Health Risk Behaviors Among Asian/Pacific Islander Adults Within the State of Michigan

2012 Asian/Pacific Islander Behavioral Risk Factor Survey

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Table of Contents

Asians/Pacific Islanders in Michigan vii
APIBRFS viii
Summary ix
Health Status Indicators Overall 1
Risk Behavior Indicators Overall 2
Clinical Preventive Practices Overall 3
Chronic Conditions Overall 4
Demographics 5
Health Status Indicators
- Weight Status 6
- Limited Health Care Coverage 7
- Social Context 8

Risk Behavior Indicators
- No Leisure Time Physical Activity 9
- Adequate Physical Activity 10
- Fruit and Vegetable Consumption 11
- Cigarette Smoking 12
- Alcohol Consumption 13
- Hypertension Awareness and Medication Use 14
- Preventive Health Behaviors 15

Clinical Preventive Practices
- Routine Checkup in Past Year 16
- Breast Cancer Screening 17
- Cervical Cancer Screening 18
- Prostate Cancer Screening 19
- Colorectal Cancer Screening 20
- Oral Health 21
- HIV Testing 22

Chronic Conditions
- Arthritis 23
- Reactions to Race 24

Methods 25
Acknowledgements 27
Bibliography 28

Asians/Pacific Islanders in MI

2012 APIBRFS

Asians were the fastest growing racial group in the United States from 2000 to 2010.[1,2] During this time period, the US population that reported their race as Asian[†] increased over four times (46%) faster than the total US population (10%).[1] "Asian" is defined by the US Census as a person who indicated their race(s) as "Asian or Asian Indian, Chinese, Filipino, Korean, Japanese, Vietnamese, or other detailed Asian response[1]." Native Hawaiian or Other Pacific Islanders (NHPI) also increased similarly (40%) in the US from 2000-2010. NHPI is defined as a person who indicated their race(s) as "Native Hawaiian, Guamanian or Chamorro, Samoan, Other Pacific Islander, or other detailed Pacific Islander response[2]."

Over two million Asian Americans and close to 76,000 NHPI live in the Midwest. Michigan is home to the second largest Asian population in the Midwest, with an estimated 2.9% of the statewide population Asian[†] in 2010.[1] While the overall Michigan population decreased from 2000-2010, the population in the state reporting their race as Asian increased by 39% during the same time period and the NHPI population increased by more than 29%.[1,2] The Asian population growth has been fueled primarily by international immigration.[2,3] The automotive industry as well as health care and technology help attract Asians to this area.[3] There is large diversity in the Asian American population in Michigan. Some Asian racial groups are among the most highly educated and wealthiest of all racial/ethnic groups in the state (e.g. Asian Indian, Filipino, Japanese), while other groups, on average, have much less education and are poorer (e.g. Bangladeshi, Hmong, Burmese).[4] Over two-thirds (69%) of the Asian population in Michigan live in the Detroit metropolitan area and an estimated 29% of Asians in this area are limited English proficient.[3]

Although both the Asian and NHPI populations are growing, accurate and timely data at the population level are limited. Data are necessary to help describe current health conditions and identify areas to focus prevention and intervention programs to improve the health of Asians/NHPIs in Michigan. Currently, the Michigan Behavioral Risk Factor Survey (MiBRFS) provides the state with data annually on various health behaviors, medical conditions, and preventive health care practices at the population level and by race/ethnicity. Due to the small number of Asian/Pacific Islander (API) participants included in the MiBRFS annually, APIs are included in the 'Other, non-Hispanic' or 'Hispanic' group, depending on their reported ethnicity. Estimates for APIs are not available on a yearly basis and are available only when multiple years of data are combined. Therefore, a stand-alone survey of API adults in Michigan was conducted to help identify the gaps in the data among this population by the Michigan Department of Health and Human Services (MDHHS) Health Disparities Reduction and Minority Health Section (HDRMHS) and Lifecourse Epidemiology and Genomics Division.

[†]Asian alone or in combination.

This report presents estimates from the 2012 Asian/Pacific Islander Behavioral Risk Factor Survey (APIBRFS), a statewide landline and cell phone survey of non-institutionalized Asian residents in Michigan aged 18 years and older. For the remainder of this report, the term 'Asian' will be used to describe respondents that are either Asian American or NHPI. This is the first report of state-specific, population-based estimates of the prevalence of various health behaviors, medical conditions, and preventive health care practices that focuses specifically on Asian adults in Michigan. A detailed description of the methodology of the survey is included at the end of the report and the results are described in the subsequent pages. If the 95% confidence intervals for the estimates that were being compared did not overlap, they were considered to be significantly different. All Asian participants were of non-Hispanic origin. The survey findings are used by public health agencies, academic institutions, non-profit organizations, and others to develop programs that promote the health of Asian adults in Michigan.

Limitations of the 2012 APIBRFS

Due to the nature of the data collection for the 2012 APIBRFS, there are noteworthy limitations to consider when interpreting the results. First, the survey was only administered in English. Therefore, any participants with limited English proficiency were not included in the survey. Results from the APIBRFS may not be representative of all Asian adults in Michigan since individuals with limited English proficiency often have lower socioeconomic status and access to health care.[5] A second limitation is that the stand-alone portion of the APIBRFS was only conducted using landline telephones. Asian adults without a landline telephone may be more likely to be less educated, poor, and a new immigrant.[5,6] Therefore, although Asian adults reported many healthier or similar behaviors than all adults in Michigan, the results may not indeed be a true representation of all Asian adults in Michigan, especially due to the large diversity and number of different racial groups. Third, cultural differences may have prevented or limited participation in the survey.[7] It is important to consider these limitations when examining the results from this survey.

The MDHHS HDRMHS has a priority to improve the availability of health related data for racial and ethnic minorities in Michigan. In keeping with this priority and taking into consideration the limitations from the 2012 APIBRFS, data collection efforts in 2015 will be focused on obtaining health data among Asian racial groups that are not well represented by the current 2012 APIBRFS methodology.

Other Minority Health Behavioral Risk Factor Surveys

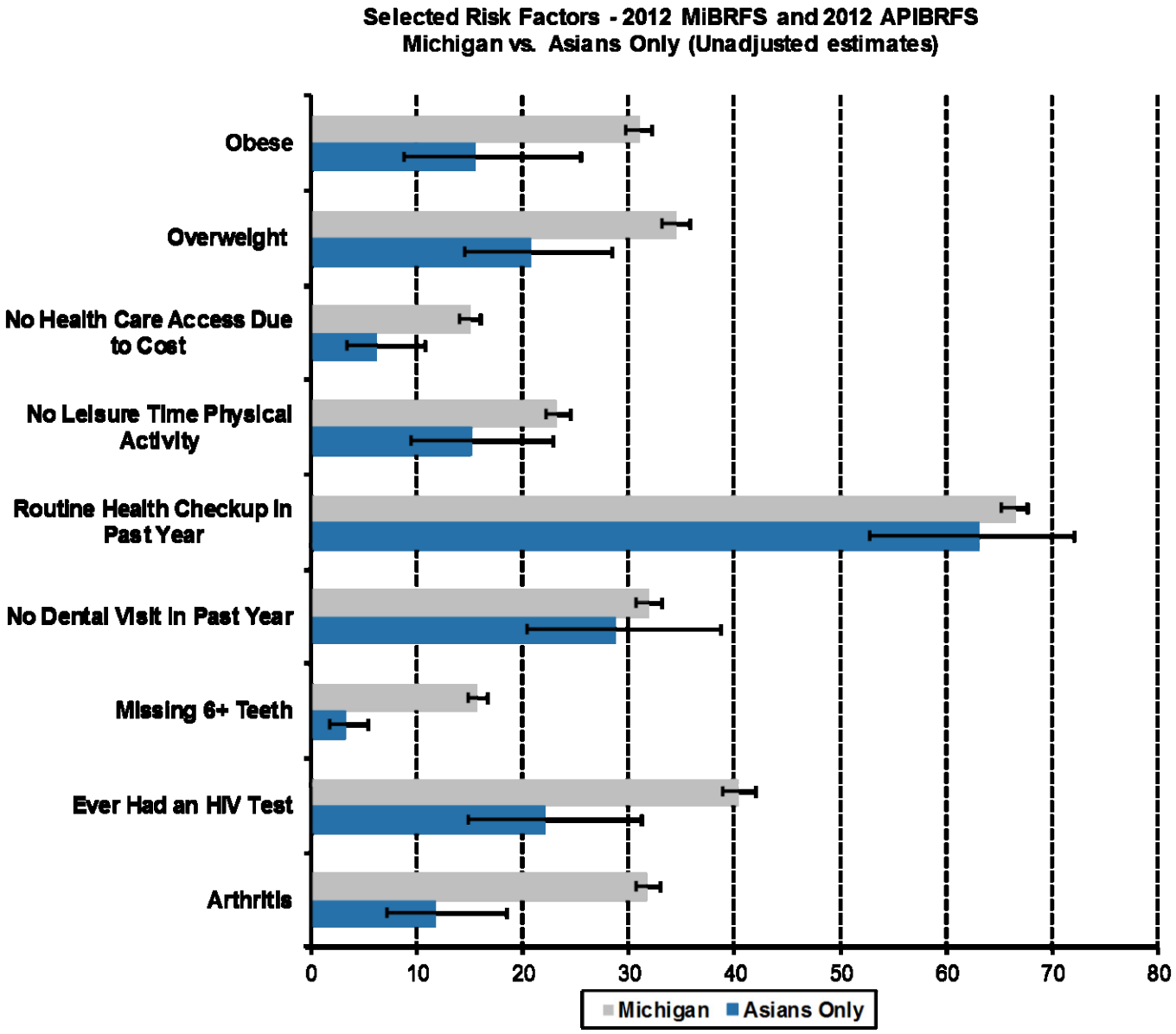
Additional projects among other populations currently underrepresented within the statewide Michigan BRFS recently conducted by the MDHHS HDRMHS include:

- In 2012 and 2014, a stand-alone BRFS-like survey was conducted among the Hispanic/Latino population within Michigan. Results from the 2012 Hispanic BRFS are available online (www.michigan.gov/minorityhealth and www.michigan.gov/brfs).
- In 2013, a stand-alone BRFS-like survey was conducted among the Arab/Chaldean American population within Michigan and results are available online (www.michigan.gov/minorityhealth and www.michigan.gov/brfs).

Conducting BRFSs among minority populations in Michigan provide critical data related to health outcomes and behaviors among adults not previously available by the MiBRFS alone. These data provide important information for public health officials, health care providers, researchers and local and state level policy makers by expanding our understanding of the risk factors and preventive behaviors for the major causes of disease among minority populations in Michigan. Moreover, they provide important information needed to develop effective, culturally appropriate programs and services.

Summary

All of the results from the 2012 APIBRFS presented within this report have been weighted as described in the methods section at the end of the report and can be interpreted as prevalence estimates among the Asian adult population in Michigan. Differences in demographic characteristics can directly and indirectly influence the prevalence of certain health conditions and related risk factors and are important to consider.[8] Nationwide, the Asian population is of higher education and income compared to non-Hispanic Whites[9] and a similar pattern was found statewide in the 2012 APIBRFS. Results adjusted for age are included on pages 1-4. For many of the health indicators (ex. obesity, overweight, no health care access due to cost), the prevalences among Asians in Michigan were lower than the statewide estimates. However, it is important to consider the limitations of the data (as described on the previous page) when examining the results.



Summary, continued

Public Health Implications of Findings

A number of themes emerge from the findings of the 2012 APIBRFS that have implications for public health.

Approximately 1 in 5 Asian adults in Michigan are overweight.

In 2012, an estimated 20.7% of Asian adults in Michigan were classified as overweight, significantly lower than all Michigan adults (34.6%). An additional 15.5% of Michigan Asian adults were classified as obese, also significantly lower compared to all Michigan adults (31.1%). Although the lower prevalences of obesity and overweight among Asians is encouraging, some research suggests Asians are at an increased risk for some of the related chronic conditions (ex. diabetes, cardiovascular disease) at a lower body mass index (BMI) than other racial/ethnic groups.[10-11] Therefore, traditional BMI cut points may not be as useful for the Asian population and these differences are important to consider when examining the overall health status.

About 20% of Asian adults in Michigan report not having a personal health care provider.

In 2012, an estimated 19.6% of Asian adults reported not having a personal health care provider compared to 15.8% of all Michigan adults. An estimated 7.4% of Asian adults aged 18-64 years reported no health care coverage compared to 16.6% of all Michigan adults. Due to the limitation of the APIBRFS not properly capturing lower socioeconomic status Asian groups, it is likely that the true estimates related to health care and access for all Asians in Michigan may actually be higher than those obtained in the APIBRFS. The Healthy Asian Americans Project (HAAP) has collaborated with community-based organizations to provide health fairs to various Asian communities primarily in Southeast Michigan. Data collected from Asian Indians attending health fairs found reported estimates for no health care provider and no health insurance to be as high as 44.2% and 52.0%, respectively.[12]

Nearly 6 in 10 Asian adults in Michigan report having a yearly routine medical checkup.

In 2012, an estimated 63.0% of Asian adults in Michigan reported having a routine medical checkup within the past year, similar to 66.5% of all Michigan adults. However, Asian adults reported lower prevalences of colorectal, prostate, and cervical cancer screenings compared to all Michigan adults of similar age and gender although not all differences were significant. At the national level, a similar pattern exists with Asians being less likely to receive cancer screenings compared to other racial/ethnic groups.[13-14] Barriers to cancer screening in Michigan's Asian population include no health insurance, cultural tradition, logistical barriers (e.g. transportation) and language.[15-16] HAAP has developed colorectal and breast cancer screening programs to help promote screening in underserved Asian communities. The programs work to increase screening by providing language and culturally appropriate education and screening services.

Less than 1 in 4 Asian adults in Michigan report being tested for HIV.

In 2012, an estimated 22.1% of Asian adults in Michigan aged 18-64 years reported ever being tested for HIV, significantly lower than all Michigan adults aged 18-64 years (40.4%). The prevalence of HIV testing was 3 times higher among Black, non-Hispanics and 2.4 times higher among Hispanics than Asians. Early awareness of an HIV infection through HIV testing can prevent further spread of the disease, and an early start on antiretroviral therapy can increase the quality of life.[17] Increasing the prevalence of HIV testing among Asian adults may help with preventing the further spread of the disease. MDHHS helps fund projects which provide HIV data for Michigan residents related to quality and experience of care as well as laboratory data to monitor suppressed viral load.

Nearly 1 in 10 Asian adults in Michigan report ever being told they had arthritis.

In 2012, an estimated 11.8% of Asian adults in Michigan reported ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia; significantly less compared to all Michigan adults (31.8%). Although arthritis is more common among adults aged 65 years and older[18], the Asian population in Michigan is primarily comprised of young adults (61.5% of Asian adults are between ages of 18-44 years), therefore, this may help explain some of the lower prevalence of reported arthritis among Asians. However, the age-adjusted estimate was still significantly lower among Asian adults (13.5%) than all Michigan adults (28.9%). MDHHS helps support PATH (Personal Action Toward Health), a self-management program for adults in Michigan with chronic diseases such as arthritis, heart disease, diabetes, and depression. There are PATH programs offered in Chinese, Korean, and Vietnamese through the Asian Center of Southeast Michigan.

