

Appendix A

Table 5: PCNA Data Sources and Key Measures Description

Key Measure	Description	Year (s)	Source
HEALTH STATUS			
Morbidity			
Invasive Cancer Incidence Rate	New cases of All sites Invasive Cancer per 100,000 population, age-adjusted rates.	2012-2016	Michigan Cancer Surveillance Program: https://www.cancer-rates.info/mi/ . CDC U.S. Cancer Statistics: https://www.cdc.gov/cancer/uscs/
Female Breast Cancer Incidence Rate	New cases of Female Breast Invasive Cancer per 100,000 population, age-adjusted rates.	2012-2016	Michigan Cancer Surveillance Program: https://www.cancer-rates.info/mi/ . CDC U.S. Cancer Statistics: https://www.cdc.gov/cancer/uscs/
Prostate Gland Cancer Incidence Rate	New cases of Prostate Gland Invasive Cancer per 100,000 population, age-adjusted rates.	2012-2016	Michigan Cancer Surveillance Program: https://www.cancer-rates.info/mi/ . CDC U.S. Cancer Statistics: https://www.cdc.gov/cancer/uscs/
Lung and Bronchus Cancer Incidence Rate	New Cases of Lung and Bronchus Invasive Cancer per 100,000 population, age-adjusted rates.	2012-2016	Michigan Cancer Surveillance Program: https://www.cancer-rates.info/mi/ . CDC U.S. Cancer Statistics: https://www.cdc.gov/cancer/uscs/
Colon Rectum Cancer Incidence Rate	New Cases of Colon Rectum Invasive Cancer per 100,000 population, age-adjusted rates.	2012-2016	Michigan Cancer Surveillance Program: https://www.cancer-rates.info/mi/ . CDC U.S. Cancer Statistics: https://www.cdc.gov/cancer/uscs/
Diabetes Prevalence (%)	Percent of adults with diagnosed diabetes, age adjusted. USDSS restricted county estimates to adults aged 20 years or older to be, while MI and U.S. data are among adults aged 18 years or older.	2016	U.S. Diabetes Surveillance System (USDSS); CDC Division of Diabetes Translation. www.cdc.gov/diabetes/data
HIV Prevalence Rate	Total number of people currently living with HIV (PLWH) per 100,000 population.	2018	<u>Michigan Statewide HIV Surveillance Report, New Diagnoses and Prevalence Tables – July 2019</u> CDC NCHHSTP AtlasPlus. Updated 2019. https://www.cdc.gov/nchhstp/atlas/index.htm
Chlamydia Rate	Reported diagnosed cases of Chlamydia per 100,000 population.	2018	MDHHS Disease Surveillance System. CDC NCHHSTP AtlasPlus: https://www.cdc.gov/nchhstp/atlas/index.htm , https://www.cdc.gov/std/stats18/tables/1.htm
Gonorrhea Rate	Reported diagnosed cases of Gonorrhea per 100,000 population.	2018	MDHHS Disease Surveillance System. CDC NCHHSTP AtlasPlus: https://www.cdc.gov/nchhstp/atlas/index.htm , https://www.cdc.gov/std/stats18/tables/1.htm
Primary & Secondary Syphilis Rates	Reported diagnosed cases of Primary & Secondary (P & S) Syphilis per 100,000 population.	2018	MDHHS Disease Surveillance System. CDC NCHHSTP AtlasPlus: https://www.cdc.gov/nchhstp/atlas/index.htm , https://www.cdc.gov/std/stats18/tables/1.htm
Acute Hepatitis C Rate	Reported diagnosed cases of acute Hepatitis C (HCV) per 100,000 population.	2018	MDHHS Viral Hepatitis Surveillance and Prevention Unit. <u>Hepatitis B and C Annual Surveillance Report</u> . CDC Surveillance for Viral Hepatitis – U.S., 2017: https://www.cdc.gov/hepatitis/statistics/2017surveillance/index.htm
Maternal-Infant Health			
Preterm Live Births (%)	Infants born prior to 37 completed weeks of gestation per 100 live births, 5-year average.	2014-2018	<u>Geocoded Michigan Birth Certificate Registry, MDHHS Division for Vital Records & Health Statistics</u> CDC Natality Files Natality public-use data 2007-2018, on CDC WONDER Online Database, September 2019. http://wonder.cdc.gov/natality-current.html
Low Birthweight (%)	Live births weighing less than 2,500 grams per 100 live births. 5-year average.	2014-2018	<u>Geocoded Michigan Birth Certificate Registry, MDHHS Division for Vital Records & Health Statistics</u> CDC Natality Files Natality public-use data 2007-2018, on CDC WONDER Online Database, September 2019. http://wonder.cdc.gov/natality-current.html
Infant Mortality Rate	Number of deaths per 1,000 live births of children under one year of age, 5-year average.	2014-2018	<u>MDHHS Division for Vital Records & Health Statistics</u> . CDC WONDER On-line Database. Linked Birth / Infant Death Records 2007-2017. http://wonder.cdc.gov/lbd-current.html

