

Michigan Health Equity Data Tables and Related Technical Documents

State of Michigan

**Michigan Health Equity Project
2024 Update**

Office of Equity and Minority Health
The Office of Race, Equity, Diversity, and Inclusion
and
Lifecourse Epidemiology and Genomics Division
Bureau of Epidemiology and Population Health
Michigan Department of Health and Human Services

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INTRODUCTION

Michigan Health Equity Data Project

Health Equity is “the absence of systematic disparities in health and its determinants between groups of people at different levels of underlying social advantage (i.e., wealth, power, and/or social prestige)” (*Michigan Health Equity Roadmap*). Monitoring health equity requires standardized, complete and consistent data collection over time. The Michigan Health Equity Data Project was first released in 2011. The current update to the Michigan Health Equity Data Tables present consistent and standardized group-level data for five racial/ethnic minority populations across two time periods (2011-2013 and 2017-2021). By gathering comparable data for each racial/ethnic population and combining all indicators in one place, these Health Equity Data Tables allow us to routinely monitor health equity in Michigan and evaluate progress over time. The Health Equity Data Tables present summary data at the population level so that disparities between specific populations can be monitored.

The focus of the Michigan Health Equity Project is equity; these tables present information about how populations compare to one another and if they become closer to (more equitable) or further from (less equitable) each other over time. They do not focus on health status changes over time for each population. It is important to look at information for each population, as well as equity. In some cases, equity in the overall population increased even when the health status declined. When interpreting these tables, take note of what is changing to move populations closer to or further from each other.

Health Indicators

Each table contains the same set of indicators, and data for each population was gathered from the same sources or sources that we considered comparable (e.g. Stand-alone Behavior Risk Factor Surveys). The indicators include health outcomes (e.g., diseases and deaths), health-related behaviors, and social, economic, and environmental determinants of individual and community health. Monitoring social determinants together with health outcomes is optimal for evaluating success in achieving sustainable health equity for racial and ethnic minority populations in Michigan.

Indicators were selected based on careful review of indicators for health outcomes and social determinants of health. One key justification for the selection of indicators was the availability of routinely reported measures for racial and ethnic populations in Michigan.

Health Equity Measures

In addition to presenting estimates for two time periods for each indicator, the equity tables incorporate four measures for monitoring racial and ethnic health equity in Michigan.

- 1) **Pairwise disparity (rate difference and rate ratio):** Compares the minority population to the white (reference) population for each indicator. To fully understand differences between two groups and how they compare to other indicators, pairwise comparisons should be made on both absolute (e.g. rate difference) and relative (e.g. rate ratio) scales.

- 2) **Change in pairwise disparity over time:** Measures whether the minority population rate has gotten closer to or farther from the white population rate from one time period to another. This measure helps depict whether the gap in the health status between the minority population and the white population is growing or shrinking over time.
- 3) **Index of disparity:** Measures the level of disparity in the overall Michigan population for each indicator. Unlike the pairwise disparities that only include two populations, this indicator takes into account all subpopulations and overall Michigan population.
- 4) **Change in population disparity over time:** Measures whether the overall population disparity has increased or decreased from one time period to another. This measure helps depict whether the gap in the health status between all of the subpopulations and the overall Michigan population is growing or shrinking over time.

These four measures provide a way to monitor health disparities in a single time period and changes over time. There are limitations and considerations to take into account when interpreting the data. A list of considerations and the full methods are described in the Michigan Health Equity Epidemiology Brief (2011): Methods for Measuring and Monitoring Health Disparities in Michigan. The brief is available at the end of the 2011 Health Equity Full Report, found at <https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr>. Despite the considerations, these data provide a way to measure and monitor health disparities. With this information, public health interventions can be designed to reduce health disparities in Michigan and target populations with the greatest need.

Choice of a Reference Group

Equity describes the gaps between two different groups. When measuring equity, a reference group must be chosen in order to measure how far is the minority group of interest from the reference group. For all pairwise comparisons, the white population served as the reference group. This choice was made because, in Michigan, this population provides a large stable population for comparison over time.

Intended Uses

The Michigan Health Equity Data Tools presented here are intended to serve as resources for those interested in improving health equity in Michigan. The data presented in the equity tables can be used to prepare fact sheets, write grant proposals, and educate communities, policy makers, and health professionals. Additionally, it is hoped that this data will promote discussion among communities and organizations and serve as tools to inform policies that support health equity improvements. With the methods and technical notes provided here, these tables can be replicated by groups to monitor health equity in their subject or geographic areas of interest.

If you have any questions about how this data can be used, please feel free to contact the Michigan Department of Health and Human Services, Office of Equity and Minority Health (MDHHS-OEMH@michigan.gov).

Health Equity Data Table 1. African Americans compared to white as the reference group, Michigan

Indicators ^a	Time 1 (Baseline)					Time 2 (Most Recent Data)						Change Over Time		
	Year/s	African American Rate	white Rate	Rate Difference	Rate Ratio	Year/s	African American Rate	white Rate	Rate Difference	Rate Ratio	Rank: Relative to Reference in Time 2 (Best to Worst) ^b	% Change in Rate Ratio	Inequity Status ^c	Rank: Improvement over Time (Best to Worst) ^d
Social Determinants of Health														
Median Annual Household Income, \$	2011-2013	\$ 28,339.00	\$ 51,705.00	\$ (23,366.00)	0.5	2017-2021	\$ 39,488.00	\$ 67,746.00	\$ (28,258.00)	0.6	3	6.3%	↑	19
Children Below Poverty, %	2011-2013	50.1%	17.3%	32.8%	2.9	2017-2021	48.1%	17.6%	30.5%	2.7	22	-5.6%	↓	11
Poverty Rate (<5 Years), %	2011-2013	59.0%	20.4%	38.6%	2.9	2017-2021	40.4%	13.8%	26.6%	2.9	23	1.2%	↔	17
Unemployment Rate, %	2011-2013	15.9%	5.8%	10.1%	2.7	2017-2021	8.7%	3.4%	5.3%	2.6	20	-6.7%	↓	9
High School Dropout Rate, %	2011-2013	17.1%	7.3%	9.8%	2.3	2017-2021	19.8%	8.9%	10.9%	2.2	19	-5.1%	↓	12
Children live in community not usually safe, %	2011-2013	35.2%	6.5%	28.7%	5.4	2021	15.0%	0.9%	14.1%	16.7	28	207.8%	↓	28
Persons Not Registered to Vote, %	2014	30.7%	20.4%	10.3%	1.5	2021	21.5%	24.1%	-2.6%	0.9	5	-40.7%	↓	1
Not Living in Owner-Occupied Housing, %	2011-2013	56.7%	22.9%	33.8%	2.5	2017-2021	55.4%	20.9%	34.5%	2.7	21	7.1%	↑	20
Households With No Vehicle Available, %	2011-2013	20.8%	5.8%	15.0%	3.6	2017-2021	15.7%	5.1%	10.6%	3.1	24	-14.2%	↓	5
Speak English Less Than "Very Well", %	2011-2013	0.7%	1.8%	-1.1%	0.4	2017-2021	0.9%	1.9%	-1.0%	0.5	2	21.8%	↑	23
Living in Different House Than Last Year, %	2011-2013	20.2%	13.2%	7.0%	1.5	2017-2021	11.7%	10.6%	1.1%	1.1	7	-27.9%	↓	2
Health Status, Behaviors, Healthcare														
Self-Reported Fair/Poor Health, %	2011-2013	25.1%	14.5%	10.6%	1.7	2019-2021	23.5%	14.6%	8.9%	1.6	15	-7.0%	↓	8
Adult Obesity Prevalence, %	2011-2013	36.9%	29.8%	7.1%	1.2	2019-2021	42.7%	34.4%	8.3%	1.2	9	0.2%	↔	16
Adult Tobacco Use – Current Smoker, %	2011-2013	24.8%	22.7%	2.1%	1.1	2019-2021	20.2%	18.9%	1.3%	1.1	6	-2.2%	↔	14
High School Student Obesity Prevalence, %	2011-2013	15.7%	11.5%	4.2%	1.4	2020-2021	23.2%	13.0%	10.2%	1.8	18	30.7%	↑	25
High School Student – Current Smoker, %	2011-2013	4.6%	14.7%	-10.1%	0.3	2020-2021	0.7%	1.8%	-1.1%	0.4	1	24.9%	↑	24
Children 19-35 Months Not Immunized - 4-3-1-3-3-1 Series, %	2011-2013	17.3%	18.6%	-1.3%	0.9	2020-2021	25.4%	16.4%	9.0%	1.5	14	66.9%	↑	26
No Health Insurance Coverage, %	2011-2013	29.8%	20.3%	9.5%	1.5	2019-2021	10.6%	7.7%	2.9%	1.4	11	-6.3%	↓	10
Morbidity and Mortality														
Heart Disease Mortality Rate, per 100,000	2011-2013	280.0	191.3	88.7	1.5	2017-2021	353.7	252.2	101.5	1.4	12	-4.2%	↔	13
Stroke Mortality Rate, per 100,000	2011-2013	50.0	35.8	14.2	1.4	2017-2021	69.3	55.3	14.0	1.3	10	-10.3%	↓	6
Diabetes Mortality Rate	2011-2013	36.3	21.8	14.5	1.7	2017-2021	51.2	31.3	19.9	1.6	16	-1.8%	↔	15
All-Cancer Mortality Rate, per 100,000	2011-2013	211.5	171.8	39.7	1.2	2017-2021	231.4	207.3	24.0	1.1	8	-9.4%	↓	7
Chronic Lower Respiratory Disease Mortality Rate, per 100,000	2011-2013	32.5	48.2	-15.7	0.7	2017-2021	41.9	53.8	-11.8	0.8	4	15.6%	↑	21
HIV and AIDS Cases Rate per 100,000 Population	2011-2013	686.0	72.0	614.0	9.5	2017-2021	25.4	2.5	22.8	10.0	26	5.2%	↑	18
Gonorrhea Cases Rate per 100,000 Population	2011-2013	398.5	20.8	377.6	19.1	2017-2021	878.1	60.5	817.6	14.5	27	-24.1%	↓	3
Preterm Births, %	2011-2013	16.9%	9.0%	7.9%	1.9	2021	14.9%	9.7%	5.2%	1.5	13	-17.9%	↓	4
Infant Mortality Rate, per 1,000 births	2011-2013	13.8	5.2	8.6	2.6	2021	13.6	4.4	9.2	3.1	25	17.4%	↑	22
Unintentional Injury Mortality Rate, per 100,000	2011-2013	36.6	38.5	-1.9	1.0	2017-2021	97.9	58.2	39.7	1.7	17	76.9%	↑	27

