

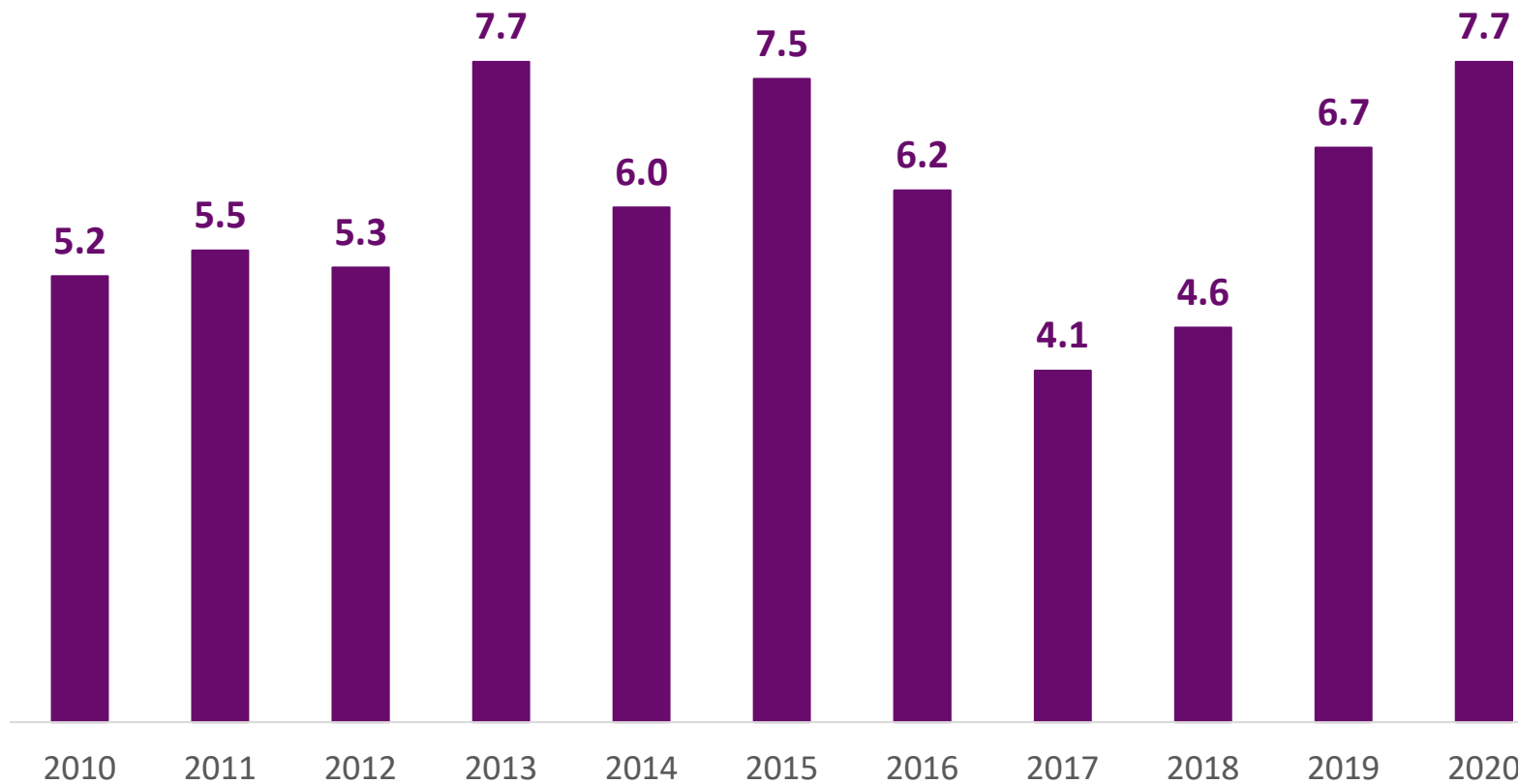
# Maternal and Infant Health Statistics Prosperity Region 7, Michigan

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 7 2010-2020

# Infant Mortality Rate, Prosperity Region 7, 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	27	5,163	5.2
2011	29	5,228	5.5
2012	28	5,270	5.3
2013	40	5,175	7.7
2014	32	5,361	6.0
2015	39	5,205	7.5
2016	33	5,357	6.2
2017	21	5,130	4.1
2018	23	4,972	4.6
2019	33	4,928	6.7
2020	36	4,653	7.7

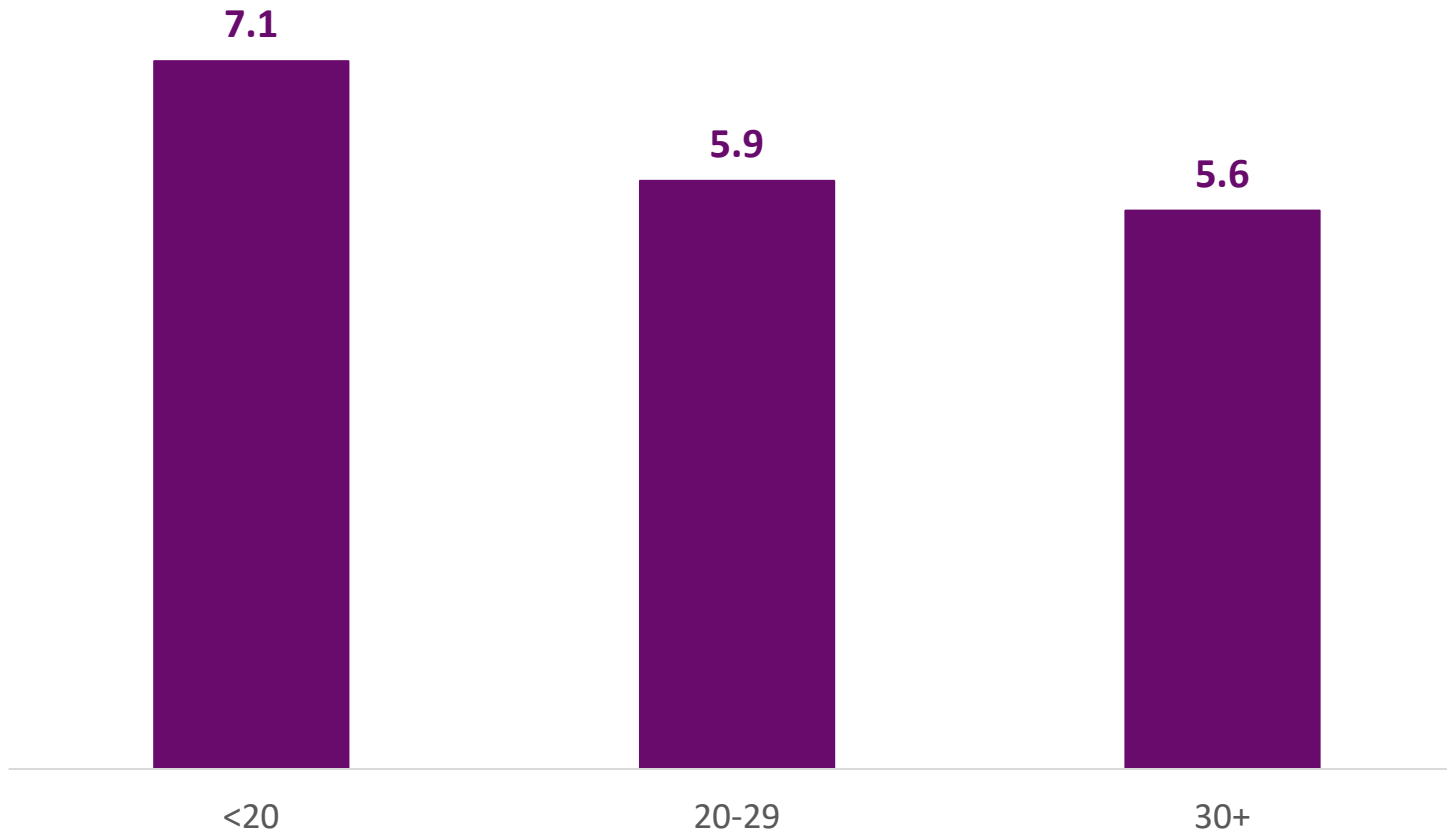
# Infant Mortality Rates by Maternal Race/Ethnicity, Prosperity Region 7, 2016-2020

