

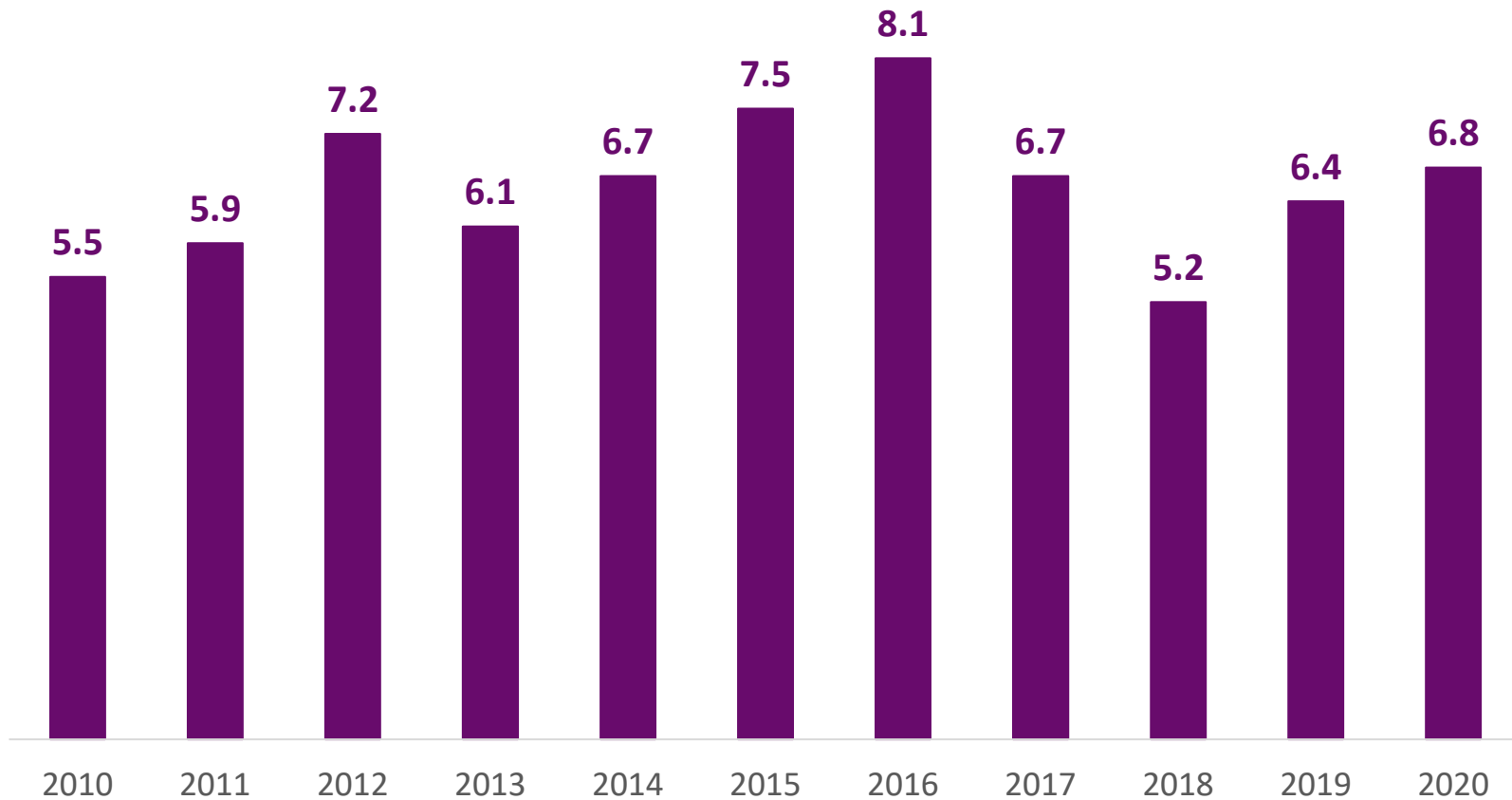
Maternal and Infant Health Statistics Prosperity Region 6, Michigan

Prepared by Maternal and Child Health (MCH) Epidemiology Section,
Michigan Department of Health and Human Services (MDHHS)
Data source: Michigan resident live birth files (03/17/22) and infant mortality files (12/16/21),
Division for Vital Records and Health Statistics, MDHHS
July 2022

Infant Mortality Rate (IMR) Prosperity Region 6 2010-2020

Infant Mortality Rate, Prosperity Region 6, 2010-2020

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.



2020 Michigan Rate = 6.8

Year	# Infant Deaths	# Births	Rate
2010	54	9,739	5.5
2011	56	9,460	5.9
2012	67	9,306	7.2
2013	57	9,366	6.1
2014	63	9,424	6.7
2015	68	9,067	7.5
2016	75	9,214	8.1
2017	60	8,938	6.7
2018	46	8,792	5.2
2019	56	8,810	6.4
2020	57	8,433	6.8

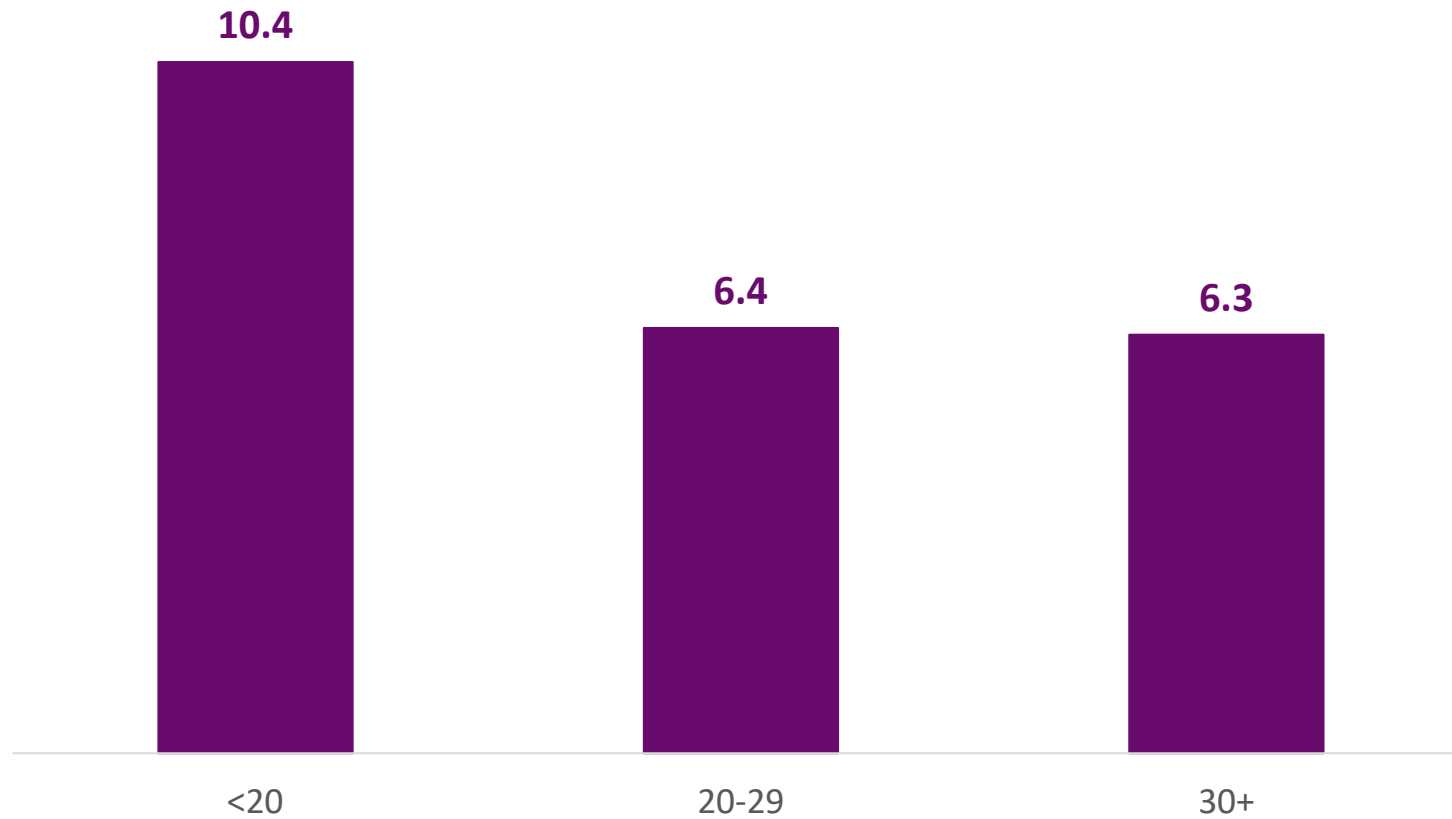
Infant Mortality Rates by Maternal Race/Ethnicity, Prosperity Region 6, 2016-2020

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.

