

Health Profile Chartbook 2015

Mason County



2015 Chartbooks

The 2015 Chartbooks provide a snapshot of the health status of the District Health Department #10 jurisdiction. Information is presented by county and when available, comparisons are made to the jurisdiction, to Michigan, and to Healthy People 2020 Objectives.

Data include population, education, race, births and deaths, incidence of disease, injuries, and immunizations. This year, a Behavioral Risk Factor Survey was conducted in the entire 10 county jurisdiction by an independent research and evaluation firm. This random telephone survey reached between 350 to 622 residents in each county for a total number of respondents of 4,699. A wide range of health behaviors were included:

- Health status indicators, such as perception of general health, satisfaction with life, weight (BMI), and levels of high blood pressure.
- Health risk behaviors, such as smoking, drinking, diet, and physical activity
- Clinical preventative measures, such as routine physical checkups, cancer screenings, oral health, and immunizations
- Chronic conditions, such as diabetes, asthma, and cancer

In addition, DHD#10 is collecting information for the Community Health Improvement Plan. The four main areas of focus in this plan are

- Poverty
- Access to Preventive Care
- Promotion of Healthy Lifestyle and Behavior
- Creation and Maintenance of Healthy Communities

After the data are presented in this Chartbook, the last section will summarize some of the conclusions from the Behavioral Risk Factor Survey and examples of progress completed toward the CHIP goals.

| Table of Contents | Page |
|----------------------------------|-------|
| Demographics | 3-4 |
| Poverty | 5-7 |
| Leading Causes of Death | 8 |
| Years of Potential Life Lost | 9 |
| Cardiovascular Disease Mortality | 10 |
| Cancer Incidence and Mortality | 11-12 |
| Fatal Injuries | 13 |
| Sexually Transmitted Diseases: | 14 |
| Birth Related Trends | 15 |
| Health Status | 16 |
| Health Care Access | 17 |
| Risk Behaviors | 18 |
| Clinical Preventive Practices | 19-20 |
| Chronic Conditions | 21-22 |
| Immunizations | 23-24 |
| County Health Rankings | 25 |
| Conclusions | 26-27 |

Demographics

Source: US Census Bureau

- Population , July, 2014 estimate.
- Age and race, July, 2014.
- Education based on persons over age 25, 2010-2014.
- Female persons, July, 2014
- Persons per household, 2010-2014
- Language other than English spoken at home (age 5+), 2010-2014
- Disability, under age 65, 2010-2014
- Mean travel time to work (minutes), age 16+, 2010-2014
- Per capita income in past 12 months, 2010-2014
- Population per square mile, 2010

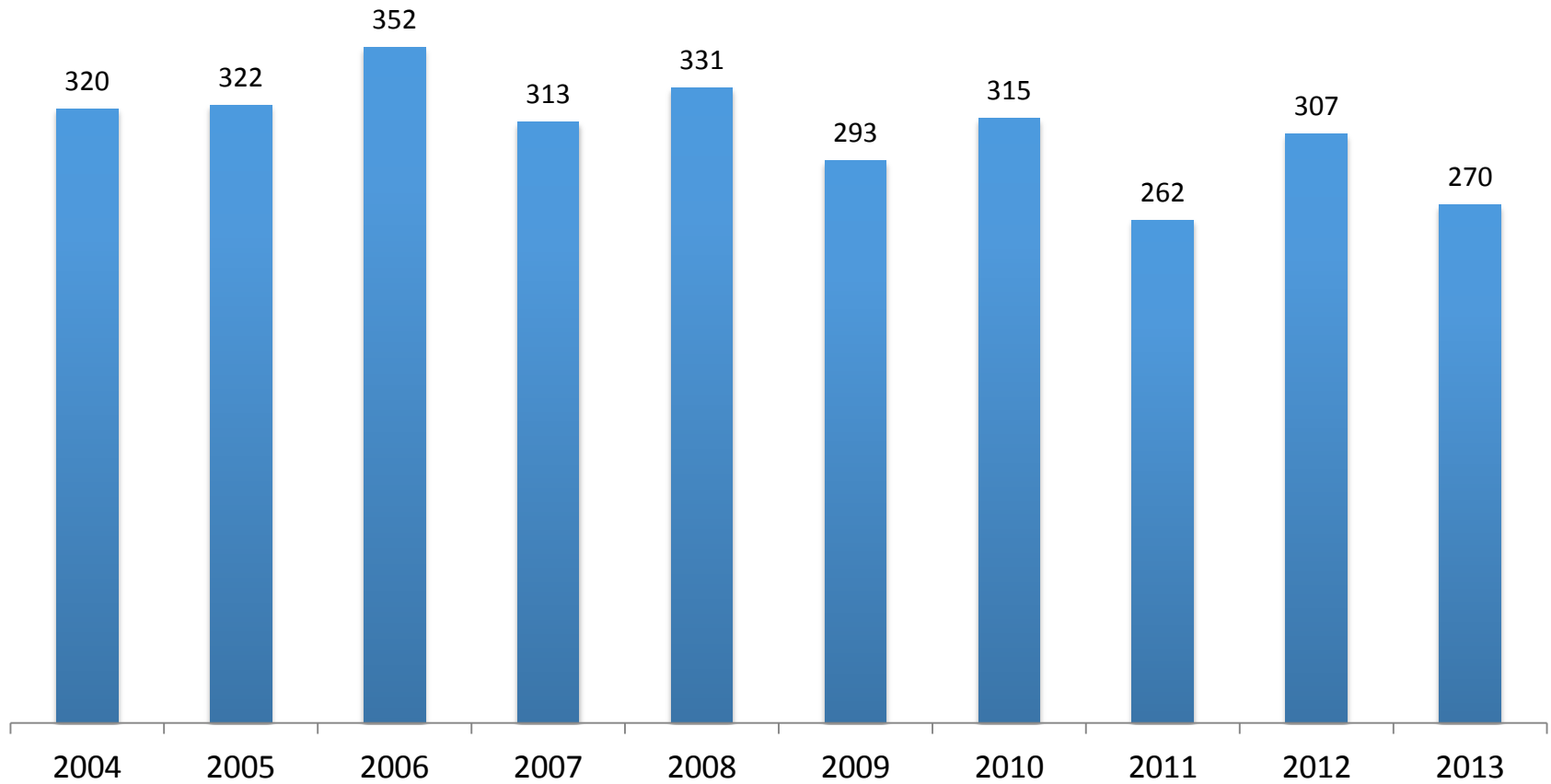
| Population: | Mason | Michigan | Race and Ethnicity: | Mason | Michigan |
|-----------------------------|--------------|-----------------|-------------------------------|--------------|-----------------|
| Total population | 28,824 | 9,909,877 | White | 95.7% | 79.9% |
| Persons under 5 years | 5.3% | 5.8% | Black | 0.9% | 14.2% |
| Persons under 18 years | 20.7% | 22.4% | American Indian/Alaska Native | 1.1% | 0.7% |
| Persons 65 years and over | 21.2% | 15.4% | Asian | 0.6% | 2.9% |
| Education: | | | More than one race | 1.7% | 2.3% |
| High school graduates | 90.7% | 89.3% | Hispanic | 4.6% | 4.8% |
| Bachelor's degree or higher | 20.1% | 26.4% | | | |

| | Mason | Michigan |
|--|--------------|-----------------|
| Gender: females | 50.4% | 50.9% |
| Persons per household | 2.32 | 2.52 |
| Language other than English spoken at home | 4.5% | 9.1% |
| Disability, under age 65 | 12.1% | 10.2% |
| Mean travel time to work (minutes) | 18.4 | 24.1 |
| Per capita income | \$23,563 | \$26,143 |
| Population per square mile | 58.0 | 174.8 |

Births

Number of births by year

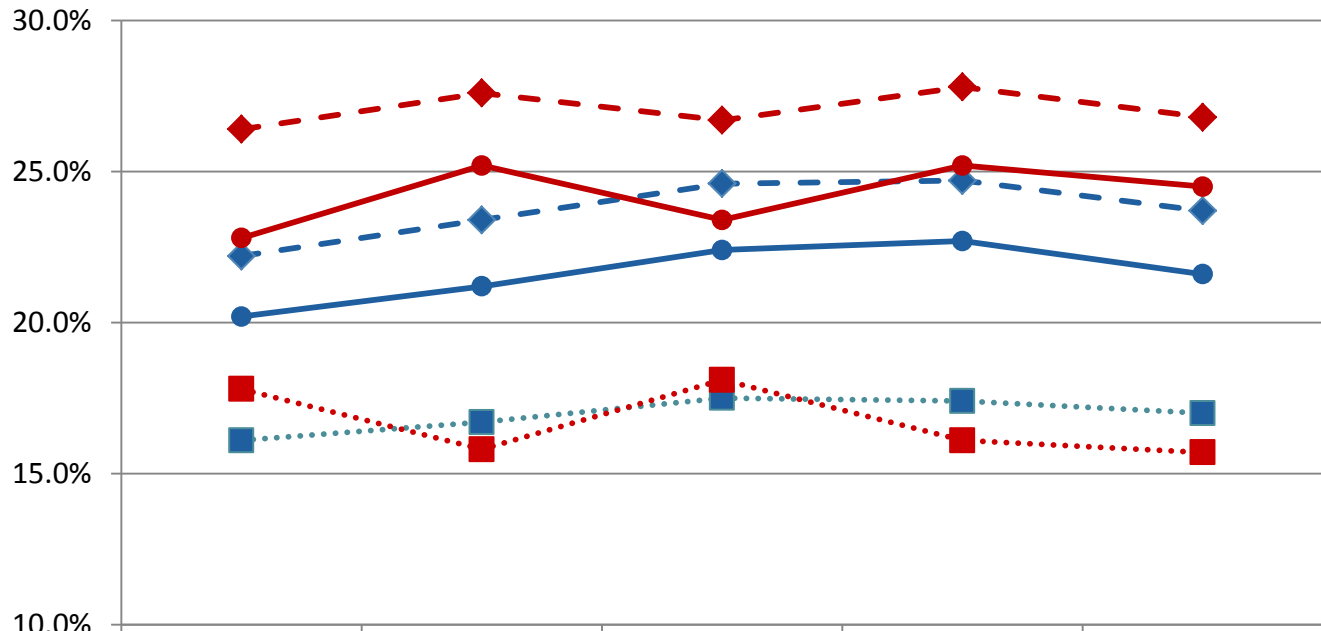
Source: Michigan Department of Health and Human Services



Poverty

Percent living below the poverty level.