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	79	17,376	4.5	4.9
Black Non-Hispanic	44	3,272	13.4	13.6
Hispanic	9	1,960	4.6	5.6
American Indian	0	41	0.0	5.0
Asian/Pacific Islander	DNS	1,412	DNS	4.1

# Infant Mortality Rates by Maternal Age, Prosperity Region 7, 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 7			MI
	# Infant Deaths	# Births	Rate	Rate
<20 years	8	1,120	7.1	10.1
20-29 years	75	12,720	5.9	7.1
30+ years	63	11,195	5.6	5.6

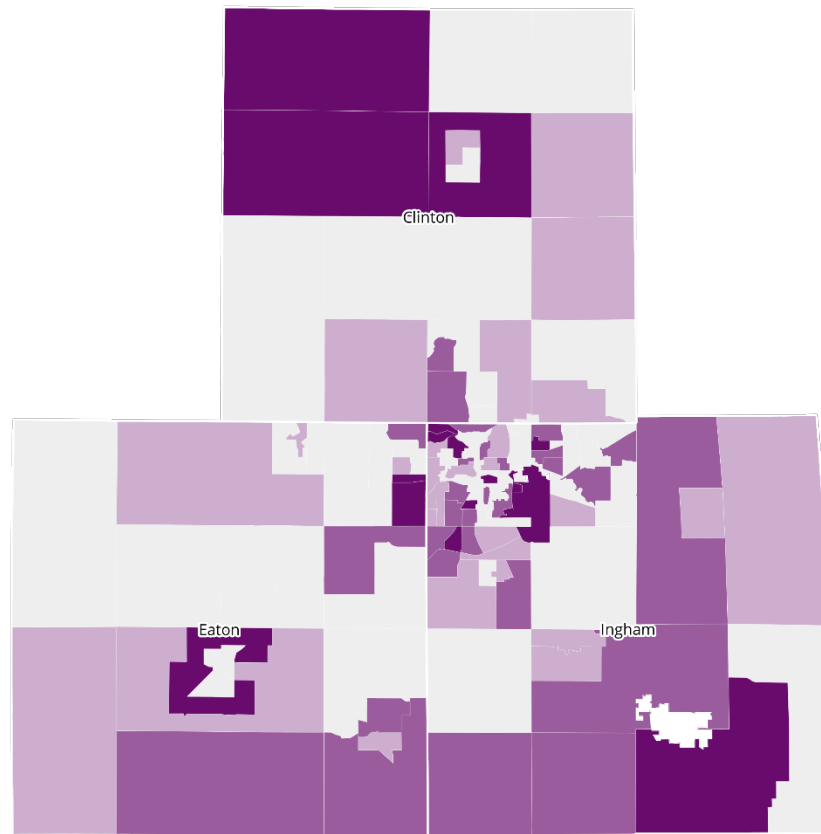
# Infant Mortality Rates by Intended Payment Source, Prosperity Region 7, 2016-2020

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	54	14,995	3.6	 3.6	4.8
Medicaid	88	9,488	9.3	 9.3	8.8

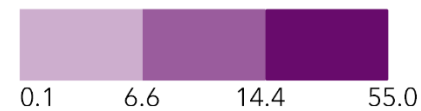
# Infant Mortality Rates by Census Tract, Prosperity Region 7, 2015-2019

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.