Maternal Race	# Infant Deaths	# Live Births	Infant Mortality Rate (per 1,000 Live Births)	MI
White Non-Hispanic	183	34,153	5.4	4.9
Black Non-Hispanic	82	6,840	12.0	13.6
Hispanic	19	1,836	10.3	5.6
American Indian	0	62	0	5.0
Asian/Pacific Islander	DNS	337	DNS	4.1

Infant Mortality Rates by Maternal Age, Prosperity Region 6, 2016-2020



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.



Maternal Age	REGION 6			MI
	# Infant Deaths	# Births	Rate	Rate
<20 years	26	2,509	10.4	10.1
20-29 years	167	25,929	6.4	7.1
30+ years	99	15,749	6.3	5.6

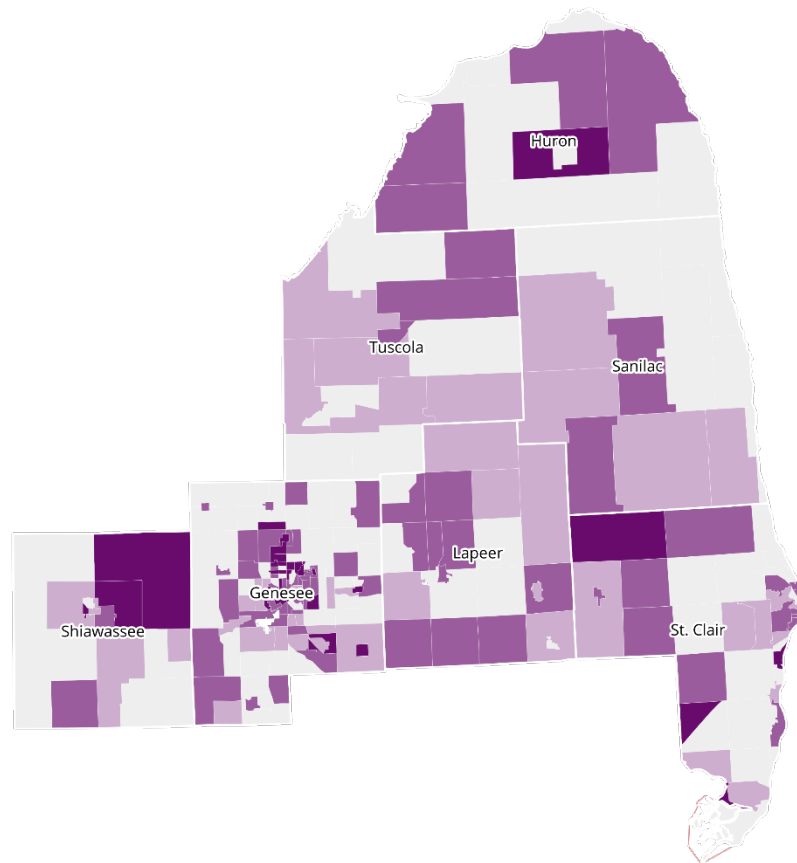
Infant Mortality Rates by Intended Payment Source, Prosperity Region 6, 2016-2020

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.

Payment	# Infant Deaths	# Live Births	Infant Mortality Rate (per 1,000 Live Births)		MI
Private Insurance	91	21,360	4.3	 4.3	4.8
Medicaid	192	21,936	8.8	 8.8	8.8

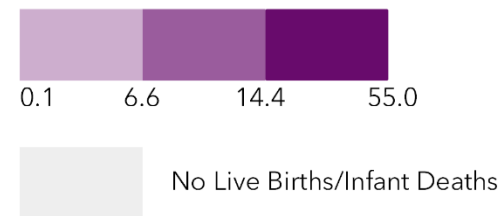
Infant Mortality Rates by Census Tract, Prosperity Region 6, 2015-2019

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 Deaths per 1,000 Live Births

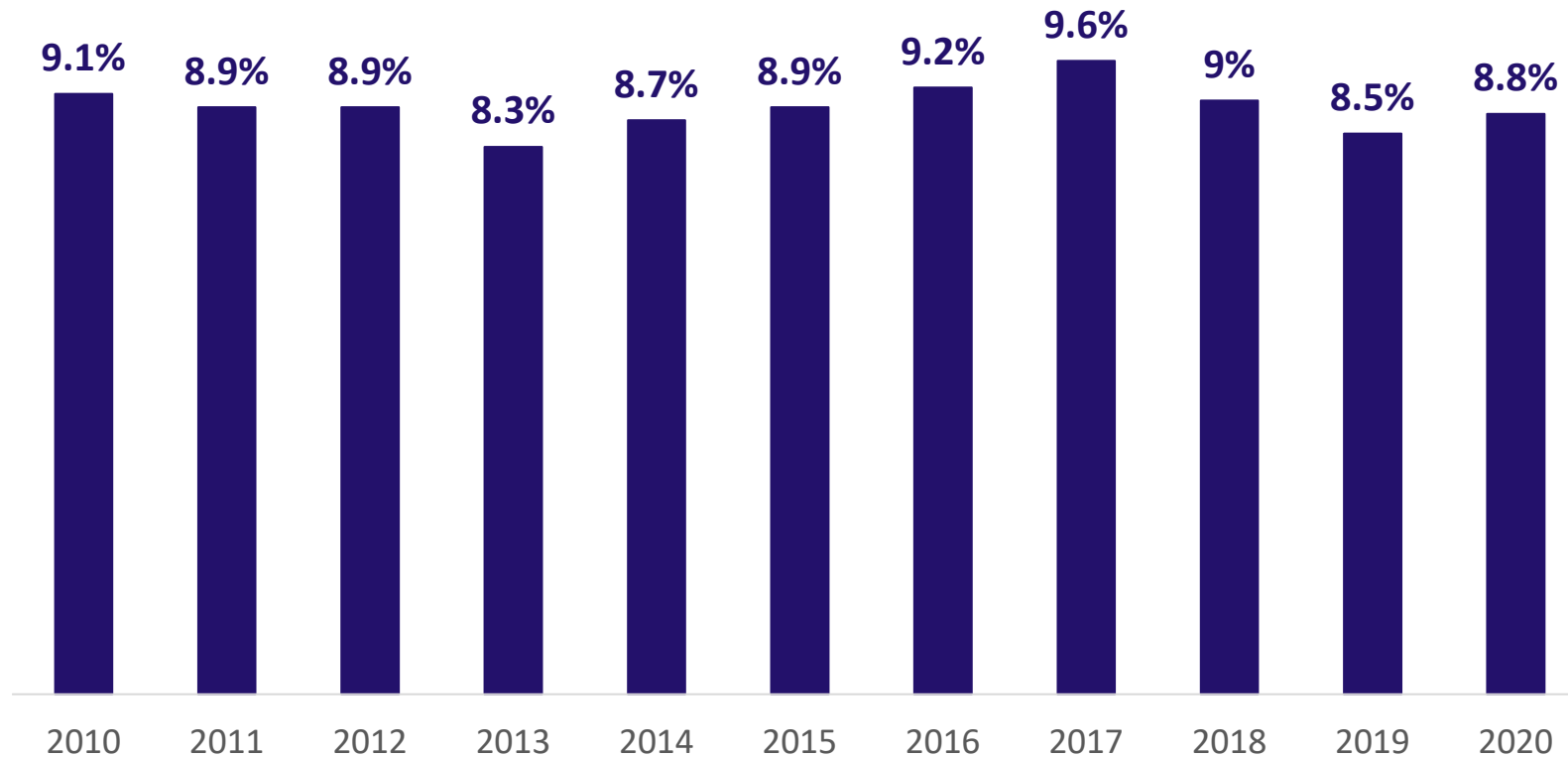
Infant mortality is defined as a death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births.