↑: Increase (worsening) in inequity. ↓: Decrease (improvement) in inequity. ↔: No Change. NA or ♦: Data Not Available.

a: Complete definitions and references for all indicators and ranking systems are listed in the Michigan Health Equity Dataset Technical Notes, which can be found online at <https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr>.

b: Indicator rank in order of health outcome relative to reference in Time 2, with best (1) being the indicator with the most positive health outcome relative to the reference group. Rate ratios were used to determine these rankings with estimates to nearest tenth decimal place.

c: The inequity status measure is the percent change in the rate between the index minority population and the reference population for the noted time periods. Positive numbers (and upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change.

d: Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status relative to the reference group between Time 1 and Time 2. Percent change in rate ratios were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together next. Rate ratios that had an inequity status that were improving were considered as a negative number (better) in ranking. Similarly, rate ratios that had an inequity status that were worsening were considered as a positive number (worse) in ranking.

Suggested citation: Michigan Health Equity Data Reference Tables, 2011-2013 and 2017-2021. Lansing, MI: Michigan Department of Health and Human Services Office of Equity and Minority Health and Lifecourse Epidemiology and Genomics Division; 2023.

For more information, email MDHHS-OEMH@michigan.gov.

Health Equity Data Table 2. American Indians/Alaska Natives compared to white as the reference group, Michigan

Indicators ^a	Time 1 (Baseline)					Time 2 (Most Recent Data)					Change Over Time			
	Year/s	American Indian Rate	white Rate	Rate Difference	Rate Ratio	Year/s	American Indian Rate	white Rate	Rate Difference	Rate Ratio	Rank: Relative to Reference in Time 2 (Best to Worst) ^b	% Change in Rate Ratio	Inequity Status ^c	Rank: Improvement over Time (Best to Worst) ^d
Social Determinants of Health														
Median Annual Household Income, \$	2011-2013	\$ 37,314.00	\$ 51,705.00	\$ (14,391.00)	0.7	2017-2021	\$ 49,739.00	\$ 67,746.00	\$ (18,007.00)	0.7	3	1.7%	↔	15
Children Below Poverty, %	2011-2013	27.1%	17.3%	9.8%	1.6	2017-2021	27.2%	17.6%	9.6%	1.5	13	-1.3%	↔	12
Poverty Rate (<5 Years), %	2011-2013	34.7%	20.4%	14.3%	1.7	2017-2021	29.5%	13.8%	15.7%	2.1	24	25.7%	↑	19
Unemployment Rate, %	2011-2013	NA	5.8%	NA	NA	2017-2021	6.3%	3.4%	2.9%	1.9	20	NA	♦	NA
High School Dropout Rate, %	2011-2013	14.3%	7.3%	7.0%	2.0	2017-2021	18.2%	8.9%	9.3%	2.0	22	4.5%	↔	16
Children live in community not usually safe, %	2011-2013	NA	6.5%	NA	NA	2021	NA	0.9%	NA	NA	NA	NA	♦	NA
Persons Not Registered to Vote, %	2014	NA	20.4%	NA	NA	2021	NA	24.1%	NA	NA	NA	NA	♦	NA
Not Living in Owner-Occupied Housing, %	2011-2013	38.4%	22.9%	15.5%	1.7	2017-2021	35.2%	20.9%	14.3%	1.7	16	0.4%	↔	13
Households With No Vehicle Available, %	2011-2013	12.2%	5.8%	6.4%	2.1	2017-2021	11.9%	5.1%	6.8%	2.3	25	10.9%	↑	17
Speak English Less Than "Very Well", %	2011-2013	1.0%	1.8%	-0.8%	0.6	2017-2021	3.7%	1.9%	1.8%	1.9	21	250.5%	↑	22
Living in Different House Than Last Year, %	2011-2013	18.4%	13.2%	5.2%	1.4	2017-2021	12.1%	10.6%	1.5%	1.1	10	-18.1%	↓	8
Health Status, Behaviors, Healthcare														
Self-Reported Fair/Poor Health, %	2011-2013	23.4%	14.5%	8.9%	1.6	2019-2021	26.3%	14.6%	11.7%	1.8	19	11.6%	↑	18
Adult Obesity Prevalence, %	2011-2013	32.7%	29.8%	2.9%	1.1	2019-2021	29.1%	34.4%	-5.3%	0.8	7	-22.9%	↓	7
Adult Tobacco Use – Current Smoker, %	2011-2013	48.5%	22.7%	25.8%	2.1	2019-2021	33.4%	18.9%	14.5%	1.8	18	-17.3%	↓	9
High School Student Obesity Prevalence, %	2011-2013	NA	11.5%	NA	NA	2020-2021	21.7%	13.0%	8.7%	1.7	15	NA	♦	NA
High School Student – Current Smoker, %	2011-2013	NA	14.7%	NA	NA	2020-2021	2.8%	1.8%	1.0%	1.6	14	NA	♦	NA
Children 19-35 Months Not Immunized - 4-3-1-3-3-1 Series, %	2011-2013	20.9%	18.6%	2.3%	1.1	2020-2021	18.7%	16.4%	2.3%	1.1	9	1.4%	↔	14
No Health Insurance Coverage, %	2011-2013	23.0%	20.3%	2.7%	1.1	2019-2021	13.4%	7.7%	5.7%	1.7	17	53.3%	↑	21
Morbidity and Mortality														
Heart Disease Mortality Rate, per 100,000	2011-2013	224.6	191.3	33.3	1.2	2017-2021	191.4	252.2	-60.8	0.8	6	-35.4%	↓	3
Stroke Mortality Rate, per 100,000	2011-2013	30.0	35.8	-5.8	0.8	2017-2021	41.8	55.3	-13.5	0.8	5	-9.8%	↓	11
Diabetes Mortality Rate	2011-2013	52.8	21.8	31.0	2.4	2017-2021	37.5	31.3	6.2	1.2	12	-50.6%	↓	2
All-Cancer Mortality Rate, per 100,000	2011-2013	188.4	171.8	16.6	1.1	2017-2021	152.8	207.3	-54.6	0.7	4	-32.8%	↓	5
Chronic Lower Respiratory Disease Mortality Rate, per 100,000	2011-2013	72.7	48.2	24.5	1.5	2017-2021	33.9	53.8	-19.8	0.6	1	-58.2%	↓	1
HIV and AIDS Cases Rate per 100,000 Population	2011-2013	66.0	72.0	-6.0	0.9	2017-2021	1.8	2.5	-0.8	0.7	2	-24.1%	↓	6
Gonorrhea Cases Rate per 100,000 Population	2011-2013	33.8	20.8	13.0	1.6	2017-2021	125.1	60.5	64.6	2.1	23	27.4%	↑	20
Preterm Births, %	2011-2013	12.2%	9.0%	3.2%	1.3	2021	11.2%	9.7%	1.5%	1.2	11	-14.4%	↓	10
Infant Mortality Rate, per 1,000 births	2011-2013	7.5	5.2	2.2	1.4	2021	NA	4.4	NA	NA	NA	NA	♦	NA
Unintentional Injury Mortality Rate, per 100,000	2011-2013	55.9	38.5	17.4	1.5	2017-2021	55.9	58.2	-2.4	1.0	8	-33.9%	↓	4

↑: Increase (worsening) in inequity. ↓: Decrease (improvement) in inequity. ↔: No Change. NA or ♦: Data Not Available.

a: Complete definitions and references for all indicators and ranking systems are listed in the Michigan Health Equity Dataset Technical Notes, which can be found online at <https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr>.

b: Indicator rank in order of health outcome relative to reference in Time 2, with best (1) being the indicator with the most positive health outcome relative to the reference group. Rate ratios were used to determine these rankings with estimates to nearest tenth decimal place.

c: The inequity status measure is the percent change in the rate between the index minority population and the reference population for the noted time periods. Positive numbers (and upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change.

d: Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status relative to the reference group between Time 1 and Time 2. Percent change in rate ratios were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together next. Rate ratios that had an inequity status that were improving were considered as a negative number (better) in ranking. Similarly, rate ratios that had an inequity status that were worsening were considered as a positive number (worse) in ranking.

Suggested citation: Michigan Health Equity Data Reference Tables, 2011-2013 and 2017-2021. Lansing, MI: Michigan Department of Health and Human Services Office of Equity and Minority Health and Lifecourse Epidemiology and Genomics Division; 2023.

For more information, email MDHHS-OEMH@michigan.gov.

