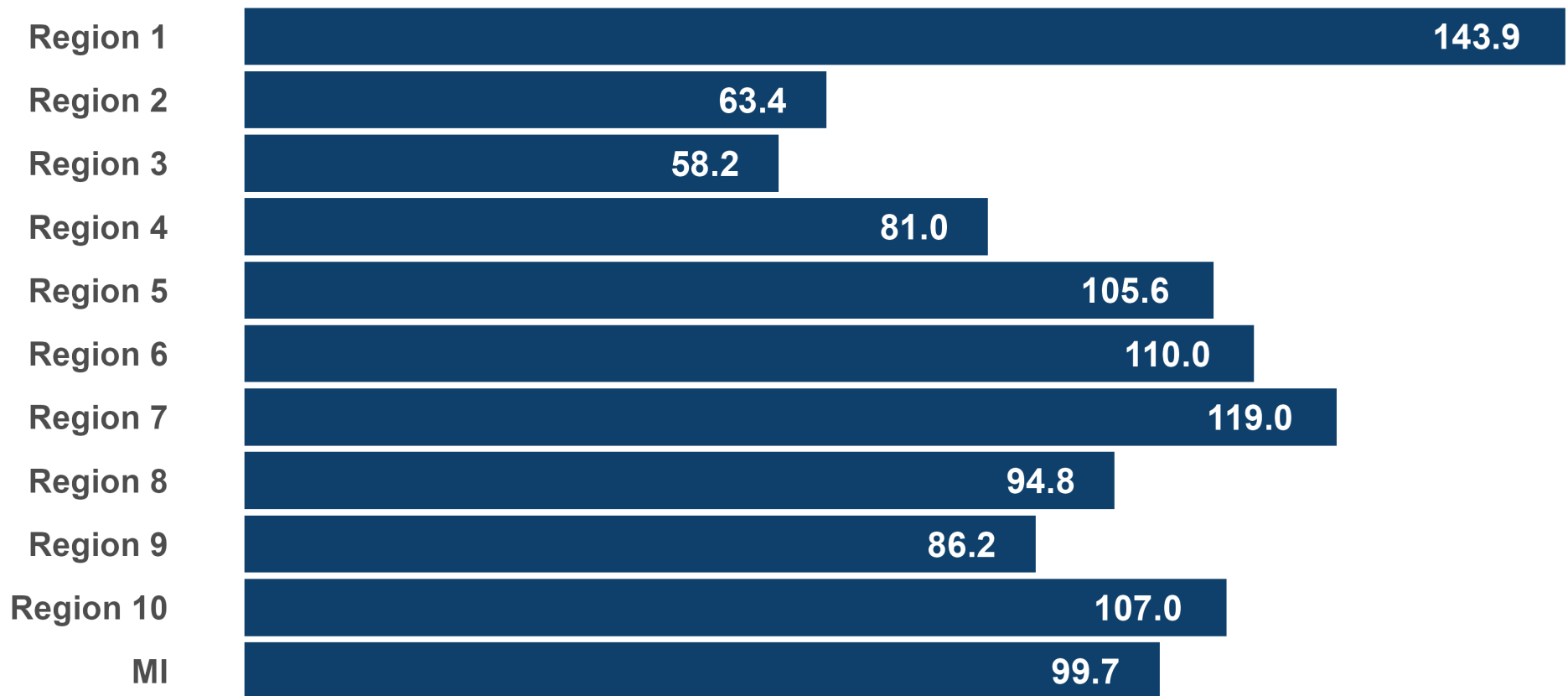
The unexpected outcomes of labor and delivery that result in significant short or long-term consequences to a woman's health.

Severe Maternal Morbidity (Excluding Transfusions) by Prosperity Region, 2023

Severe maternal morbidity (SMM) is defined as the unexpected outcomes of labor and delivery that result in significant short- or longterm consequences to a woman's health.

In Prosperity Region 4, there were 136 cases of SMM (excluding transfusions) in 2023. The resulting rate was lower than the Michigan rate.