Low Birthweight (LBW) Prosperity Region 6 2010-2020

Low Birthweight, Prosperity Region 6, 2010-2020

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



2020 Michigan = 9.0%

Year	# LBW	# Births	% LBW
2010	891	9,739	9.1
2011	841	9,460	8.9
2012	831	9,306	8.9
2013	778	9,366	8.3
2014	818	9,424	8.7
2015	810	9,067	8.9
2016	849	9,214	9.2
2017	862	8,938	9.6
2018	791	8,792	9.0
2019	747	8,810	8.5
2020	741	8,433	8.8

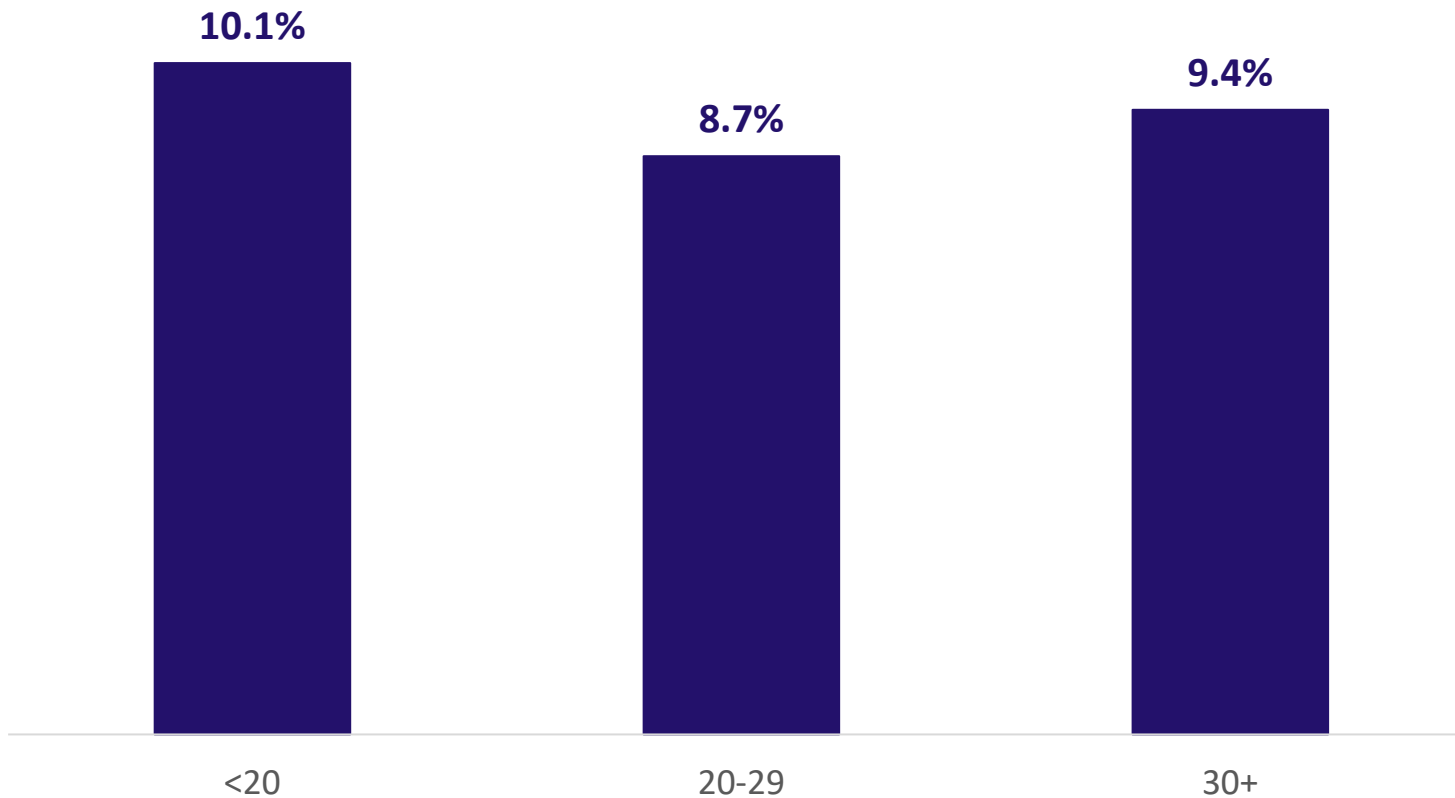
Low Birthweight by Maternal Race/Ethnicity, Prosperity Region 6, 2016-2020

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

Maternal Race	# LBW	# Live Births	Percent (%) Low Birthweight	MI
White non-Hispanic	2,650	34,153	7.8%	7.1%
Black non-Hispanic	1,070	6,840	15.6%	14.9%
Hispanic	134	1,836	7.3%	7.5%
American Indian	7	62	11.3%	8.4%
Asian/Pacific Islander	28	337	8.3%	8.9%

Low Birthweight by Maternal Age, Prosperity Region 6, 2016-2020

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



Maternal Age	REGION 6			MI
	# LBW	# Births	% LBW	% LBW
< 20 years	254	2,509	10.1	11.0
20-29 years	2,258	25,929	8.7	8.6
≥30 years	1,478	15,749	9.4	8.6

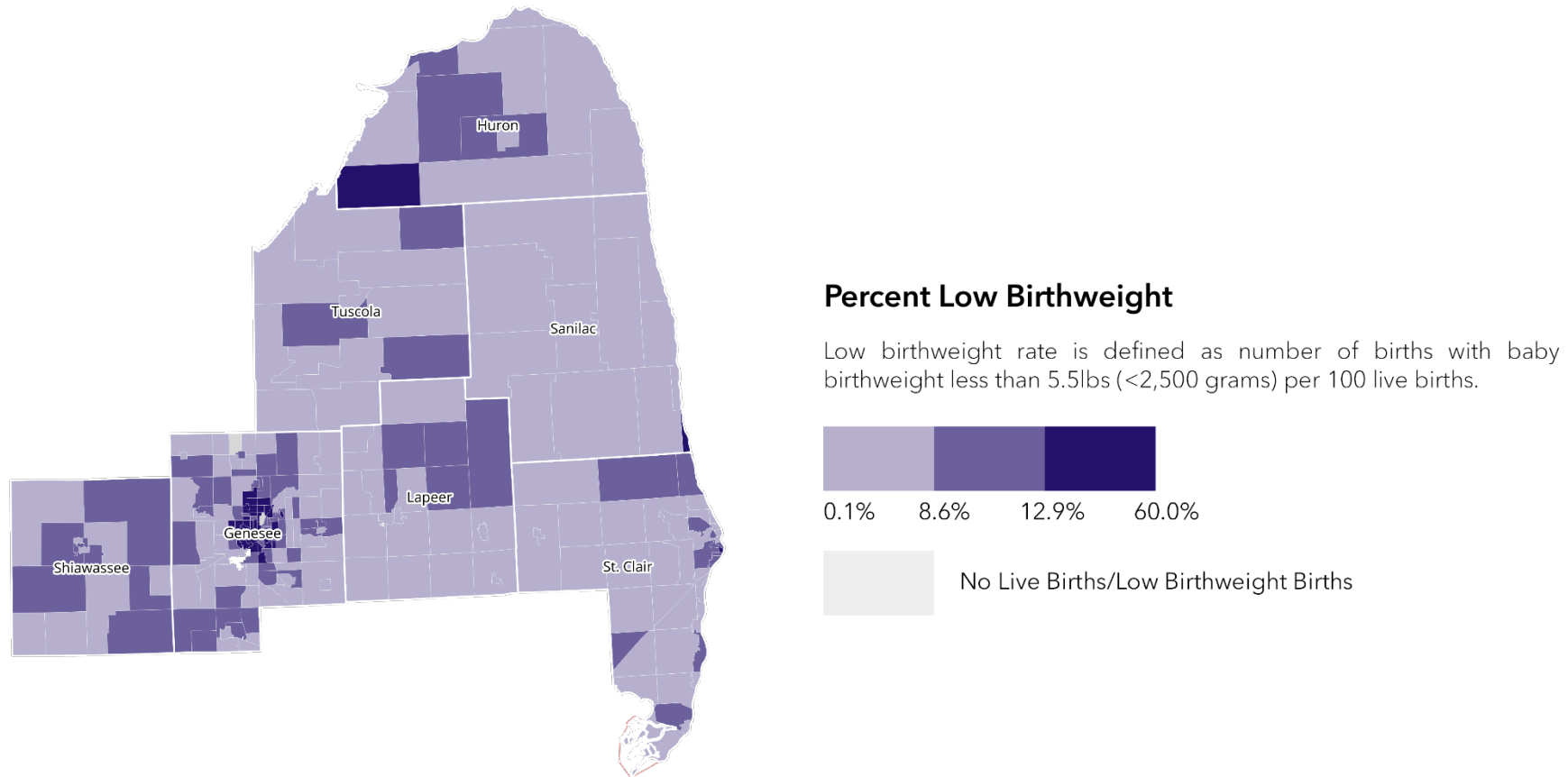
Low Birthweight by Intended Payment Source, Prosperity Region 6, 2016-2020

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

Payment	# LBW	# Live Births	Percent (%) Low Birthweight	MI
Private Insurance	1,477	21,360	6.9%	7.3%
Medicaid	2,442	21,936	11.1%	10.7%

