

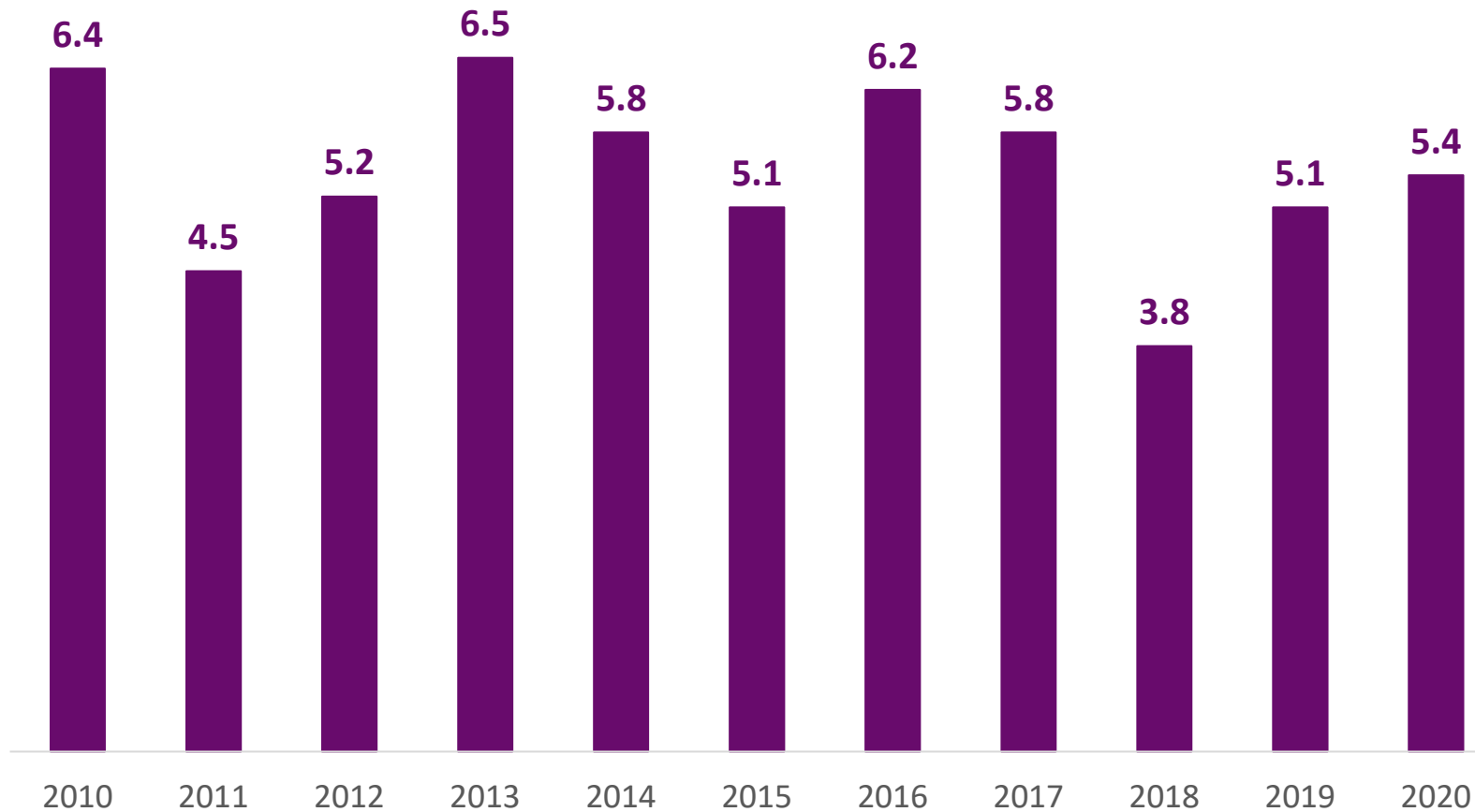
Maternal and Infant Health Statistics Prosperity Region 9, Michigan

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 9 2010-2020

Infant Mortality Rate, Prosperity Region 9, 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	68	10,646	6.4
2011	48	10,627	4.5
2012	54	10,297	5.2
2013	67	10,328	6.5
2014	61	10,571	5.8
2015	52	10,206	5.1
2016	65	10,471	6.2
2017	59	10,149	5.8
2018	38	10,035	3.8
2019	51	9,947	5.1
2020	52	9,660	5.4

Infant Mortality Rates by Maternal Race/Ethnicity, Prosperity Region 9, 2016-2020

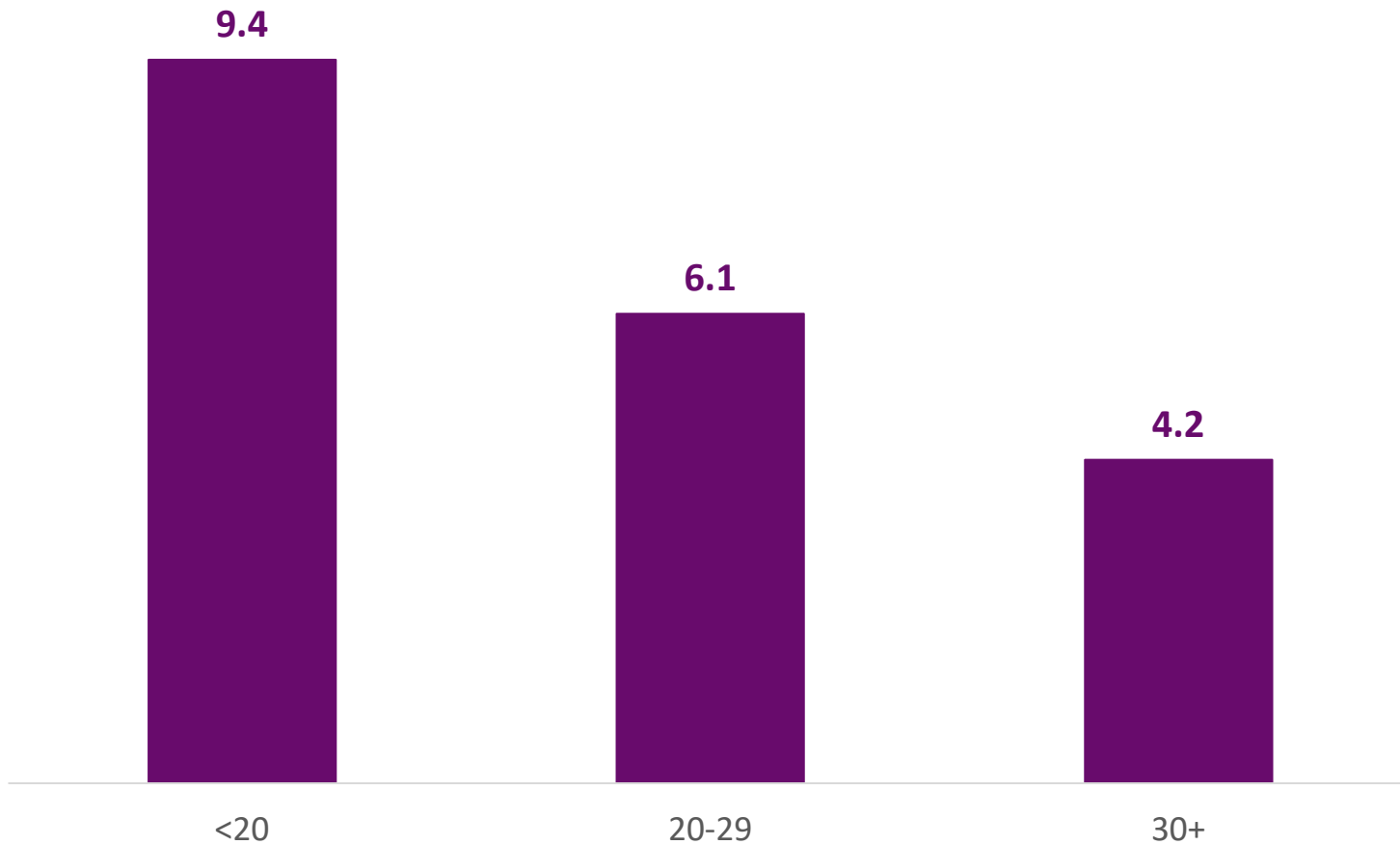
Infant mortality is defined as a death of a baby before his or her first birthday and is expressed as a rate per 1,000 live births.