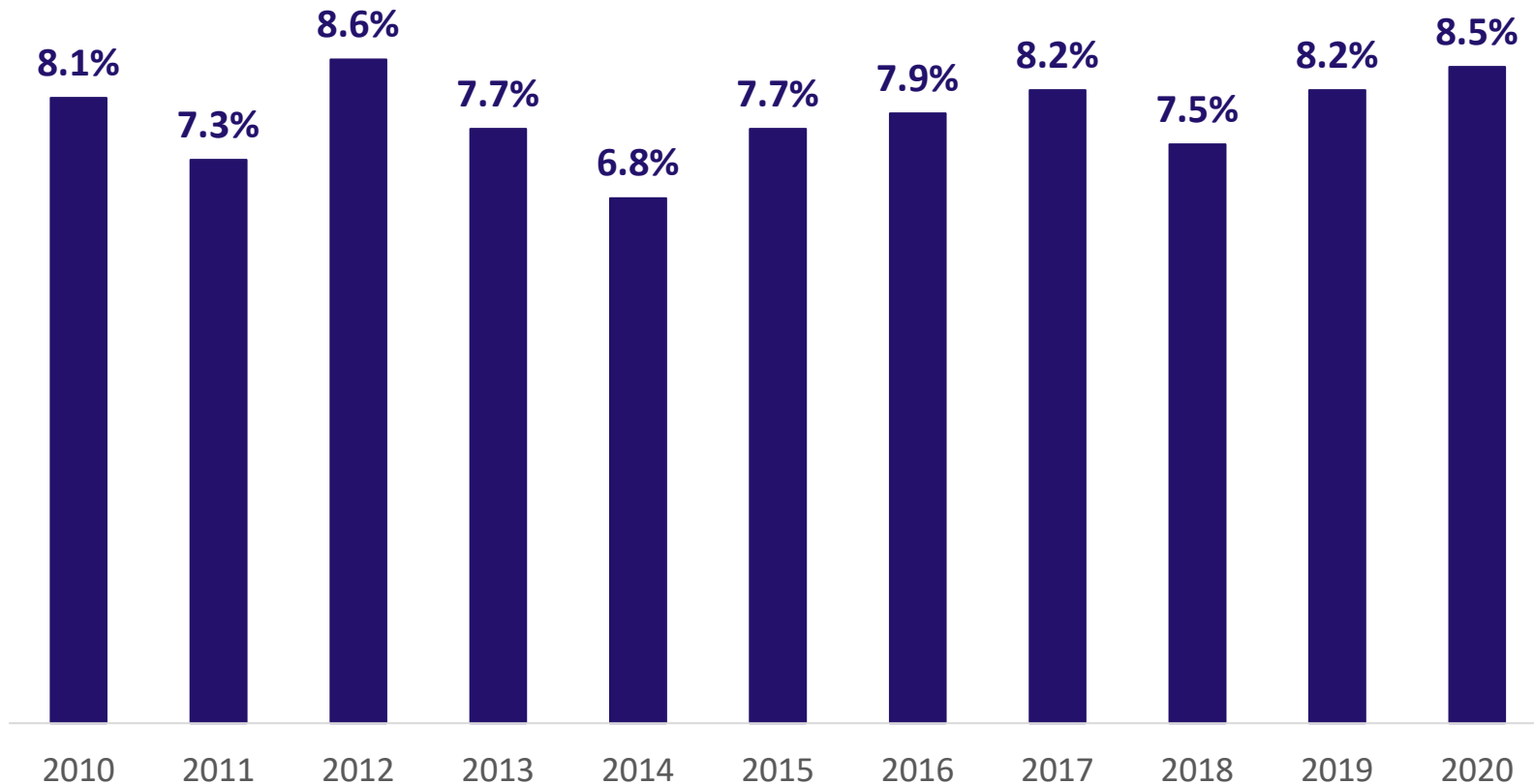
No Live Births/Infant Deaths

# Low Birthweight (LBW) Prosperity Region 7 2010-2020



# Low Birthweight, Prosperity Region 7, 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	417	5,163	8.1
2011	380	5,228	7.3
2012	451	5,270	8.6
2013	401	5,175	7.7
2014	362	5,361	6.8
2015	403	5,205	7.7
2016	425	5,357	7.9
2017	421	5,130	8.2
2018	374	4,972	7.5
2019	406	4,928	8.2
2020	394	4,653	8.5

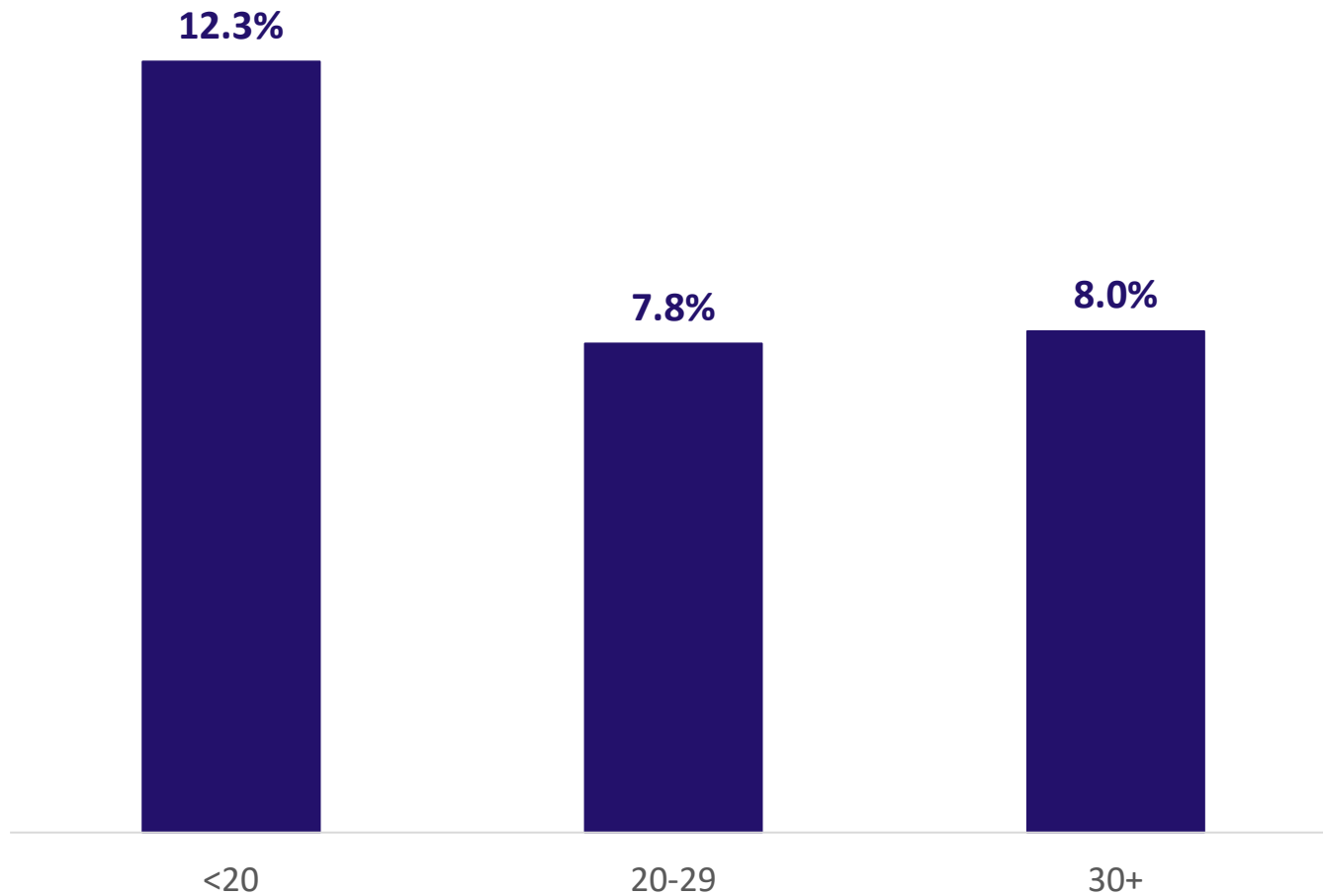
# Low Birthweight by Maternal Race/Ethnicity, Prosperity Region 7, 2016-2020

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	1,197	17,376	6.9%	7.1%
Black non-Hispanic	438	3,272	13.4%	14.9%
Hispanic	155	1,960	7.9%	7.5%
American Indian	DNS	41	DNS	8.4%
Asian/Pacific Islander	130	1,412	9.2%	8.9%

# Low Birthweight by Maternal Age, Prosperity Region 7, 2016-2020

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



Maternal Age	REGION 7			MI
	# LBW	# Births	% LBW	% LBW
< 20 years	138	1,120	12.3	11.0
20-29 years	986	12,720	7.8	8.6
≥30 years	894	11,195	8.0	8.6