Low Birthweight by Census Tract, Prosperity Region 6, 2015-2019

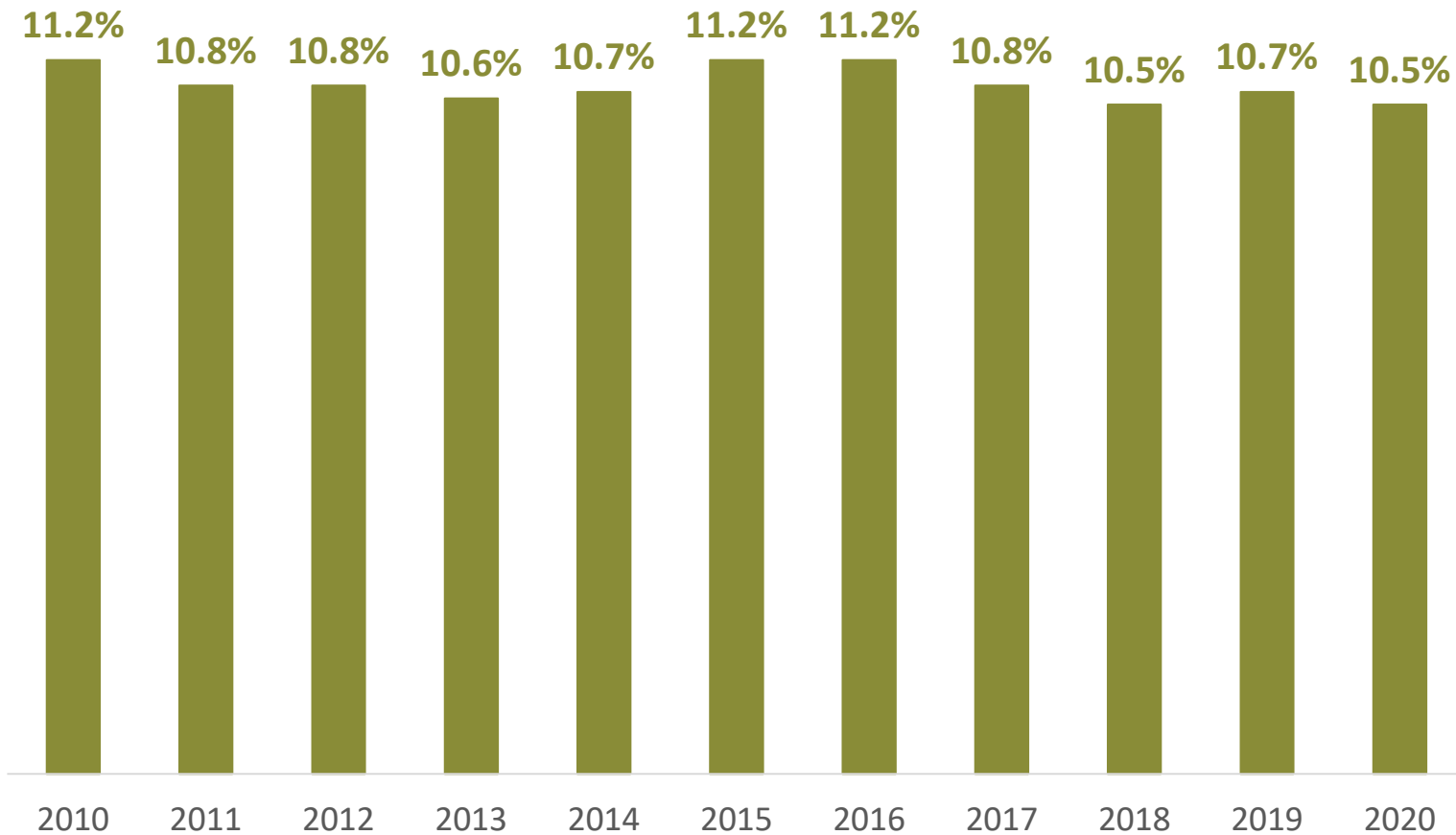
Low birthweight rate is defined as number of births with baby birthweight <2,500 grams per 100 live births.



Preterm Birth Prosperity Region 6 2010-2020

Preterm Birth, Prosperity Region 6, 2010-2020

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.







2020 Michigan = 10.2%

Year	# Preterm	# Births	% Preterm
2010	1,092	9,739	11.2
2011	1,024	9,460	10.8
2012	1,009	9,306	10.8
2013	989	9,366	10.6
2014	1,004	9,424	10.7
2015	1,013	9,067	11.2
2016	1,032	9,214	11.2
2017	965	8,938	10.8
2018	925	8,792	10.5
2019	940	8,810	10.7
2020	888	8,433	10.5

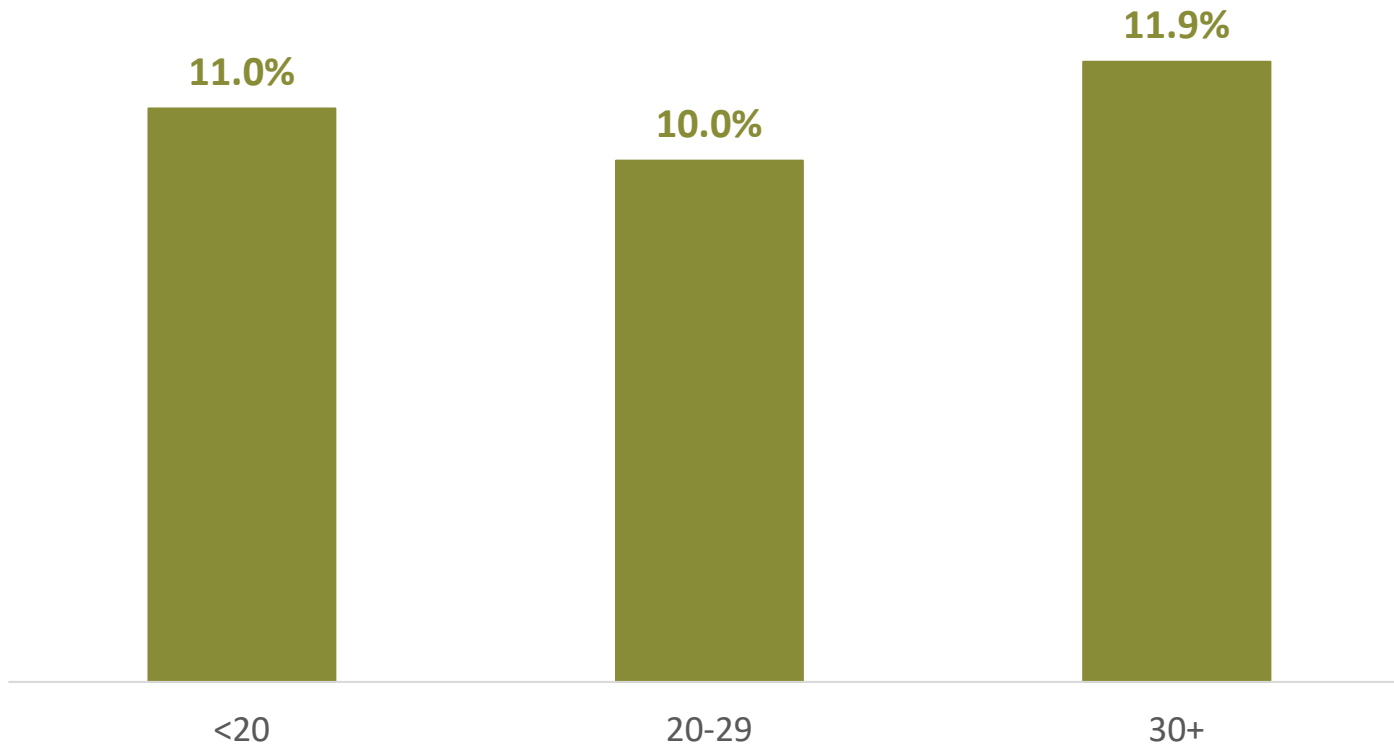
Preterm Birth by Maternal Race/Ethnicity, Prosperity Region 6, 2016-2020

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.

Maternal Race	# Preterm	# Live Births		Percent (%) Preterm	MI
White non-Hispanic	3,368	34,153	9.9%	 9.9%	9.0%
Black non-Hispanic	1,047	6,840	15.3%	 15.3%	14.8%
Hispanic	197	1,836	10.7%	 10.7%	9.6%
American Indian	DNS	62	DNS	Data Not Sufficient (DNS): 0<N<6	9.8%
Asian/Pacific Islander	33	337	9.8%	 9.8%	8.2%

Preterm Birth by Maternal Age, Prosperity Region 6, 2016-2020

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.