Maternal Race	# Infant Deaths	# Live Births	Infant Mortality Rate (per 1,000 Live Births)	MI
White Non-Hispanic	173	39,893	4.3	4.9
Black Non-Hispanic	55	3,898	14.1	13.6
Hispanic	16	2,456	6.5	5.6
American Indian	DNS	90	DNS	5.0
Asian/Pacific Islander	DNS	2,124	DNS	4.1

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

Infant Mortality Rates by Maternal Age, Prosperity Region 9, 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 9			MI
	# Infant Deaths	# Births	Rate	Rate
<20 years	18	1,923	9.4	10.1
20-29 years	143	23,604	6.1	7.1
30+ years	103	24,730	4.2	5.6

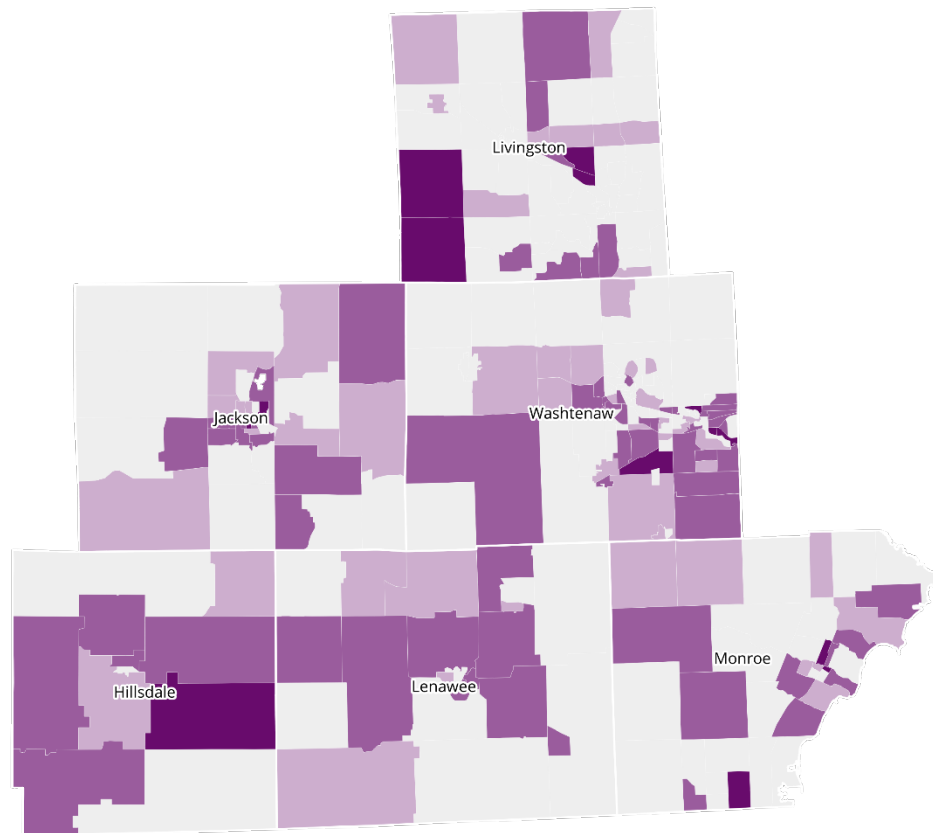
Infant Mortality Rates by Intended Payment Source, Prosperity Region 9, 2016-2020

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	123	33,034	3.7	4.8
Medicaid	130	15,706	8.3	8.8

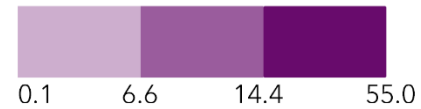
Infant Mortality Rates by Census Tract, Prosperity Region 9, 2015-2019

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.