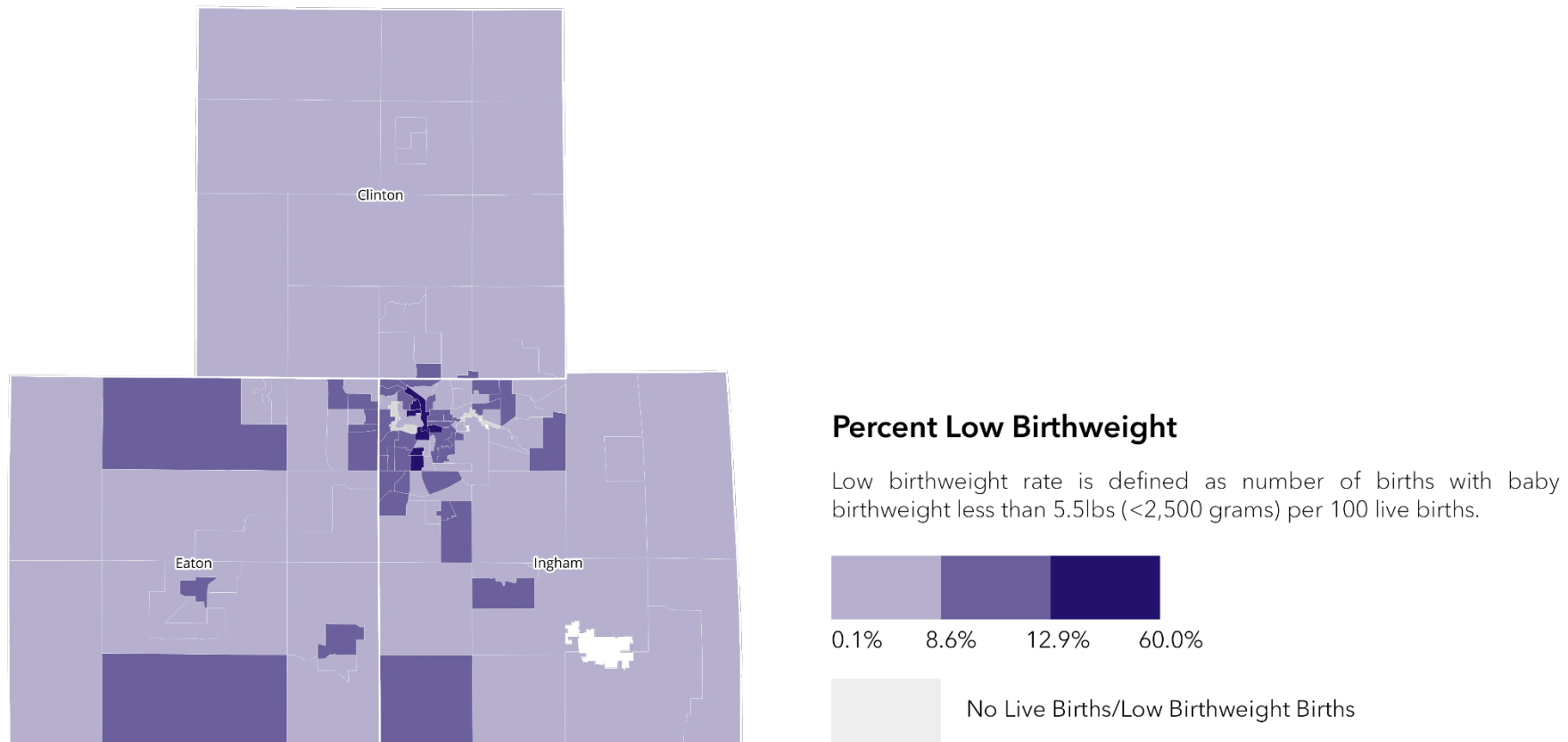
# Low Birthweight by Intended Payment Source, Prosperity Region 6, 2016-2020

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	963	14,995	6.4%	7.3%
Medicaid	1,015	9,488	10.7%	10.7%

# Low Birthweight by Census Tract, Prosperity Region 7, 2015-2019

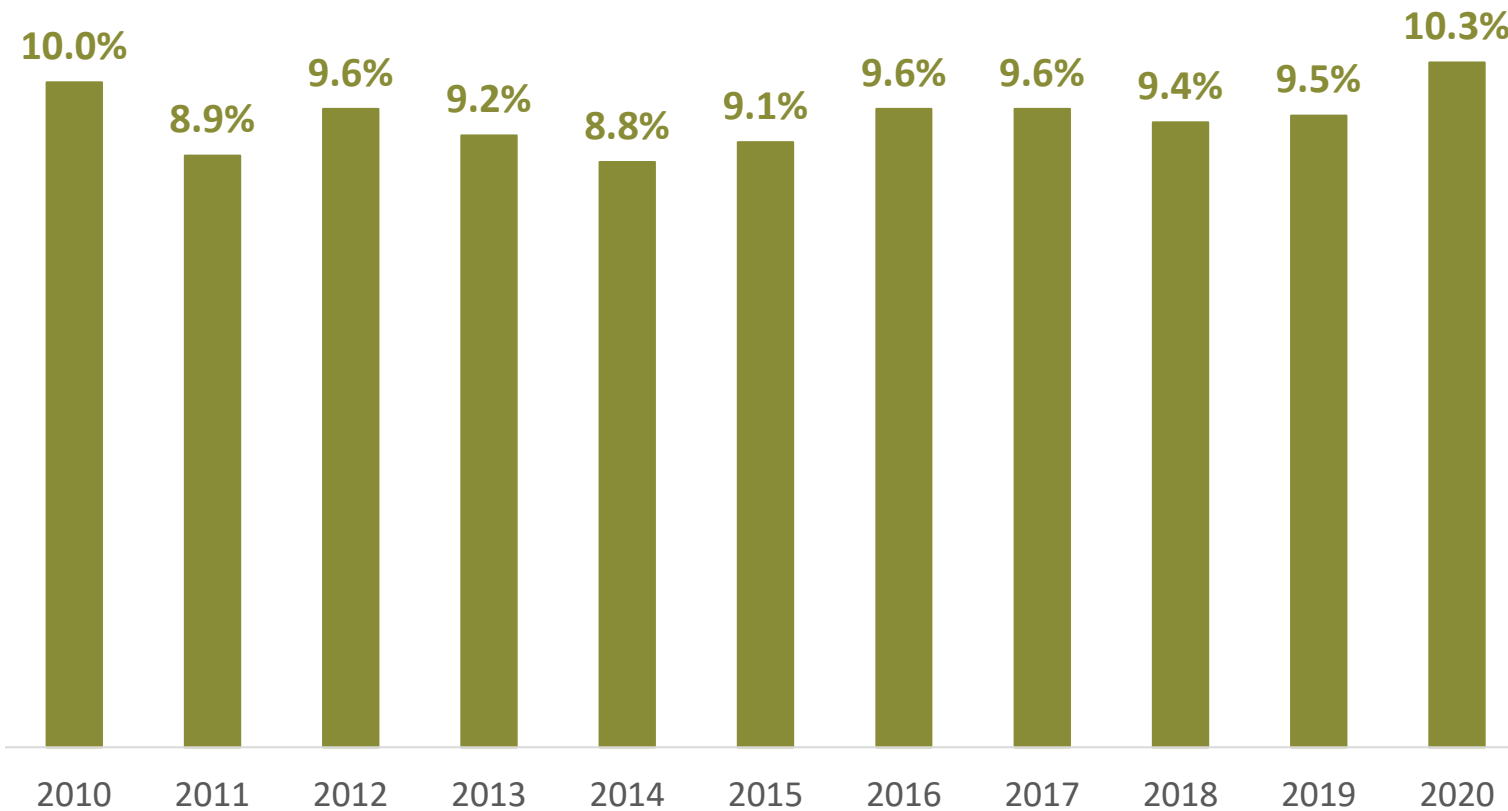
Low birthweight rate is defined as number of births with baby birthweight <2,500 grams per 100 live births.