Cases per 10,000 Inpatient Delivery Hospitalizations



Data Source: Division for Vital Records and Health Statistics, MDHHS using data from the Michigan Inpatient Database obtained with permission from the Michigan Health and Hospital Association Service Corporation (MHASC)

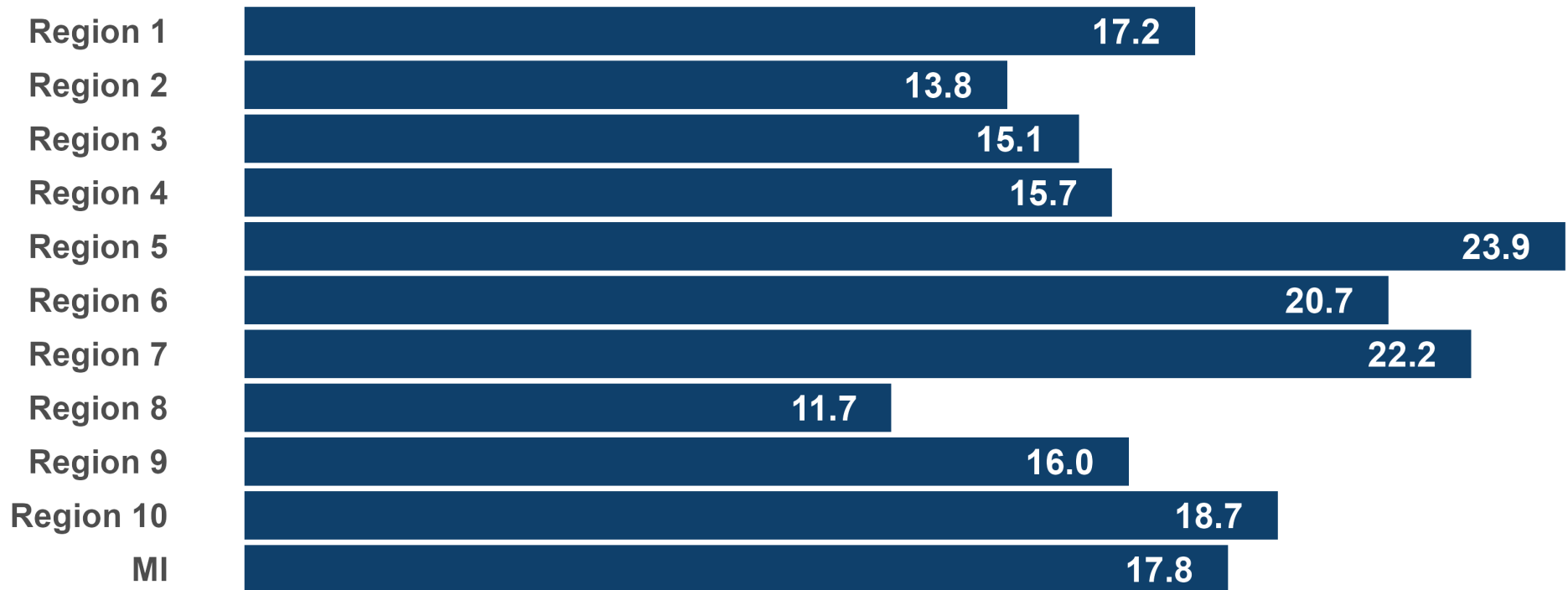
Cardiac Severe Maternal Morbidity by Prosperity Region, 2021-2023

Cardiovascular severe maternal morbidity (SMM) among inpatient delivery hospitalizations includes: acute heart failure/pulmonary edema, acute myocardial Infarction, aneurysm, cardiac arrest/ventricular fibrillation, conversion of cardiac rhythm, eclampsia, and heart failure/arrest during procedure or surgery.

There were 518 cases of severe maternal morbidity due to cardiac causes in Michigan between 2021 and 2023.

There were 80 cases of SMM due to cardiac causes in Region 4 between 2021 and 2023.

Cases per 10,000 Inpatient Delivery Hospitalizations



Data Source: Division for Vital Records and Health Statistics, MDHHS using data from the Michigan Inpatient Database obtained with permission from the Michigan Health and Hospital Association Service Corporation (MHASC)