Key Measure	Description	Year (s)	Source
Neonatal Abstinence Syndrome (NAS) Rate	Infants discharged from Hospitals for Treated Drug Withdrawal Syndrome per 100,000 births.	2017	MDHHS Division for Vital Records & Health Statistics. HCUP Fast Stats - Map of Neonatal Abstinence Syndrome (NAS) Among Newborn Hospitalizations. Retrieved from https://www.hcup-us.ahrq.gov/faststats/NASMap
Mortality			
Total Mortality Rate (All Causes)	All causes of death per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Heart Disease Mortality Rate	Heart Disease deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Cancer Mortality Rate	Cancer (malignant neoplasms) deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Chronic Lower Respiratory Diseases Mortality Rate	Chronic Lower Respiratory Disease deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Stroke Mortality Rate	Stroke deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Alzheimer's Disease Mortality Rate	Alzheimer's Disease deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Diabetes Mellitus Mortality Rate	Diabetes Mellitus deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Kidney Disease Mortality Rate	Kidney Disease deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Pneumonia/ Influenza Mortality Rate	Pneumonia/ Influenza deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Intentional Self-harm (Suicide) Mortality Rate	Intentional Self-harm deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics. Geocoded Michigan Death Certificate Registry Mortality in the U.S., 2018. NCHS Data Brief, no 355. https://www.cdc.gov/nchs/data/databriefs/db355-h.pdf
Drug-Induced Mortality Rate	All drug-induced deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics CDC WONDER Online Database. Data are from the Multiple Cause of Death Files, 1999-2018: http://wonder.cdc.gov/ucd-icd10.html
Opioid Overdose Mortality Rate	Opioid poisoning deaths per 100,000 population, age-adjusted rates.	2018	MDHHS Division for Vital Records & Health Statistics
Alcohol-Induced Mortality Rate	Alcohol-induced deaths per 100,000 population, age-adjusted rates	2018	MDHHS Division for Vital Records & Health Statistics CDC WONDER Online Database. Data are from the Multiple Cause of Death Files, 1999-2018: http://wonder.cdc.gov/ucd-icd10.html
SOCIO DETERMINANTS OF HEALTH			
Demographics and Socio-Economic Factors			
Population under 5 y/o (%)	Percent of children under 5 years old.	2014-2018	U.S. Census Bureau, 2018 ACS 5-year Estimates. Table S0101
Population 65 years and over (%)	Percent of people 65 years of age and older.	2014-2018	U.S. Census Bureau, 2018 ACS 5-year Estimates. Table S0101

Key Measure	Description	Year (s)	Source
Population with a disability (%)	Percent of people who exhibit difficulty with specific functions: hearing, vision, cognitive, ambulatory, self-care, or independent living difficulty.	2014-2018	U.S. Census Bureau, 2018 ACS 5-year Estimates. Table S1810
Population with no high school diploma (%)	Percent of adults (people 25 years old and over) who have not completed high school.	2014-2018	U.S. Census Bureau, 2018 ACS 5-year Estimates. Table S1501.
Unemployment Rate (%)	Number of unemployed people as a percentage of the civilian labor force (16 years and over). Annual averages.	2018	U.S. Bureau of Labor Statistics (BLS), Local Area Unemployment Statistics (LAUS). https://www.bls.gov/lau/#tables
Annual Median Household (\$)	Income of the householder and all other individuals 15 years old and over in the household for the past 12 months.	2014-2018	U.S. Census Bureau, 2018 ACS 5-year Estimates. Table S1903.
Percent of population below 100% FPL	Percent of people below 100% poverty level.	2014-2018	U.S. Census Bureau, 2018 ACS 5-year Estimates. Table S1701
Percent of population below 200% FPL	Percent of people below 200% poverty level.	2014-2018	U.S. Census Bureau, 2018 ACS 5-year Estimates. Table S1701
Food Insecurity Rate (%)	Percent of population (overall) who lack adequate access to food.	2017	Feeding America – Map the Meal Gap (overall and child data available): https://map.feedingamerica.org/
Eviction Rate (%)	Number of evictions per 100 renter homes.	2016	The Eviction Lab at Princeton University: https://evictionlab.org/
Health Risk Factors and Behaviors			
Obesity Prevalence (%)	The percentage of adults with self-reported diabetes who were obese (BMI >=30), age adjusted.	2016	U.S. Diabetes Surveillance System; Division of Diabetes Translation – CDC. www.cdc.gov/diabetes/data 2017 CDC Data Briefs https://www.cdc.gov/nchs/data/databriefs/db288.pdf
Physical Inactivity (%)	The percentage of adults with self-reported diabetes who also reported doing no physical activity in the past 30 days.	2016	U.S. Diabetes Surveillance System; Division of Diabetes Translation – CDC. www.cdc.gov/diabetes/data
Late or No Prenatal Care, PNC (%)	Percent of mothers who did not begin prenatal care in first trimester.	2018	MDHHS Division for Vital Records & Health Statistics. CDC Natality Files on CDC WONDER Online Database https://wonder.cdc.gov/nativity.html
Maternal Tobacco Use (%)	Percent of women who used tobacco during pregnancy.	2018	Geocoded Michigan Birth Certificate Registry, MDHHS Division for Vital Records & Health Statistics. CDC Natality Files Natality public-use data 2007-2018, on CDC WONDER Online Database. http://wonder.cdc.gov/nativity-current.html
Teen Births (%)	Number of births per 1,000 female population ages 15-19.	2018	Geocoded Michigan Birth Certificate Registry, MDHHS Division for Vital Records & Health Statistics. CDC Natality Files Natality public-use data 2007-2018, on CDC WONDER Online Database. http://wonder.cdc.gov/nativity-current.html
Blood Lead Levels in Children (%)	Percent of children with elevated blood lead level (EBLL).	2017	MDHHS Division of Environmental Health. Childhood Lead Poisoning Prevention Program (CLPPP) 2017 Annual Report.
Health Care Access and Preventive Services			
Population uninsured (%) (under 65 y/o)	Percent of persons under age 65 uninsured.	2017	U.S. Census Bureau, Small Area Health Insurance Estimates (SAHIE) Program. https://www.census.gov/programs-surveys/sahie.html
Preventable Hospitalizations Rate (%)	Percent of all hospitalizations that were categorized as ambulatory care sensitive hospitalizations.	2017	Michigan Resident Inpatient Files created by the MDHHS Division for Vital Records and Health Statistics https://www.mdch.state.mi.us/pha/osr/CHI/HOSP/FRAME.HTML National HCUP Statistical Brief #99. Potentially Preventable Hospitalizations for Acute and Chronic Conditions (2008): http://www.hcup-us.ahrq.gov/reports/statbriefs/sb99.pdf
Hospital Stays Related to Mental and/or Substance Use Disorders	Age/sex adjusted rate of discharges (stays) due to Alcohol and Other Drugs per 100,000 population.	2016	Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUPnet): https://hcupnet.ahrq.gov/#setup