Health Status Indicators

2012 APIBRFS

Health Status Prevalence Estimates among Asian or Other Pacific Islander, Non-Hispanics in Michigan compared to all Adults in Michigan in 2012

	Asians Only[a] Unadjusted[c]	Asians Only[a] Adjusted[d]	Michigan[b] Adjusted[d]
	% (95% CI)	% (95% CI)	% (95% CI)
Health Status Indicators			
General Health, Fair or Poor[1]	6.5 (2.5-15.6)†	**6.2 (3.0-12.2)†**	**16.6 (15.5-17.7)**
Poor Physical Health on at least 14 Days in the Past Month[2]	2.9 (1.5-5.3)†	**3.6 (1.8-7.2)†**	**12.9 (12.0-13.9)**
Poor Mental Health on at least 14 Days in the Past Month[3]	3.2 (1.5-7.0)†	**3.0 (1.4-6.2)†**	**13.3 (12.3-14.4)**
Disability[4]	8.4 (3.5-18.8)†	**10.1 (4.9-19.9)†**	**23.3 (22.1-24.4)**
Obese[5]	15.5 (8.9-25.6)	**13.8 (8.8-21.2)**	**31.1 (29.7-32.4)**
Overweight[6]	20.7 (14.6-28.5)	**21.2 (15.3-28.7)**	**34.1 (32.7-35.4)**
No Health Care Coverage (among 18-64 year olds)[7]	7.4 (4.0-13.6)†	**6.9 (3.8-12.2)†**	**17.0 (15.7-18.4)**
No Personal Health Care Provider[8]	19.6 (12.5-29.6)	16.3 (11.4-22.7)	17.1 (16.0-18.3)
No Health Care Access During Past 12 Months Due to Cost[9]	6.1 (3.4-10.8)	**6.6 (3.8-11.2)**	**15.7 (14.6-16.8)**
Worried About Having Enough Money to Pay Rent/Mortgage[10]	23.3 (15.2-34.1)	**20.2 (13.4-29.2)**	**36.0 (34.5-37.6)**
Worried About Having Enough Money to Buy Nutritious Meals[11]	8.7 (4.1-17.4)†	**9.0 (4.5-17.1)†**	**22.6 (21.4-24.0)**

[a] Prevalence estimates used data from the 2012 APIBRFS. (N = 510)
[b] Prevalence estimates used data from the 2012 MiBRFS. (N = 10,499)
[c] Prevalence estimates are not age-adjusted.
[d] Prevalence estimates are age-adjusted by direct method using 2000 U.S. Census.

† This estimate should be used with caution due to its low reliability and precision.
Note: All significant differences for adjusted estimates are bolded. CI = Confidence Interval.

[1] Among all adults, the proportion who reported that their health, in general, was either fair or poor. (N = 509 (APIBRFS); N = 10,485 (MiBRFS))
[2] Among all adults, the proportion who reported 14 or more days of poor physical health, which includes physical illness and injury, during the past 30 days. (N = 506; N = 10,344)
[3] Among all adults, the proportion who reported 14 or more days of poor mental health, which includes stress, depression, and problems with emotions, during the past 30 days. (N = 505; N = 10,378)
[4] Among all adults, the proportion who reported being limited in any activities because of physical, mental, or emotional problems, or reported that they required the use of special equipment (such as a cane, a wheelchair, a special bed, or a special telephone) due to a health problem. (N = 501; N = 10,382)
[5] Among all adults, the proportion of respondents whose body mass index (BMI) was greater than or equal to 30.0. (N = 491; N = 10,052)
[6] Among all adults, the proportion of respondents whose body mass index (BMI) was greater than or equal to 25.0 and less than 30.0. (N = 491; N = 10,052)
[7] Among adults aged 18-64 years, the proportion who reported having no health care coverage, including health insurance, prepaid plans such as HMOs, or government plans, such as Medicare or Indian Health Services. (N = 417; N = 6,820)
[8] Among all adults, the proportion who reported that they did not have anyone that they thought of as their personal doctor or health care provider. (N = 506 ; N = 10,453)
[9] Among all adults, the proportion who reported that in the past 12 months, they could not see a doctor when they needed to due to the cost. (N= 506 ; N = 10,477)
[10] Among all adults, the proportion who reported always, usually, or sometimes being worried about having enough money to pay rent/ mortgage in the past year. (N = 456; N = 9,470)
[11] Among all adults, the proportion who reported always, usually, or sometimes being worried about having enough money to buy nutritious meals in the past year. (N = 484; N = 10,052)

Risk Behavior Indicators

2012 APIBRFS

Risk Behavior Prevalence Estimates among Asian or Other Pacific Islander, Non-Hispanics in Michigan compared to all Adults in Michigan in 2012

	Asians Only[a] Unadjusted[c]	Asians Only[a] Adjusted[d]	Michigan[b] Adjusted[d]
	% (95% CI)	% (95% CI)	% (95% CI)
Health Risk Behaviors			
No Leisure Time Physical Activity[1]	15.1 (9.6-23.0)	16.1 (10.6-23.8)	23.0 (21.8-24.2)
Adequate Physical Activity[2]	20.0 (14.3-27.3)	20.5 (14.7-27.7)	20.0 (18.9-21.1)
Fruit & Vegetable Consumption (≥5 times/day)[3]	21.4 (15.3-29.2)	22.1 (15.3-30.7)	15.5 (14.6-16.5)
Current smoker[4]	10.6 (5.9-18.3)	**9.7 (5.5-16.4)**	**24.1 (22.8-25.5)**
Any Alcohol Consumption[5]	51.9 (42.2-61.6)	50.5 (42.0-59.0)	57.4 (56.0-58.8)
Binge Drinking[6]	20.7 (12.4-32.4)	19.1 (12.4-28.2)	20.3 (19.1-21.5)
Ever Told High Blood Pressure[7]	30.6 (23.3-39.1)	27.4 (22.3-33.2)	31.8 (30.7-32.9)

[a] Prevalence estimates used data from the 2012 APIBRFS. (N = 510)
[b] Prevalence estimates used data from the 2012 MiBRFS (N = 10,499) for all indicators except adequate physical activity, fruit and vegetable consumption, and ever told to have high blood pressure (data from 2013 MiBRFS were used instead, N = 12,759).
[c] Prevalence estimates are not age-adjusted.
[d] Prevalence estimates are age-adjusted by direct method using 2000 U.S. Census.

Note: All significant differences for adjusted estimates are bolded. CI = Confidence Interval.

[1] Among all adults, the proportion who reported not participating in any leisure time physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise during the past month. (N = 510 (APIBRFS); N = 10,490 (MiBRFS))
[2] Among all adults, the proportion who reported that they do either moderate physical activities for at least 150 minutes per week, vigorous physical activities for at least 75 minutes per week, or an equivalent combination of moderate and vigorous physical activities and also participate in muscle strengthening activities on two or more days per week. (N = 384; N = 11,732)
[3] Among all adults, the proportion whose total reported consumption of fruits (including 100% fruit juice) and vegetables was five or more times per day. (N = 387; N = 11,869)
[4] Among all adults, the proportion who reported that they had ever smoked at least 100 cigarettes (5 packs) in their life and that they smoke cigarettes now, either every day or on some days. (N = 504; N = 10,361)
[5] Among all adults, the proportion who reported some form of alcohol consumption within the past month (N = 500; N =10,307)
[6] Among all adults, the proportion who reported consuming five or more drinks per occasion (for males) or four or more drinks per occasion (for women) at least once in the previous month. (N = 497; N = 10,223)
[7] Among all adults, the proportion who reported that they were ever told by a doctor that they had high blood pressure (HBP). Women who had HBP only during pregnancy and adults who were borderline hypertensive were considered to not have been diagnosed. (N = 408; N = 12,728)

Clinical Preventive Practices

2012 APIBRFS

Clinical Preventive Practices Prevalence Estimates among Asian or Other Pacific Islander, Non-Hispanics in Michigan compared to all Adults in Michigan in 2012