Maternal Mortality Ratio 2017-2021

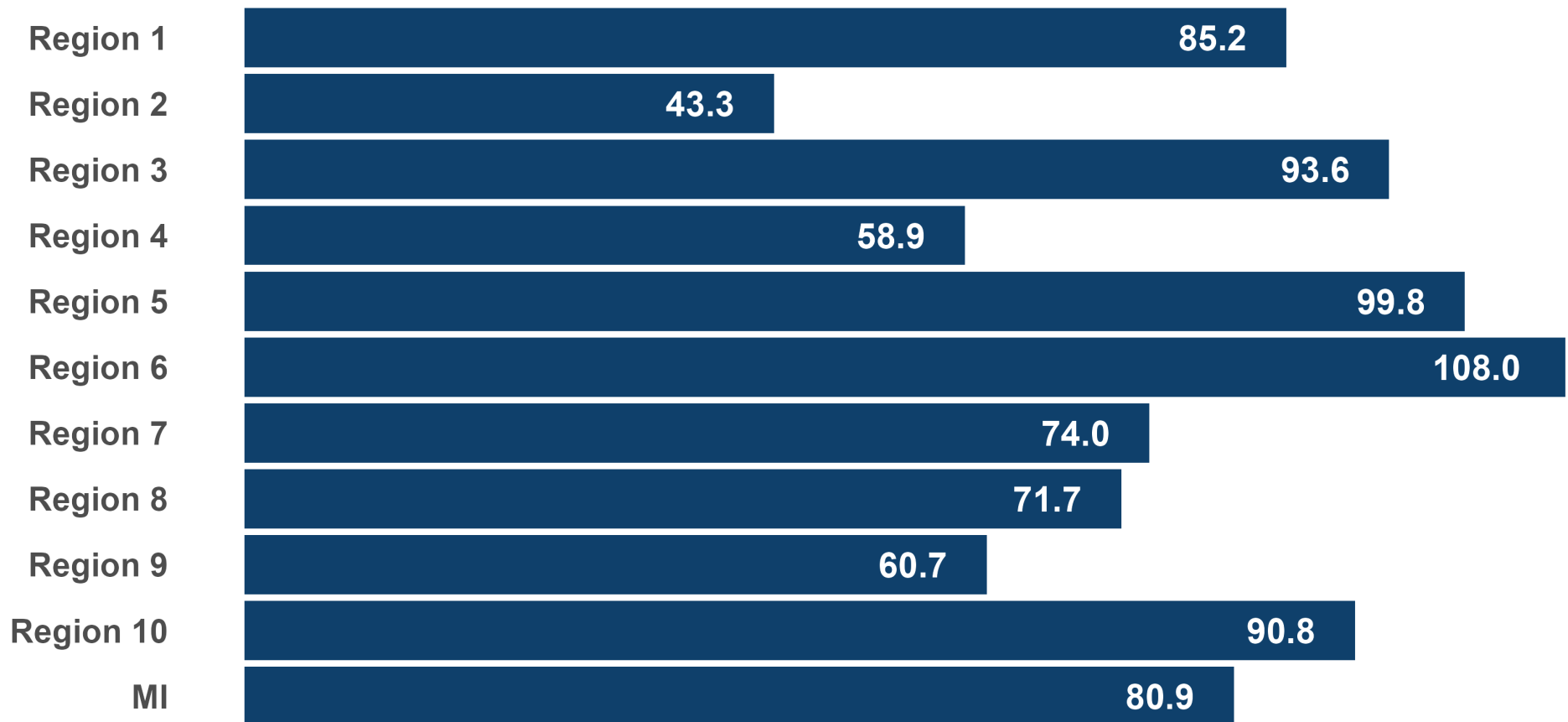
Total (pregnancy-associated) maternal deaths include deaths that occur during pregnancy, at delivery or within one year of pregnancy including 1) deaths that are related to the pregnancy 2) unrelated to the pregnancy 3) as well as where it is unknown.

Maternal Mortality Ratio by Prosperity Region, 2017-2021

Total (pregnancy-associated) maternal deaths include deaths that occur during pregnancy, at delivery or within one year of pregnancy including 1) deaths that are related to the pregnancy 2) unrelated to the pregnancy 3) as well as where it is unknown.

In Region 4 there were 55 maternal deaths between 2017 and 2021.