Key Measure	Description	Year (s)	Source
Annual Medical Exams	Percentage of fee-for-service (FFS) Medicare enrollees that had an annual wellness visit, age-adjusted.	2017	CMS Office of Minority Health's Mapping Medicare Disparities (MMD) Tool: https://data.cms.gov/mapping-medicare-disparities
Annual Flu Shot (%)	Percentage of fee-for-service (FFS) Medicare enrollees that had an annual flu vaccination, age-adjusted.	2017	CMS Office of Minority Health's Mapping Medicare Disparities (MMD) Tool: https://data.cms.gov/mapping-medicare-disparities Other Source (State/National Level): CDC National Center for Immunization and Respiratory Diseases (NCIRD): https://www.cdc.gov/flu/fluview/interactive.htm
Access to Fluoridated Water (%)	Percent of total population with access to optimally fluoridated water. Fluoridated water includes adjusted and optimal natural systems.	2018	Michigan Water Fluoridation Reporting System, 2018. Numerator: Michigan residents accessing optimally fluoridated water. Denominator: Total Michigan residents in the county. National Water Fluoridation Statistics (2016). CDC Division of Oral Health. https://www.cdc.gov/fluoridation/statistics/2016stats.htm
Population to One PCP FTE Ratio	Population to one Primary Care Physician (PCP) full time equivalent (FTE) Ratio. PCP include MDs and DOs in General or Family Practice, Internal Medicine, Obstetrics and Gynecology, and Pediatrics. Ratio based on total estimated direct patient care provider hours/ FTE and total county population.	2020	Provider data come from the Michigan Shortage Designation Management System (SDMS), as of 02/2020. Population estimates are from the 2018 American Community Survey 5-year estimates. U.S. Census Bureau.
Population to One OBGYN FTE Ratio	Women of reproductive age (aged 15-44 years) to one OBGYN Physician full time equivalent (FTE) Ratio. Ratio based on total estimated direct patient care provider hours/ FTE and total county population.	2020	Provider data come from the Michigan Shortage Designation Management System (SDMS), as of 02/2020. Population estimates are from the 2018 American Community Survey 5-year estimates. U.S. Census Bureau.
Population to One Psychiatrist FTE Ratio	Population to one Psychiatrist full time equivalent (FTE) Ratio. Ratio based on total estimated direct patient care provider hours/ FTE and total county population.	2020	Provider data come from the Michigan Shortage Designation Management System (SDMS), as of 02/2020. Population estimates are from the 2018 American Community Survey 5-year estimates. U.S. Census Bureau.
Population to One Dentist FTE	Population to one Dentist full time equivalent (FTE) Ratio. Ratio based on total estimated direct patient care provider hours/ FTE and total county population.	2020	Provider data come from the Michigan Shortage Designation Management System (SDMS), as of 02/2020. Population estimates are from the 2018 American Community Survey 5-year estimates. U.S. Census Bureau.