Source: US Census Bureau and Small Area Income and Poverty Estimates (SAIPE) website, provided by Michigan League for Public Policy.

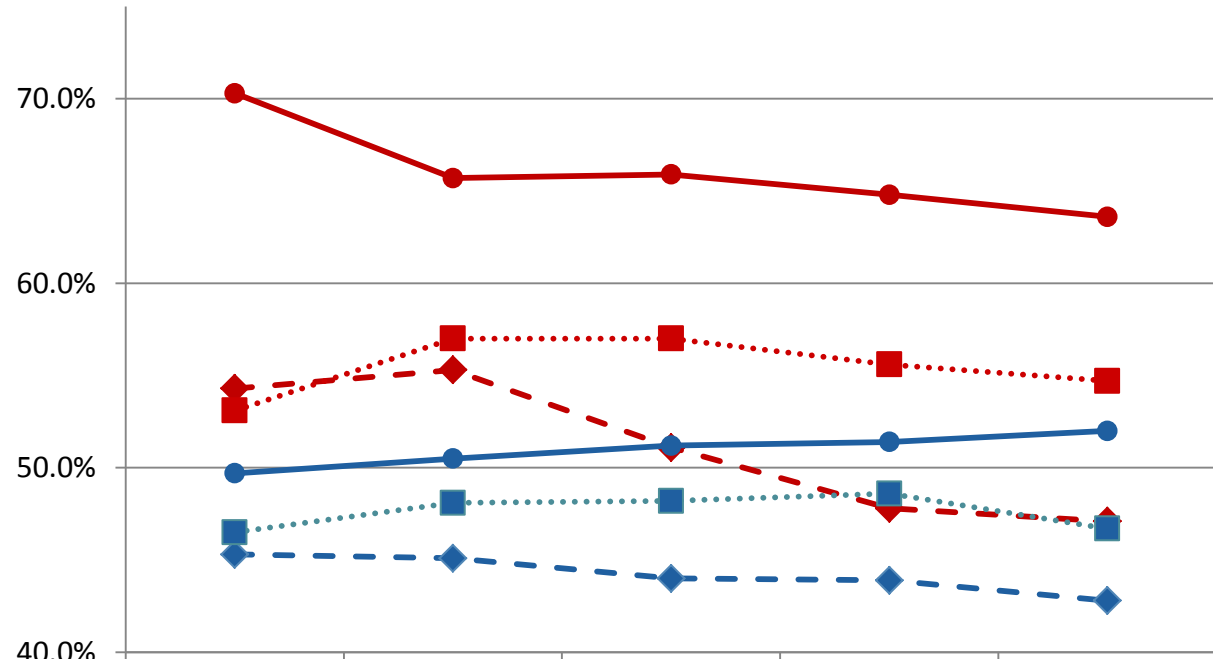


| | 2009 | 2010 | 2011 | 2012 | 2013 |
|--------------------------|-------|-------|-------|-------|-------|
| Michigan - children 0-17 | 22.2% | 23.4% | 24.6% | 24.7% | 23.7% |
| Mason - children 0-17 | 26.4% | 27.6% | 26.7% | 27.8% | 26.8% |
| Michigan - children 5-17 | 20.2% | 21.2% | 22.4% | 22.7% | 21.6% |
| Mason - children 5-17 | 22.8% | 25.2% | 23.4% | 25.2% | 24.5% |
| Michigan - all ages | 16.1% | 16.7% | 17.5% | 17.4% | 17.0% |
| Mason - all ages | 17.8% | 15.8% | 18.1% | 16.1% | 15.7% |

Poverty Indicators

- WIC (Women, Infants, and Children) is determined by the number of children age 0-4 who received benefits in Oceana County. Data reflect the county of service.
- School children eligible for free and reduced price meals is based on family income below 185 percent of poverty.
- Percent of births paid by Medicaid.

Source: Michigan Department of Health and Human Services and the Michigan Department of Education, provided by Michigan League for Public Policy.



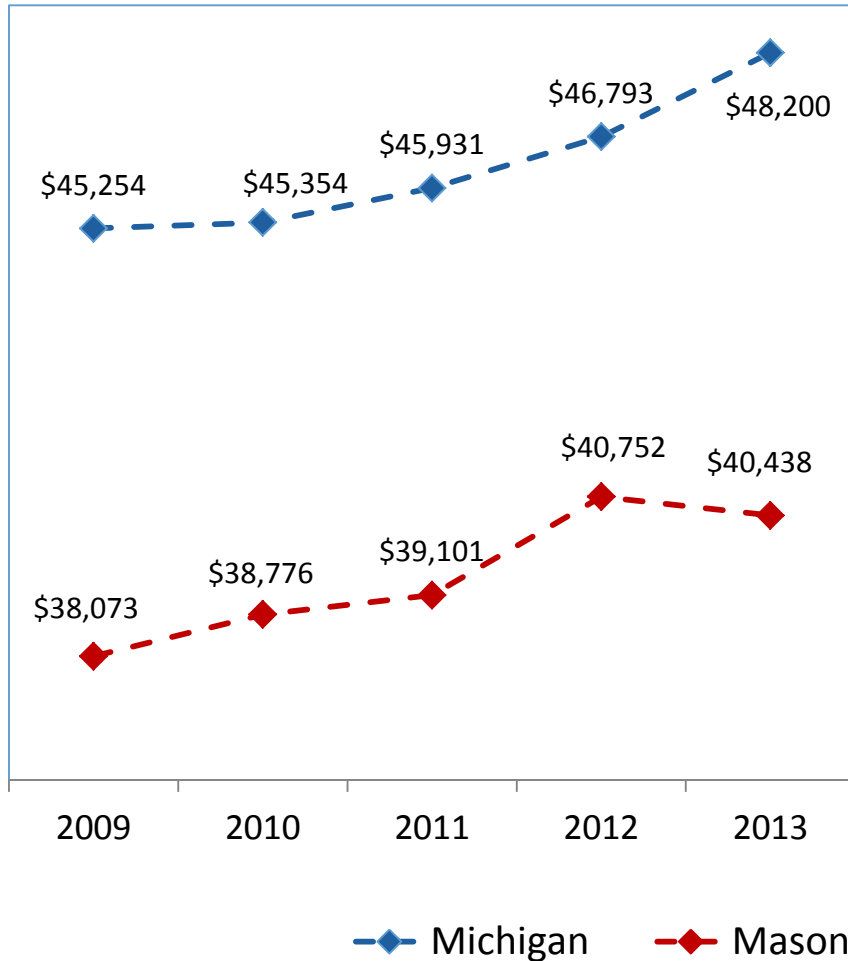
| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------------------|-------|-------|-------|-------|-------|
| —◆— Michigan - Medicaid paid births | 45.3% | 45.1% | 44.0% | 43.9% | 42.8% |
| -◆- Mason - Medicaid paid births | 54.3% | 55.3% | 51.1% | 47.8% | 47.1% |
| —●— Michigan - Children receiving WIC | 49.7% | 50.5% | 51.2% | 51.4% | 52.0% |
| —●— Mason - Children receiving WIC | 70.3% | 65.7% | 65.9% | 64.8% | 63.6% |
| ··■·· Michigan - Free/reduced meals | 46.5% | 48.1% | 48.2% | 48.6% | 46.7% |
| ··■·· Mason - Free/reduced meals | 53.1% | 57.0% | 57.0% | 55.6% | 54.7% |

Median Income and Unemployment

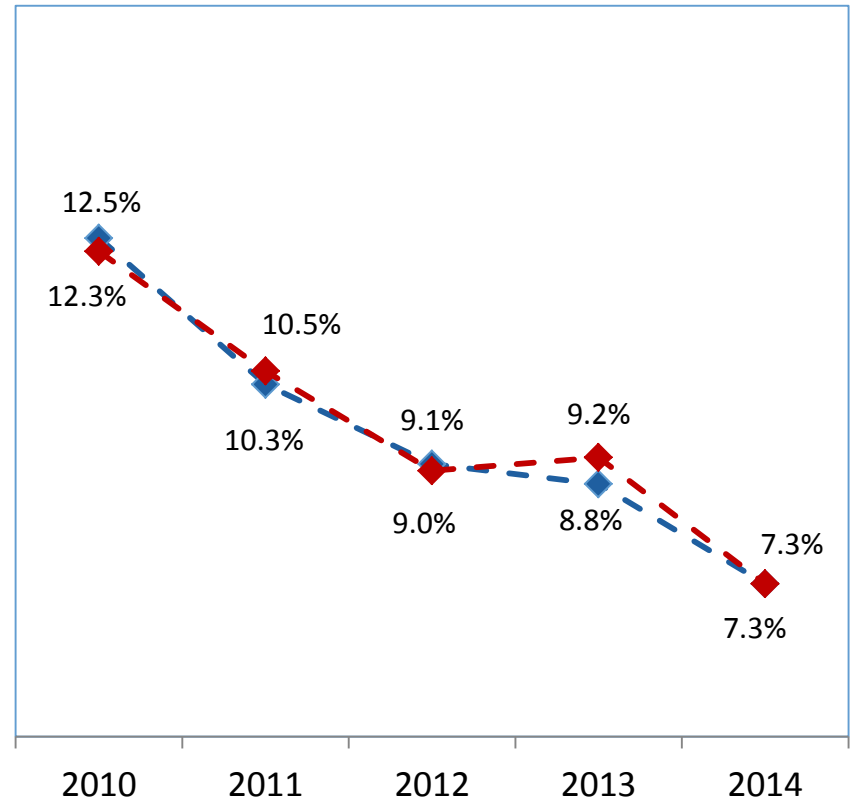
Unemployment is based on the number of unemployed compared to the number in the labor force.

Source: Michigan League for Public Policy provided income data from the US Census Bureau and Small Area Income and Poverty Estimates (SAIPE) and unemployment data from the Bureau of Labor Statistics.

Median Household Income



Unemployment



Leading Causes of Death

Leading causes of death are rates per 100,000 population.