	Asians Only[a] Unadjusted[c]	Asians Only[a] Adjusted[d]	Michigan[b] Adjusted[d]
	% (95% CI)	% (95% CI)	% (95% CI)
Clinical Preventive Practices Indicators			
Routine Health Checkup in the Past Year[1]	63.0 (52.8-72.2)	65.6 (57.0-73.3)	64.8 (63.4-66.2)
Mammography in the Past Year[2]	61.4 (44.9-75.6)	56.0 (43.6-67.7)	58.1 (56.2-60.0)
Clinical Breast Exam & Mammography in the Past Year[3]	50.5 (33.6-67.2)	45.0 (32.2-58.4)	49.8 (47.9-51.8)
Ever had a PAP Test[4]	73.4 (56.9-85.2)	**79.0 (68.8-86.5)**	**92.8 (91.7-93.8)**
Had Appropriately Timed Pap Test[5]	67.4 (51.6-80.0)	**69.5 (59.6-77.8)**	**79.7 (78.1-81.2)**
Ever Discussed Advantages of PSA Test With Doctor[6]	73.0 (58.4-83.9)	75.9 (63.4-85.2)	73.2 (70.7-75.4)
Had PSA Test in the Past Year[7]	37.8 (22.6-55.9)	38.9 (26.1-53.4)	46.8 (44.3-49.3)
Had Sigmoidoscopy/Colonoscopy in the Past 5 Years[8]	51.3 (36.6-65.7)	51.7 (41.1-62.2)	55.4 (53.9-57.0)
Had Appropriate Colorectal Cancer Screening[9]	59.6 (44.1-73.5)	60.0 (48.7-70.3)	69.2 (67.7-70.7)
No Dental Visit in the Past Year[10]	28.7 (20.4-38.8)	29.3 (21.3-38.8)	32.8 (31.4-34.1)
Missing 6 or More Teeth[11]	3.2 (1.8-5.5)	**4.0 (2.3-6.8)**	**14.1 (13.3-15.0)**
Ever Had HIV Testing (Not Part of Blood Donation)[12]	22.1 (15.0-31.2)	**23.7 (16.8-32.4)**	**43.2 (41.6-44.9)**

[a] Prevalence estimates used data from the 2012 APIBRFS. (N = 510)
[b] Prevalence estimates used data from the 2012 MiBRFS. (N = 10,499)
[c] Prevalence estimates are not age-adjusted.
[d] Prevalence estimates are age-adjusted by direct method using 2000 U.S. Census.

† This estimate should be used with caution due to its low reliability and precision.
Note: All significant differences for adjusted estimates are bolded. CI = Confidence Interval.

[1] Among all adults, the proportion who reported that they had a routine medical checkup within the past year. (N = 507 (APIBRFS); N = 10,400 (MiBRFS))
[2] Among women aged 40 years and older, the proportion who reported having a mammogram within the past year. (N = 154; N =5,008)
[3] Among women aged 40 years and older, the proportion who reported having a clinical breast exam and a mammogram within the past year. (N = 153; N = 4,994)
[4] Among women aged 18 years and older, the proportion who reported ever having a Pap test. (N = 204; N = 4,262)
[5] Among women aged 18 years and older, the proportion who reported having a Pap test within the previous three years. (N = 201; N = 4,153)
[6] Among men aged 50 years and older, the proportion ever discussing the advantages of a PSA test with a doctor, nurse, or other health professional. (N = 124; N = 2,579)
[7] Among men aged 50 years and older, the proportion who reported having a PSA test within the past year. (N = 121; N = 2,579)
[8] Among adults aged 50 years and older, the proportion who reported having a sigmoidoscopy or colonoscopy within the past five years. (N = 214; N = 6,687)
[9] Among adults aged 50 years and older, the proportion who reported having a fecal occult blood test within the past year, a sigmoidoscopy within the past five years, or a colonoscopy within the past ten years. (N= 213; N = 6,590)
[10] Among all adults, the proportion who reported that they had not visited a dentist or dental clinic for any reason in the previous year. (N = 505; N = 10,401)
[11] Among all adults, the proportion who reported that they were missing 6+ teeth due to tooth decay or gum disease. This excludes teeth lost for other reasons, such as injury or orthodontics. (N = 500; N = 10,220)
[12] Among adults aged 18-64 years, the proportion who reported that they ever had been tested for HIV, apart from tests that were part of a blood donation. (N = 396; N = 6,534)

Chronic Conditions

Chronic Conditions Prevalence Estimates among Asian or Other Pacific Islander, Non-Hispanics in Michigan compared to all Adults in Michigan in 2012

	Asians Only[a] Unadjusted[c]	Asians Only[a] Adjusted[d]	Michigan[b] Adjusted[d]
	% (95% CI)	% (95% CI)	% (95% CI)
Chronic Conditions Indicators			
Ever Told to Have Asthma[1]	6.0 (3.3-10.7)†	**5.6 (3.2-9.6)†**	**15.7 (14.7-16.8)**
Ever Told to Have Arthritis[2]	11.8 (7.2-18.6)	**13.5 (8.8-20.3)**	**28.9 (27.9-29.9)**
Ever Told to Have Angina/CHD[3]	1.0 (0.4-2.2)†	2.6 (1.1-6.0)†	4.4 (4.0-4.8)
Ever Told Any CVD[4]	2.3 (1.2-4.4)†	**4.5 (2.5-8.0)†**	**8.8 (8.2-9.4)**
Ever Told to Have Cancer[5]	7.0 (3.4-13.8)†	9.4 (5.2-16.2)†	11.1 (10.4-11.8)
Ever told to Have Diabetes[6]	7.1 (3.0-16.2)†	7.3 (3.7-13.8)†	9.3 (8.6-10.1)
Ever Told Kidney Disease[7]	1.1 (0.5-2.4)†	1.6 (0.7-3.5)†	3.1 (2.7-3.6)
Ever Told to Have Depression[8]	4.5 (2.0-9.7)†	**4.8 (2.5-9.3)†**	**20.5 (19.4-21.7)**

[a] Prevalence estimates used data from the 2012 APIBRFS. (N = 510)
[b] Prevalence estimates used data from the 2012 MiBRFS. (N = 10,499)
[c] Prevalence estimates are not age-adjusted.
[d] Prevalence estimates are age-adjusted by direct method using 2000 U.S. Census.

† This estimate should be used with caution due to its low reliability and precision.
Note: All significant differences for adjusted estimates are bolded. CI = Confidence Interval.

[1] Among all adults, the proportion who reported that they were ever told by a doctor, nurse, or other health care professional that they had asthma. (N = 507 (APIBRFS); N = 10,465 (MiBRFS))
[2] Among all adults, the proportion who reported ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia. (N = 500; N = 10,453)
[3] Among all adults, the proportion who had ever been told by a doctor that they had angina or coronary heart disease. (N = 508; N = 10,416)
[4] Among all adults, the proportion who had ever been told by a doctor that they had a heart attack, coronary heart disease or stroke. (N = 507; N = 10,401)
[5] Among all adults, the proportion who had ever been told by a doctor that they had a form of cancer other that they had some type of cancer. (N = 509; N = 10,454)
[6] Among all adults, the proportion who reported that they were ever told by a doctor that they had diabetes. Adults told they have prediabetes and women who had diabetes only during pregnancy were classified as not having been diagnosed. (N = 510; N = 10,484)
[7] Among all adults, the proportion who reported ever being told by a doctor that they had kidney disease. (N = 509; N = 10,471)
[8] Among all adults, the proportion who reported ever being told by a doctor that they had a depressive disorder including depression, major depression, dysthymia, or minor depression. (N = 507; N = 10,464)

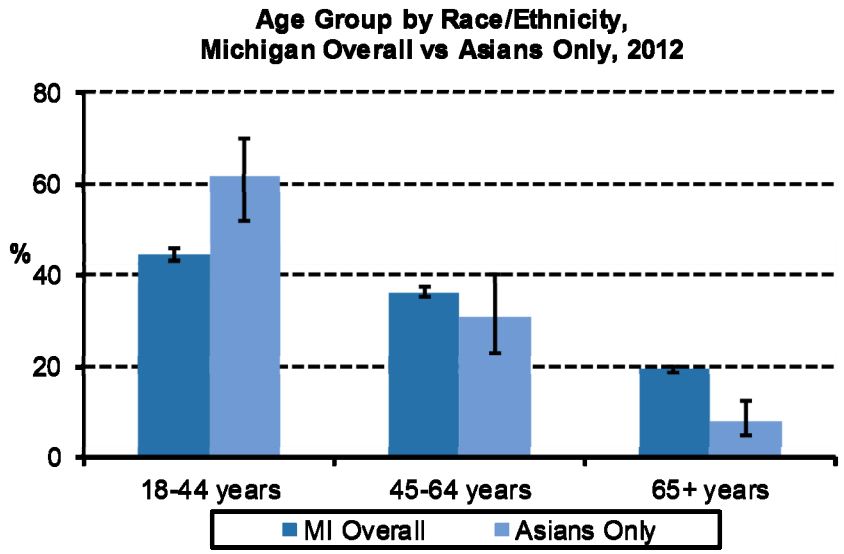
Demographics

Nationwide, the Asian population is more educated and has a higher household income compared to non-Hispanic Whites.[9] Differences in these demographic characteristics can directly and indirectly influence the prevalence of certain health conditions and related risk factors.[8] Therefore, the demographic profile of Asian participants involved in the 2012 APIBRFS was compared to all participants involved in the 2012 MiBRFS.