Maternal Age	REGION 6		MI
	# Preterm	# Births	% Preterm
< 20 years	275	2,509	11.0
20-29 years	2,603	25,929	10.0
≥30 years	1,872	15,749	11.9

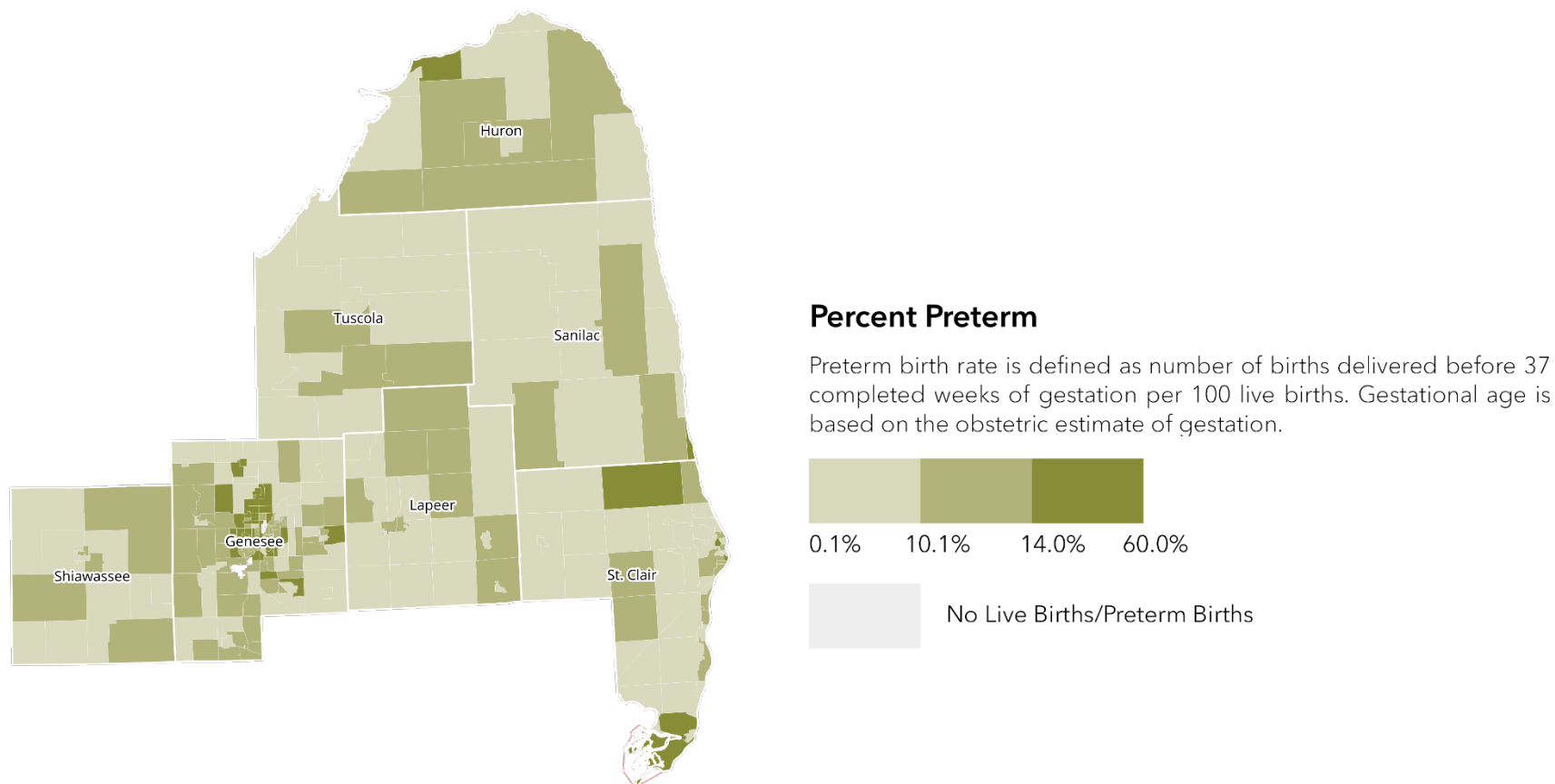
Preterm Birth by Intended Payment Source, Prosperity Region 6, 2016-2020

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.

Payment	# Preterm	# Live Births	Percent (%) Preterm	MI
Private Insurance	2,012	21,360	9.4%	9.3%
Medicaid	2,643	21,936	12.0%	11.5%

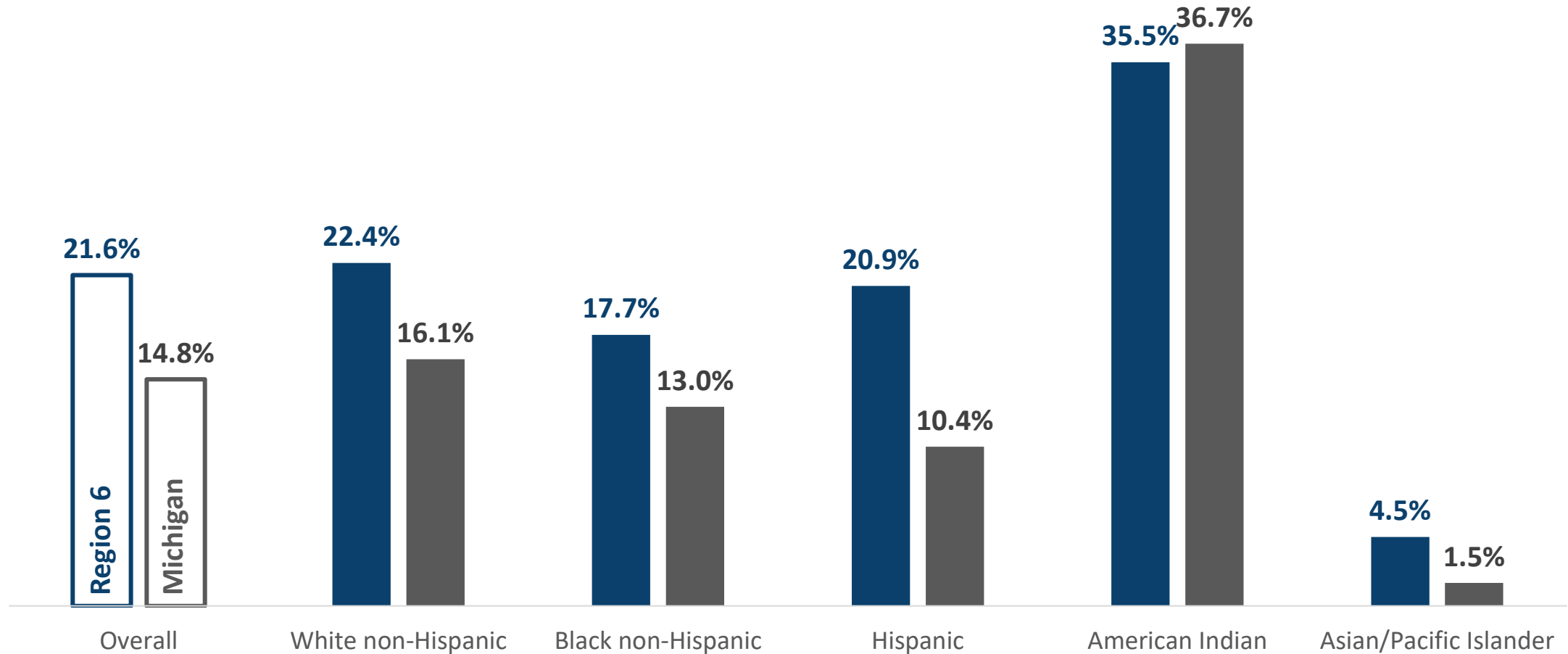
Preterm Birth by Census Tract, Prosperity Region 6, 2015-2019

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.