* too small to calculate

Source: Michigan Department of Health and Human Services, 2013.

| Cause of Death | Michigan | DHD#10 | Mason County |
|-----------------------------------|----------|--------|--------------|
| Heart disease | 199.9 | 202.0 | 206.6 |
| Cancer | 170.7 | 187.8 | 194.0 |
| Chronic lower respiratory disease | 46.8 | 54.4 | 51.0 |
| Accidents | 39.8 | 48.7 | * |
| Stroke | 36.3 | 43.9 | * |
| Alzheimer's | 26.5 | 26.3 | * |
| Diabetes | 23.7 | 24.6 | * |
| Pneumonia/Influenza | 15.7 | 15.8 | * |
| Kidney disease | 13.9 | 13.1 | * |
| Suicide | 12.9 | 16.8 | * |

Years of Potential Life Lost

- The number of years of potential life lost are rates calculated as the number of years between the age at death and 75 years of age for persons dying before their 75th year.
- Rates are per 100,000 population under 75 years of age.

* too small to calculate

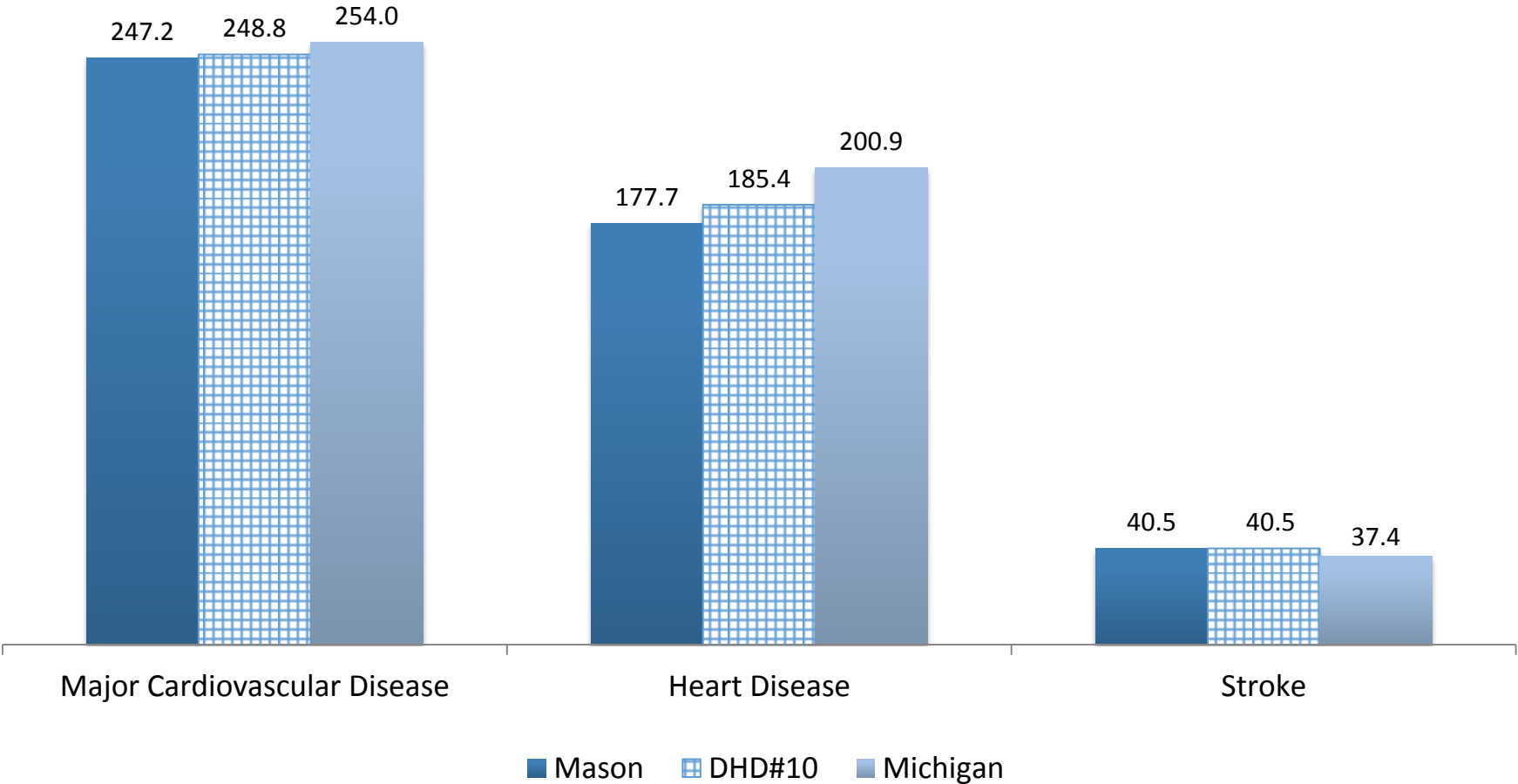
Source: Michigan Department of Health and Human Services, 2014.

| Cause of Death | Michigan | DHD#10 | Mason County |
|-------------------|----------|---------|--------------|
| Cancer | 1,691.0 | 1,997.3 | 1,562.8 |
| Heart disease | 1,306.2 | 1,323.0 | 972.0 |
| Accidents | 1,072.2 | 1,246.7 | * |
| Suicide | 425.5 | 440.3 | * |
| Perinatal | 303.8 | * | 0 |
| Homicide | 256.1 | * | * |
| Lower respiratory | 234.2 | 324.9 | 343.1 |
| Diabetes | 203.6 | 189.5 | * |
| Liver disease | 196.3 | 189.5 | * |
| Cerebrovascular | 168.7 | 172.9 | 228.7 |

Cardiovascular Disease Mortality

Age adjusted rate per 100,000

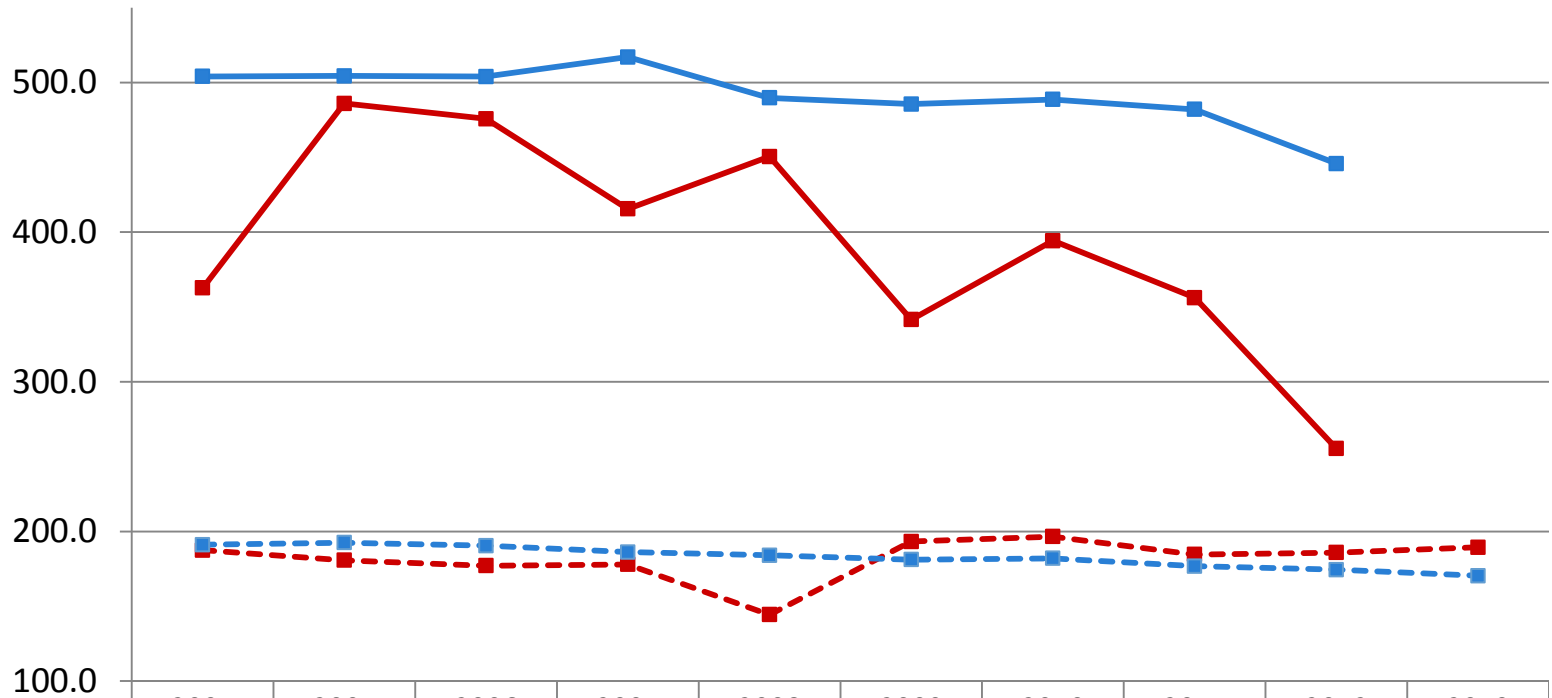
Source: Michigan Department of Health and Human Services, 2011-2013.