- In 2012, the largest proportion of Asian adults were between the ages of 18 and 44 years (61.5%), significantly higher than the prevalence among all Michigan adults (44.6%).
- The gender distribution of Asian adults and all adults in Michigan was similar.
- Asian adults (74.4%) were significantly more likely to report having an education of some college or more compared to all Michigan adults (57.2%).
- Asian adults (61.1%) were significantly more likely to report a household income of $50,000 or more than all Michigan adults (41.8%).

Demographic Characteristics	Michigan Overall[a]		Asian, Non-Hispanics Only[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Age				
18 - 44	44.6	(43.3-45.9)	61.5	(52.0-70.1)
45 - 64	36.2	(35.1-37.4)	30.8	(22.8-40.2)
65+	19.2	(18.4-19.9)	7.7	(4.8-12.3)
Gender				
Male	48.4	(47.1-49.8)	48.2	(38.5-58.0)
Female	51.6	(50.2-52.9)	51.8	(42.0-61.5)
Education				
HS graduate or less	42.8	(41.5-44.2)	25.6	(16.8-37.0)
Some college or more	57.2	(55.8-58.5)	74.4	(63.0-83.2)
Household Income				
< $25,000	29.6	(28.3-31.0)	20.2	(12.3-31.3)
$25,000 - $49,999	28.6	(27.3-29.9)	18.7	(11.8-28.5)
$50,000+	41.8	(40.4-43.1)	61.1	(50.1-71.0)

[a] Demographics of all participants in the 2012 MiBRFS. (N = 10,499)
[b] Demographics of Asian adults in the 2012 APIBRFS. (N = 510)



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall used data from the 2012 Michigan BRFS.

Weight Status

2012 APIBRFS

Overweight and obesity have been proven to increase the risk of many diseases and health conditions such as high blood pressure, diabetes, coronary heart disease, stroke, gallbladder disease, high cholesterol, and some forms of cancer.[19] Overweight is defined as having a body mass index (BMI) between 25.0 and 29.9, and obesity is defined as a BMI greater than or equal to 30.0. BMI is defined as weight in kilograms divided by height in meters squared (w/h^2) and is calculated based on self-reported height and weight.

- In 2012, an estimated 20.7% of Asian adults were classified as overweight, significantly lower than among all Michigan adults (34.6% [95% CI: 33.3-35.8]). An additional 15.5% of Asian adults were classified as obese, significantly lower than all adults in Michigan (31.1% [95% CI: 29.8-32.3]).
- The prevalence of overweight was highest among the 45-64 year age group, although differences by age group were not significant[†].
- The prevalence of obesity was significantly higher among Asian adults with a reported household income between $25,000 and $49,999 (44.0%[†]) compared to Asian adults with a reported household income of $50,000 or more (11.2%[†]).
- In 2012, Asian adults (20.7%) reported a significantly lower overweight prevalence than White, non-Hispanic adults (35.4%). The prevalence among Asian adults did not significantly differ from that of Black, non-Hispanic and Hispanic adults (data not shown).
- In 2012, Asian adults (15.5%) reported a significantly lower prevalence of obesity than all of the other racial/ethnic groups in Michigan (White, non-Hispanic (29.9%), Black non-Hispanic (37.8%), and Hispanic (40.5%)).

Asian, non-Hispanic Demographic Characteristics	Overweight[a]		Obese[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**20.7**	**(14.6-28.5)**	**15.5**	**(8.9-25.6)**
Age				
18 - 44	15.8	(9.6-25.0)	19.6[†]	(9.9-35.0)
45 - 64	31.3	(18.5-47.8)	7.3[†]	(2.9-17.1)
65+	15.4[†]	(5.9-34.4)	--[c]	---
Gender				
Male	24.9	(47.3-78.4)	13.1[†]	(6.7-24.2)
Female	16.5[†]	(21.8-63.8)	17.9[†]	(7.9-35.7)
Education				
HS graduate or less	24.5[†]	(10.6-47.1)	--[c]	---
Some college or more	19.3	(13.5-26.8)	17.8	(9.9-30.0)
Household Income				
< $25,000	--[c]	---	--[c]	---
$25,000 - $49,999	20.2[†]	(7.4-44.4)	44.0[†]	(20.1-71.0)
$50,000+	23.5	(15.2-34.5)	11.2[†]	(6.0-19.9)

Note: BMI, body mass index, is defined as weight (in kilograms) divided by height (in meters) squared [weight in kg/(height in meters)^2]. Weight and height were self-reported. Pregnant women were excluded.

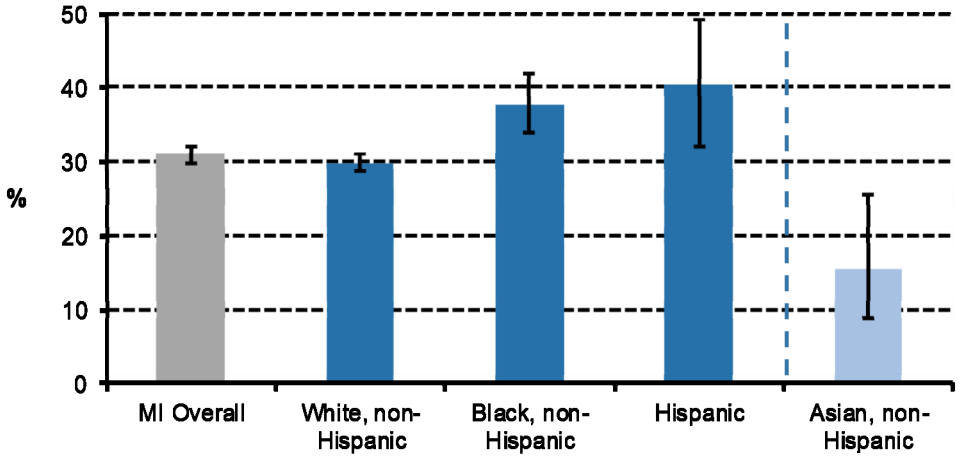
[a] Among all Asian adults, the proportion of respondents whose BMI was greater than or equal to 25.0 and less than 30.0. (N = 491)

[b] Among all Asian adults, the proportion of respondents whose BMI was greater than 30.0. (N = 491)

[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.

[†] This estimate should be used with caution due to its low reliability and precision.