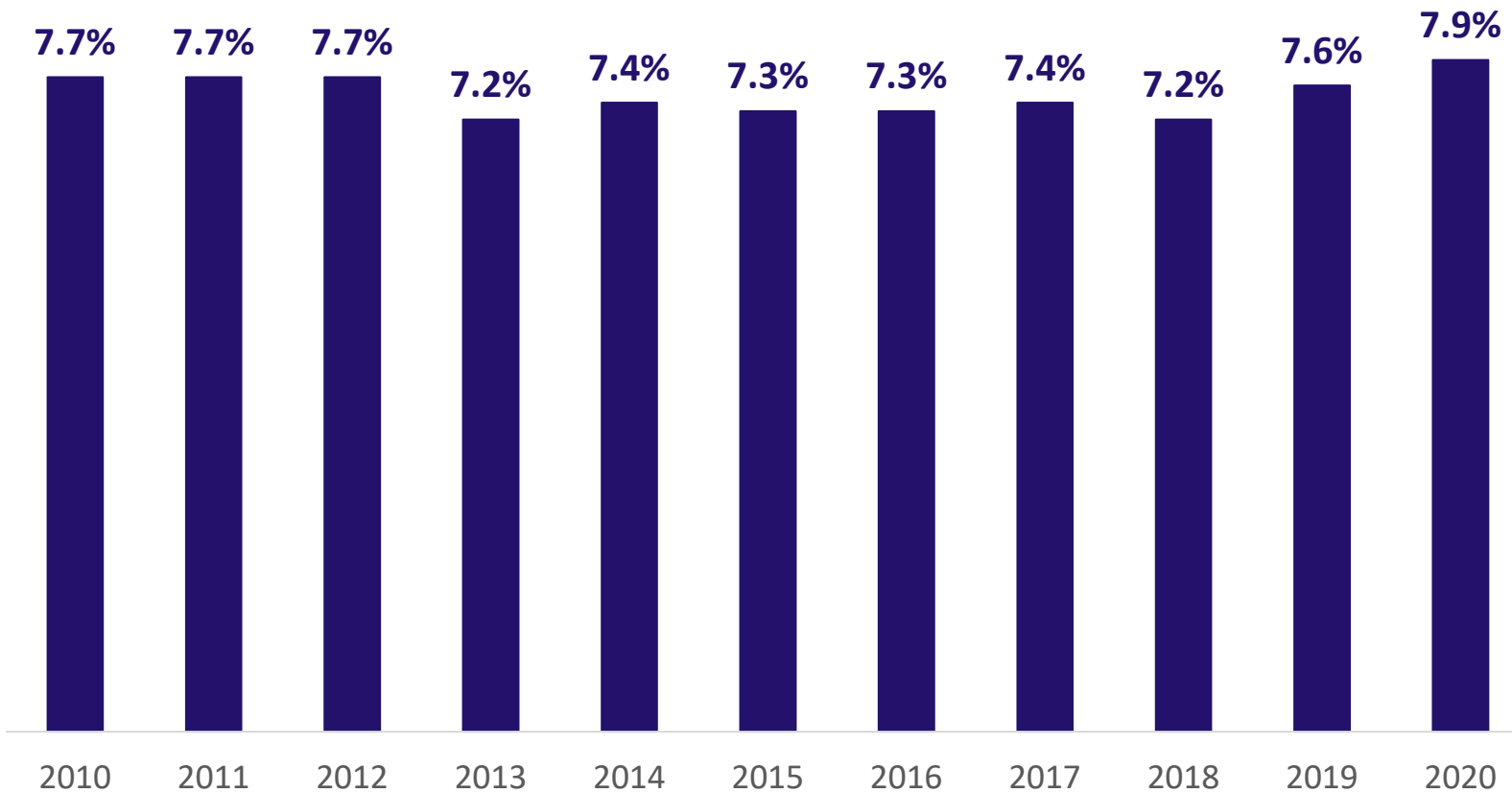


No Live Births/Infant Deaths

Low Birthweight (LBW) Prosperity Region 9 2010-2020

Low Birthweight, Prosperity Region 9, 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	823	10,646	7.7
2011	815	10,627	7.7
2012	795	10,297	7.7
2013	740	10,328	7.2
2014	779	10,571	7.4
2015	740	10,206	7.3
2016	765	10,471	7.3
2017	756	10,149	7.4
2018	721	10,035	7.2
2019	760	9,947	7.6
2020	760	9,660	7.9

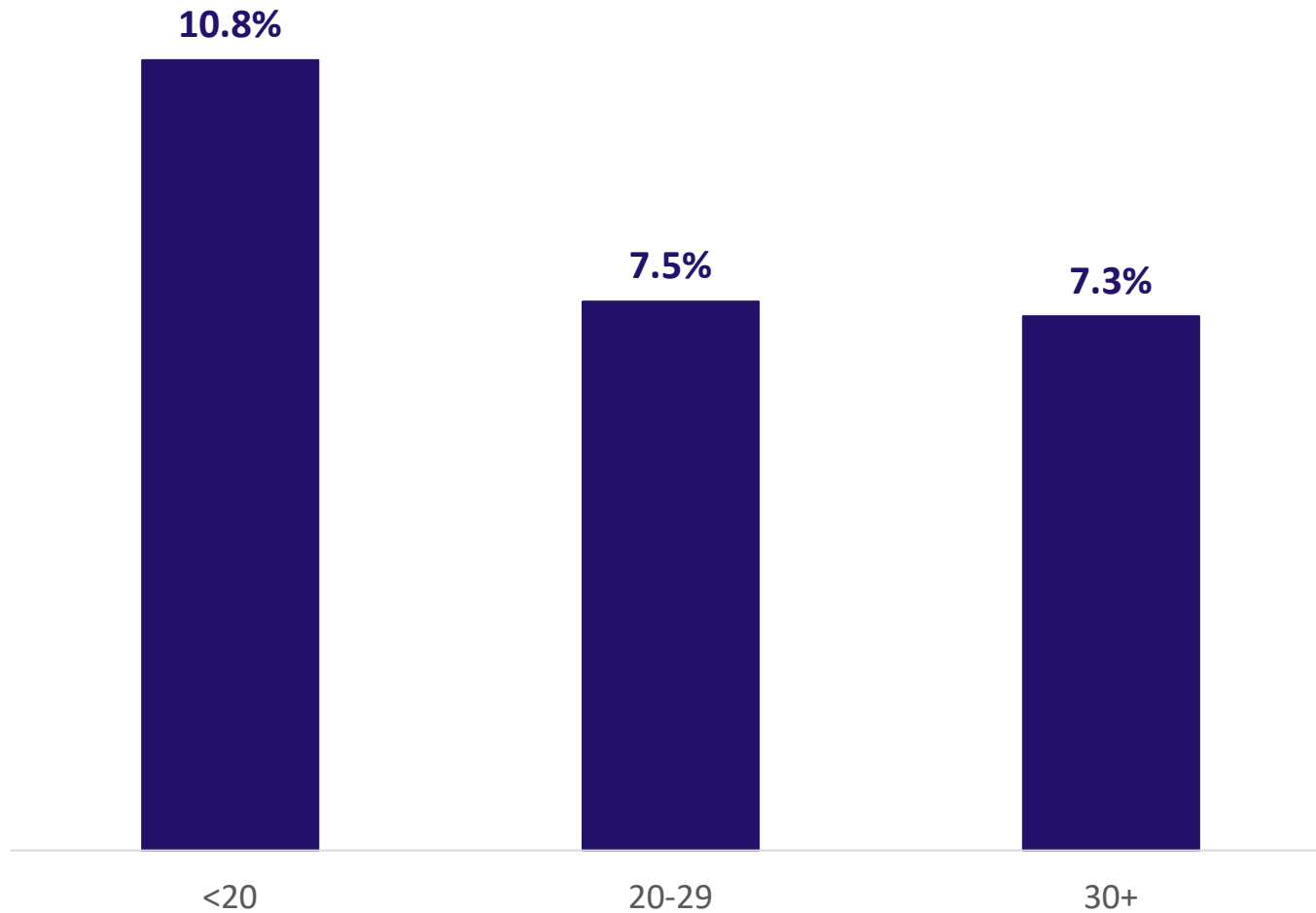
Low Birthweight by Maternal Race/Ethnicity, Prosperity Region 9, 2016-2020

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	2,717	39,893	6.8	 6.8%	7.1%
Black non-Hispanic	540	3,898	13.9	 13.9%	14.9%
Hispanic	172	2,456	7.0	 7.0%	7.5%
American Indian	7	90	7.8	 7.8%	8.4%
Asian/Pacific Islander	149	2,124	7.0	 7.0%	8.9%

Low Birthweight by Maternal Age, Prosperity Region 9, 2016-2020



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



Maternal Age	REGION 9			MI
	# LBW	# Births	% LBW	% LBW
< 20 years	207	1,923	10.8	11.0
20-29 years	1,761	23,604	7.5	8.6
≥30 years	1,794	24,730	7.3	8.6