# Preterm Birth Prosperity Region 7 2010-2020

# Preterm Birth, Prosperity Region 7, 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	517	5,163	10.0
2011	467	5,228	8.9
2012	506	5,270	9.6
2013	476	5,175	9.2
2014	471	5,361	8.8
2015	475	5,205	9.1
2016	513	5,357	9.6
2017	492	5,130	9.6
2018	466	4,972	9.4
2019	469	4,928	9.5
2020	477	4,653	10.3

# Preterm Birth by Maternal Race/Ethnicity, Prosperity Region 7, 2016-2020

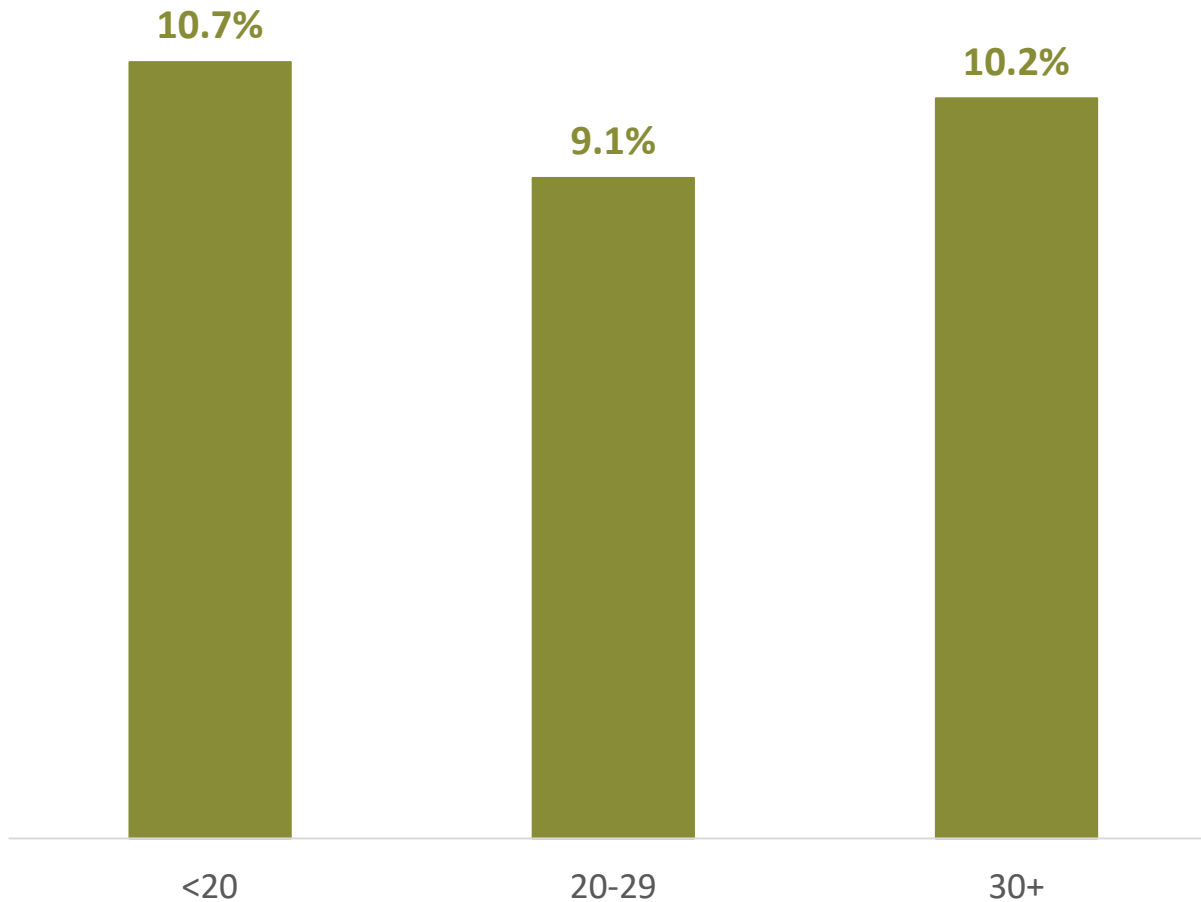
Preterm birth rate is defined as number of births delivered before 37 completed weeks of gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.

Maternal Race	# Preterm	# Live Births	Percent (%) Preterm	MI
White non-Hispanic	1,528	17,376	8.8%	9.0%
Black non-Hispanic	462	3,272	14.1%	14.8%
Hispanic	184	1,960	9.4%	9.6%
American Indian	DNS	41	DNS	9.8%
Asian/Pacific Islander	130	1,412	9.2%	8.2%



# Preterm Birth by Maternal Age, Prosperity Region 7, 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 7		MI
	# Preterm	# Births	% Preterm
< 20 years	120	1,120	10.7
20-29 years	1,155	12,720	9.1
≥30 years	1,138	11,195	10.2

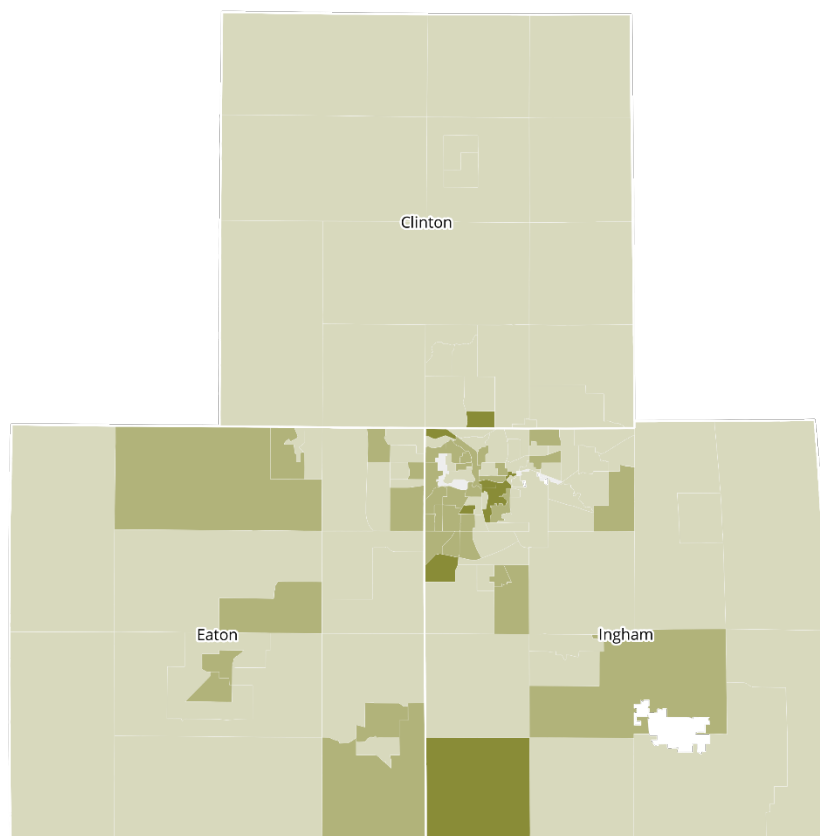
# Preterm Birth by Intended Payment Source, Prosperity Region 7, 2016-2020

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	1,232	14,995	8.2%	9.3%
Medicaid	1,144	9,488	12.1%	11.5%

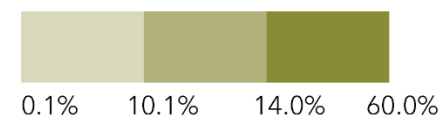
# Preterm Birth by Census Tract, Prosperity Region 7, 2015-2019

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.