Cancer Incidence and Mortality

Age adjusted rates per 100,000 population

Source: Michigan Department of Health and Human Services

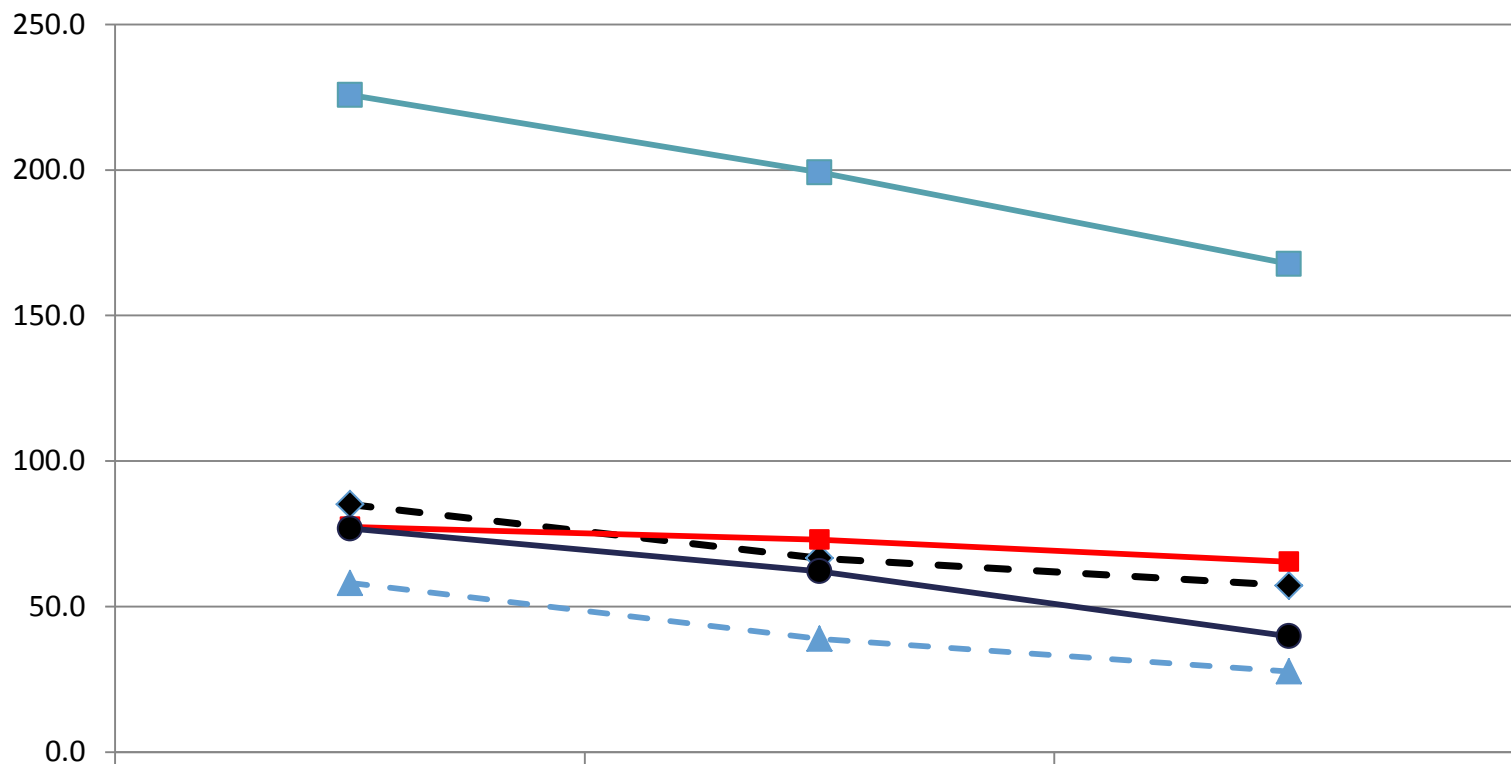


| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| —■— Mason cases | 362.7 | 486.0 | 475.7 | 415.5 | 450.5 | 341.5 | 394.2 | 356.2 | 255.3 | |
| —■— Michigan cases | 504.0 | 504.3 | 503.9 | 516.9 | 489.7 | 485.5 | 488.6 | 482.0 | 445.8 | |
| - -■- Mason deaths | 187.5 | 180.7 | 177.1 | 177.9 | 144.4 | 193.2 | 196.5 | 184.6 | 185.9 | 189.4 |
| - -■- Michigan deaths | 191.1 | 192.5 | 190.5 | 186.2 | 184.0 | 181.2 | 182.0 | 176.8 | 174.4 | 170.4 |

Cancer Incidence Trends

Age adjusted rate per 100,000

Source: Michigan Department of Health and Human Services



| | 1998-2002 | 2003-2007 | 2008-2012 |
|-------------------|-----------|-----------|-----------|
| ◆ Prostate | 85.1 | 66.6 | 57.2 |
| ■ Lung | 77.4 | 73.0 | 65.4 |
| ● Breast | 76.8 | 62.1 | 39.8 |
| ▲ Colon | 58.1 | 38.9 | 27.7 |
| ■ All Other Sites | 225.8 | 199.2 | 167.7 |

Fatal Injuries

The Healthy People 2020 targets for fatal injuries per 100,000 are as follows:
 Suicide: 10.2 Poisoning: 13.1 Falls: 7.0
 Drowning: 1.1 Burn/fire/flame: 0.86 Firearm related: 9.8
 Motor vehicle traffic crash related: 12.4

Source: Michigan Resident Death files, Data Development Section, Michigan Department of Health and Human Services.

*too small to calculate

| Fatal Injuries and Rates | | Number of fatal injuries | | Rates per 100,000 population | |
|--------------------------|---------------------------|--------------------------|-------|------------------------------|------|
| | | Annual average 2008-2012 | 2013 | Annual average 2008-2012 | 2013 |
| Mason | Unintentional (transport) | 5.0 | 6 | * | 21.0 |
| | Unintentional (other) | 7.4 | 10 | 25.8 | 35.0 |
| | Self-inflicted/suicide | 6.6 | 6 | 23.0 | 21.0 |
| | Assault/homicide | 0.6 | 1 | * | * |
| | Other | 0.6 | 0 | * | * |
| Michigan | Unintentional (transport) | 1,071.2 | 1,093 | 10.8 | 11.0 |
| | Unintentional (other) | 2,626.6 | 3,036 | 26.5 | 30.7 |
| | Self-inflicted/suicide | 1,214.6 | 1,296 | 12.2 | 13.1 |
| | Assault/homicide | 661.0 | 634 | 6.7 | 6.4 |
| | Other | 458.0 | 426 | 4.6 | 4.3 |

Sexually Transmitted Diseases: Gonorrhea and Chlamydia

- Gonorrhea: The Healthy People 2020 target for females is no more than 257 incident cases and males no more than 198 incident cases per 100,000 population aged 15-44 years be reported per year.
- Chlamydia: The Healthy People 2020 target for females aged 15-24 attending family planning clinics with the past 12 months and testing positive for chlamydia will be less than 6.7%.

Source: Michigan Sexually Transmitted Disease Section, Michigan Department of Health and Human Services.

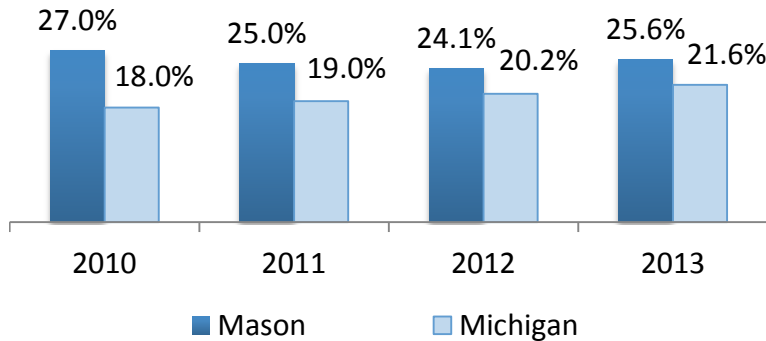
*too small to calculate

| Gonorrhea | | | | | | |
|-----------|-------------------|-------------------|-------|------------------|-----------|------|
| | Number of Cases | | | Rate per 100,000 | | |
| | 2004-2008 average | 2009-2013 average | 2014 | 2004-2008 | 2009-2013 | 2014 |
| Mason | 8.0 | 3.2 | 5 | * | * | * |
| DHD#10 | 51.8 | 28.0 | 33 | 10.6 | 10.7 | * |
| Michigan | 17,376.6 | 13,170.2 | 9,666 | 131.5 | 133.2 | 97.5 |

| Chlamydia | | | | | | |
|-----------|-------------------|-------------------|--------|------------------|-----------|-------|
| | Number of Cases | | | Rate per 100,000 | | |
| | 2004-2008 average | 2009-2013 average | 2014 | 2004-2008 | 2009-2013 | 2014 |
| Mason | 34.8 | 43.0 | 54 | 149.5 | 150.0 | 187.3 |
| DHD#10 | 422.4 | 533.4 | 674 | 201.7 | 204.1 | 258.3 |
| Michigan | 41,192.8 | 48,515.0 | 44,843 | 484.3 | 490.7 | 452.5 |

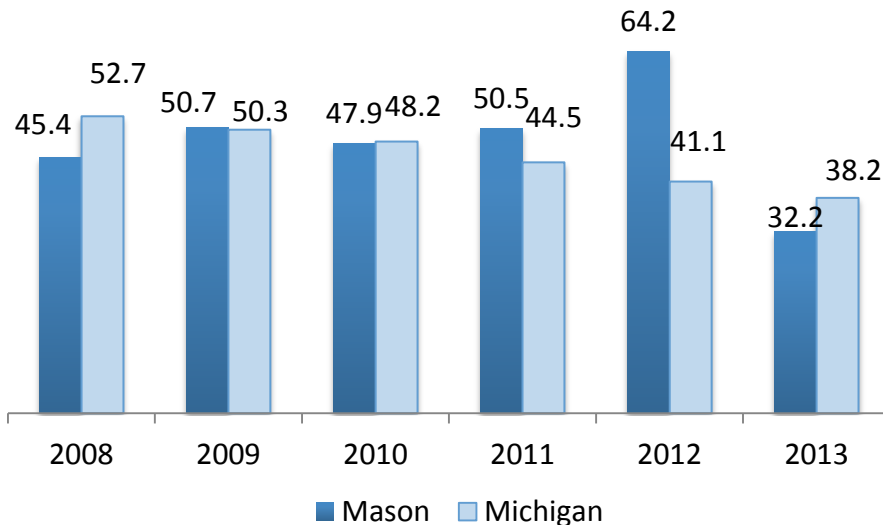
Birth Related Trends

Smoked during pregnancy

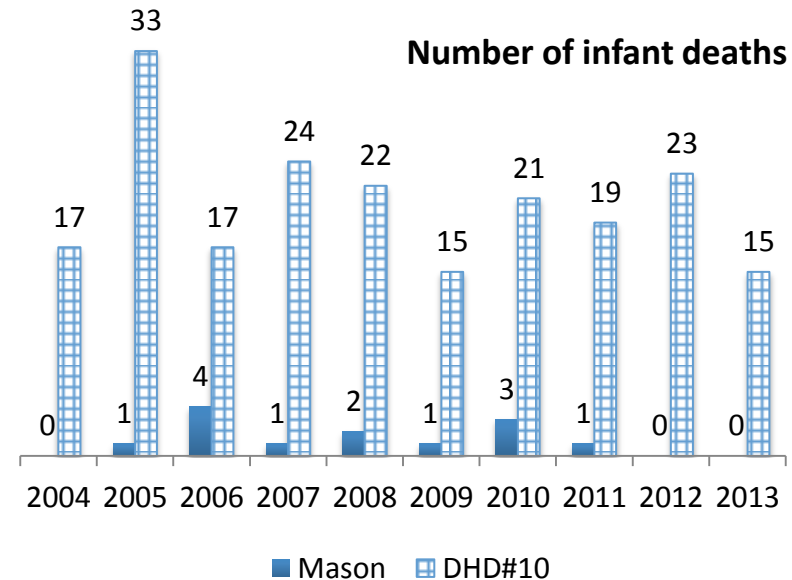


- Smoked while pregnant were those who had a history of smoking, but never quit, plus those who quit at some point between estimated conception and birth date. Three year averages. Healthy People 2020 goal is 1.4%. Source: Michigan Department of Health and Human Services data provided by Michigan League for Public Policy
- Teen pregnancy rates are per 1,000 females ages 15-19 and include live births, abortions, and estimated miscarriages. Healthy People 2020 target for teen pregnancies among 15-17 year olds is 36.2 per 1,000 females; target among 18-19 year olds is 105.9. Source: Michigan Department of Health and Human Services.
- Infant deaths are those occurring to those under one year of age. Source: Michigan Department of Health and Human Services.