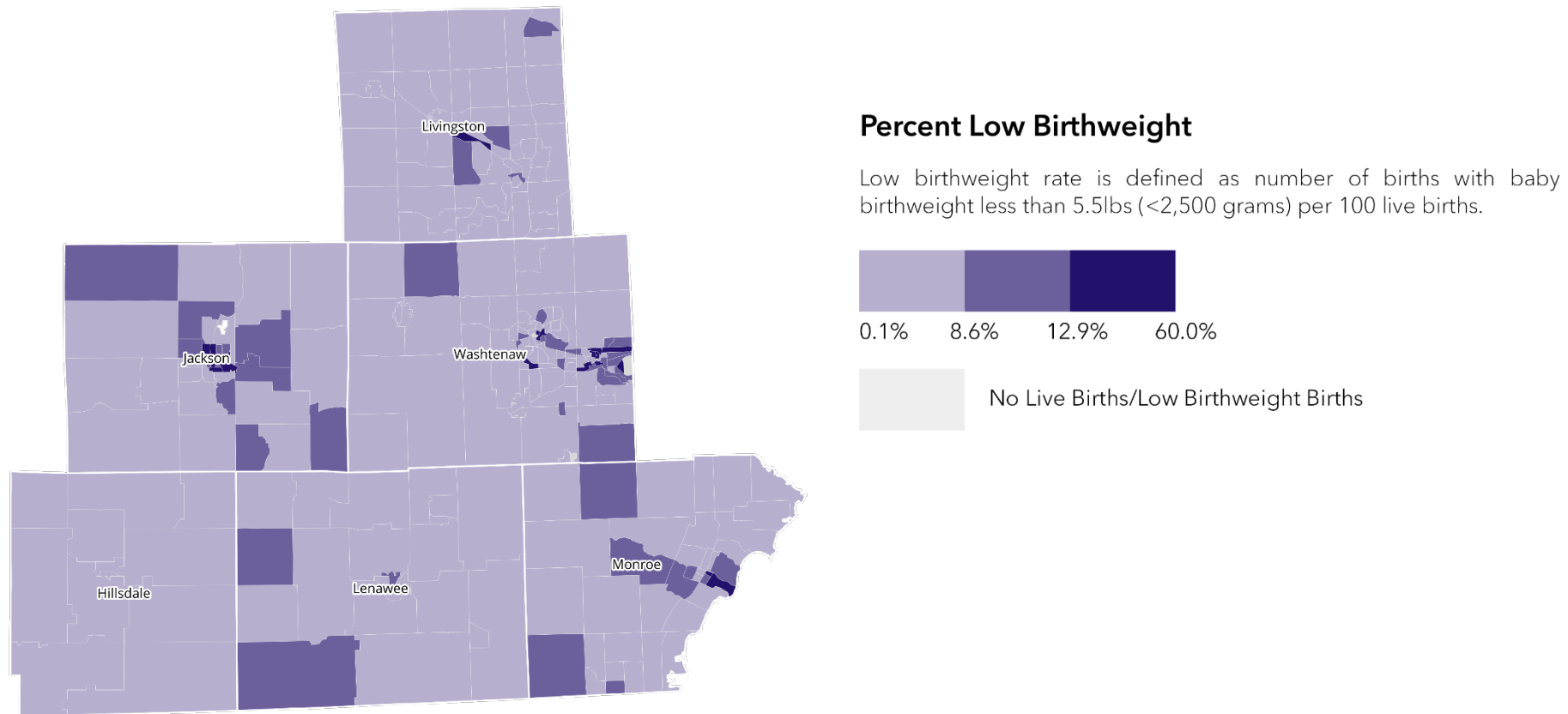
Low Birthweight by Intended Payment Source, Prosperity Region 9, 2016-2020

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	2,151	33,034	6.5	 6.5%	7.3%
Medicaid	1,524	15,706	9.7	 9.7%	10.7%

Low Birthweight by Census Tract, Prosperity Region 9, 2015-2019

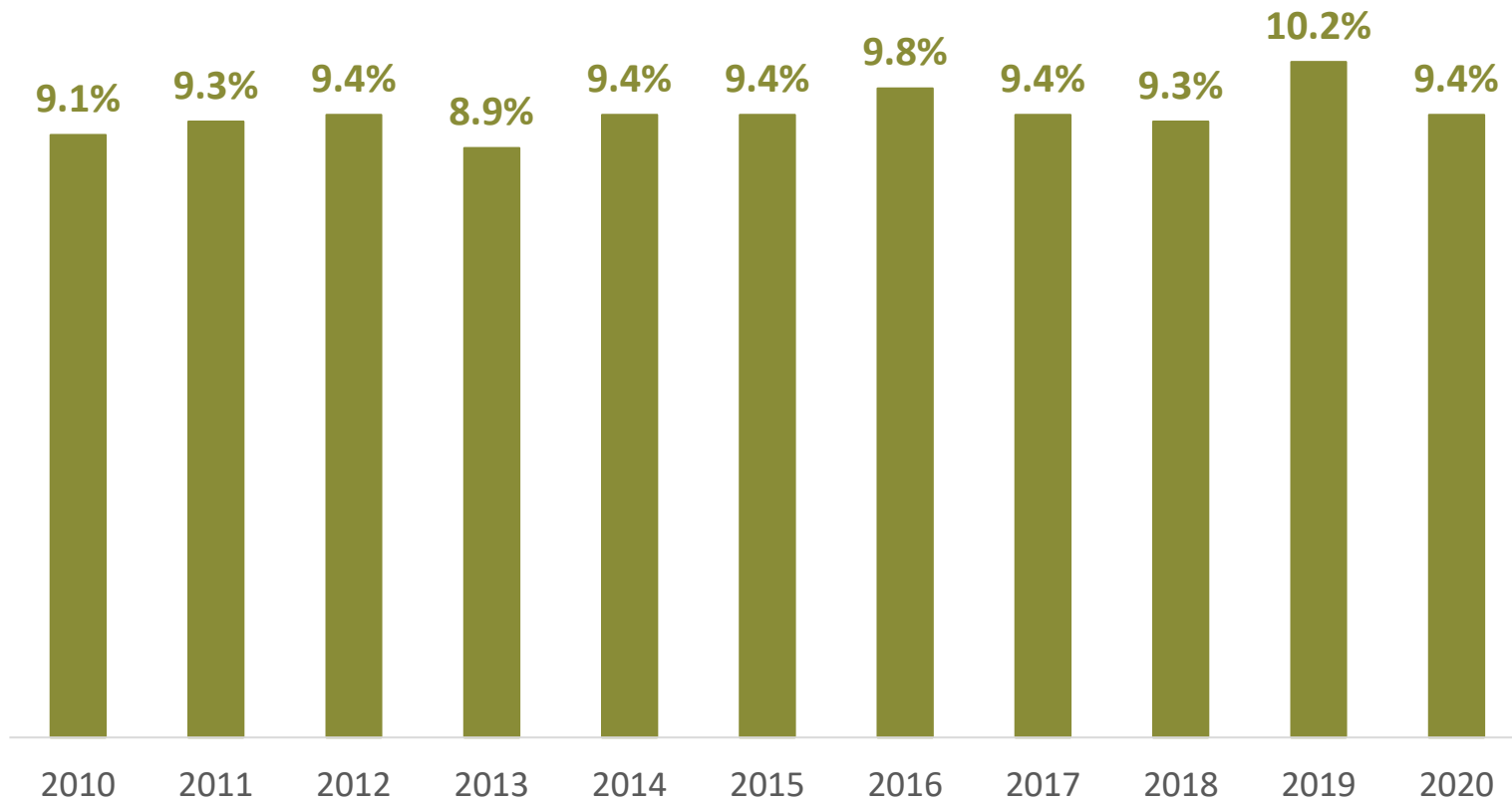
Low birthweight rate is defined as number of births with baby birthweight <2,500 grams per 100 live births.