Obesity by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Limited Health Care Coverage

2012 APIBRFS

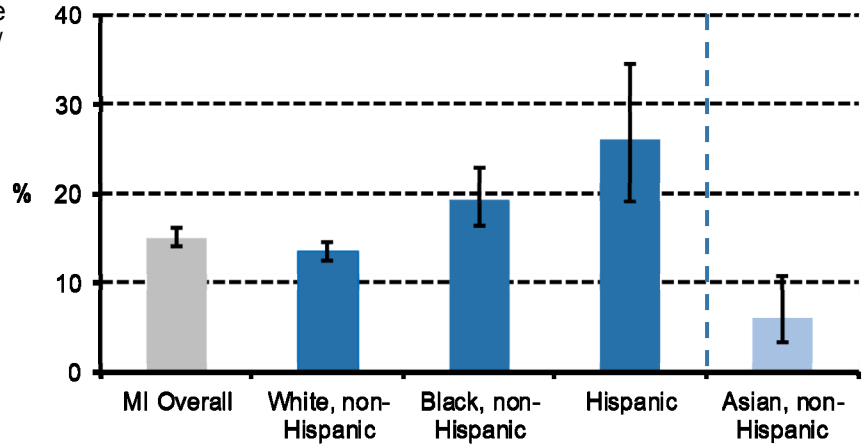
Two additional indicators related to health care access are: 1) not having a personal doctor or health care provider and 2) having had a time during the past 12 months when you needed to see a doctor but could not because of the cost. Increases in access to primary care have been shown to substantially improve health-related outcomes.[20]

- In 2012, an estimated 19.6% of Asian adults reported not having a personal health care provider, compared to 15.8% (95% CI: 14.8-16.9) of all Michigan adults. An estimated 6.1% of Asian adults reported not seeing the doctor within the past 12 months due to cost, significantly lower than among all Michigan adults (15.1% [95% CI: 14.1-16.1]).
- Asian adults aged 18-44 years (29.3%) reported a significantly higher prevalence of no personal health care provider compared to Asian adults aged 45-64 years (4.1%†).
- Asian males reported a higher prevalence of no personal health care provider than Asian females†, although the difference was not significant.
- In 2012, the prevalence of Asian adults (19.6%) that reported no personal health care provider did not significantly differ from any of the other racial/ethnic groups in Michigan (data not shown).
- In 2012, Asian adults (6.1%) reported a significantly lower prevalence of not seeing the doctor within the past 12 months due to cost compared to all of the other race/ethnicities in Michigan (White, non-Hispanic (13.5%), Black, non-Hispanic (19.3%), and Hispanic (26.0%)).

Asian, non-Hispanic Demographic Characteristics	No Personal Health Care Provider[a]		No Health Care Access Due to Cost[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**19.6**	**(12.5-29.6)**	**6.1**	**(3.4-10.8)**
Age				
18 - 44	29.3	(18.2-43.6)	3.9†	(1.8-8.2)
45 - 64	4.1†	(1.9-8.6)	11.9†	(4.9-26.1)
65+	--[c]	---	--[c]	---
Gender				
Male	28.0	(15.7-44.8)	6.9†	(2.8-16.1)
Female	12.0†	(6.5-21.2)	5.3†	(2.6-10.6)
Education				
HS graduate or less	25.9†	(9.1-55.1)	--[c]	---
Some college or more	17.5	(11.1-26.3)	4.5†	(2.5-8.0)
Household Income				
< $25,000	32.3†	(13.9-58.6)	15.7†	(6.4-33.6)
$25,000 - $49,999	16.9†	(8.1-32.1)	--[c]	---
$50,000+	17.3†	(8.0-33.6)	1.2†	(0.5-2.8)

[a] Among all Asian adults, the proportion who reported that they did not have anyone that they thought of as their personal doctor or health care provider. (N = 506)
[b] Among all adults, the proportion who reported that in the past 12 months, they could not see a doctor when they needed to due to the cost. (N= 506)
[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
† This estimate should be used with caution due to its low reliability and precision.

No Health Care Access Due to Cost by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Social Context

Differences in health-related exposures and stresses throughout life often result in differences in underlying health status.[21] As a result, it is important to look at the impact of social factors on the prevalence of disease.

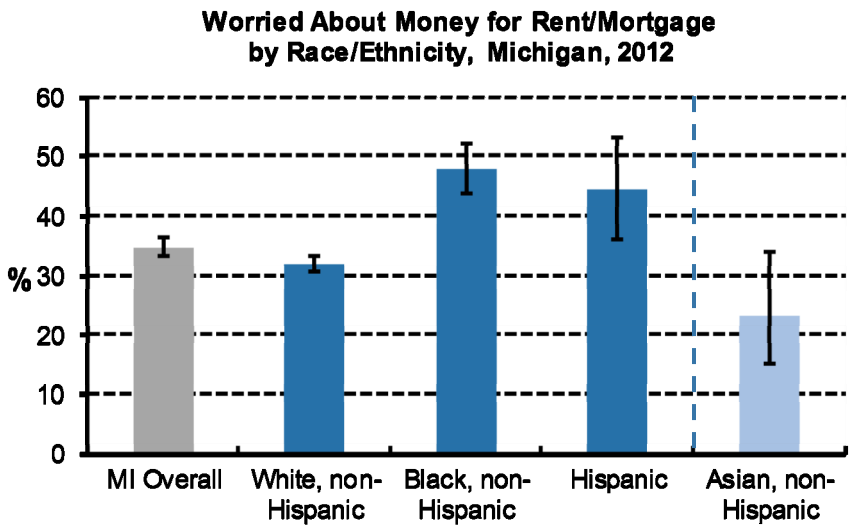
- In 2012, an estimated 23.3% of Asian adults reported worrying about having enough money to pay their rent/mortgage within the past year, compared to 34.8% of all Michigan adults (95% CI: 33.4-36.2). Additionally, an estimated 8.7%† (95% CI: 4.1-17.4) of Asian adults reported worrying about having enough money to purchase nutritious meals within the past year, significantly lower than among all Michigan adults (21.9% [95% CI: 20.7-23.1]).

- The prevalence of worrying about having enough money to pay their rent/mortgage was relatively even across age and by gender among Asian adults†.

- In 2012, Asian adults (23.3%) reported a significantly lower prevalence of worrying about having enough money to pay rent/mortgage than Black, non-Hispanics (47.9%) and Hispanics (44.5%) in Michigan. The prevalence among Asians did not significantly differ from White, non-Hispanics in Michigan.

Asian, non-Hispanic Demographic Characteristics	Worried About Having Enough Money to Pay Rent/Mortgage[a]	
	%	95% Confidence Interval
Total	**23.3**	**(15.2-34.1)**
Age		
18 - 44	25.3	(14.2-40.9)
45 - 64	26.0†	(13.4-44.3)
65+	--[b]	---
Gender		
Male	21.0†	(10.4-37.8)
Female	25.4	(14.5-40.5)
Education		
HS graduate or less	--[b]	---
Some college or more	17.0	(9.8-28.0)
Household Income		
< $25,000	--[b]	---
$25,000 - $49,999	34.5†	(14.6-62.0)
$50,000+	9.0†	(4.2-18.3)

[a] Among all Asian adults, the proportion who reported always, usually, or sometimes being worried about having enough money to pay rent/ mortgage in the past year. (N = 456)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
† This estimate should be used with caution due to its low reliability and precision.



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

No Leisure Time Physical Activity

2012 APIBRFS

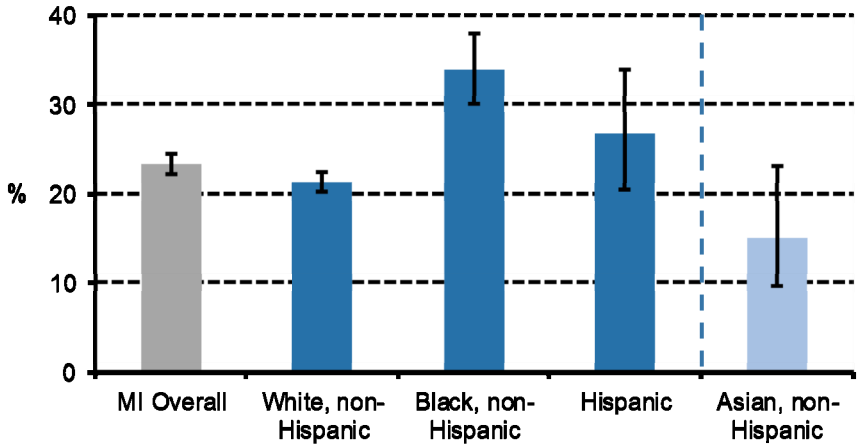
Regular physical activity among adults has been shown to reduce the risk of many diseases including cardiovascular disease, diabetes, colon and breast cancers, and osteoporosis. Keeping physically active also helps to control weight, maintain healthy bones, muscles, and joints, and relieve symptoms of depression.[22]

- In 2012, an estimated 15.1% of Asian adults reported no leisure time physical activity within the past month. Although this was lower compared to 23.3% of all Michigan adults (95% CI: 22.2-24.5), the difference was not significant.
- The prevalence of no leisure time physical activity remained relatively stable with increasing age[†].
- Although the prevalence of no leisure time physical activity was higher among Asian females than Asian males[†], the difference was not significant.
- In 2012, the prevalence of no leisure time physical activity among Asian adults (15.1%) was significantly lower than Black non-Hispanics (33.8%). The prevalence among Asians did not significantly differ from White, non-Hispanics and Hispanics in Michigan.