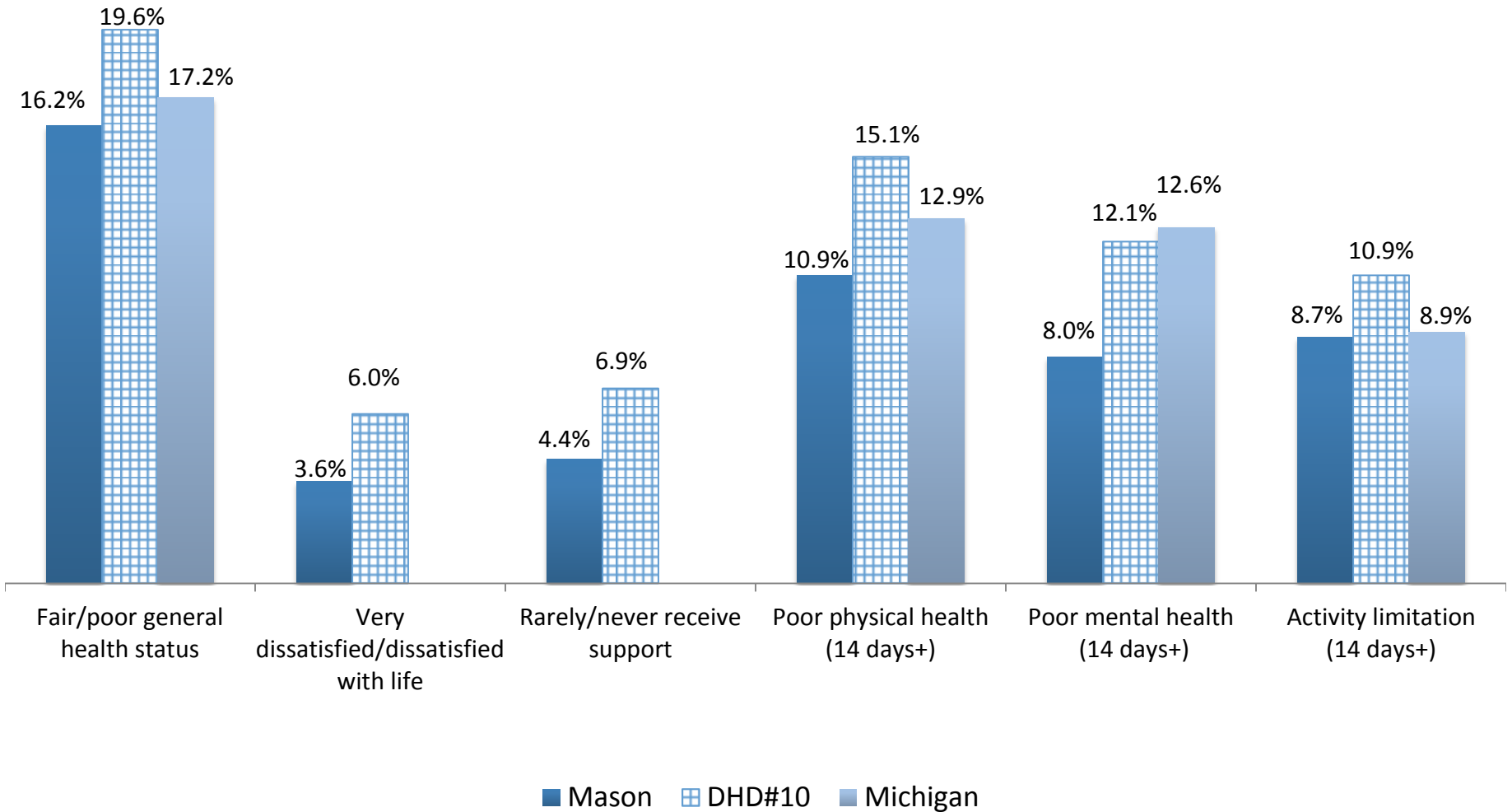
Teen pregnancy rate per 1000, ages 15-19



Number of infant deaths



Health Status



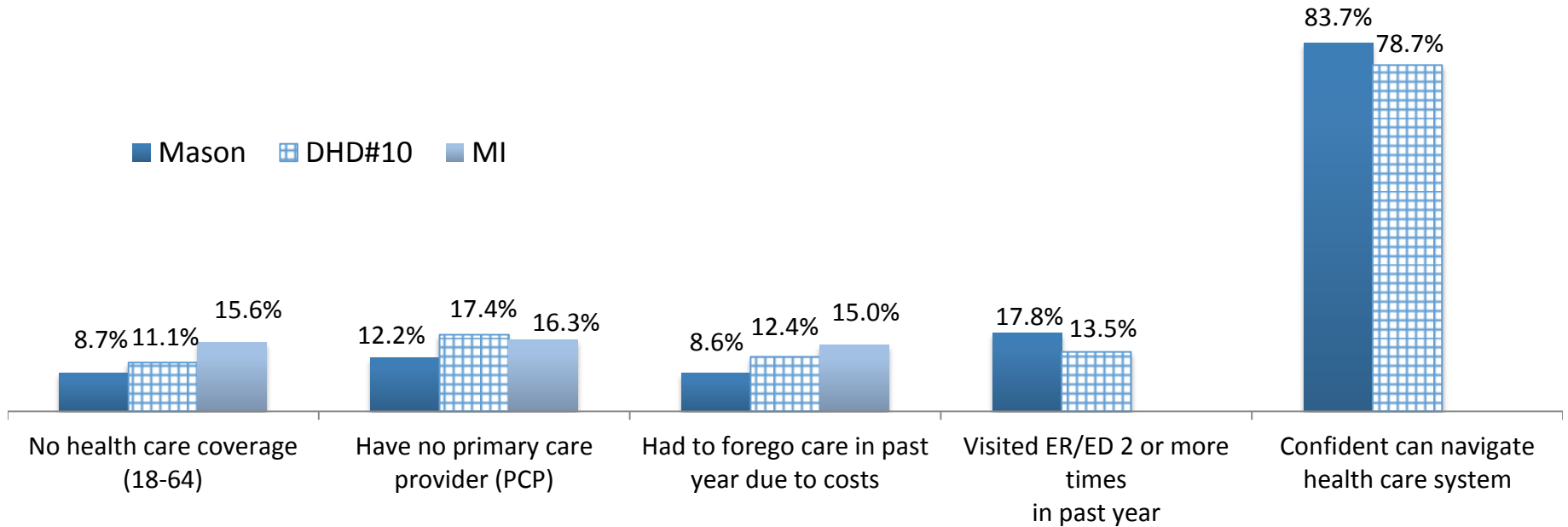
Source: District Health Department #10 Behavioral Risk Factor Survey, 2014-2015 (County and District results)
 Michigan Behavioral Risk Factor Surveillance System, 2014 (Michigan comparison)