## Percent Preterm

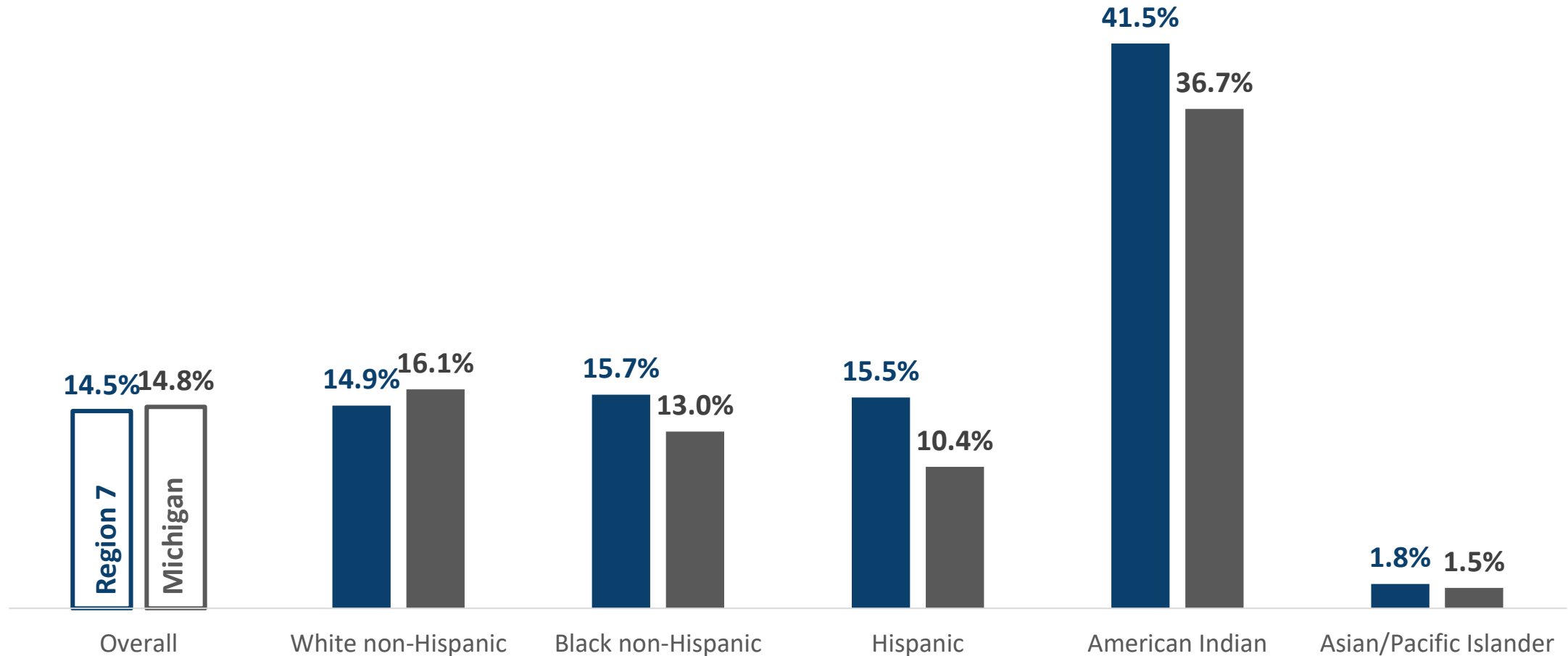
Preterm birth rate is defined as number of births delivered before 37 completed weeks of gestation per 100 live births. Gestational age is based on the obstetric estimate of gestation.



No Live Births/Preterm Births (light gray)