Asian, non-Hispanic Demographic Characteristics	No Leisure Time Physical Activity[a]	
	%	95% Confidence Interval
Total	**15.1**	**(9.6-23.0)**
Age		
18 - 44	15.4	(8.8-25.6)
45 - 64	13.8[†]	(5.2-31.8)
65+	--[b]	---
Gender		
Male	7.1[†]	(2.7-17.3)
Female	22.5	(13.5-35.1)
Education		
HS graduate or less	--[b]	---
Some college or more	15.6	(9.8-24.0)
Household Income		
< $25,000	28.2[†]	(10.3-57.2)
$25,000 - $49,999	16.0[†]	(6.4-34.4)
$50,000+	11.2	(6.1-19.7)

[a] Among all Asian adults, the proportion who reported not participating in any leisure time physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise during the past month. (N = 510)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.

No Leisure Time Physical Acitivity by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Adequate Physical Activity

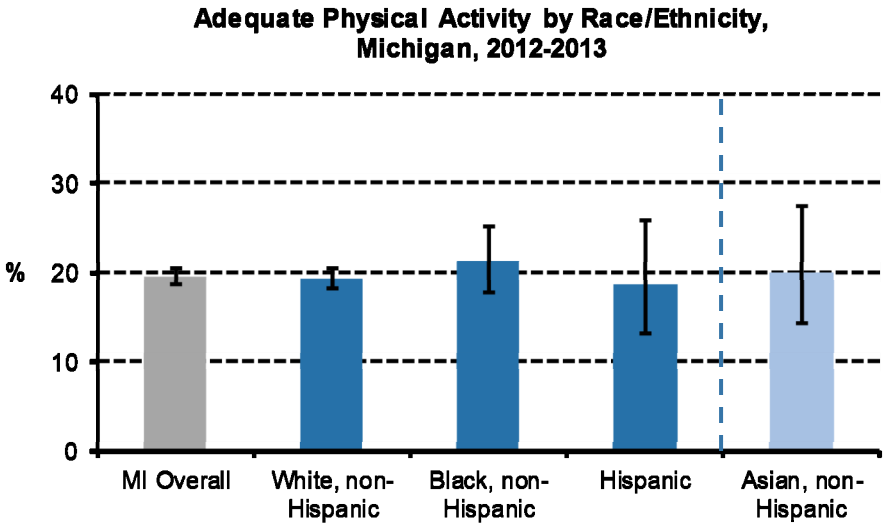
2012 APIBRFS

In 2008, the U.S. Department of Health and Human Services released the new physical activity guidelines for Americans. These guidelines recommend that adults participate in moderate physical activities for at least 150 minutes per week, vigorous physical activities for at least 75 minutes per week, or an equivalent combination of moderate and vigorous physical activities **and** also participate in muscle strengthening activities on two or more days per week.[23]

- In 2012, an estimated 20.0% of Asian adults met both the aerobic and muscle strengthening components of the new physical activity guidelines (i.e., adequate physical activity), similar to 19.5% of all Michigan adults in 2013 (95% CI: 18.6-20.5).
- When assessing each component individually, an estimated 55.1% (95% CI: 46.6-63.4) of Asian adults in Michigan met the aerobic physical activity component, while 28.6% (95% CI: 21.9-36.4) met the muscle strengthening component. This compared to 53.1% of all Michigan adults (95% CI: 51.8-54.3) and 28.8% (95% CI: 27.7-30.0) of all Michigan adults in 2013, respectively.
- Although Asian males reported a higher prevalence of adequate physical activity than Asian females, the difference was not significant.
- In 2012, the prevalence of adequate physical activity among Asian adults (20.0%) was similar to all of the other racial/ethnic groups in Michigan in 2012-2013.

Asian, non-Hispanic Demographic Characteristics	Adequate Physical Activity[a]	
	%	95% Confidence Interval
Total	**20.0**	**(14.3-27.3)**
Age		
18 - 44	16.2[†]	(8.5-28.7)
45 - 64	20.0	(12.3-30.8)
65+	35.0	(18.5-56.1)
Gender		
Male	22.5	(14.2-33.9)
Female	17.9	(10.8-28.0)
Education		
HS graduate or less	--[b]	---
Some college or more	19.2	(13.3-27.0)
Household Income		
< $25,000	--[b]	---
$25,000 - $49,999	17.4[†]	(7.5-35.4)
$50,000+	17.2	(10.7-26.7)

[a] Among all Asian adults, the proportion who reported that they do either moderate physical activities for at least 150 minutes per week, vigorous physical activities for at least 75 minutes per week, or an equivalent combination of moderate and vigorous physical activities and also participate in muscle strengthening activities on two or more days per week. (N = 384)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2013 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Fruit and Vegetable Consumption

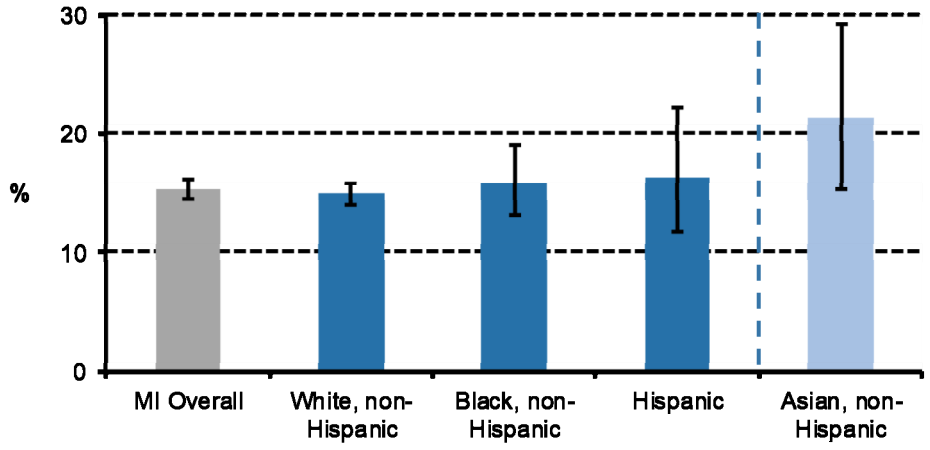
A healthy diet rich in fruits and vegetables may reduce the risk of cancer and other chronic conditions.[24] The fruit and vegetable consumption indicator is defined as consuming fruits (including 100% fruit juice, and fresh, frozen, and canned fruit) and vegetables (including cooked or canned beans, dark green vegetables, orange-colored vegetables, and other vegetables) on an average of five or more times per day.

- In 2012, an estimated 21.4% of Asian adults reported consuming fruits and vegetables five or more times per day. Although this was higher compared to 15.3% of all Michigan adults in 2013 (95% CI: 14.5-16.2), the difference was not significant.
- Although the prevalence of reported fruit and vegetable consumption among Asian adults generally increased with age[†], differences by age group were not significant.
- Asian males[†] reported a lower prevalence of fruit and vegetable consumption than Asian females, although the difference was not significant.
- Although the prevalence of fruit and vegetable consumption among Asian adults (21.4%) was higher than all of the other race/ethnicities in Michigan in 2012-2013 (White, non-Hispanic (14.9%), Black, non-Hispanic (15.8%), and Hispanic (16.3%)), none of the differences were significant.