Health Care Access

Number of people per health care provider

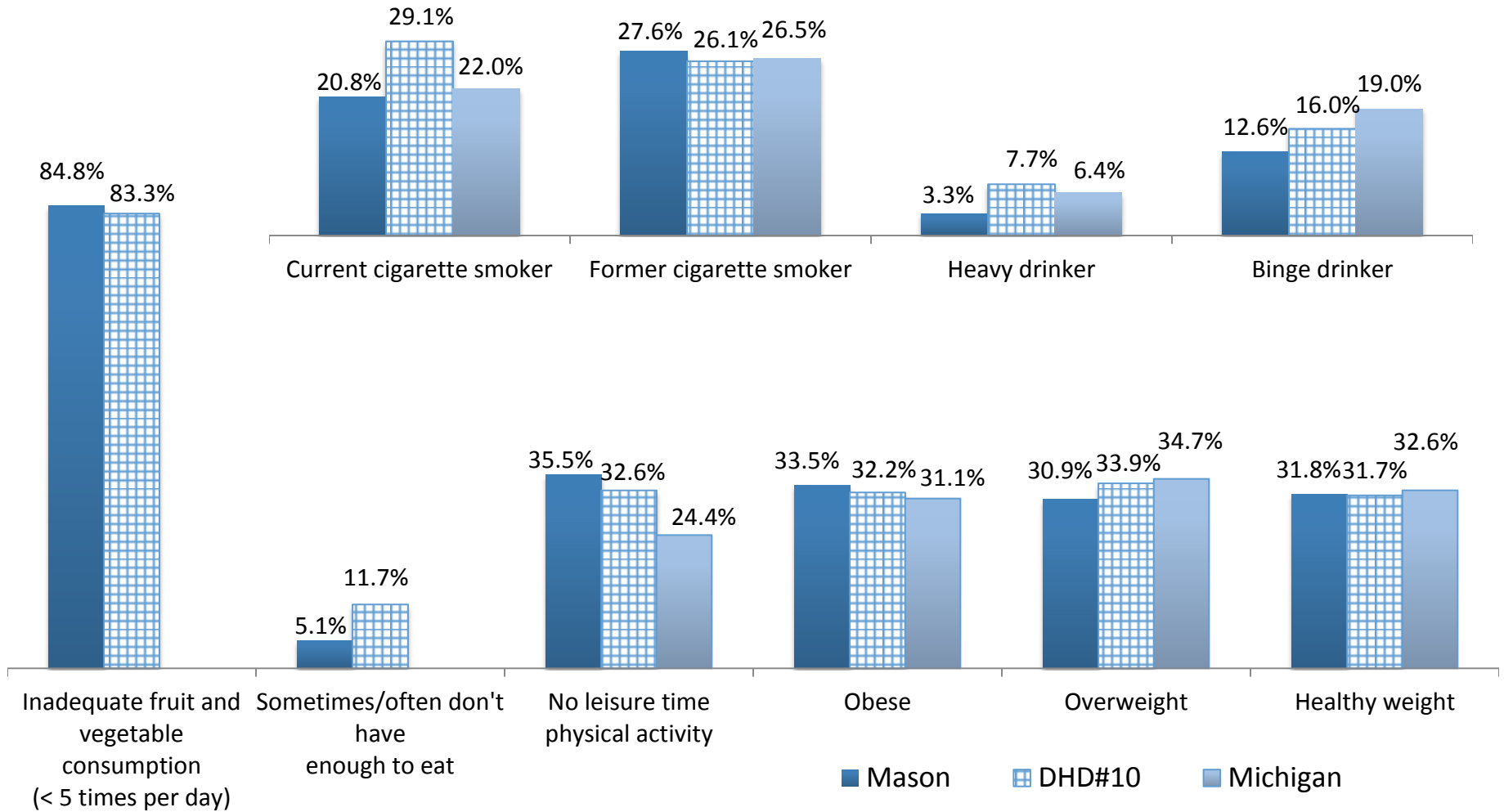
| | Mason | Michigan |
|-------------------------|---------|----------|
| Primary care physicians | 1,434:1 | 1,246:1 |
| Dentists | 1,907:1 | 1,485:1 |
| Mental health providers | 349:1 | 487:1 |

Mental health providers include psychiatrists, clinical psychologists, clinical social workers, psychiatric nurse specialists, and marriage and family therapists who meet certain qualifications and certifications. Source: County Health Rankings, 2015.



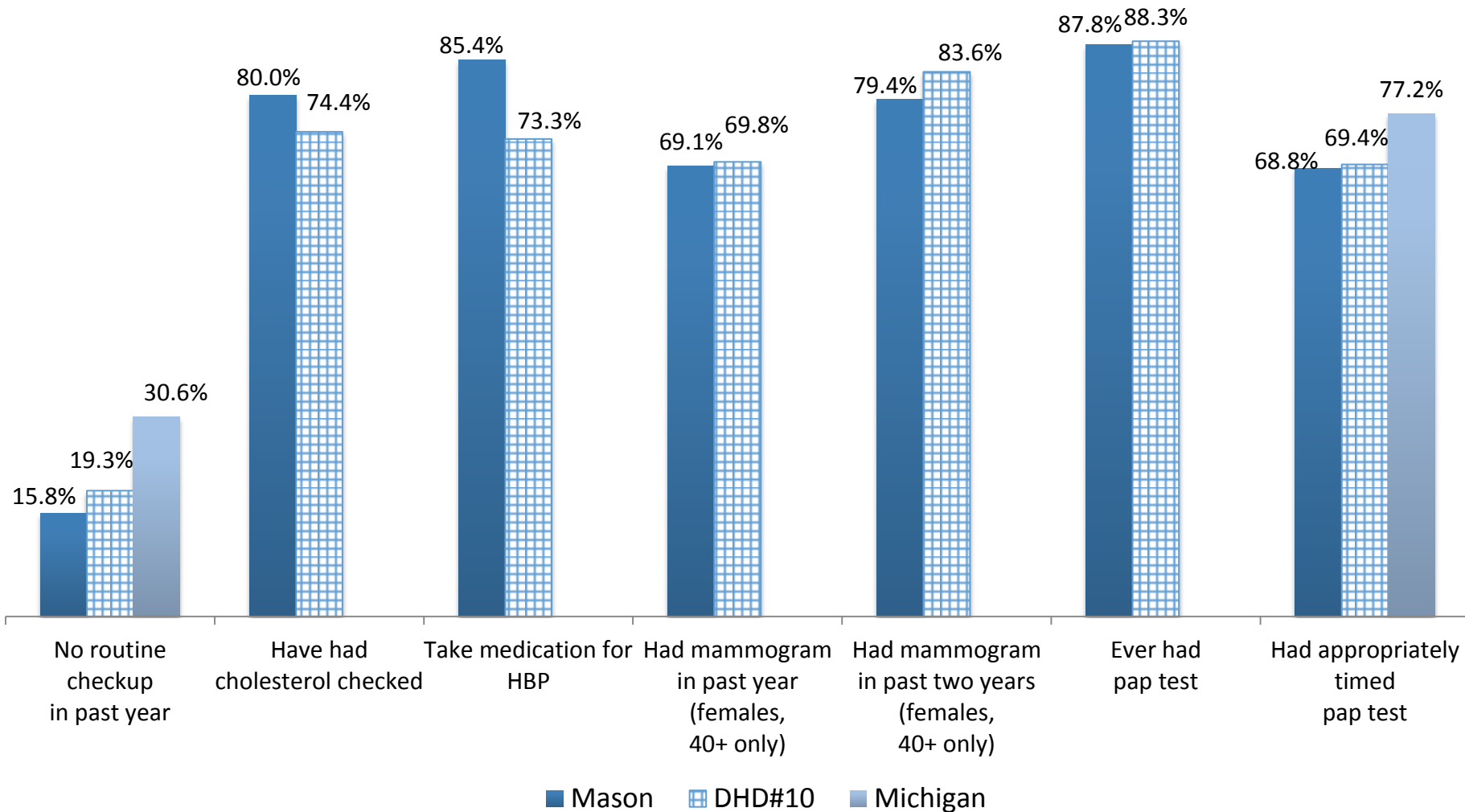
Source: District Health Department #10 Behavioral Risk Factor Survey, 2014-2015 (County and District results)
Michigan Behavioral Risk Factor Surveillance System, 2014 (Michigan comparison)

Risk Behaviors



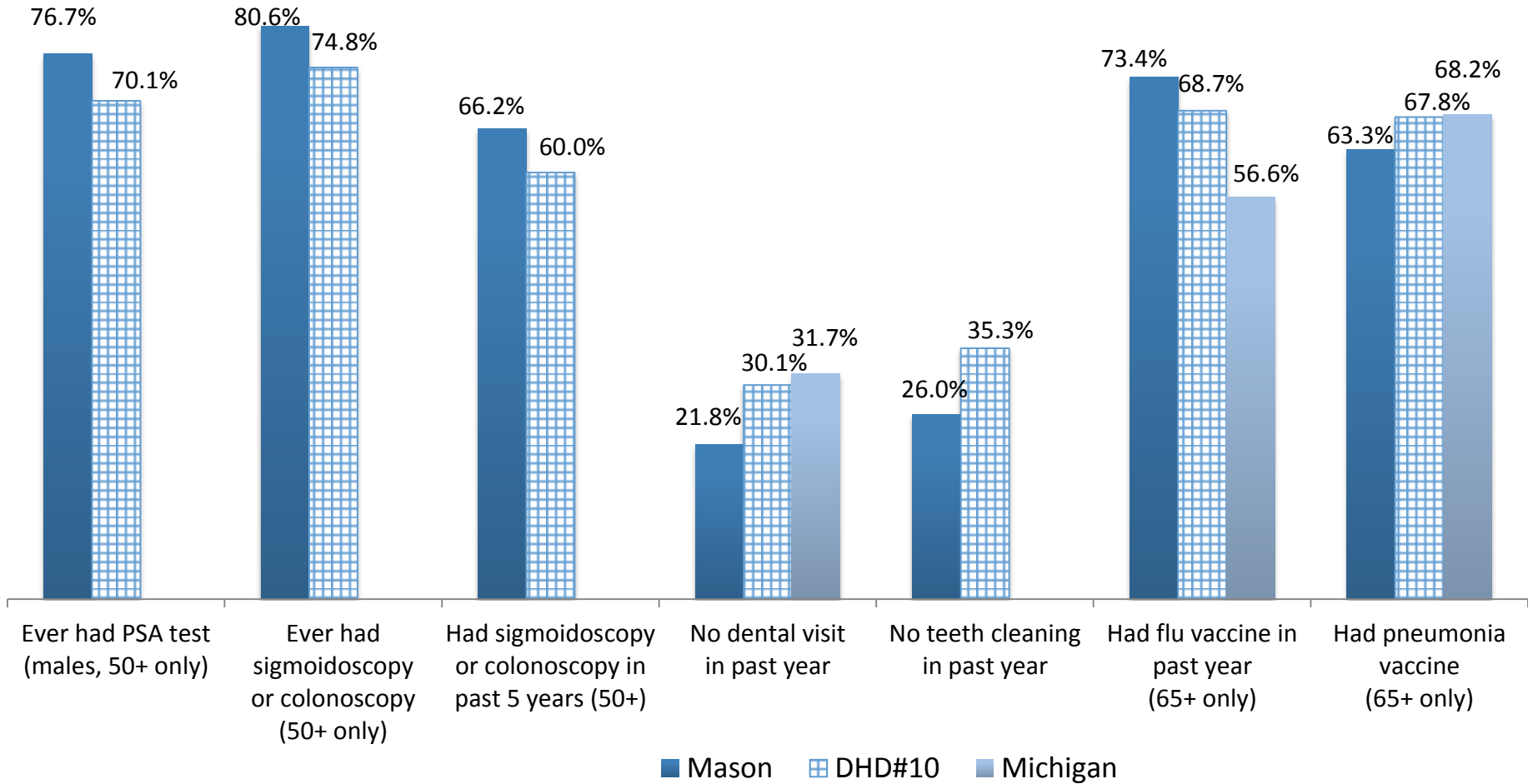
Source: District Health Department #10 Behavioral Risk Factor Survey, 2014-2015 (County and District results)
 Michigan Behavioral Risk Factor Surveillance System, 2014 (Michigan comparison)