Preterm Birth Prosperity Region 9 2010-2020

Preterm Birth, Prosperity Region 9, 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	969	10,646	9.1
2011	988	10,627	9.3
2012	973	10,297	9.4
2013	917	10,328	8.9
2014	992	10,571	9.4
2015	956	10,206	9.4
2016	1,024	10,471	9.8
2017	953	10,149	9.4
2018	938	10,035	9.3
2019	1,019	9,947	10.2
2020	906	9,660	9.4

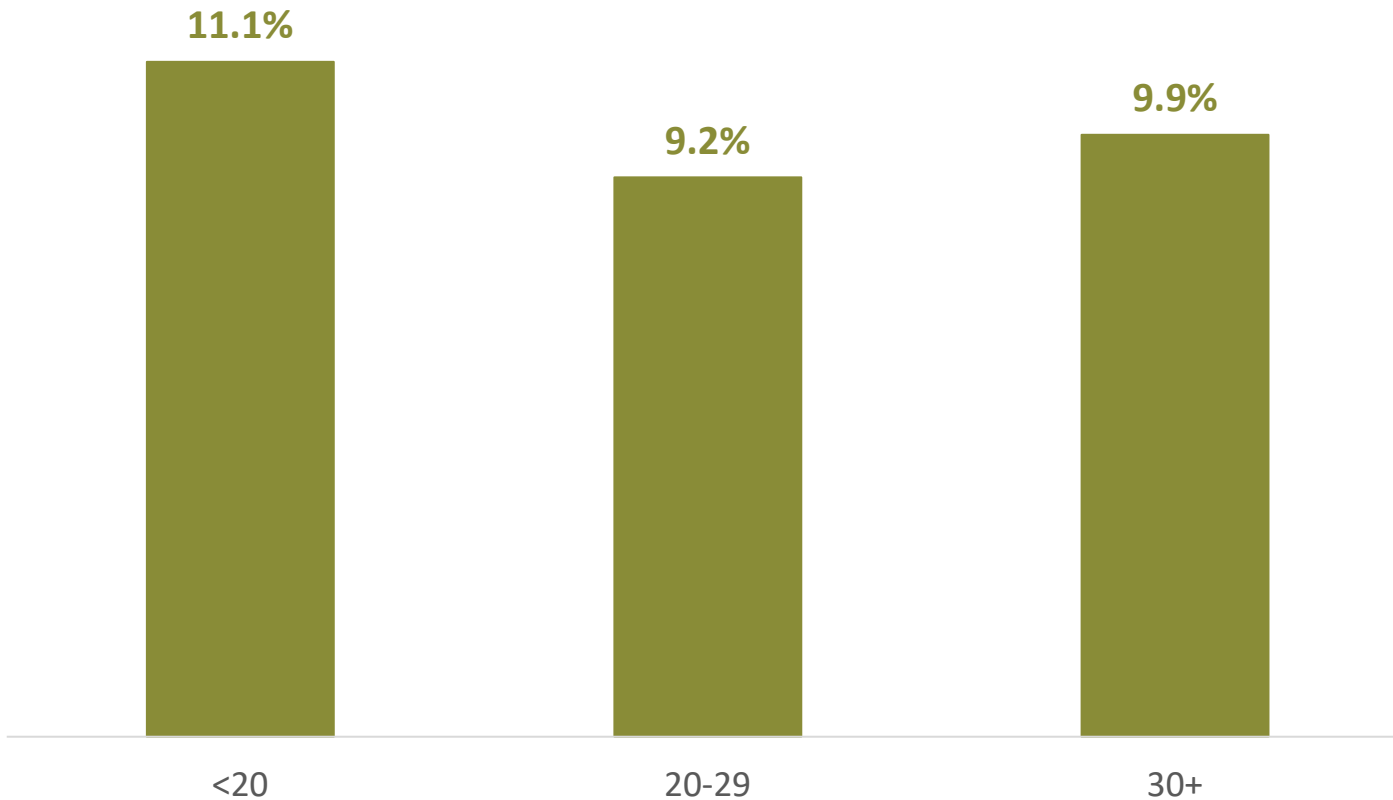
Preterm Birth by Maternal Race/Ethnicity, Prosperity Region 9, 2016-2020

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	3,706	39,893	9.3	 9.3%	9.0%
Black non-Hispanic	553	3,898	14.2	 14.2%	14.8%
Hispanic	227	2,456	9.2	 9.2%	9.6%
American Indian	15	90	16.7	 16.7%	9.8%
Asian/Pacific Islander	146	2,124	6.9	 6.9%	8.2%

Preterm Birth by Maternal Age, Prosperity Region 9, 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 9			MI
	# Preterm	# Births	% Preterm	% Preterm
< 20 years	214	1,923	11.1	10.9
20-29 years	2,180	23,604	9.2	9.7
≥30 years	2,446	24,730	9.9	10.7

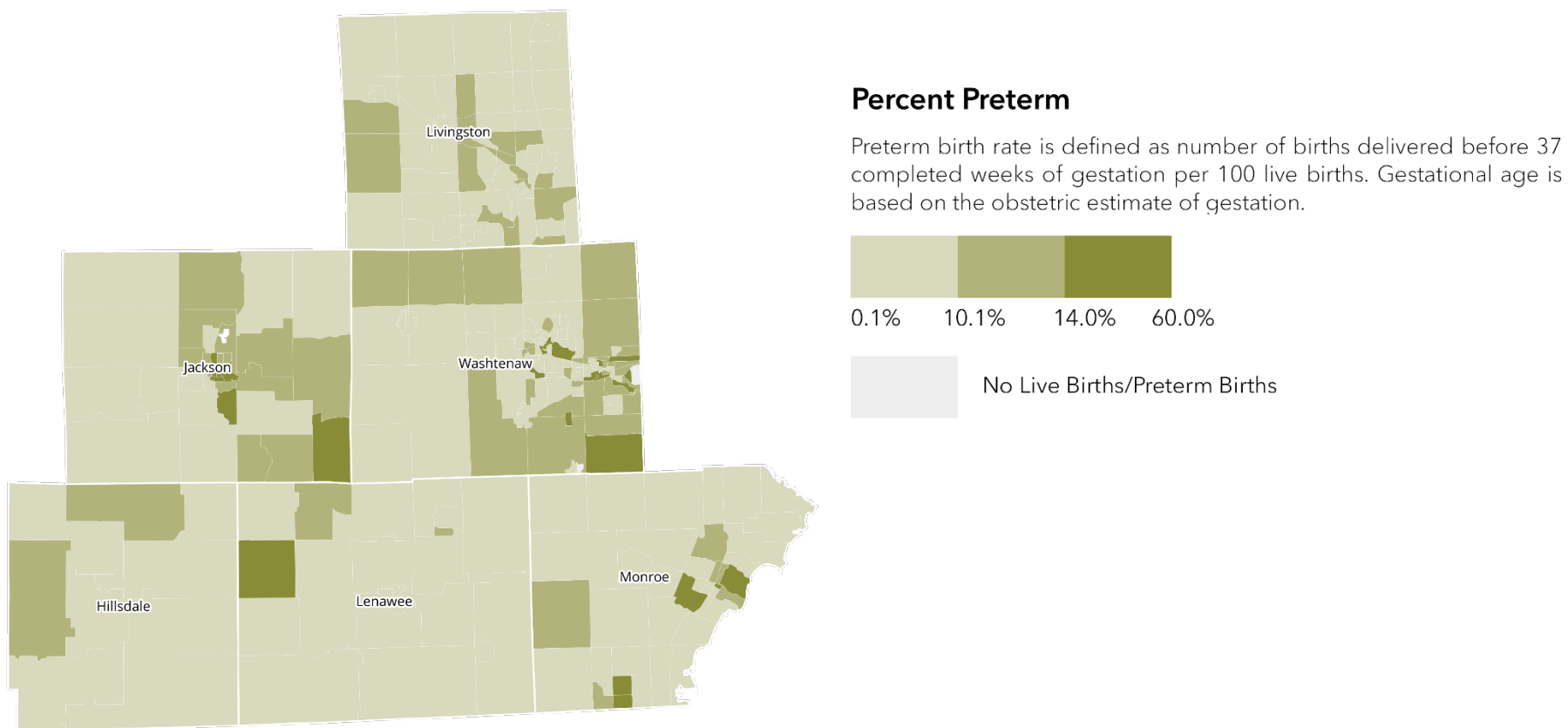
Preterm Birth by Intended Payment Source, Prosperity Region 9, 2016-2020