Health Equity Data Table 3. Asian Americans/Pacific Islanders compared to white as the reference group, Michigan

Indicators ^a	Time 1 (Baseline)					Time 2 (Most Recent Data)					Change Over Time			
	Year/s	Asian American Rate	white Rate	Rate Difference	Rate Ratio	Year/s	Asian American Rate	white Rate	Rate Difference	Rate Ratio	Rank: Relative to Reference in Time 2 (Best to Worst) ^b	% Change in Rate Ratio	Inequity Status ^c	Rank: Improvement over Time (Best to Worst) ^d
Social Determinants of Health														
Median Annual Household Income, \$	2011-2013	\$ 72,513.00	\$ 51,705.00	\$ 20,808.00	1.4	2017-2021	\$ 99,438.00	\$ 67,746.00	\$ 31,692.00	1.5	25	4.7%	↔	20
Children Below Poverty, %	2011-2013	13.3%	17.3%	-4.0%	0.8	2017-2021	11.8%	17.6%	-5.8%	0.7	12	-12.8%	↓	11
Poverty Rate (<5 Years), %	2011-2013	13.5%	20.4%	-6.9%	0.7	2017-2021	12.4%	13.8%	-1.4%	0.9	16	35.8%	↑	23
Unemployment Rate, %	2011-2013	4.8%	5.8%	-1.0%	0.8	2017-2021	3.1%	3.4%	-0.3%	0.9	17	10.2%	↑	21
High School Dropout Rate, %	2011-2013	5.1%	7.3%	-2.2%	0.7	2017-2021	3.5%	8.9%	-5.4%	0.4	7	-43.8%	↓	3
Children live in community not usually safe, %	2011-2013	NA	6.5%	NA	NA	2021	0.0%	0.9%	-0.9%	0.0	1	NA	◆	NA
Persons Not Registered to Vote, %	2014	40.4%	20.4%	20.0%	2.0	2021	67.7%	24.1%	43.6%	2.8	27	41.8%	↑	24
Not Living in Owner-Occupied Housing, %	2011-2013	40.7%	22.9%	17.8%	1.8	2017-2021	36.0%	20.9%	15.1%	1.7	26	-3.1%	↔	15
Households With No Vehicle Available, %	2011-2013	6.8%	5.8%	1.0%	1.2	2017-2021	6.2%	5.1%	1.1%	1.2	22	3.7%	↔	19
Speak English Less Than "Very Well", %	2011-2013	33.2%	1.8%	31.4%	18.4	2017-2021	27.7%	1.9%	25.8%	14.6	28	-21.0%	↓	6
Living in Different House Than Last Year, %	2011-2013	20.3%	13.2%	7.1%	1.5	2017-2021	13.3%	10.6%	2.7%	1.3	23	-18.4%	↓	8
Health Status, Behaviors, Healthcare														
Self-Reported Fair/Poor Health, %	2011-2013	6.2%	14.5%	-8.3%	0.4	2019-2021	6.2%	14.6%	-8.4%	0.4	9	-0.7%	↔	18
Adult Obesity Prevalence, %	2011-2013	13.8%	29.8%	-16.0%	0.5	2019-2021	9.5%	34.4%	-24.9%	0.3	4	-40.4%	↓	4
Adult Tobacco Use – Current Smoker, %	2011-2013	9.7%	22.7%	-13.0%	0.4	2019-2021	6.6%	18.9%	-12.3%	0.3	5	-18.3%	↓	9
High School Student Obesity Prevalence, %	2011-2013	6.6%	11.5%	-4.9%	0.6	2020-2021	9.4%	13.0%	-3.6%	0.7	14	26.2%	↑	22
High School Student – Current Smoker, %	2011-2013	7.4%	14.7%	-7.4%	0.5	2020-2021	0.0%	1.8%	-1.8%	0.0	1	-100.0%	↓	1
Children 19-35 Months Not Immunized - 4-3-1-3-3-1 Series, %	2011-2013	26.9%	18.6%	8.3%	1.4	2020-2021	16.8%	16.4%	0.4%	1.0	20	-29.3%	↓	5
No Health Insurance Coverage, %	2011-2013	21.0%	20.3%	0.7%	1.0	2019-2021	6.3%	7.7%	-1.4%	0.8	15	-20.9%	↓	7
Morbidity and Mortality														
Heart Disease Mortality Rate, per 100,000	2011-2013	77.7	191.3	-113.6	0.4	2017-2021	100.2	252.2	-152.0	0.4	8	-2.2%	↔	16
Stroke Mortality Rate, per 100,000	2011-2013	25.3	35.8	-10.5	0.7	2017-2021	38.5	55.3	-16.8	0.7	13	-1.5%	↔	17
Diabetes Mortality Rate	2011-2013	14.6	21.8	-7.2	0.7	2017-2021	18.3	31.3	-13.0	0.6	11	-12.7%	↓	12
All-Cancer Mortality Rate, per 100,000	2011-2013	95.6	171.8	-76.2	0.6	2017-2021	99.2	207.3	-108.1	0.5	10	-14.0%	↓	10
Chronic Lower Respiratory Disease Mortality Rate, per 100,000	2011-2013	10.7	48.2	-37.5	0.2	2017-2021	6.1	53.8	-47.7	0.1	3	-49.2%	↓	2
HIV and AIDS Cases Rate per 100,000 Population	2011-2013	42.0	72.0	-30.0	0.6	2017-2021	2.4	2.5	-0.2	0.9	18	60.9%	↑	26
Gonorrhea Cases Rate per 100,000 Population	2011-2013	9.2	20.8	-11.6	0.4	2017-2021	70.4	60.5	9.9	1.2	21	163.7%	↑	27
Preterm Births, %	2011-2013	9.6%	9.0%	0.6%	1.1	2021	9.3%	9.7%	-0.4%	1.0	19	-9.6%	↓	14
Infant Mortality Rate, per 1,000 births	2011-2013	4.6	5.2	-0.7	0.9	2021	5.7	4.4	1.3	1.3	24	48.9%	↑	25
Unintentional Injury Mortality Rate, per 100,000	2011-2013	15.4	38.5	-23.1	0.4	2017-2021	20.9	58.2	-37.3	0.4	6	-10.1%	↓	13

↑: Increase (worsening) in inequity. ↓: Decrease (improvement) in inequity. ↔: No Change. NA or ◆: Data Not Available.

a: Complete definitions and references for all indicators and ranking systems are listed in the Michigan Health Equity Dataset Technical Notes, which can be found online at <https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr>.

b: Indicator rank in order of health outcome relative to reference in Time 2, with best (1) being the indicator with the most positive health outcome relative to the reference group. Rate ratios were used to determine these rankings with estimates to nearest tenth decimal place.

c: The inequity status measure is the percent change in the rate between the index minority population and the reference population for the noted time periods. Positive numbers (and upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change.

d: Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status relative to the reference group between Time 1 and Time 2. Percent change in rate ratios were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together next. Rate ratios that had an inequity status that were improving were considered as a negative number (better) in ranking. Similarly, rate ratios that had an inequity status that were worsening were considered as a positive number (worse) in ranking.

Suggested citation: Michigan Health Equity Data Reference Tables, 2011-2013 and 2017-2021. Lansing, MI: Michigan Department of Health and Human Services Office of Equity and Minority Health and Lifecourse Epidemiology and Genomics Division; 2023.

For more information, email MDHHS-OEMH@michigan.gov.

Health Equity Data Table 4. Hispanic Americans/Latino Americans compared to white as the reference group, Michigan