Deaths per 100,000 Live Births



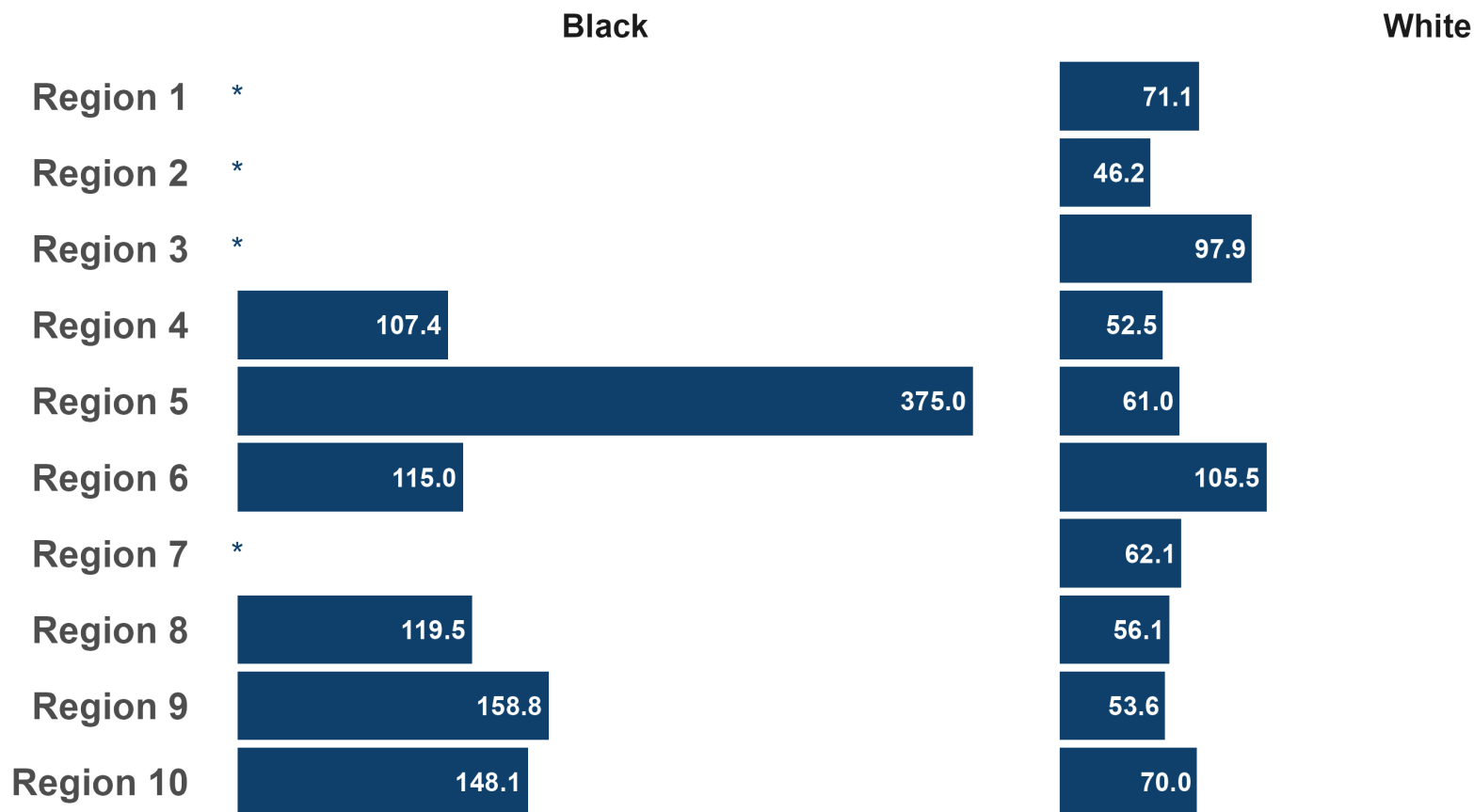
Data Source: Michigan Maternal Mortality Surveillance Program, MDHHS

Maternal Mortality Ratio by Race by Prosperity Region, 2017-2021

Total (Pregnancy Associated) Maternal Mortality Ratio by Race. *Race-specific statistics for some regions are suppressed below.

Between 2017 and 2021, Black mothers in Prosperity Region 4 experienced 2.0 times higher mortality as compared to white mothers. There were 40 white maternal deaths and 10 Black maternal deaths in Prosperity Region 4 between 2017 and 2021.

Ratio per 100,00 Live Births



Data Source: Michigan Maternal Mortality Surveillance Program, MDHHS

Cardiac Maternal Mortality by Prosperity Region, 2017-2021

*Some regional statistics are suppressed below due to having less than six maternal deaths within the region.

Ratio per 100,000 Live Births



Data source: Michigan Maternal Mortality Surveillance Program, MDHHS