# Smoking During Pregnancy Prosperity Region 7 2016-2020

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

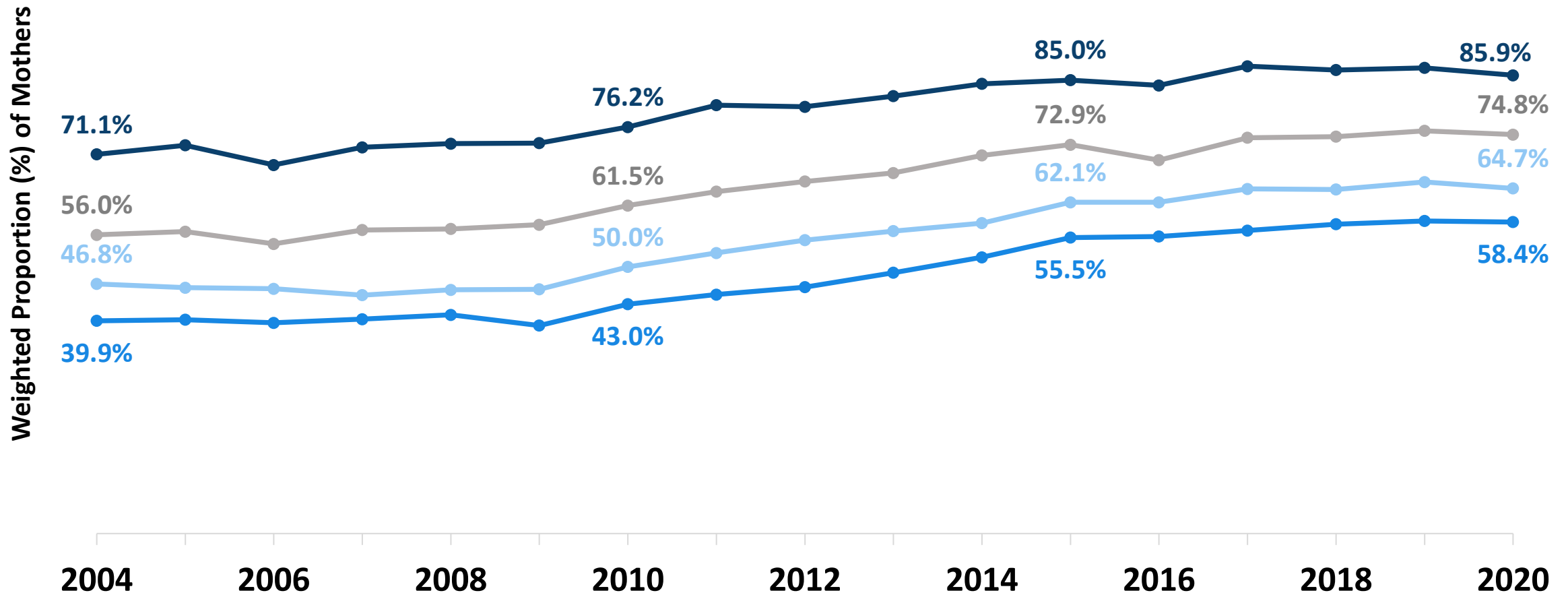


# Breastfeeding Initiation and Duration, Michigan, 2004-2020

# Breastfeeding Initiation + Duration, Michigan 2004-2020

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

● EVER ● 1\_MONTH ● 2\_MONTHS ● 3\_MONTHS



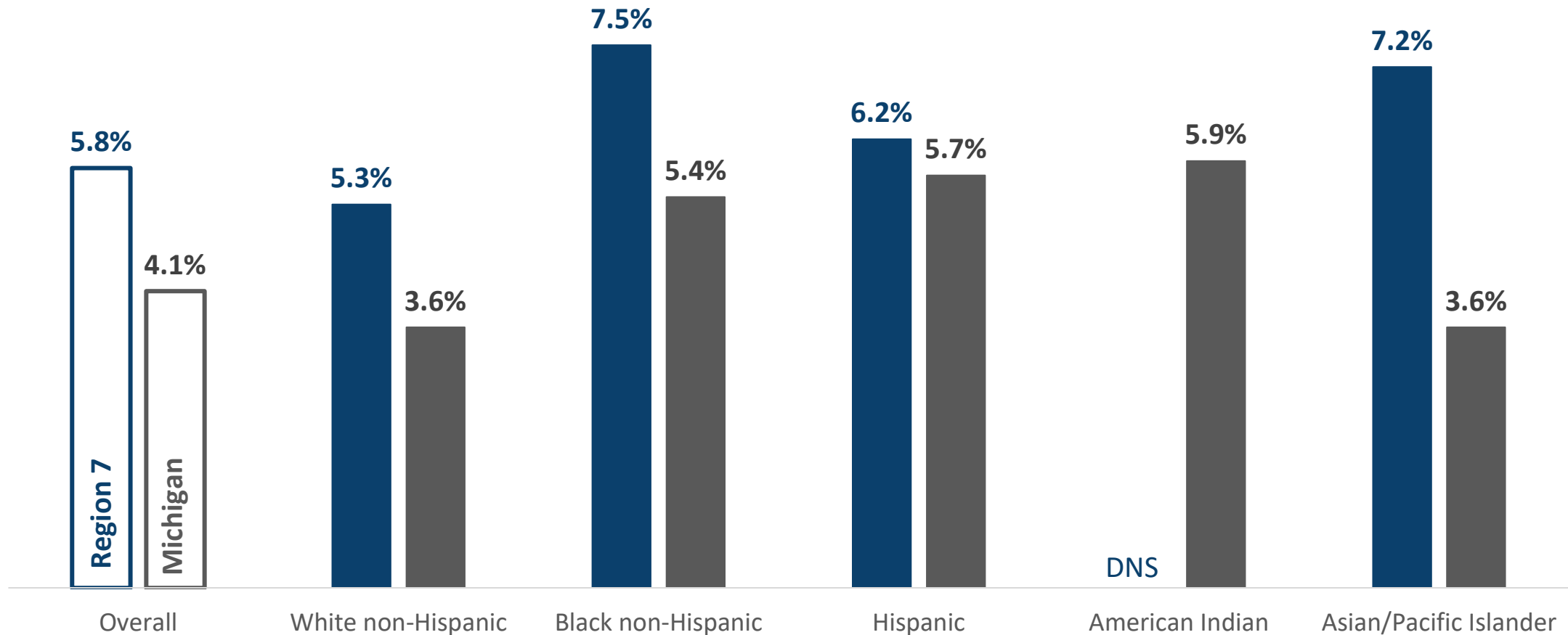
# Late Entry into Prenatal Care Prosperity Region 7 2016-2020



# 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 7 2010-2020

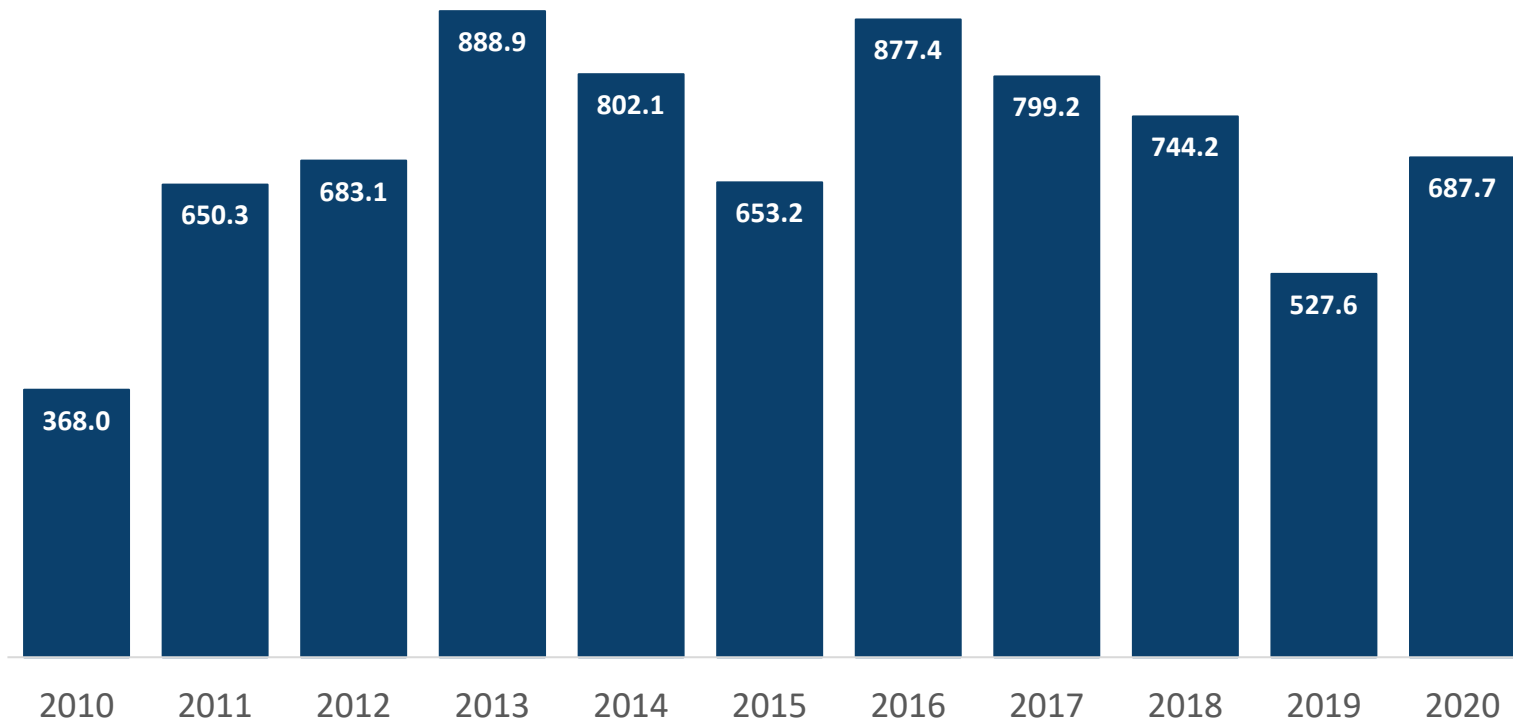
# About the Data

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 7, 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	19	5,163	368.0
2011	34	5,228	650.3
2012	36	5,270	683.1
2013	46	5,175	888.9
2014	43	5,361	802.1
2015	34	5,205	653.2
2016	47	5,357	877.4
2017	41	5,130	799.2
2018	37	4,972	744.2
2019	26	4,928	527.6
2020	32	4,653	687.7