Indicators ^a	Time 1 (Baseline)					Time 2 (Most Recent Data)					Change Over Time			
	Year/s	Hispanic-Latino American Rate	white Rate	Rate Difference	Rate Ratio	Year/s	Hispanic-Latino American Rate	white Rate	Rate Difference	Rate Ratio	Rank: Relative to Reference in Time 2 (Best to Worst) ^b	% Change in Rate Ratio	Inequity Status ^c	Rank: Improvement over Time (Best to Worst) ^d
Social Determinants of Health														
Median Annual Household Income, \$	2011-2013	\$ 36,702.00	\$ 51,705.00	\$ (15,003.00)	0.7	2017-2021	\$ 57,617.00	\$ 67,746.00	\$ (10,129.00)	0.9	6	19.8%	↑	25
Children Below Poverty, %	2011-2013	35.8%	17.3%	18.5%	2.1	2017-2021	35.8%	17.6%	18.2%	2.0	23	-1.7%	↔	16
Poverty Rate (<5 Years), %	2011-2013	41.8%	20.4%	21.4%	2.0	2017-2021	27.7%	13.8%	13.9%	2.0	22	-2.0%	↔	14
Unemployment Rate, %	2011-2013	8.8%	5.8%	3.0%	1.5	2017-2021	5.9%	3.4%	2.5%	1.7	19	14.4%	↑	22
High School Dropout Rate, %	2011-2013	15.2%	7.3%	7.9%	2.1	2017-2021	15.1%	8.9%	6.2%	1.7	18	-18.7%	↓	6
Children live in community not usually safe, %	2011-2013	26.1%	6.5%	19.6%	4.0	2021	2.1%	0.9%	1.2%	2.3	26	-41.9%	↓	2
Persons Not Registered to Vote, %	2014	14.2%	20.4%	-6.2%	0.7	2021	44.2%	24.1%	20.1%	1.8	21	163.5%	↑	28
Not Living in Owner-Occupied Housing, %	2011-2013	45.1%	22.9%	22.2%	2.0	2017-2021	37.4%	20.9%	16.5%	1.8	20	-9.1%	↓	11
Households With No Vehicle Available, %	2011-2013	9.2%	5.8%	3.4%	1.6	2017-2021	8.2%	5.1%	3.1%	1.6	17	1.4%	↔	17
Speak English Less Than "Very Well", %	2011-2013	19.7%	1.8%	17.9%	10.9	2017-2021	17.1%	1.9%	15.2%	9.0	28	-17.8%	↓	7
Living in Different House Than Last Year, %	2011-2013	19.2%	13.2%	6.0%	1.5	2017-2021	13.5%	10.6%	2.9%	1.3	12	-12.4%	↓	9
Health Status, Behaviors, Healthcare														
Self-Reported Fair/Poor Health, %	2011-2013	27.2%	14.5%	12.7%	1.9	2019-2021	19.3%	14.6%	4.7%	1.3	13	-29.5%	↓	4
Adult Obesity Prevalence, %	2011-2013	40.4%	29.8%	10.6%	1.4	2019-2021	45.8%	34.4%	11.4%	1.3	14	-1.8%	↔	15
Adult Tobacco Use – Current Smoker, %	2011-2013	22.0%	22.7%	-0.7%	1.0	2019-2021	20.2%	18.9%	1.3%	1.1	10	10.3%	↑	21
High School Student Obesity Prevalence, %	2011-2013	17.1%	11.5%	5.6%	1.5	2020-2021	20.3%	13.0%	7.3%	1.6	16	4.7%	↔	19
High School Student – Current Smoker, %	2011-2013	17.1%	14.7%	2.3%	1.2	2020-2021	1.2%	1.8%	-0.6%	0.7	3	-42.4%	↓	1
Children 19-35 Months Not Immunized - 4-3-1-3-3-1 Series, %	2011-2013	22.1%	18.6%	3.5%	1.2	2020-2021	17.1%	16.4%	0.7%	1.0	8	-12.1%	↓	10
No Health Insurance Coverage, %	2011-2013	20.8%	20.3%	0.5%	1.0	2019-2021	16.7%	7.7%	9.0%	2.2	25	111.4%	↑	27
Morbidity and Mortality														
Heart Disease Mortality Rate, per 100,000	2011-2013	138.9	191.3	-52.4	0.7	2017-2021	173.7	252.2	-78.6	0.7	4	-5.2%	↓	13
Stroke Mortality Rate, per 100,000	2011-2013	33.9	35.8	-1.9	0.9	2017-2021	32.7	55.3	-22.6	0.6	2	-37.6%	↓	3
Diabetes Mortality Rate	2011-2013	33.9	21.8	12.1	1.6	2017-2021	34.8	31.3	3.5	1.1	11	-28.6%	↓	5
All-Cancer Mortality Rate, per 100,000	2011-2013	118.2	171.8	-53.6	0.7	2017-2021	156.5	207.3	-50.8	0.8	5	9.7%	↑	20
Chronic Lower Respiratory Disease Mortality Rate, per 100,000	2011-2013	23.4	48.2	-24.8	0.5	2017-2021	24.0	53.8	-29.8	0.4	1	-8.1%	↓	12
HIV and AIDS Cases Rate per 100,000 Population	2011-2013	158.0	72.0	86.0	2.2	2017-2021	8.9	2.5	6.4	3.5	27	60.5%	↑	26
Gonorrhea Cases Rate per 100,000 Population	2011-2013	43.0	20.8	22.2	2.1	2017-2021	127.6	60.5	67.1	2.1	24	2.1%	↔	18
Preterm Births, %	2011-2013	11.6%	9.0%	2.5%	1.3	2021	10.3%	9.7%	0.6%	1.1	9	-17.1%	↓	8
Infant Mortality Rate, per 1,000 births	2011-2013	6.5	5.2	1.3	1.2	2021	6.5	4.4	2.1	1.5	15	19.2%	↑	24
Unintentional Injury Mortality Rate, per 100,000	2011-2013	32.9	38.5	-5.6	0.9	2017-2021	58.3	58.2	0.1	1.0	7	17.2%	↑	23
↑: Increase (worsening) in inequity. ↓: Decrease (improvement) in inequity. ↔: No Change. NA or ♦: Data Not Available.														
a: Complete definitions and references for all indicators and ranking systems are listed in the Michigan Health Equity Dataset Technical Notes, which can be found online at https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr .														
b: Indicator rank in order of health outcome relative to reference in Time 2, with best (1) being the indicator with the most positive health outcome relative to the reference group. Rate ratios were used to determine these rankings with estimates to nearest tenth decimal place.														
c: The inequity status measure is the percent change in the rate between the index minority population and the reference population for the noted time periods. Positive numbers (and upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change.														
d: Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status relative to the reference group between Time 1 and Time 2. Percent change in rate ratios were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together next. Rate ratios that had an inequity status that were improving were considered as a negative number (better) in ranking. Similarly, rate ratios that had an inequity status that were worsening were considered as a positive number (worse) in ranking.														
Suggested citation: Michigan Health Equity Data Reference Tables, 2011-2013 and 2017-2021. Lansing, MI: Michigan Department of Health and Human Services Office of Equity and Minority Health and Lifecourse Epidemiology and Genomics Division; 2023.														
For more information, email MDHHS-OEMH@michigan.gov.														

Health Equity Data Table 5. Arab Americans compared to white as the reference group, Michigan

Indicators ^a	Time 1 (Baseline)					Time 2 (Most Recent Data)						Change Over Time		
	Year/s	Arab American Rate	white Rate	Rate Difference	Rate Ratio	Year/s	Arab American Rate	white Rate	Rate Difference	Rate Ratio	Rank: Relative to Reference in Time 2 (Best to Worst) ^b	% Change in Rate Ratio	Inequity Status ^c	Rank: Improvement over Time (Best to Worst) ^d
Social Determinants of Health														
Median Annual Household Income, \$	2011-2013	\$ 37,707.00	\$ 51,705.00	\$ (13,998.00)	0.7	2017-2021	\$ 56,648.00	\$ 67,746.00	\$ (11,098.00)	0.8	2	14.7%	↑	10
Children Below Poverty, %	2011-2013	46.1%	17.3%	28.8%	2.7	2017-2021	40.5%	17.6%	22.9%	2.3	13	-13.6%	↓	4
Poverty Rate (<5 Years), %	2011-2013	45.8%	20.4%	25.4%	2.2	2017-2021	28.8%	13.8%	15.0%	2.1	12	-7.0%	↓	8
Unemployment Rate, %	2011-2013	NA	5.8%	NA	NA	2017-2021	6.9%	3.4%	3.5%	2.0	11	NA	◆	NA
High School Dropout Rate, %	2011-2013	NA	7.3%	NA	NA	2017-2021	NA	8.9%	NA	NA	NA	NA	◆	NA
Children live in community not usually safe, %	2011-2013	NA	6.5%	NA	NA	2021	NA	0.9%	NA	NA	NA	NA	◆	NA
Persons Not Registered to Vote, %	2014	NA	20.4%	NA	NA	2021	NA	24.1%	NA	NA	NA	NA	◆	NA
Not Living in Owner-Occupied Housing, %	2011-2013	38.9%	22.9%	16.0%	1.7	2017-2021	32.5%	20.9%	11.6%	1.6	10	-8.5%	↓	7
Households With No Vehicle Available, %	2011-2013	7.6%	5.8%	1.8%	1.3	2017-2021	5.8%	5.1%	0.7%	1.1	7	-13.2%	↓	5
Speak English Less Than "Very Well", %	2011-2013	28.6%	1.8%	26.8%	15.9	2017-2021	26.3%	1.9%	24.4%	13.8	14	-12.9%	↓	6
Living in Different House Than Last Year, %	2011-2013	17.2%	13.2%	4.0%	1.3	2017-2021	9.5%	10.6%	-1.1%	0.9	5	-31.2%	↓	2
Health Status, Behaviors, Healthcare														
Self-Reported Fair/Poor Health, %	2011-2013	29.7%	14.5%	15.2%	2.0	2019-2021	13.9%	14.6%	-0.7%	1.0	6	-53.5%	↓	1
Adult Obesity Prevalence, %	2011-2013	30.5%	29.8%	0.7%	1.0	2019-2021	29.9%	34.4%	-4.5%	0.9	4	-15.1%	↓	3
Adult Tobacco Use – Current Smoker, %	2011-2013	18.3%	22.7%	-4.4%	0.8	2019-2021	16.2%	18.9%	-2.7%	0.9	3	6.3%	↑	9
High School Student Obesity Prevalence, %	2011-2013	NA	11.5%	NA	NA	2020-2021	NA	13.0%	NA	NA	NA	NA	◆	NA
High School Student – Current Smoker, %	2011-2013	NA	14.7%	NA	NA	2020-2021	NA	1.8%	NA	NA	NA	NA	◆	NA
Children 19-35 Months Not Immunized - 4-3-1-3-3-1 Series, %	2011-2013	NA	18.6%	NA	NA	2020-2021	NA	16.4%	NA	NA	NA	NA	◆	NA
No Health Insurance Coverage, %	2011-2013	NA	20.3%	NA	NA	2019-2021	10.6%	7.7%	2.9%	1.4	9	NA	◆	NA
Morbidity and Mortality														
Heart Disease Mortality Rate, per 100,000	2011-2013	186.7	191.3	-4.6	1.0	2017-2021	NA	252.2	NA	NA	NA	NA	◆	NA
Stroke Mortality Rate, per 100,000	2011-2013	43.0	35.8	7.2	1.2	2017-2021	NA	55.3	NA	NA	NA	NA	◆	NA
Diabetes Mortality Rate	2011-2013	27.5	21.8	5.7	1.3	2017-2021	NA	31.3	NA	NA	NA	NA	◆	NA
All-Cancer Mortality Rate, per 100,000	2011-2013	151.3	171.8	-20.5	0.9	2017-2021	NA	207.3	NA	NA	NA	NA	◆	NA
Chronic Lower Respiratory Disease Mortality Rate, per 100,000	2011-2013	21.7	48.2	-26.5	0.5	2017-2021	NA	53.8	NA	NA	NA	NA	◆	NA
HIV and AIDS Cases Rate per 100,000 Population	2011-2013	NA	72.0	NA	NA	2017-2021	3.0	2.5	0.5	1.2	8	NA	◆	NA
Gonorrhea Cases Rate per 100,000 Population	2011-2013	NA	20.8	NA	NA	2017-2021	37.6	60.5	-22.9	0.6	1	NA	◆	NA
Preterm Births, %	2011-2013	8.6%	9.0%	-0.5%	0.9	2021	NA	9.7%	NA	NA	NA	NA	◆	NA
Infant Mortality Rate, per 1,000 births	2011-2013	7.2	5.2	2.0	1.4	2021	NA	4.4	NA	NA	NA	NA	◆	NA
Unintentional Injury Mortality Rate, per 100,000	2011-2013	20.3	38.5	-18.2	0.5	2017-2021	NA	58.2	NA	NA	NA	NA	◆	NA
↑: Increase (worsening) in inequity. ↓: Decrease (improvement) in inequity. ↔: No Change. NA or ◆: Data Not Available.														
a: Complete definitions and references for all indicators and ranking systems are listed in the Michigan Health Equity Dataset Technical Notes, which can be found online at https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr .														
b: Indicator rank in order of health outcome relative to reference in Time 2, with best (1) being the indicator with the most positive health outcome relative to the reference group. Rate ratios were used to determine these rankings with estimates to nearest tenth decimal place.														
c: The inequity status measure is the percent change in the rate between the index minority population and the reference population for the noted time periods. Positive numbers (and upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change.														
d: Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status relative to the reference group between Time 1 and Time 2. Percent change in rate ratios were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together next. Rate ratios that had an inequity status that were improving were considered as a negative number (better) in ranking. Similarly, rate ratios that had an inequity status that were worsening were considered as a positive number (worse) in ranking.														
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Health Equity Data Table 6. Index of Disparity (ID), Overall Population, Michigan