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	2,953	33,034	8.9	 8.9%	9.3%
Medicaid	1,771	15,706	11.3	 11.3%	11.5%

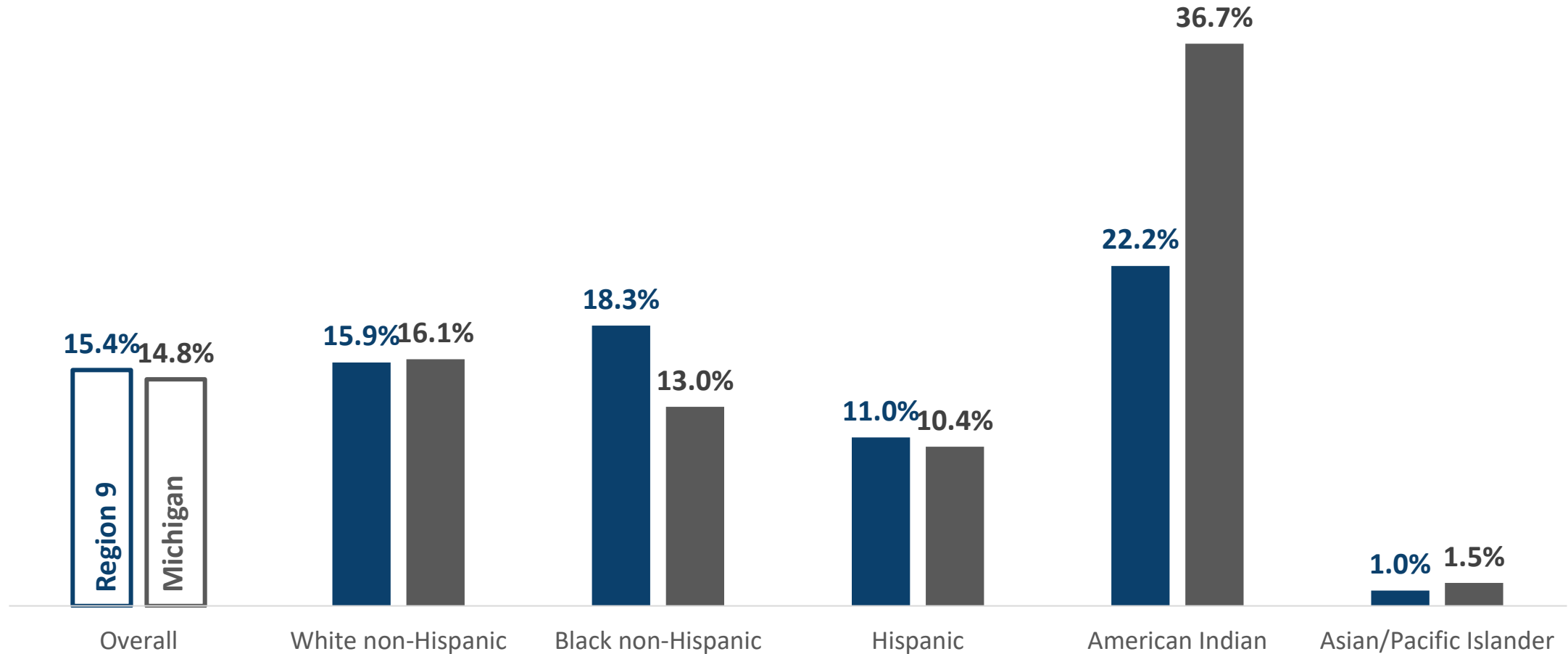
Preterm Birth by Census Tract, Prosperity Region 9, 2015-2019