# NAS by Maternal Race/Ethnicity, Prosperity Region 7, 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	138	17,376	794.2	851.5
Black non-Hispanic	19	3,272	580.7	376.6
Hispanic	17	1,960	867.3	519.5
American Indian	DNS	41	DNS	4,582.1
Asian/Pacific Islander	0	1,412	0	27.6

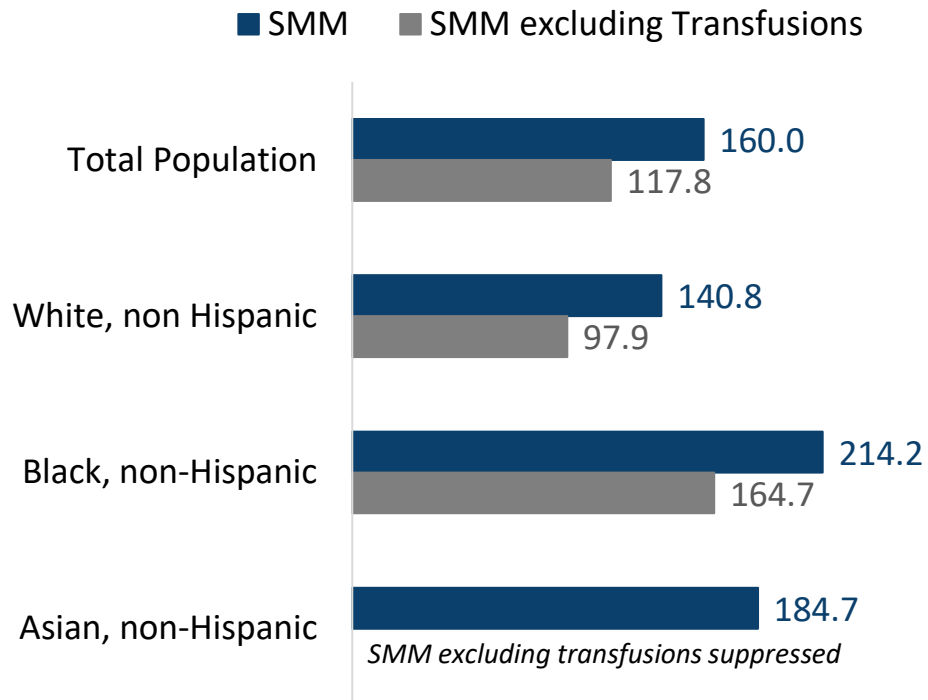
DNS: data not sufficient (0<N<6).

# Severe Maternal Morbidity Rate Prosperity Region 7 2020

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

## Region 7

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

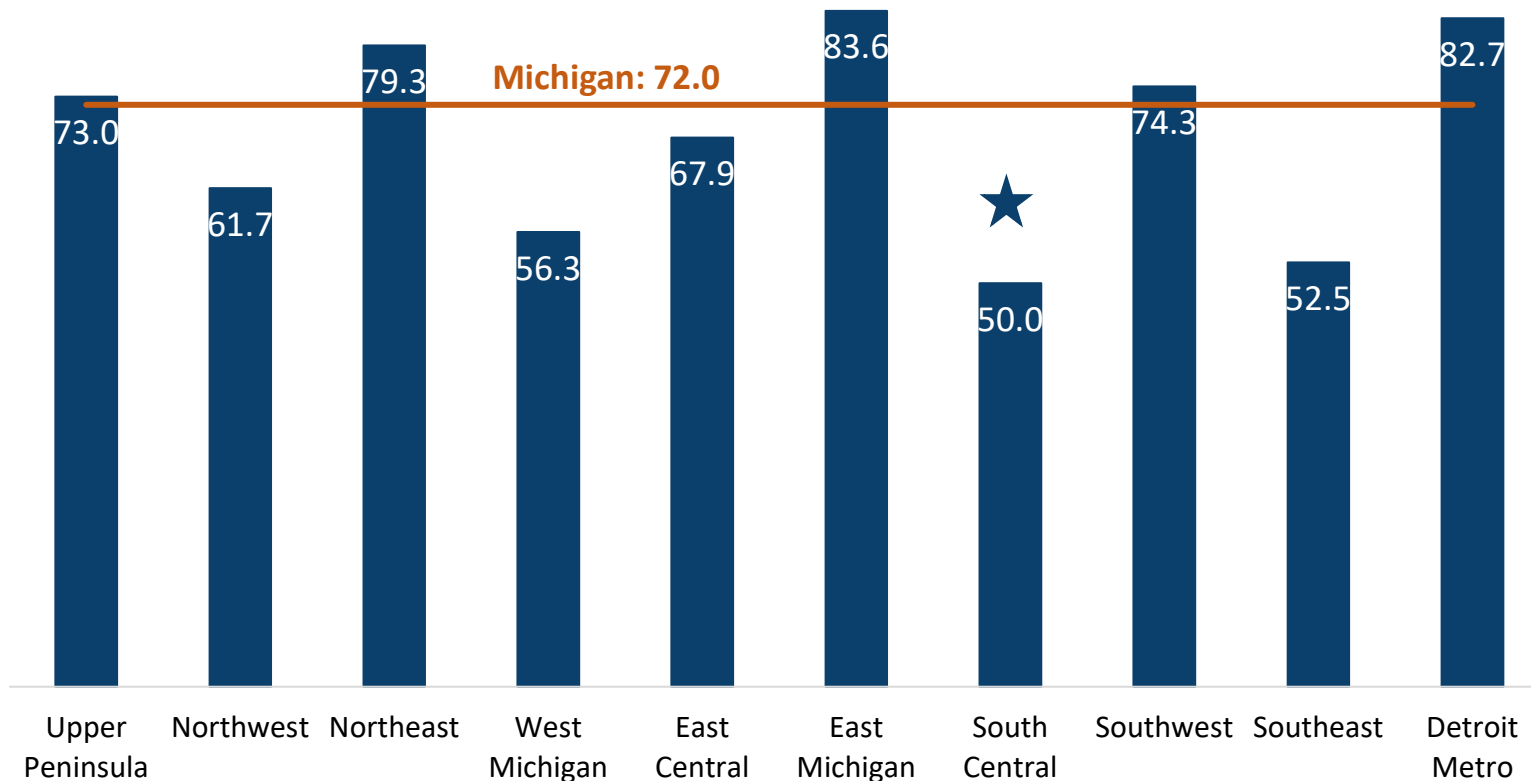
Statistics for other race suppressed due to insufficient sample size.

# Maternal Mortality Ratio Prosperity Region 7 2014-2018



# Maternal Mortality Ratio by Prosperity Region, 2014-2018

Total (Pregnancy Associated) Maternal Mortality Ratio per 100,000 Live Births  
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 Seven there were **13** maternal deaths between 2014 and 2018.