Smoking During Pregnancy Prosperity Region 6 2016-2020

Smoking During Pregnancy by Maternal Race/Ethnicity, 2016-2020

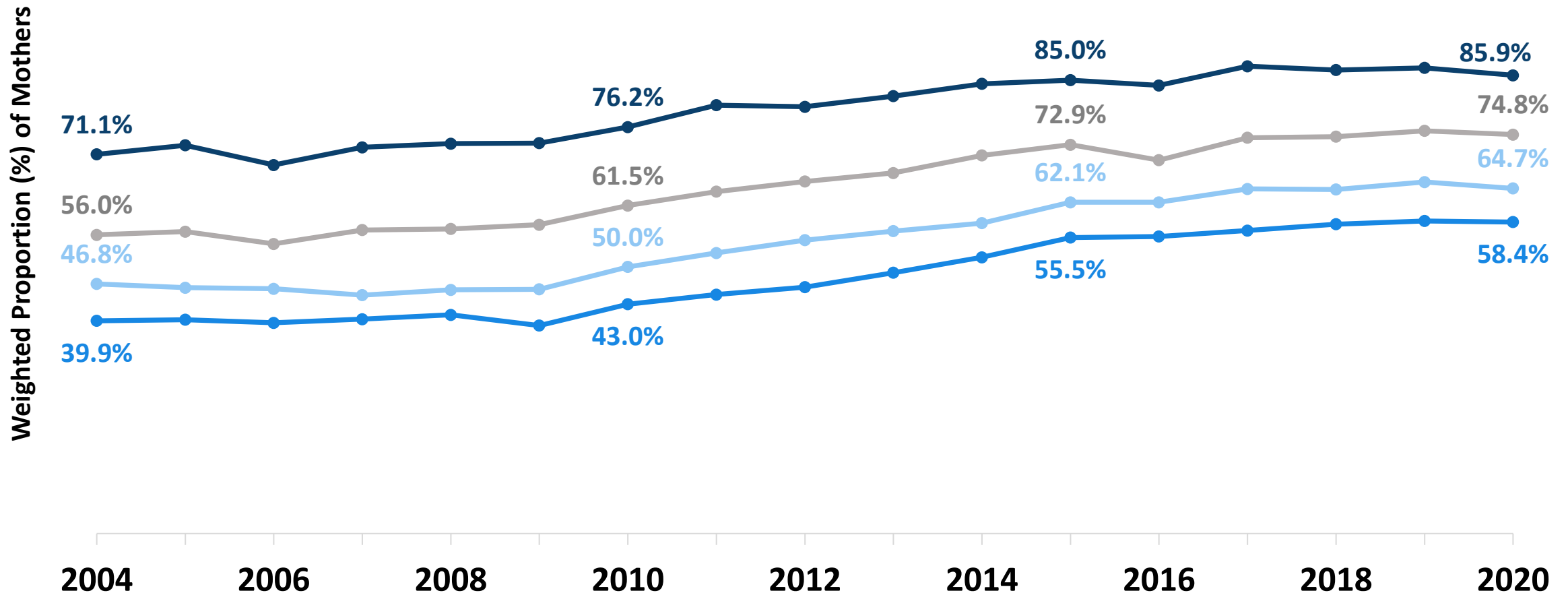


Breastfeeding Initiation and Duration Michigan, 2004-2020

Breastfeeding Initiation + Duration, Michigan 2004-2020

Significance test for all linear trends: $p < 0.0001$

—●— EVER —●— 1_MONTH —●— 2_MONTHS —●— 3_MONTHS

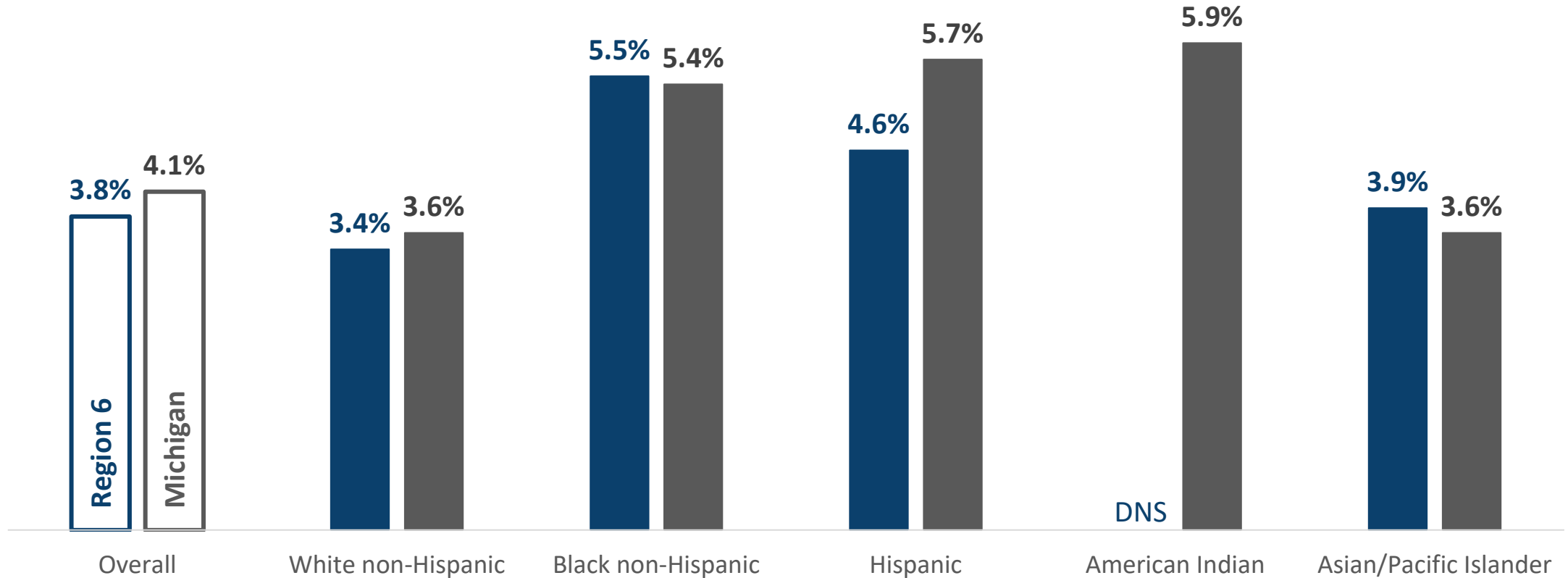


Late Entry into Prenatal Care Prosperity Region 6 2016-2020

Late Entry Into Prenatal Care by Maternal Race/Ethnicity, 2016-2020

Late entry into prenatal care refers to begin prenatal care in the 7th - 9th month of gestation

Data Not Sufficient (DNS): 0<N<6



Neonatal Abstinence Syndrome Prosperity Region 6 2010-2020

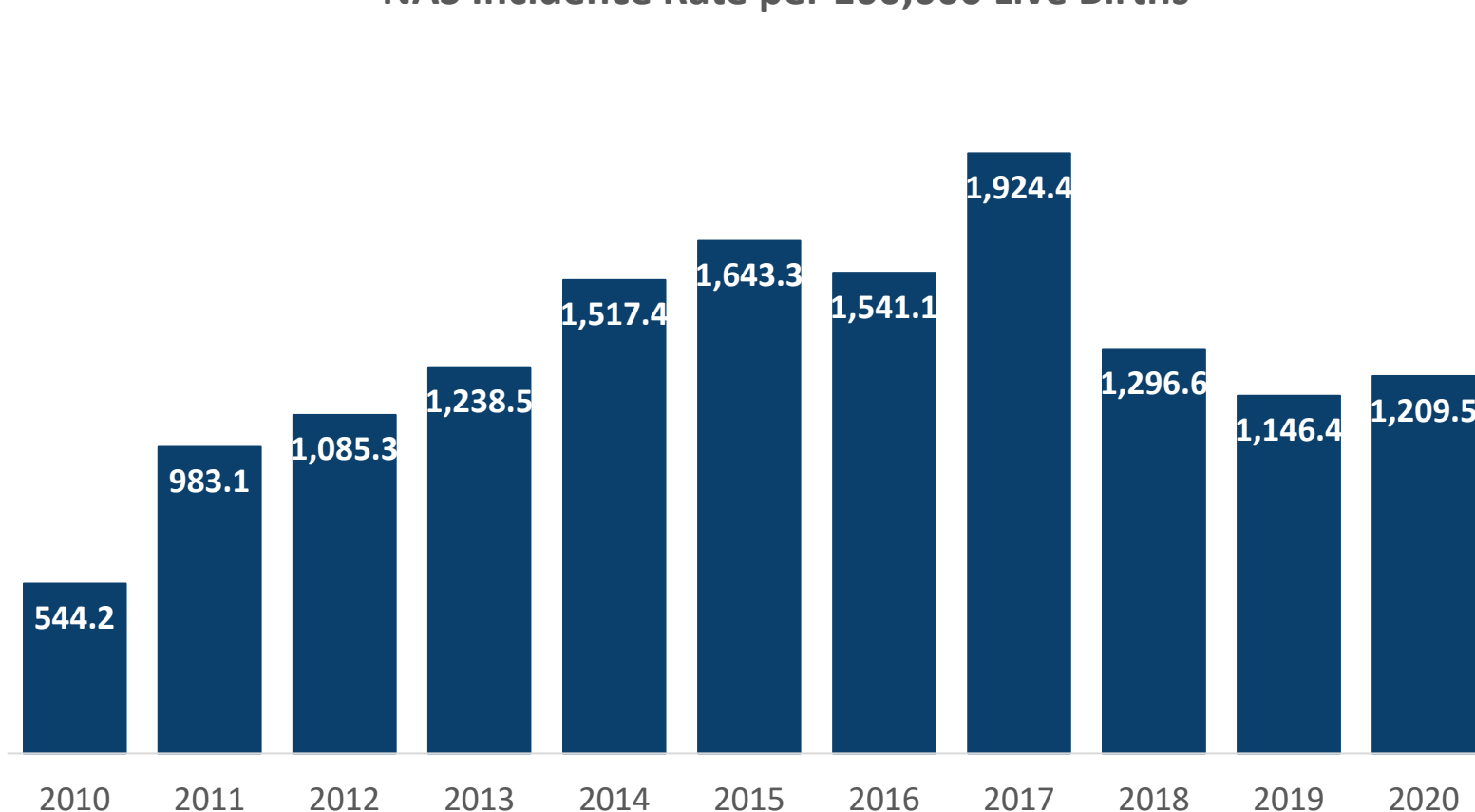
About the Data

1. NAS cases are identified by diagnosis code (ICD-9 779.5 or ICD-10 P96.1) from the Michigan Inpatient Database. The transition from ICD-9 to ICD-10 started in Fall 2015. This may contribute to some fluctuation in the data.
2. NAS cases may be underreported with the increasing popularity of non-pharmacological interventions, which may not be consistently captured in the data.