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 9 2016-2020

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

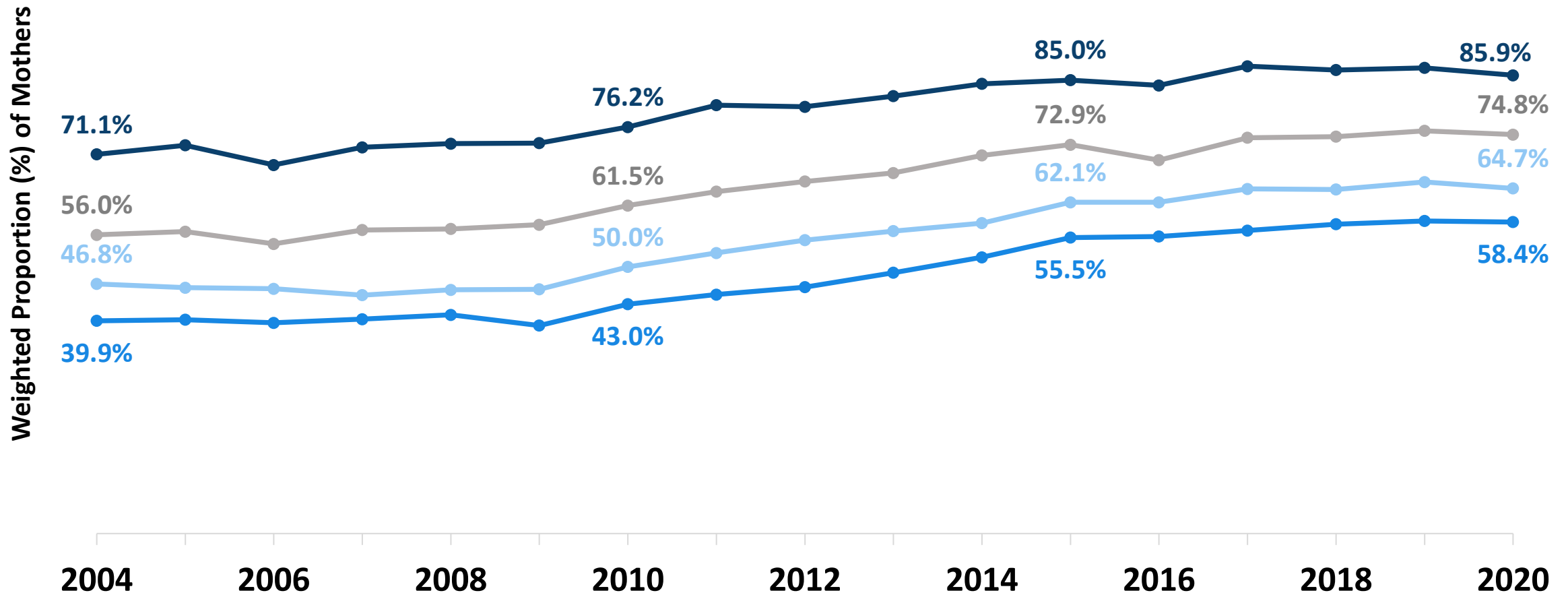


Breastfeeding Initiation and Duration Michigan, 2010-2020

Breastfeeding Initiation + Duration, Michigan 2004-2020

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

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

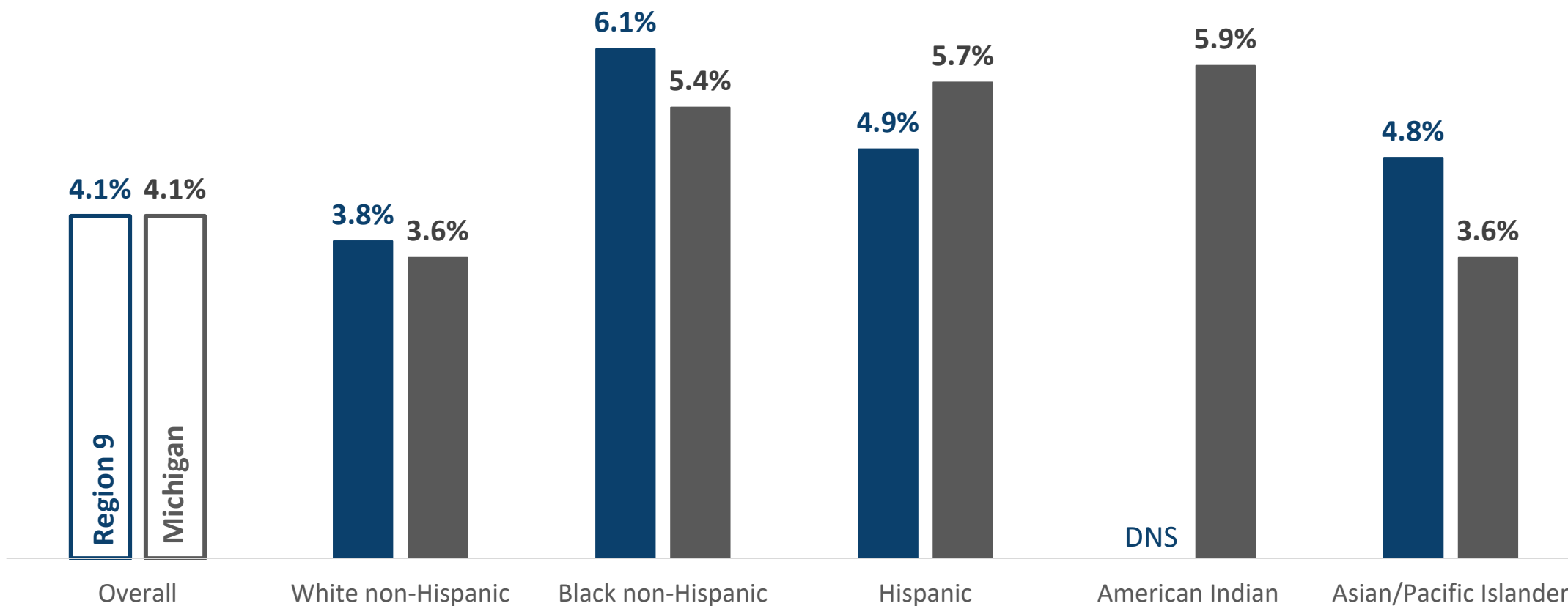


Late Entry into Prenatal Care Prosperity Region 9 2016-2020

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 9 2010-2020

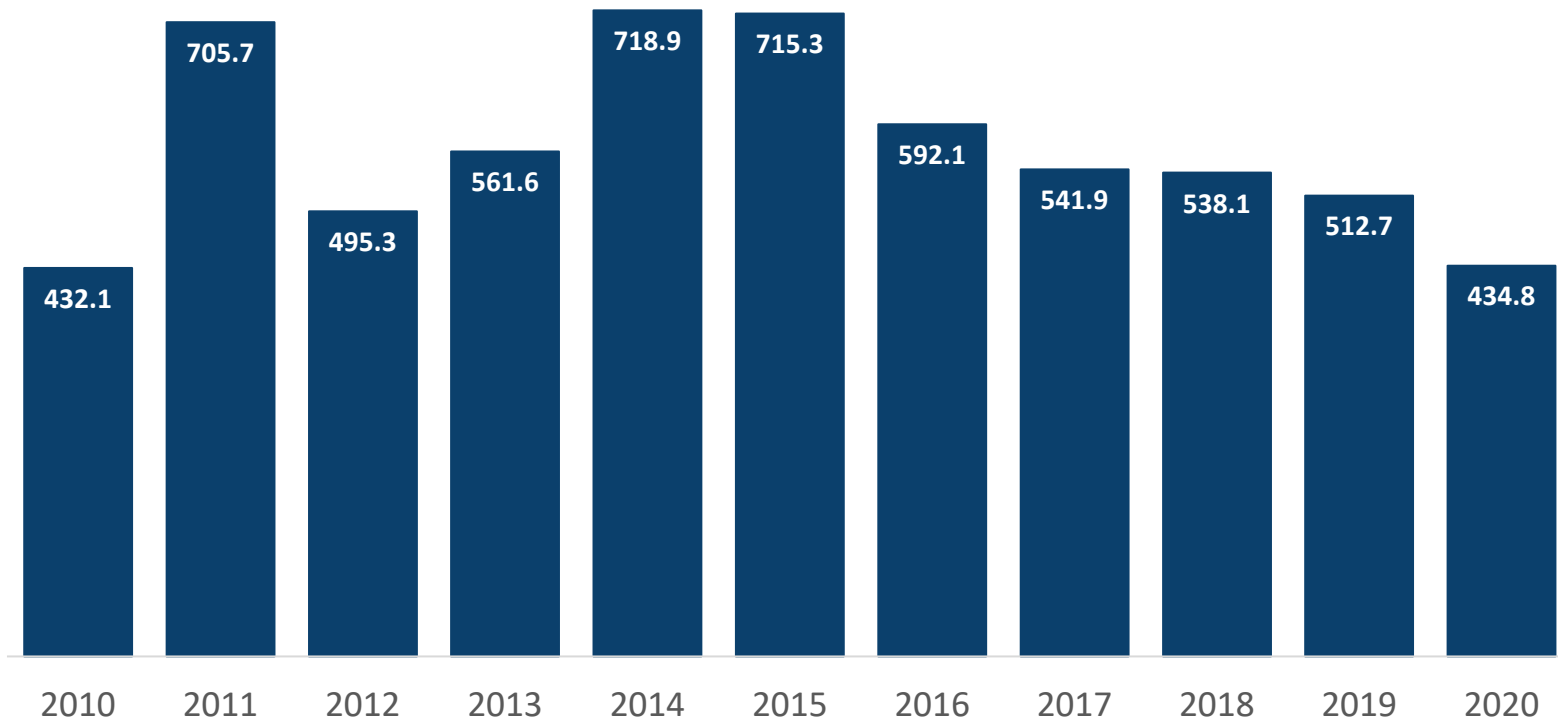
About the Data

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 9, 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	46	10,646	432.1
2011	75	10,627	705.7
2012	51	10,297	495.3
2013	58	10,328	561.6
2014	76	10,571	718.9
2015	73	10,206	715.3
2016	62	10,471	592.1
2017	55	10,149	541.9
2018	54	10,035	538.1
2019	51	9,947	512.7
2020	42	9,660	434.8