Clinical Preventive Practices



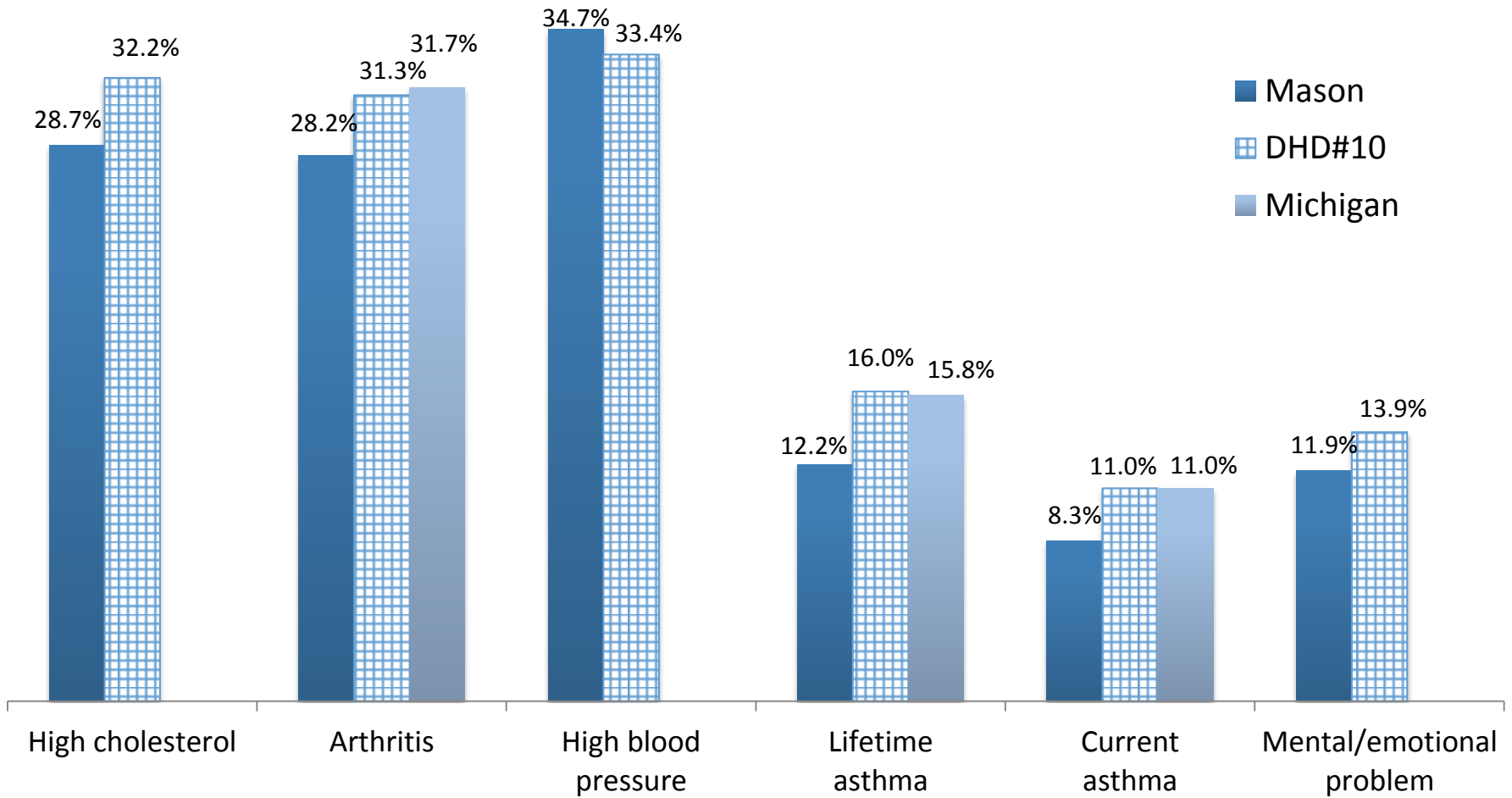
Source: District Health Department #10 Behavioral Risk Factor Survey, 2014-2015 (County and District results)
Michigan Behavioral Risk Factor Surveillance System, 2014 (Michigan comparison)

Clinical Preventive Practices, continued



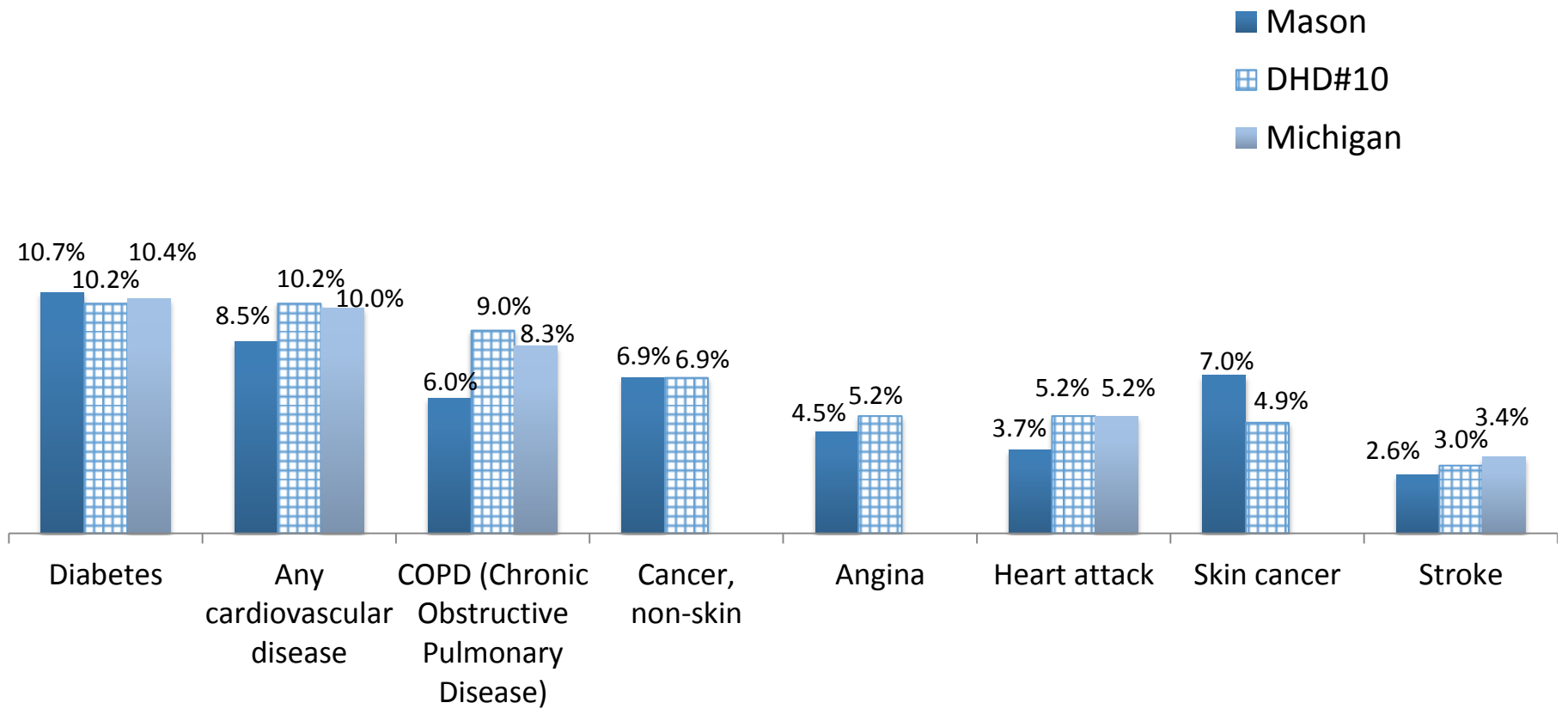
Source: District Health Department #10 Behavioral Risk Factor Survey, 2014-2015 (County and District results)
 Michigan Behavioral Risk Factor Surveillance System, 2014 (Michigan comparison)

Chronic Conditions



Source: District Health Department #10 Behavioral Risk Factor Survey, 2014-2015 (County and District results)
Michigan Behavioral Risk Factor Surveillance System, 2014 (Michigan comparison)