Indicators ^a	Time 1 (Baseline)		Time 2 (Most Recent Data)			Change Over Time		
	Year/s	Overall Inequity (ID) ^b : Time 1	Year/s	Overall Inequity (ID) ^b : Time 2	Rank: ID in Time 2 (Best to Worst) ^c	Change in Overall Inequity	Inequity Status ^d	Rank: Improvement over Time (Best to Worst) ^e
Social Determinants of Health								
Median Annual Household Income, \$	2011-2013	27.8%	2017-2021	23.8%	6	-4.0%	↔	10
Children Below Poverty, %	2011-2013	54.1%	2017-2021	53.3%	22	-0.7%	↔	12
Poverty Rate (<5 Years), %	2011-2013	50.5%	2017-2021	51.4%	19	0.9%	↔	16
Unemployment Rate, %	2011-2013	49.0%	2017-2021	61.4%	23	12.5%	↑	24
High School Dropout Rate, %	2011-2013	51.1%	2017-2021	52.0%	21	0.9%	↔	15
Children live in community not usually safe, %	2011-2013	106.1%	2021	143.8%	27	37.6%	↑	28
Persons Not Registered to Vote, %	2014	41.1%	2021	65.0%	24	23.9%	↑	26
Not Living in Owner-Occupied Housing, %	2011-2013	47.3%	2017-2021	42.5%	17	-4.7%	↔	9
Households With No Vehicle Available, %	2011-2013	45.8%	2017-2021	46.5%	18	0.7%	↔	13
Speak English Less Than "Very Well", %	2011-2013	393.9%	2017-2021	319.6%	28	-74.3%	↓	1
Living in Different House Than Last Year, %	2011-2013	25.8%	2017-2021	12.9%	1	-12.9%	↓	5
Health Status, Behaviors, Healthcare								
Self-Reported Fair/Poor Health, %	2011-2013	52.7%	2019-2021	35.8%	13	-16.9%	↓	4
Adult Obesity Prevalence, %	2011-2013	19.4%	2019-2021	26.5%	8	7.2%	↑	22
Adult Tobacco Use – Current Smoker, %	2011-2013	33.8%	2019-2021	28.2%	9	-5.6%	↓	7
High School Student Obesity Prevalence, %	2011-2013	29.5%	2020-2021	34.9%	12	5.4%	↑	19
High School Student – Current Smoker, %	2011-2013	38.2%	2020-2021	51.8%	20	13.6%	↑	25
Children 19-35 Months Not Immunized - 4-3-1-3-3-1 Series, %	2011-2013	19.2%	2020-2021	20.0%	3	0.8%	↔	14
No Health Insurance Coverage, %	2011-2013	13.3%	2019-2021	37.3%	14	24.0%	↑	27
Morbidity and Mortality								
Heart Disease Mortality Rate, per 100,000	2011-2013	25.8%	2017-2021	32.6%	11	6.8%	↑	21
Stroke Mortality Rate, per 100,000	2011-2013	19.1%	2017-2021	25.5%	7	6.5%	↑	20
Diabetes Mortality Rate	2011-2013	46.9%	2017-2021	23.1%	4	-23.8%	↓	2
All-Cancer Mortality Rate, per 100,000	2011-2013	20.2%	2017-2021	23.6%	5	3.4%	↔	18
Chronic Lower Respiratory Disease Mortality Rate, per 100,000	2011-2013	45.1%	2017-2021	39.9%	15	-5.2%	↓	8
HIV and AIDS Cases Rate per 100,000 Population	2011-2013	102.7%	2017-2021	100.2%	25	-2.5%	↔	11
Gonorrhea Cases Rate per 100,000 Population	2011-2013	119.8%	2017-2021	102.3%	26	-17.5%	↓	3
Preterm Births, %	2011-2013	20.9%	2021	14.0%	2	-7.0%	↓	6
Infant Mortality Rate, per 1,000 births	2011-2013	29.2%	2021	40.3%	16	11.1%	↑	23
Unintentional Injury Mortality Rate, per 100,000	2011-2013	28.6%	2017-2021	30.8%	10	2.3%	↔	17
↑: Increase (worsening) in inequity. ↓: Decrease (improvement) in inequity. ↔: No Change. NA or ♦: Data Not Available.								
a: Complete definitions and references for all indicators and ranking systems are listed in the Michigan Health Equity Dataset Technical Notes, which can be found online at https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr .								
b: The Overall Population Index of Disparity (ID) is a measure of how much disparity exists in the overall population, summarizing how far each group is from the population average. ID=0 indicates no disparity in the population; higher values of ID indicate increasing levels of disparity in the population (for that specific indicator). ID can be greater than 100%. ID does not reflect health status, but does reflect how much variation exists in the population.								
c: Indicator rank in order of ID in Time 2, with best (1) being the indicator with the lowest ID. ID at Time 2 were used to determine these rankings with estimates to nearest tenth decimal place.								
d: The inequity status measure is the difference between overall population inequity (ID) in Time 1 and Time 2 (exact years vary for each indicator, but for all indicators Time 1 is between 2011 and 2013 and Time 2 is between 2017 and 2021). Positive numbers (upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change.								
e: Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status between Time 1 and Time 2. The largest negative percent was considered the best. Percent change in ID were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together.								
Suggested citation: Michigan Health Equity Data Reference Tables, 2011-2013 and 2017-2021. Lansing, MI: Michigan Department of Health and Human Services Office of Equity and Minority Health and Lifecourse Epidemiology and Genomics Division; 2023.								
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Health Equity Data Table 7. Summary Table: Change in Health Inequity Over Time, by Race/Ethnicity and Overall Population, Michigan, 2011-2013 and 2017-2021

Indicators ^a	Inequity Status ^b					Overall Inequity ^c
	African Americans	American Indians/ Alaska Natives	Asian American	Hispanics/ Latinos	Arabs	
Social Determinants of Health						
Median Annual Household Income, \$	↑	↔	↔	↑	↑	↔
Children Below Poverty, %	↓	↔	↓	↔	↓	↔
Poverty Rate (<5 Years), %	↔	↑	↑	↔	↓	↔
Unemployment Rate, %	↓	◆	↑	↑	◆	↑
High School Dropout Rate, %	↓	↔	↓	↓	◆	↔
Children live in community not usually safe, %	↑	◆	◆	↓	◆	↑
Persons Not Registered to Vote, %	↓	◆	↑	↑	◆	↑
Not Living in Owner-Occupied Housing, %	↑	↔	↔	↓	↓	↔
Households With No Vehicle Available, %	↓	↑	↔	↔	↓	↔
Speak English Less Than "Very Well", %	↑	↑	↓	↓	↓	↓
Living in Different House Than Last Year, %	↓	↓	↓	↓	↓	↓
Health Status, Behaviors, Healthcare						
Self-Reported Fair/Poor Health, %	↓	↑	↔	↓	↓	↓
Adult Obesity Prevalence, %	↔	↓	↓	↔	↓	↑
Adult Tobacco Use – Current Smoker, %	↔	↓	↓	↑	↑	↓
High School Student Obesity Prevalence, %	↑	◆	↑	↔	◆	↑
High School Student – Current Smoker, %	↑	◆	↓	↓	◆	↑
Children 19-35 Months Not Immunized - 4-3-1-3-3-1 Series, %	↑	↔	↓	↓	◆	↔
No Health Insurance Coverage, %	↓	↑	↓	↑	◆	↑
Morbidity and Mortality						
Heart Disease Mortality Rate, per 100,000	↔	↓	↔	↓	◆	↑
Stroke Mortality Rate, per 100,000	↓	↓	↔	↓	◆	↑
Diabetes Mortality Rate	↔	↓	↓	↓	◆	↓
All-Cancer Mortality Rate, per 100,000	↓	↓	↓	↑	◆	↔
Chronic Lower Respiratory Disease Mortality Rate, per 100,000	↑	↓	↓	↓	◆	↓
HIV and AIDS Cases Rate per 100,000 Population	↑	↓	↑	↑	◆	↔
Gonorrhea Cases Rate per 100,000 Population	↓	↑	↑	↔	◆	↓
Preterm Births, %	↓	↓	↓	↓	◆	↓
Infant Mortality Rate, per 1,000 births	↑	◆	↑	↑	◆	↑
Unintentional Injury Mortality Rate, per 100,000	↑	↓	↓	↑	◆	↔

↑: Increase (worsening) in inequity. ↓: Decrease (improvement) in inequity. ↔: No Change. NA or ◆: Data Not Available.

a: Complete definitions and references for all indicators and ranking systems are listed in the Michigan Health Equity Dataset Technical Notes, which can be found online at <https://www.michigan.gov/mdhhs/keep-mi-healthy/multihealth/minority-hdr>.

b: Indicator rank in order of health outcome relative to reference in Time 2, with best (1) being the indicator with the most positive health outcome relative to the reference group. Rate ratios were used to determine these rankings with estimates to nearest tenth decimal place.

c: The inequity status measure is the percent change in the rate between the index minority population and the reference population for the noted time periods. The inequity status does not take into account changes in health status over time. Upward arrows indicate a relative increase in the inequity; downward arrows indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change. See Tables 1-5 for specific data for each population.

d: The inequity status measure is the difference between overall population inequity (ID) in Time 1 and Time 2 (exact years vary for each indicator, but for all indicators Time 1 is between 2011 and 2013 and Time 2 is between 2017 and 2021). Positive numbers (upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change. See Table 6 for specific data for overall population.

e: Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status between Time 1 and Time 2. The largest negative percent was considered the best. Percent change in ID were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together.