Neonatal Abstinence Syndrome*, Prosperity Region 6, 2010-2020

Note: 2010-2015: 779.5 (drug withdrawal syndrome in newborn) and
2016-current: P96.1 (neonatal withdrawal symptoms from maternal use of drugs of addiction)

NAS Incidence Rate per 100,000 Live Births



2020 Michigan Rate = 624.1

Year	# Cases	# Births	Rate
2010	53	9,739	544.2
2011	93	9,460	983.1
2012	101	9,306	1,085.3
2013	116	9,366	1,238.5
2014	143	9,424	1,517.4
2015	149	9,067	1,643.3
2016	142	9,214	1,541.1
2017	172	8,938	1,924.4
2018	114	8,792	1,296.6
2019	101	8,810	1,146.4
2020	102	8,433	1,209.5

NAS by Maternal Race/Ethnicity, Prosperity Region 6, 2016-2020

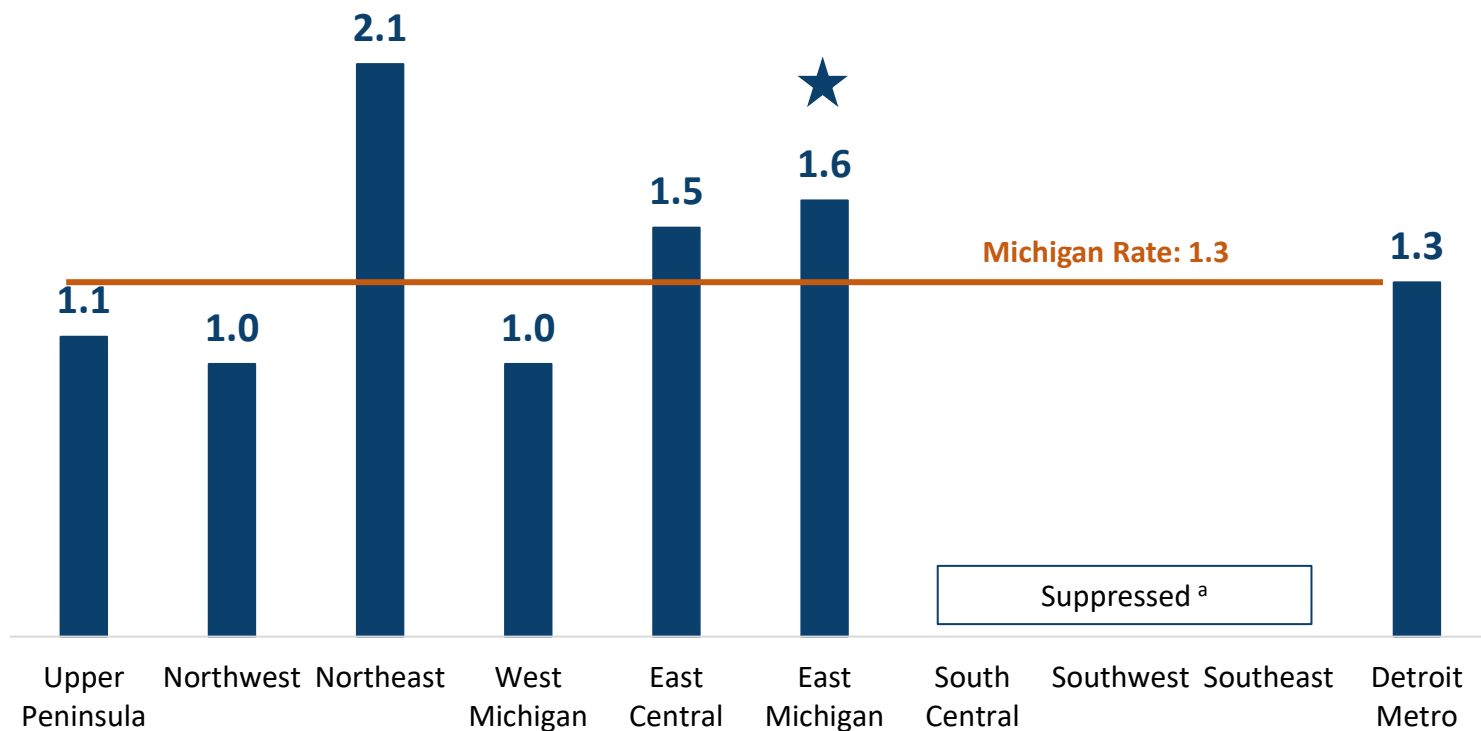
Note: 2010-2015: 779.5 (drug withdrawal syndrome in newborn) and
2016-current: P96.1 (neonatal withdrawal symptoms from maternal use of drugs of addiction)

Maternal Race	# Cases	# Live Births	NAS Rate per 100,000 Live Births	MI
White non-Hispanic	518	34,153	1,516.7	851.5
Black non-Hispanic	78	6,840	1,140.4	376.6
Hispanic	20	1,836	1,089.3	519.5
American Indian	DNS	62	DNS	4,582.1
Asian/Pacific Islander	0	337	0	27.6

Sleep-Related Infant Death Rate Prosperity Region 6 2010-2019

Sleep-Related Infant Death Rate by Prosperity Region, 2010-2019

Sleep-Related Infant Death Rate per 1,000 Live Births
2010-2019



- Between 2010 and 2019 there were **149** sleep-related infant deaths in Region Six.
- The Region Six sleep-related infant death rate of 1.6 per 1,000 live births was **significantly higher** than the Michigan sleep-related death rate (Michigan rate: 1.3 per 1,000 live births).

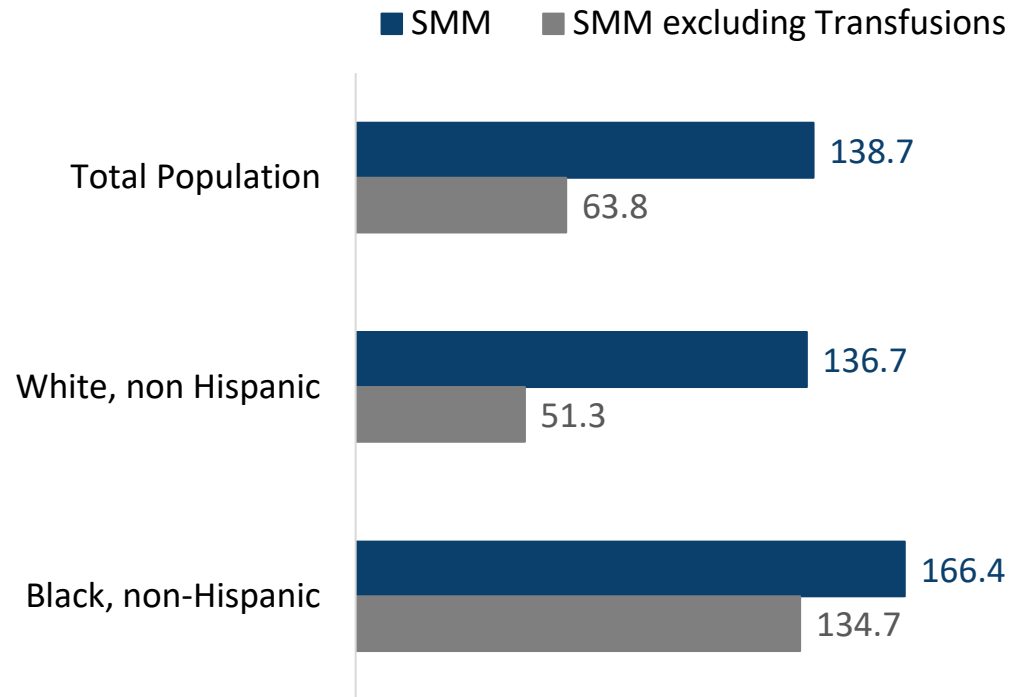
^a Data for Regions 7, 8 and 9 suppressed as to not inadvertently identify a suppressed county level statistics. County level data can be found at https://www.keepingkidsalive.org/wp-content/uploads/Sleep-Related-Infant-Deaths-in-Michigan_2010-to-2018.pdf

Severe Maternal Morbidity Rate Prosperity Region 6 2020

Rate of Severe Maternal Morbidity (SMM) + SMM Excluding Transfusions, 2020

Region 6

Maternal Morbidity Rate per 10,000 Delivery Hospitalizations



Michigan

SMM Rate per 10,000 inpatient delivery hospitalizations:

- Total Population: 211.3
- White, NH: 170.9
- Black, NH: 346.7
- Asian/ Pacific Islander, NH: 240.1
- American Indian/ Alaska Native: 286.5
- Hispanic: 188.7