Chronic Conditions, continued

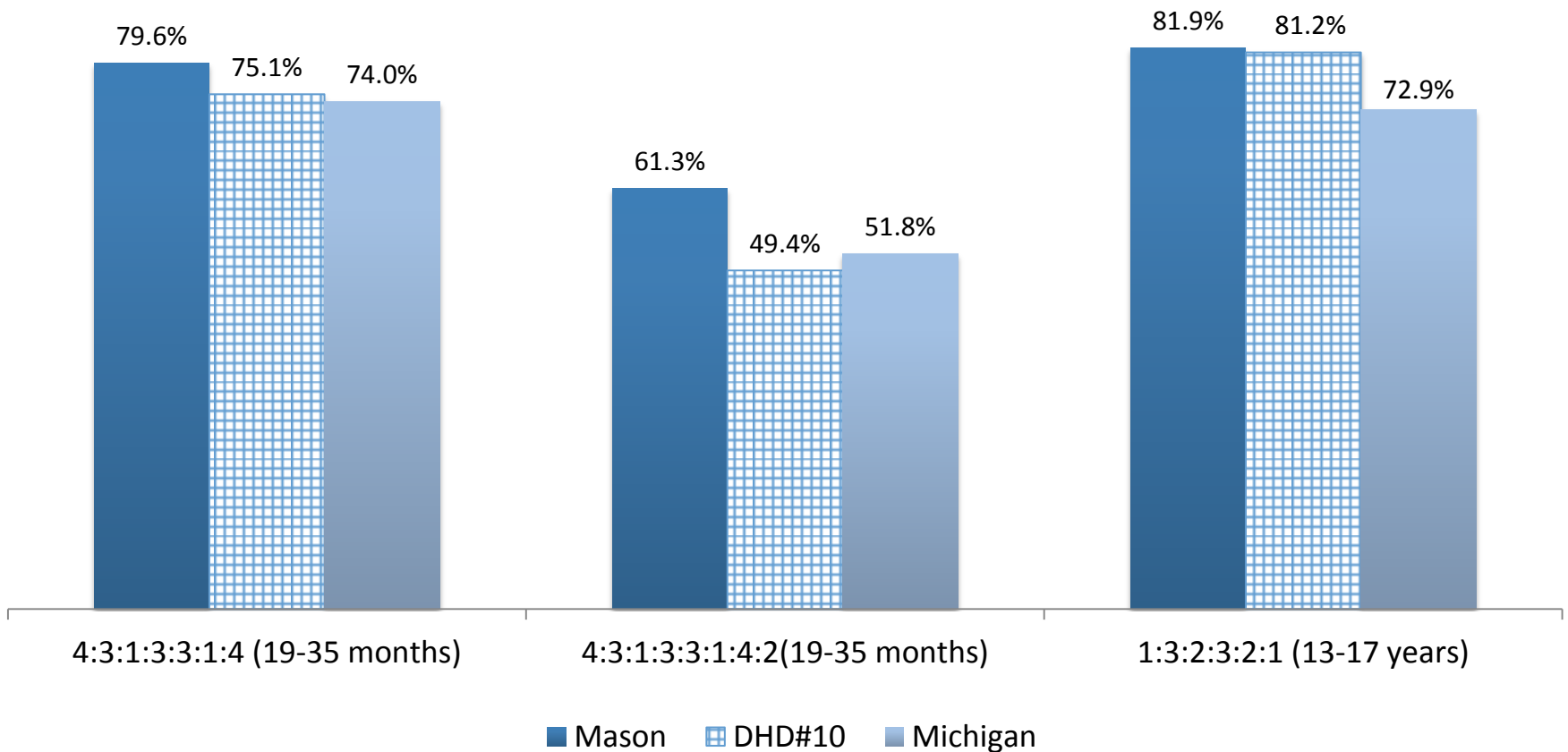


Source: District Health Department #10 Behavioral Risk Factor Survey, 2014-2015 (County and District results)
 Michigan Behavioral Risk Factor Surveillance System, 2014 (Michigan comparison)

Childhood Immunizations

- 4:3:1:3:3:1:4 includes 4 doses of DTaP, 3 polio, 1 MMR, 3Hib, 3 Hepatitis B, 1 varicella, and 4 PCV7/13. This is the percent of 19-35 month old children who have received these immunizations.
- 4:3:1:3:3:1:4:2 includes the above vaccines with the addition of 2 doses of Hepatitis A. This is the percent of 19-35 month old children who have received these immunizations.
- 1:3:2:3:2:1 includes 1 Tdap, 3 IPV, 2 MMR, 3 HepB, 2 Varicella, and 1 Meningococcal. This is the percent of 13-17 year olds who have received these immunizations.

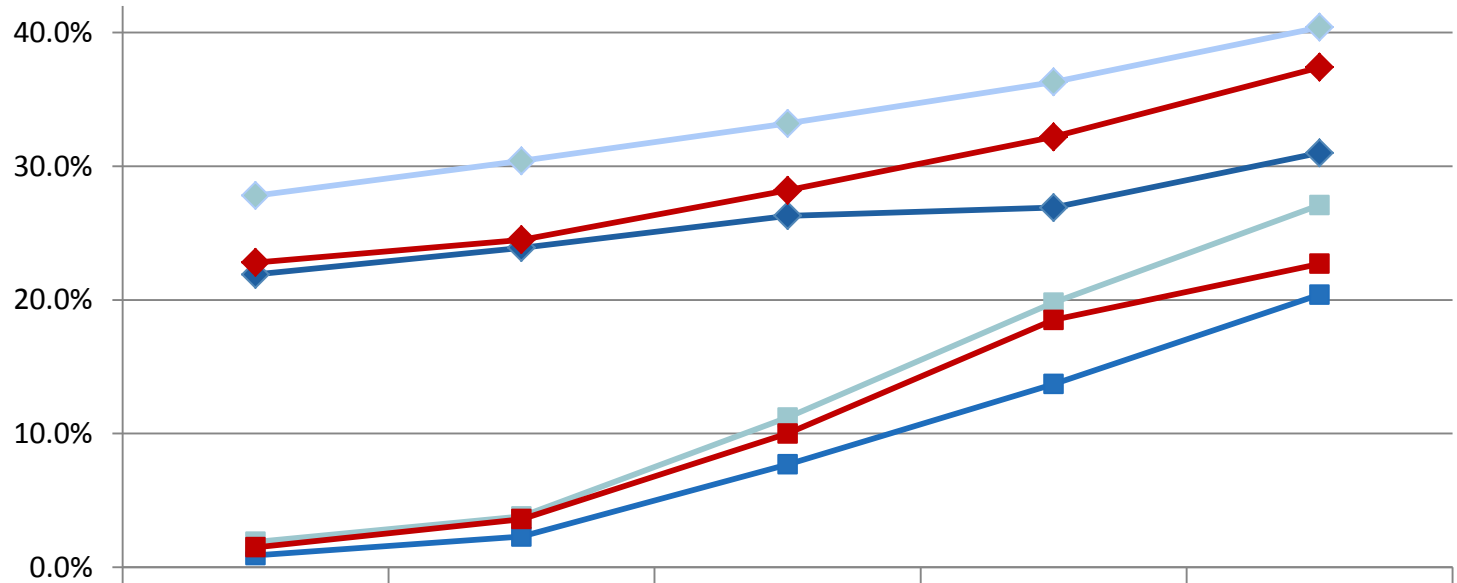
Source: MCIR (Michigan Care Improvement Registry) data, December 31, 2015.



HPV Compliance Rates

Percentages are based upon those males and females, ages 13-17, who have received the HPV series.

Source: MCIR (Michigan Care Improvement Registry).



| | January 2012 | January 2013 | January 2014 | January 2015 | January 2016 |
|--------------------|--------------|--------------|--------------|--------------|--------------|
| Michigan - Females | 21.9% | 23.9% | 26.3% | 26.9% | 31.0% |
| Michigan - Males | 0.9% | 2.3% | 7.7% | 13.7% | 20.4% |
| DHD10 - Females | 27.8% | 30.4% | 33.2% | 36.3% | 40.4% |
| DHD10 - Males | 1.9% | 3.8% | 11.2% | 19.8% | 27.1% |
| Mason - Females | 22.8% | 24.5% | 28.2% | 32.2% | 37.4% |
| Mason - Males | 1.5% | 3.6% | 10.0% | 18.5% | 22.7% |

County Health Rankings

“County Health Rankings, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, measure the health of nearly all counties in the nation and rank them within states.”

www.countyhealthrankings.org

| Overall Ranking | Influencing Factors | Components | Ranking (out of 82 counties) |
|---|-----------------------------|---|------------------------------|
| Health Outcomes | | | 62 |
| Represents how health a county is, using factors of how long people live and how healthy they feel while they are alive (quality of life) | Length of Life | Premature death | 63 |
| | Quality of Life | Poor or fair health; poor physical health days; poor mental health days; low birth weight | 66 |
| Health Factors | | | 27 |
| Represents what influences the health of a county | Health Behaviors | Smoking; obesity; food environment; physical activity; excessive drinking; alcohol impaired driving deaths; sexually transmitted infections; teen births | 37 |
| | Clinical Care | Uninsured; ratios of physicians, dentists and mental health providers to population; preventable hospital stays; diabetic monitoring; mammography screening | 19 |
| | Social and Economic Factors | Education; unemployment; poverty; children in single-parent households; social associations; violent crime; injury deaths | 38 |
| | Physical Environment | Air pollution; drinking water violations; severe housing problems; driving alone to work and long commute | 22 |

Conclusions: BRFS

Behavioral Risk Factor Survey Findings

The district-wide BRFS findings show both strengths and opportunities for improvement in the health status of our communities

Strengths

- Most enjoy good to excellent general health, physical health, and mental health
- Adequate social and emotional support
- Large majority have health care coverage and a primary care provider (PCP)
- Most have had no problems receiving needed medical care
- Binge drinking lower than Michigan and US
- Most buy fresh fruits/vegetables locally and feel fresh produce is readily available in their community
- Strong majority have routine physical checkups and health screening/tests, such as mammograms
- Vast majority receiving information on how to manage diabetes, heart attack, angina/CHD, COPD
- Majority of adults aged 65+ immunized against pneumonia and flu

Opportunities for Improvement

- DHD#10 area lags behind Michigan and/or US on most indicators measured
- One in five with fair to poor general health
- Physical health and activity limitation worse than MI
- Nearly one in three obese; one in three overweight but not obese
- Nearly three in ten are current smokers
- Prevalence of heavy drinking higher than MI/US
- Nearly one-third not engaging in leisure time physical activity
- Inadequate fruit/vegetable consumption
- Three in ten have not visited the dentist in past year
- One in three have hypertension
- One in ten have diabetes; one in five over age 55 have diabetes
- Higher prevalence than MI and/or US on chronic conditions such as asthma, heart attacks, heart disease, and cancer
- Nearly one-third have high cholesterol

Conclusions: CHIP

Community Health Improvement Plan (CHIP) Successes

Significant progress has been made in 2015 toward our Community Health Improvement Plan goals. The information provided in the Chartbooks is essential in identifying areas of need in our communities as well as providing baseline measurements to determine if goals have been reached. The following are examples of the progress achieved in each of the four areas:

Poverty

- Number of residents with health insurance has increased from 80% in 2012 to 91% in 2015.

Access to Preventive Care

- Adolescent health centers were opened in Grayling and Shelby schools.
- STD clinics have been established in all ten counties.
- HPV immunization rates for females age 13-17 have increased from 27.8% in 2012 to 37.2% in 2015 and rates for males increased from 1.9% to 21.4%.

Promotion of Healthy Lifestyle and Behavior

- Rates of obesity and overweight decreased from 70.2% in 2012 to 68.9% in 2015.
- Three communities hosted Call to Action Summits on overweight and obesity; Enhancements to trails and parks were completed in Lake County; no leisure time physical activity decreased from 26.1% to 25%.
- Walking challenges, worksite programs, and health eating policies were provided throughout the ten county area.

Creation and Maintenance of Healthy Communities

- Cadillac City Council passed a Tobacco-free Outdoor Recreation Area Resolution for city parks, walking and bike trails, playgrounds, fishing piers, athletic fields, and skate park.
- A food policy council was established in Lake County.
- Local community health coalitions have now been established in all ten counties and the Regional Northwest Michigan Chronic Disease Prevention Coalition has been re-established to address high rates of chronic diseases across the jurisdiction.