Suggested citation: Michigan Health Equity Data Reference Tables, 2011-2013 and 2017-2021. Lansing, MI: Michigan Department of Health and Human Services Office of Equity and Minority Health and Lifecourse Epidemiology and Genomics Division; 2023.

For more information, email MDHHS-OEMH@michigan.gov.

MICHIGAN HEALTH EQUITY DATASET TECHNICAL NOTES

A. Race/Ethnicity Categories (unless otherwise noted)

African American: Black alone, not Hispanic/Latino.

American Indian/Alaska Native: AI/AN alone, not Hispanic/Latino.

Arab: US Census American Community Survey data used Arab alone (excludes Assyrian/Chaldean/Syriac but does not exclude Hispanic/Latino). BRFSS and mortality data includes Arab and Assyrian/Chaldean/Syriac and does not exclude Hispanic/Latino.

Asian/Pacific Islander: U.S. Census American Community Survey data used Asian alone, not Hispanic/Latino. BRFSS and mortality data included Asian and Pacific Islander, not Hispanic/Latino.

Hispanic/Latino: Hispanic/Latino (of any race).

white: white alone, not Hispanic/Latino.

B. Indicators

Median Annual Household Income

Definition: The median household income divides the income of all households into two, one-half of all households have incomes below the median and one-half of all households have incomes above the median income. This includes households with no income. Household income is the sum of the incomes over the past 12 months for all individuals ≥ 15 years old who live in the household at the time of the interview, whether or not they are related.

2011-2013 and 2017-2021 Data Location: <https://data.census.gov/> → Advanced Search → Topics (Select Income & Poverty) → Income and Earnings → Income (Households, Families, Individuals) → Select geographic area of interest (e.g., state=Michigan) → Select Race and Ethnic Groups separately for each race/ethnicity

2011-2013 Citation: U.S. Census Bureau, 2011-2013 American Community Survey.

2017-2021 Citation: U.S. Census Bureau, 2017-2021 American Community Survey.

Poverty Rate

Definition: Percent of all individuals who are in poverty. Poverty thresholds are determined using the family size and the number of family members aged 18 years or older. A person is living in

poverty if their family's total income in the last 12 months falls below the poverty threshold for their family. Note: Excludes individuals living in college dormitories, military quarters and institutions such as prisons and nursing homes.

2011-2013 and 2017-2021 Data Location: <https://data.census.gov/> → Advanced Search → Topics (Select Income & Poverty) → Income and Earnings → Poverty → Select geographic area of interest (e.g., state=Michigan) → Select Race and Ethnic Groups separately for each race/ethnicity.

Numerator population: Number of individuals 18 years and older who are below the federal poverty level.

Denominator population: Total number of individuals 18 years and older.

2011-2013 Citation: U.S. Census Bureau, 2011-2013 American Community Survey.

2017-2021 Citation: U.S. Census Bureau, 2017-2021 American Community Survey.

Percent Children Below Federal Poverty Level

Definition: Percent of all individuals under 18 years who are in poverty. Poverty thresholds are determined using the family size and the number of family members under 18 years old. A child is living in poverty if their family's total family income in the last 12 months falls below the poverty threshold for their family. Note: Excludes individuals living in college dormitories, military quarters and institutions such as prisons and nursing homes.

2011-2013 and 2017-2021 Data Location: <https://data.census.gov/> → Advanced Search → Topics (Select Income & Poverty) → Poverty → Select geographic area of interest (e.g., state=Michigan) → Select Race and Ethnic Groups separately for each race/ethnicity

Numerator population: Number of individuals under 18 years who are below the federal poverty level.

Denominator population: Total number of individuals under 18 years.

2011-2013 Citation: U.S. Census Bureau, 2011-2013 American Community Survey.

2017-2021 Citation: U.S. Census Bureau, 2017-2021 American Community Survey.

Not Living in Owner-Occupied Housing

Definition: Percent of all individuals 18 years or older living in housing without an owner or co-owner occupying the unit. All occupied housing units are considered “renter occupied” if the owner or co-owner does not live in the unit, this includes units rented that pay cash rent and those that do not pay cash rent.

2011-2013 and 2017-2021 Data Location: <https://data.census.gov/> → Advanced Search → Topics (Select Housing) → Owner/Renter (Householder) Characteristics → Owner/Renter (Tenure) → Select geographic area of interest (e.g., state=Michigan) → Select Race and Ethnic Groups separately for each race/ethnicity

Numerator population: Number of individuals 18 years or older living in housing without an owner or co-owner occupying the unit.

Denominator population: Total number of individuals 18 years or older.

2011-2013 Citation: U.S. Census Bureau, 2011-2013 American Community Survey.

2017-2021 Citation: U.S. Census Bureau, 2017-2021 American Community Survey.

People That Speak English Less Than “Very Well”

Definition: Percent of all individuals 5 years or older who speak English less than “very well.” Persons or representatives of the person are asked questions about what language they speak at home and how well the person speaks English. Respondents that say anything indicating speaking English less than very well are considered part of this population.

2011-2013 and 2017-2021 Data Location: <https://data.census.gov/> → Advanced Search → Topics (Select Language) → English → Ability to Speak English → Select geographic area of interest (e.g., state=Michigan) → Select Race and Ethnic Groups separately for each race/ethnicity

Numerator population: Number of individuals 5 years or older who speak English less than “very well.”

Denominator population: Total number of individuals 18 years or older.

2011-2013 Citation: U.S. Census Bureau, 2011-2013 American Community Survey.

2017-2021 Citation: U.S. Census Bureau, 2017-2021 American Community Survey.

Living in Different House Than Last Year

Definition: Percent of all individuals 18 years or older who moved into a house less than a year ago.

2011-2013 and 2017-2021 Data Location: <https://data.census.gov/> → Advanced Search → Topics (Select Housing) → Owner/Renter (Householder) Characteristics → Year Householder Moved Into Unit (Tenure) → Select geographic area of interest (e.g., state=Michigan) → Select Race and Ethnic Groups separately for each race/ethnicity

Numerator population: Number of individuals 18 years or older who moved into a house less than a year ago.

Denominator population: Total number of individuals 18 years or older.

2011-2013 Citation: U.S. Census Bureau, 2011-2013 American Community Survey.

2017-2021 Citation: U.S. Census Bureau, 2017-2021 American Community Survey.

Unemployment Rate

Definition: Percent of civilian labor force over 16 that is not employed. Note: Here populations for white, Black and Asian races include individuals identifying as Hispanic ethnicity.

Numerator: Number of people who are unemployed

Denominator: Number of people in Civilian, Non-institutional Population Over 16 years and In Labor Force

Data Location: <http://www.bls.gov/lau/> → LAU Publications → Expanded State Employment Status Demographic Data → Employment status of the civilian non-institutionalized population in states by sex, race, Hispanic or Latino ethnicity, marital status, and detailed age, 2021 (2013) annual average. Also contact LAUS for more information or help: (202) 691-6392.

High School Dropout Rate

Definition: Percentage of students who dropped out of high school, of all students who started ninth grade four years before dropout rate is calculated. Note: Includes only public high schools.

Numerator population: Number of students who left high school permanently at any time in four years before receiving a diploma, GED or other certificate of completion.

Denominator population: Number of students who enrolled in ninth grade for the first time four years prior to year for which dropout rate is calculated. Cohort is adjusted for students who transfer in, students who transfer out and students who are exempt.

Data Location: Center for Educational Performance and Information: MI School Data.
<https://www.mischooldata.org/dashboard/> → K-12 Grade → Students → Grad/Dropout Rate → Select School Year (2011-2012, 2020-2021) → Rate Year (Select 5-Year Graduation Cohort) → Race/Ethnicity

2011 and 2021 Citation: State of Michigan 2011 and 2021 Cohort 5-Year Graduation and Dropout Rate Reports by Subgroup. Lansing, MI: State of Michigan Center for Educational Performance and Information.

Percent Not Registered to Vote

Definition: Percentage of all citizens who are not registered to vote.

Numerator: Total number of citizens not registered to vote

Denominator: Total number of citizens Data Location: U.S. Census Bureau, Current Population Survey, November 2011 and 2012

<http://www.census.gov/topics/> → Public Sector → Voting and Registration → Data → Select Year (2011, 2022) → Voting and Registration in the Election of November → Table 4b – by Sex, Race and Hispanic Origin

2011 Citation: U.S. Census Bureau, Current Population Survey, November 2011. Internet Release Date: November, 2011.

2022 Citation: U.S. Census Bureau, Current Population Survey, November 2022. Internet Release Date: November, 2021.

Households with No Vehicle Available

Definition: Percentage of all households that have no cars available for the use of household members.