SMM Rate excluding transfusion per 10,000 inpatient delivery hospitalizations:

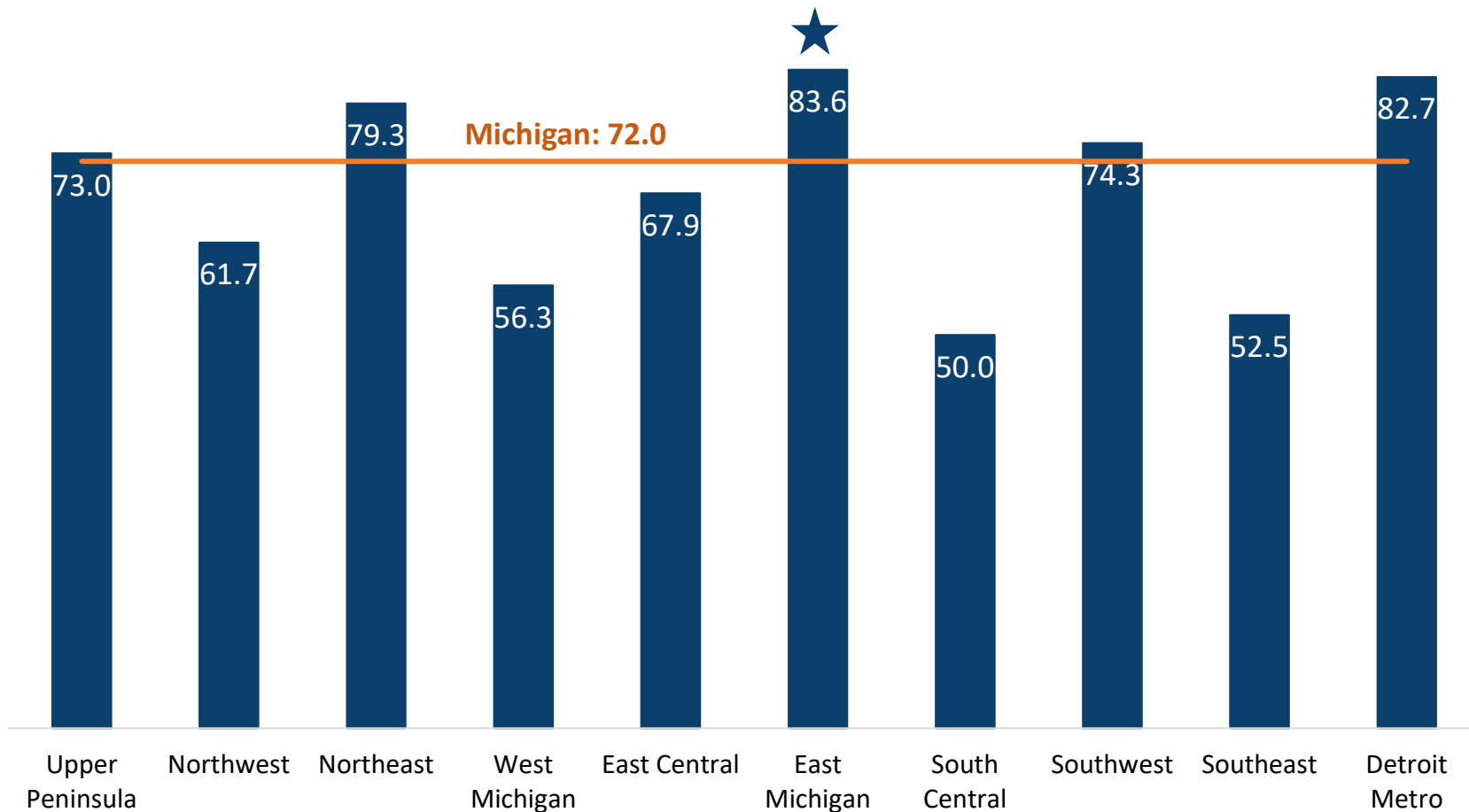
- Total Population: 89.2
- White, NH: 71.5
- Black, NH: 151.9
- Asian/ Pacific Islander, NH: 85.2
- American Indian/ Alaska Native: 143.2
- Hispanic: 86.3

Statistics for other race suppressed due to insufficient sample size.

Maternal Mortality Ratio Prosperity Region 6 2014-2018

Maternal Mortality Ratio by Prosperity Region, 2014-2018

Total (Pregnancy Associated) Maternal Mortality Ratio by Prosperity Region, 2014-2018

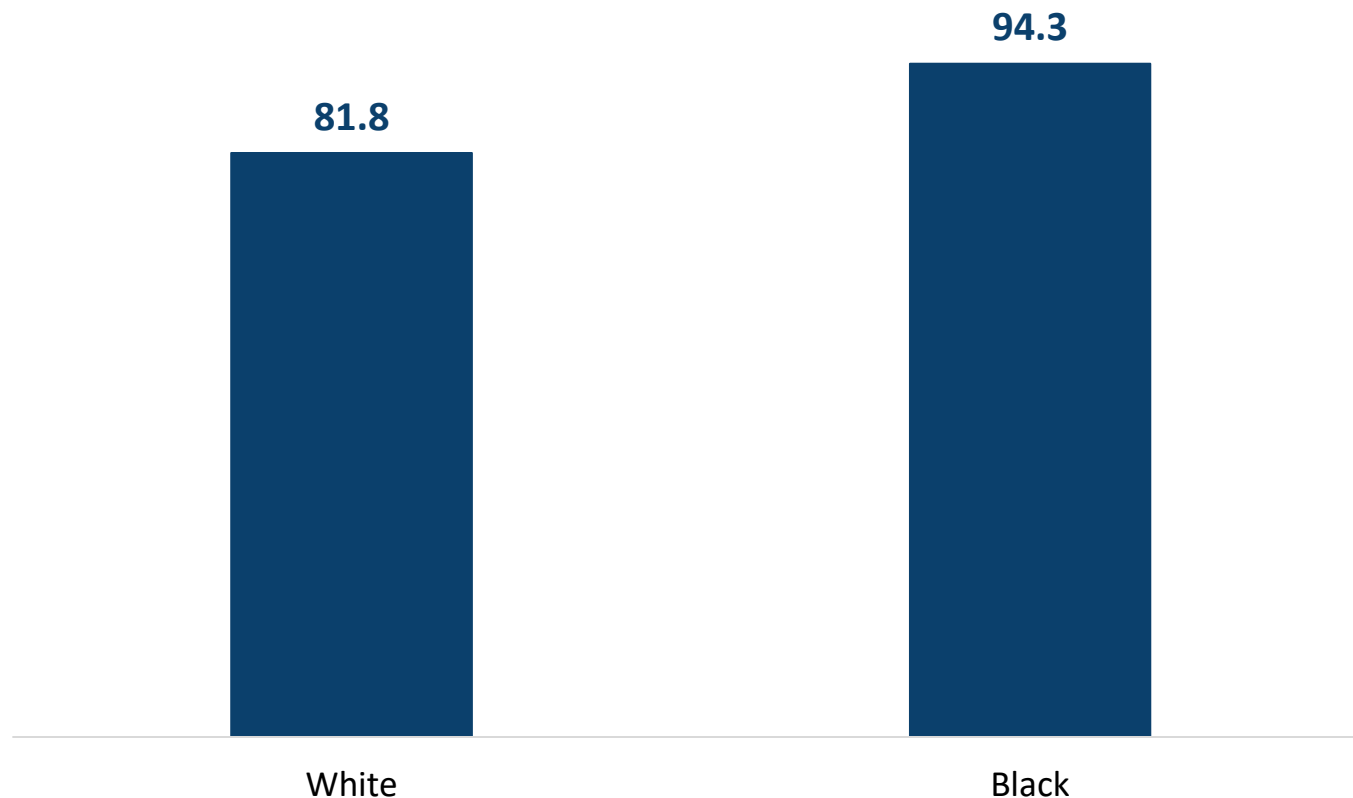


- Maternal deaths include deaths that occur during pregnancy, at delivery or within one year of pregnancy.
- Pregnancy associated (total) maternal mortality includes both pregnancy associated, not related mortality (unrelated to the pregnancy), pregnancy-related mortality (related to or aggravated by the pregnancy), and deaths where pregnancy-relatedness is unable to be determined.
- In Region Six there were **38** maternal deaths between 2014 and 2018.

Maternal Mortality Ratio by Race, Prosperity Region 6, 2014-2018

Other race and ethnicities suppressed due to sample size.

Total (Pregnancy Associated) Maternal Mortality Ratio
per 100,000 Live Births by Race



Between 2014 and 2018, Black mothers in Prosperity Region Six experienced **1.2** times higher maternal mortality as compared to white mothers.

There were **30** white maternal deaths and **7** Black maternal deaths in Prosperity Region Six between 2014 and 2018.