NAS by Maternal Race/Ethnicity, Prosperity Region 9, 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)

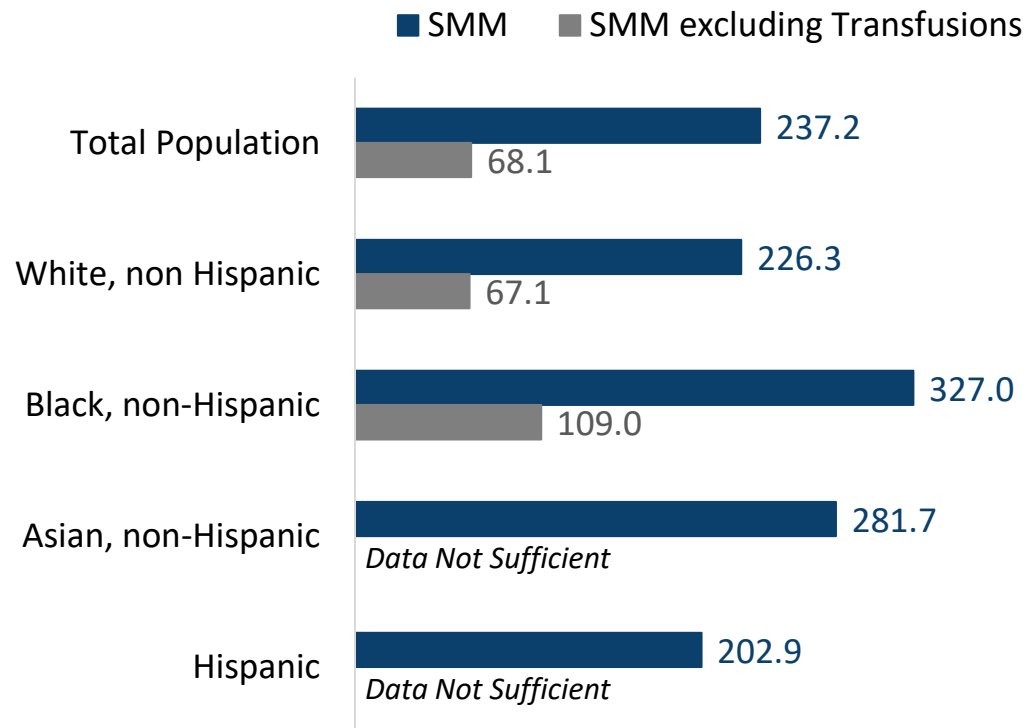
Maternal Race	# Cases	# Live Births	NAS Rate per 100,000 Live Births	MI
White non-Hispanic	235	39,893	589.1	851.5
Black non-Hispanic	8	3,898	205.2	376.6
Hispanic	8	2,456	325.7	519.5
American Indian	DNS	90	DNS	4,582.1
Asian/Pacific Islander	0	2,124	0	27.6

Severe Maternal Morbidity Rate Prosperity Region 9 2020

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

Region 9

Maternal Morbidity Rate per 10,000 Delivery Hospitalizations



Statistics for other race suppressed due to insufficient sample size.

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

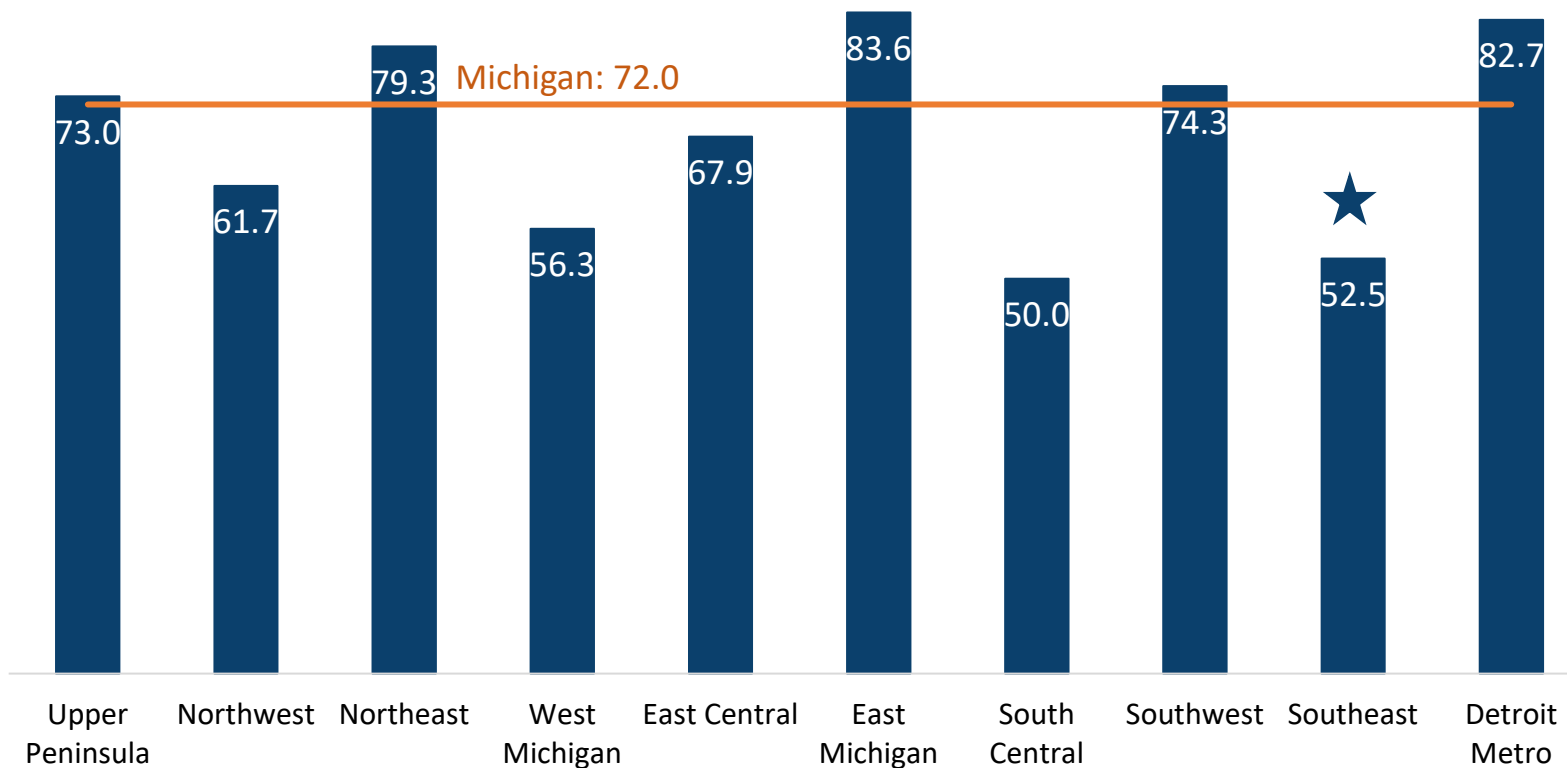
SMM Rate excluding transfusion per 10,000 inpatient delivery hospitalizations:

- 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

Maternal Mortality Ratio Prosperity Region 9 2014-2018

Maternal Mortality Ratio by Prosperity Region, 2014-2018

Pregnancy Associated (Total) 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 Nine there were **27** maternal deaths between 2014 and 2018.