Numerator: Number of households that have no passenger cars, vans or pickup/panel trucks of one-ton capacity or less kept at home and available for the use of household members.

Denominator: Total number of households.

2011 Citation: U.S. Census Bureau, 2011-2013 American Community Survey.

2021 Citation: U.S. Census Bureau, 2017-2021 American Community Survey.

Children Living in Community Not Usually Safe

Definition: Percentage of parents that report their children live in communities or neighborhoods that are either considered 'never safe' or 'sometimes safe.'

Numerator: Children whose parents report their neighborhood or community is never safe or sometimes safe for children.

Denominator: Number of children (age 0-17 years) whose data are included in the National Survey of Children's Health sample.

2011/2012 Citation: 2011/2012 National Survey of Children's Health. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [11/06/23] from www.childhealthdata.org.

2020/2021 Citation: 2020/2021 National Survey of Children's Health. Data query from the Child and Adolescent Health Measurement Initiative, Data Resource Center for Child and Adolescent Health website. Retrieved [11/06/23] from www.childhealthdata.org.

Self-Reported Fair or Poor Health

Definition: Among all adults, the proportion who reported that their health, in general, was either fair or poor. Age-adjusted 1.

Numerator: Number of respondents who reported their health was fair or poor.

Denominator: Number of adults (18 years and over) in Behavioral Risk Factor Survey sample.

2011-2013/2019-2021 Data Location: www.michigan.gov/brfs. Estimates for white, African American, AI/AN, Hispanic, Asian, Arab and Overall from MiBRFS expanded race/ethnicity tables. (Email Health Disparities epidemiologist to request data).

2011-2013 Citation (white, Black, AI/AN, Hispanic, Asian, and Arab estimates, Total): C Fussman. 2011-2013. Crude and Age-Adjusted Estimates for chronic health conditions, risk factors, health indicators, and preventive health practices by expanded race/ethnicity, State of Michigan: 2011-2013 Behavioral Risk Factor Survey. Michigan Department of Health and Human Services, Bureau of Disease Control, Prevention, and Epidemiology, Chronic Disease Epidemiology Section.

2019-2021 Citation (white, Black, AI/AN, Hispanic, Asian, and Arab estimates, Total): Y Tian. 2019-2021 Crude and Age-Adjusted Estimates for chronic health conditions, risk factors, health indicators, and preventive health practices by expanded race/ethnicity. Lansing, MI: Michigan Department of Health and Human Services, Lifecourse Epidemiology and Genomics Division.

Obesity Prevalence

Definition: Among all adults, the proportion of respondents whose BMI was greater than or equal to 30.0. BMI (body mass index) = [weight (in kilograms)/height² (in meters)]. Weight and height were self-reported and pregnant women were excluded. Age-adjusted¹.

Numerator: Number of respondents whose BMI was greater than or equal to 30.0.

Denominator: Number of adults (18 years and over) in Behavioral Risk Factor Survey sample.

2011-2013/2017-2021 Data Location: www.michigan.gov/brfs. Estimates for white, African American, AI/AN, Hispanic, Asian, Arab, and Overall from MiBRFS expanded race/ethnicity tables. (email Health Disparities epidemiologist to request data).

2011-2013 Citation (white, Black, AI/AN, Hispanic, Asian, and Arab estimates, Total): C Fussman. 2011-2013. Crude and Age-Adjusted Estimates for chronic health conditions, risk factors, health indicators, and preventive health practices by expanded race/ethnicity, State of Michigan: 2011-2013 Behavioral Risk Factor Survey. Michigan Department of Health and Human Services, Bureau of Disease Control, Prevention, and Epidemiology, Chronic Disease

Epidemiology Section.

2019-2021 Citation (white, Black, AI/AN, Hispanic, Asian, and Arab estimates, Total): Y Tian. 2019-2021 Crude and Age-Adjusted Estimates for chronic health conditions, risk factors, health indicators, and preventive health practices by expanded race/ethnicity. Lansing, MI: Michigan Department of Health and Human Services, Lifecourse Epidemiology and Genomics Division.

Tobacco Use – Current Smoker

Definition: Among all adults, the proportion who reported that they had ever smoked at least 100 cigarettes (five packs) in their life and that they smoke cigarettes now, either every day or on some days. Age-adjusted¹.

Numerator: Number of respondents who reported that they were current smokers.

Denominator: Number of adults (18 years and over) in Behavioral Risk Factor Survey sample.

2011-2013/2019-2021 Data Location: www.michigan.gov/brfs. Estimates for white, African American, AI/AN, Hispanic, Asian, Arab, and Overall from MiBRFS expanded race/ethnicity tables. (email Health Disparities epidemiologist to request data).

2011-2013 Citation (white, Black, AI/AN, Hispanic, Asian, and Arab estimates, Total): C Fussman. 2011-2013. Crude and Age-Adjusted Estimates for chronic health conditions, risk factors, health indicators, and preventive health practices by expanded race/ethnicity, State of Michigan: 2011-2013 Behavioral Risk Factor Survey. Michigan Department of Health and Human Services, Bureau of Disease Control, Prevention, and Epidemiology, Chronic Disease Epidemiology Section.

2019-2021 Citation (white, Black, AI/AN, Hispanic, Asian, and Arab estimates, Total): Y Tian. 2019-2021 Crude and Age-Adjusted Estimates for chronic health conditions, risk factors, health indicators, and preventive health practices by expanded race/ethnicity. Lansing, MI: Michigan Department of Health and Human Services, Lifecourse Epidemiology and Genomics Division.

Adolescent Obesity

Definition: Among all high school students, the proportion of students that were at or above the 95th percentile for body mass index by age and sex.

Numerator: Number of students that were at or above the 95th percentile for body mass index by age and sex.

Denominator: Number of high school students in Youth Risk Behavior Survey sample.

Data Location: Two-year survey results available at <https://www.cdc.gov/healthyyouth/data/yrbs>.

2011-2012 Citation: Centers for Disease Control and Prevention, 2011 & 2012 High School Youth Risk Behavior Survey.

2020-2021 Citation: Centers for Disease Control and Prevention, 2020 & 2021 High School Youth Risk Behavior Survey.

Adolescent Tobacco Use – Current Smoker

Definition: Among all high school students, the proportion of students that reported smoking cigarettes on one or more of the past 30 days.

Numerator: Number of students that reported smoking cigarettes on one or more of the past 30 days.

Denominator: Number of high school students in Youth Risk Behavior Survey sample.

Data Location: Two-year survey results available at <https://www.cdc.gov/healthyyouth/data/yrbs>.

2011-2012 Citation: Centers for Disease Control and Prevention, 2011 & 2012 High School Youth Risk Behavior Survey.

2020-2021 Citation: Centers for Disease Control and Prevention, 2020 & 2021 High School Youth Risk Behavior Survey.

Percent Without Health Insurance

Definition: Percentage of the civilian non-institutionalized population with no reported health insurance coverage.

Numerator: Number of non-institutionalized people living in Michigan who do not have health insurance.

Denominator: Number of non-institutionalized people living in Michigan. 2013 and 2021.

2013 Citation: U.S. Census Bureau, 2013 American Community Survey.

2021 Citation: U.S. Census Bureau, 2021 American Community Survey.

Heart Disease Mortality Rate

Definition: Number of deaths from heart disease per 100,000 people in the population, non-age adjusted.

Numerator: Number of deaths occurring in the specified year for which heart disease was the underlying cause. The underlying cause of death is the condition giving rise to the chain of events leading to death. Heart disease deaths were classified using ICD-10 codes I00-I09, I11-I13, and I20-I51.

Denominator: Number of people in the population derived from National Center for Health Statistics bridged race intercensal and postcensal population estimates. Source for years 2010-2020: Intercensal estimates of the resident population of the United States for July 1, 2010-July 1, 2020, by year, county, single-year of age (0, 1, 2, ..., 85 years and over), bridged race, Hispanic origin, and sex. Prepared under a collaborative arrangement with the U.S. Census Bureau. Available from: http://www.cdc.gov/nchs/nvss/bridged_race.htm as of September 22, 2021.

Source for years 2000-2009: Intercensal estimates of the resident population of the United States for July 1, 2000-July 1, 2010, by year, county, single-year of age (0, 1, 2, ..., 85 years and over), bridged race, Hispanic origin, and sex. Prepared under a collaborative arrangement with the U.S. Census Bureau. http://www.cdc.gov/nchs/nvss/bridged_race.htm as of September 22, 2021.

Arab population estimates were derived from 2000 Census, 2011-2013 ACS, and 2017-2021 ACS data using IPUMS. Source: Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. Integrated Public Use Microdata Series: Version 6.0 [Machine-readable database]. Minneapolis: University of Minnesota, 2015. Data incorporated ancestry, language, and birthplace for individuals as other persons in the household (mother and father) from Middle Eastern and North African countries (list available upon request).

Data Location: Email Health Disparities Epidemiologist, Michigan Department of Health and Human Services, to request data.

Citation: 2011-2013 & 2019-2021 Michigan Resident Death Files, Division of Vital Records and Health Statistics, Michigan Department of Health and Human Services. Data analyses by Health Disparities Epidemiologist, Lifecourse Epidemiology and Genomics Division and Office of Equity and Minority Health.

Stroke Mortality Rate

Definition: Number of deaths from stroke per 100,000 people in the population, age-adjusted¹.

Numerator: Number of deaths occurring in the specified year for which stroke was the underlying cause. The underlying cause of death is the condition giving rise to the chain of events leading to death. Heart disease deaths were classified using ICD-10 codes I60-I69.

Denominator: Number of people in the population (reference HD mortality rate indicator for methodology details).

Data Location: Email Health Disparities Epidemiologist to request data.

Citation: 2011-2013 & 2019-2021 Michigan Resident Death Files, Division of Vital Records and Health Statistics, Michigan Department of Health and Human Services. Data analyses by Health Disparities Epidemiologist, Lifecourse Epidemiology and Genomics Division and Office of Equity and Minority Health.

Diabetes Mortality Rate

Definition: Number of deaths from diabetes per 100,000 people in the population, age-adjusted¹.

Numerator: Number of deaths occurring in the specified year for which diabetes was the underlying cause. The underlying cause of death is the condition giving rise to the chain of events leading to death. Diabetes was classified using ICD-10 codes E10-E14.

Denominator: Number of people in the population (reference HD mortality rate indicator for methodology details).

Data Location: Email Health Disparities Epidemiologist to request data.

Citation: 2011-2013 & 2019-2021 Michigan Resident Death Files, Division of Vital Records and Health Statistics, Michigan Department of Health and Human Services. Data analyses by Health Disparities Epidemiologist, Lifecourse Epidemiology and Genomics Division and Office of Equity and Minority Health.

All-Cancer Mortality Rate

Definition: Number of deaths from cancer per 100,000 people in the population, age-adjusted¹.

Numerator: Number of deaths occurring in the specified year for which cancer was the underlying cause. The underlying cause of death is the condition giving rise to the chain of events leading to death. Cancer deaths were classified using ICD-10 codes C00-C97.

Denominator: Number of people in the population (reference HD mortality rate indicator for methodology details).

Data Location: Email Health Disparities Epidemiologist to request data.

Citation: 2011-2013 & 2019-2021 Michigan Resident Death Files, Division of Vital Records and Health Statistics, Michigan Department of Health and Human Services. Data analyses by Health Disparities Epidemiologist, Lifecourse Epidemiology and Genomics Division and Office of Equity and Minority Health.

Chronic Lower Respiratory Disease Mortality Rate

Definition: Number of deaths from chronic lower respiratory disease per 100,000 people in the population, age-adjusted¹.

Numerator: Number of deaths occurring in the specified year for which chronic lower respiratory disease was the underlying cause. The underlying cause of death is the condition giving rise to the chain of events leading to death. Cancer deaths were classified using ICD-10 codes J40-J47.

Denominator: Number of people in the population (reference HD mortality rate indicator for methodology details).

Data Location: Email Health Disparities Epidemiologist to request data.

Citation: 2011-2013 & 2019-2021 Michigan Resident Death Files, Division of Vital Records and Health Statistics, Michigan Department of Health and Human Services. Data analyses by Health Disparities Epidemiologist, Lifecourse Epidemiology and Genomics Division and Office of Equity and Minority Health.

Gonorrhea Incidence

Definition: Number of new gonorrhea cases in the referenced year, per 100,000 population.

Numerator: Number of new gonorrhea cases diagnosed and reported in the referenced year.

Denominator: Total population living in Michigan, as determined by intercensal annual population estimates, which included Census 2011-2013 and 2019-2021 data.

Data Location: Data provided by Epidemiology Unit Manager of Bureau of HIV and STI Programs, Michigan Department of Health and Human Services.

Citation: 2023 Michigan Disease Surveillance System. Lansing, MI: Michigan Department of Health and Human Services, Bureau of HIV and STI Programs.

HIV Prevalence

Definition: Number of prevalent HIV and AIDS cases per 100,000 population.

Numerator: Number of HIV and AIDS cases reported and alive.

Denominator: Total population living in Michigan, as determined by intercensal annual population estimates, which included Census 2011 and 2017 data.

Data Location: Data provided by Epidemiology Unit Manager of Bureau of HIV and STI Programs, Michigan Department of Health and Human Services.

Citation: 2023 Michigan Disease Surveillance System. Lansing, MI: Michigan Department of Health and Human Services, Bureau of HIV and STI Programs.

Data Location: Email Health Disparities Epidemiologist to request data.

Preterm Births

Definition: Percent of preterm (less than 37 weeks) live singleton births in the total population of live births.

Numerator: Number of preterm (less than 37 weeks) live singleton births.

Denominator: Number of resident live births.

Data Location, Data provided by the Maternal Childhood Health Epidemiology Section of the Lifecourse Epidemiology and Genomics Division, Michigan Department of Health and Human Services.

Citation: 2023 Michigan Childhood Health. Lansing, MI: Michigan Department of Health and Human Services, Bureau of Epidemiology and Population Health.

Infant Mortality Rate

Definition: Number of resident newborns dying under one year of age per 1,000 total number of resident live births.

Numerator: Number of newborn deaths under one year of age occurring in the specified year for which there was any underlying cause of death. The underlying cause of death is the condition giving rise to the chain of events leading to death.

Denominator: Number of live births in the population.

Data Location: Email Health Disparities Epidemiologist to request data.

Citation: 2011-2013 & 2019-2021 Michigan Resident Death Files, Division of Vital Records and Health Statistics, Michigan Department of Health and Human Services. Data analyses by Health Disparities Epidemiologist, Lifecourse Epidemiology and Genomics Division, and Office of Equity and Minority Health.

Children (19-35 months) Immunized for 431331 Series

Definition: Among all children aged 19-35 months in Michigan, the proportion who received immunizations for the 431331 series: four vaccines of DTap (Diphtheria, Tetanus, Pertussis), three Polio, one MMR (Measles, Mumps, Rubella), three Hib (Haemophilus influenzae type B), three Hepatitis B, one Varicella.

Numerator: Number of children aged 19-35 months in Michigan that received the 431331 series.

Denominator: Total number of children aged 19-35 months living in Michigan.

Data Location: Data provided by the Vaccine Preventable Disease Epidemiologist, Michigan Department of Health and Human Services.

Citation: 2011-2013 & 2017-2021 Michigan Care Improvement Registry. Lansing, MI: Michigan Department of Health and Human Services, Bureau of Disease Control, Prevention, and Epidemiology.

C. Additional Definitions and Notes

1. All mortality rates reported here are **age-adjusted** by the direct method, using the total population of the United States as measured by the 2010 and 2020 United States Census.
2. **Rank Relative to Reference in Time 2 (Best to Worst):** Indicator rank in order of health outcome relative to reference in Time 2, with best (1) being the indicator with the most positive health outcome relative to the reference group. Rate ratios were used to determine these rankings with estimates to nearest tenth decimal place. (*Equity Tables 1-5*)
3. **Inequity Status:** Measures the difference between overall population inequity (ID) in Time 1 and Time 2 (exact years vary for each indicator, but for all indicators Time 1 is between 2011 and 2013 and Time 2 is between 2017 and 2021). Positive numbers (upward arrows) indicate a relative increase in the inequity; negative numbers (and downward arrows) indicate a relative decrease in the inequity; horizontal arrows indicate no change in the equity gap. A change of less than 5% in either direction was considered no change. (*Equity Tables 1-5*)

If the Relative Differences are <1 then:		If the Relative Differences are >1 then:	
% Change >0	Decrease in disparity (better)	% Change >0	Increase in disparity (worse)
% Change <0	Increase in disparity (worse)	% Change <0	Decrease in disparity (better)

4. **Rank in Improvement over Time (Best to Worst):** Indicator rank in order of improvement in disparity over time, with best (1) being the indicator with the largest improvement in health status relative to the reference group between Time 1 and Time 2. Percent change in rate ratios were used to determine these rankings to nearest tenth decimal place. Rate ratios that were less than 5% in either direction were considered the same and ranked together.

Rate ratios that had an inequity status that were improving were considered as a negative number (better) in ranking. Similarly, rate ratios that had an inequity status that were worsening were considered as a positive number (worse) in ranking. (*Equity Tables 1-5*)

5. **Rank in ID in Time 2 (Best to Worst):** Indicator rank in order of Overall Population Disparity (ID) in Time 2, with best (1) being the indicator with the lowest level of population disparity. The Index of Disparity (ID) was used to determine these rankings with estimates to nearest tenth decimal place. (*Equity Table 6*)
6. **Rank in Improvement over Time (Best to Worst):** Indicator rank in order of improvement in population disparity over time, with best (1) being the indicator with the largest improvement in overall population disparity between Time 1 and Time 2. (*Equity Table 6*)
7. Disparities are not necessarily inequities. These data **do not** provide any information about the reasons for the disparities or how to close the gaps.
8. These methods **do not** describe the quality of health status or how health is changing over time, but they **do** depict gaps in the health status between different groups and how those gaps grow or shrink over time.
9. Data in these tables are collected for one-to-three-year intervals, and the number of individual respondents or cases for each condition may be too few to produce reliable estimates for Michigan minority populations. **These data should be interpreted cautiously in the absence of statistical estimates of reliability for the reported indicators and measures.**

The Michigan Department of Health and Human Services (MDHHS) does not discriminate against any individual or group on the basis of race, national origin, color, sex, disability, religion, age, height, weight, familial status, partisan considerations, or genetic information. Sex-based discrimination includes, but is not limited to, discrimination based on sexual orientation, gender identity, gender expression, sex characteristics, and pregnancy.

Further, MDHHS:

- Provides free aids and services to people with disabilities to communicate with us, such as:
 - Qualified sign language interpreters.
 - Written information in other formats (large print, audio, accessible electronic formats, other formats).
- Provides free language services to people whose primary language is not English, such as:
 - Qualified interpreters.
 - Information written in other languages.

If you need these services, contact the Section 1557 Coordinator. The contact information is found below.

If you believe that MDHHS has not provided the above services, or discriminated in another way, you can file a grievance with the Section 1557 Coordinator. You can file a grievance by mail, fax, or email. If you need help filing a grievance, the Section 1557 Coordinator is available to help you.

MDHHS Section 1557 Coordinator

Compliance Office, Suite 411

PO Box 30037

Lansing, MI 48909

517-284-1018 (Main), (TTY number—if covered entity has one), 517-335-6146 (Fax), MDHHS-Section-1557@michigan.gov (Email).