Asian, non-Hispanic Demographic Characteristics	Fruit & Vegetable Consumption (≥ 5 times/day)[a]	
	%	95% Confidence Interval
Total	**21.4**	**(15.3-29.2)**
Age		
18 - 44	16.5[†]	(8.5-29.6)
45 - 64	24.5	(15.4-36.7)
65+	29.2[†]	(14.3-50.5)
Gender		
Male	13.9[†]	(7.3-24.9)
Female	27.9	(18.9-39.2)
Education		
HS graduate or less	--[b]	---
Some college or more	22.2	(15.9-30.2)
Household Income		
< $25,000	--[b]	---
$25,000 - $49,999	25.1[†]	(10.1-50.2)
$50,000+	20.3	(12.7-31.0)

[a] Among all Asian adults, the proportion whose total reported consumption of fruits (including 100% fruit juice) and vegetables was five or more times per day. (N = 387)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.

Fruit and Vegetable Consumption (≥ 5 times/day) by Race/Ethnicity, Michigan, 2012-2013



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2013 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Cigarette Smoking

2012 APIBRFS

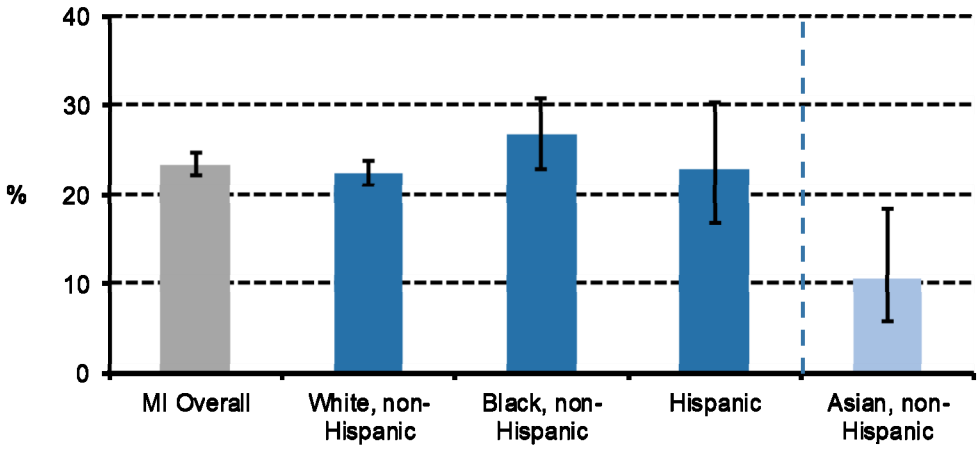
Cigarette smoking is the leading cause of preventable death in the United States, accounting for more than 480,000 deaths each year.[25]

- In 2012, an estimated 10.6% of Asian adults reported that they currently smoke cigarettes on a regular basis, significantly lower than 23.3% (95% CI: 22.1-24.6) of all Michigan adults.
- Although Asian males reported a higher prevalence of cigarette smoking than Asian females†, the difference was not significant.
- In 2012, the prevalence of cigarette smoking was significantly lower among Asian adults (10.6%) than White, non-Hispanics (22.4%) and Black, non-Hispanics (26.6%). In other words, the prevalence of cigarette smoking was 2.1 times higher among White, non-Hispanics, and 2.5 times higher among Black, non-Hispanics than Asians. The prevalence of cigarette smoking among Asians did not significantly differ from Hispanics.

Asian, non-Hispanic Demographic Characteristics	Current Smoking[a]	
	%	95% Confidence Interval
Total	**10.6**	**(5.9-18.3)**
Age		
18 - 44	12.7†	(6.3-24.0)
45 - 64	--[b]	---
65+	--[b]	---
Gender		
Male	15.5†	(7.6-29.3)
Female	5.7†	(2.3-13.5)
Education		
HS graduate or less	--[b]	---
Some college or more	8.9†	(4.7-16.3)
Household Income		
< $25,000	27.1†	(10.3-54.8)
$25,000 - $49,999	17.1†	(6.2-39.5)
$50,000+	4.4†	(1.7-10.7)

[a] Among all adults, the proportion who reported that they had ever smoked at least 100 cigarettes (5 packs) in their life and that they smoke cigarettes now, either every day or on some days. (N = 504)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
† This estimate should be used with caution due to its low reliability and precision.

Current Cigarette Smoking by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Alcohol Consumption

2012 APIBRFS

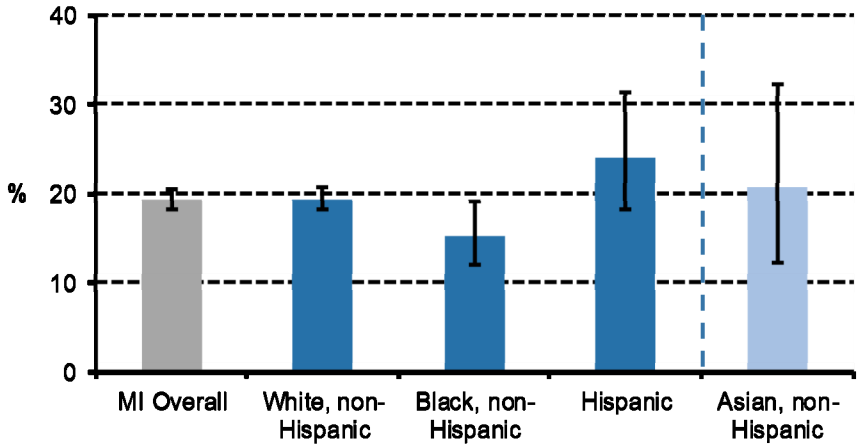
Alcohol abuse has been associated with serious health problems, such as cirrhosis of the liver, high blood pressure, stroke, and some types of cancer.[26] It can also increase the risk for motor vehicle accidents, injuries, violence, and suicide.[26] Binge drinking is defined as consuming five or more alcoholic drinks per occasion (for men) or four or more alcoholic drinks per occasion (for women) at least once in the past month.

- In 2012, an estimated 51.9% of Asian adults in Michigan reported some form of alcohol consumption within the past month compared to 56.4% (95% CI: 55.1-57.8) of all Michigan adults.
- In 2012, an estimated 20.7% (95% CI: 12.4-32.4) of Asian adults in Michigan reported binge drinking on at least one occasion within the past month, similar to all adults in Michigan (19.2% [95% CI: 18.1-20.3]).
- Although Asian males reported a higher prevalence of both indicators than Asian females[†], the differences were not significant.
- In 2012, the prevalence of any alcohol consumption in the past month among Asian adults (51.9%) did not significantly differ from that of any of the other racial/ ethnic groups in Michigan (data not shown).
- In 2012, the prevalence of binge drinking among Asian adults (20.7%) did not significantly differ from that of any of the other racial/ethnic groups in Michigan.

Asian, non-Hispanic Demographic Characteristics	Any Alcohol in Past Month[a]		Binge Drinking[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**51.9**	**(42.2-61.6)**	**20.7**	**(12.4-32.4)**
Age				
18 - 44	15.8	(9.6-25.0)	28.9	(16.7-45.0)
45 - 64	31.3	(18.5-47.8)	--[c]	---
65+	15.4[†]	(5.9-34.4)	--[c]	---
Gender				
Male	24.9	(47.3-78.4)	28.3	(14.9-47.0)
Female	16.5[†]	(21.8-63.8)	13.2[†]	(6.2-25.9)
Education				
HS graduate or less	24.5[†]	(10.6-47.1)	32.4[†]	(12.3-62.2)
Some college or more	19.3	(13.5-26.8)	16.4	(9.7-26.4)
Household Income				
< $25,000	--[c]	---	--[c]	---
$25,000 - $49,999	20.2[†]	(7.4-44.4)	--[c]	---
$50,000+	23.5	(15.2-34.5)	22.6	(12.1-38.4)

[a] Among all Asian adults, the proportion who reported consuming some form of alcohol consumption within the past month. (N = 500)
[b] Among all Asian adults, the proportion who reported consuming five or more drinks per occasion (for males) or four or more drinks per occasion (for women) at least once in the previous month. (N = 497)
[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.

Binge Drinking by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Hypertension Awareness and Medication Use

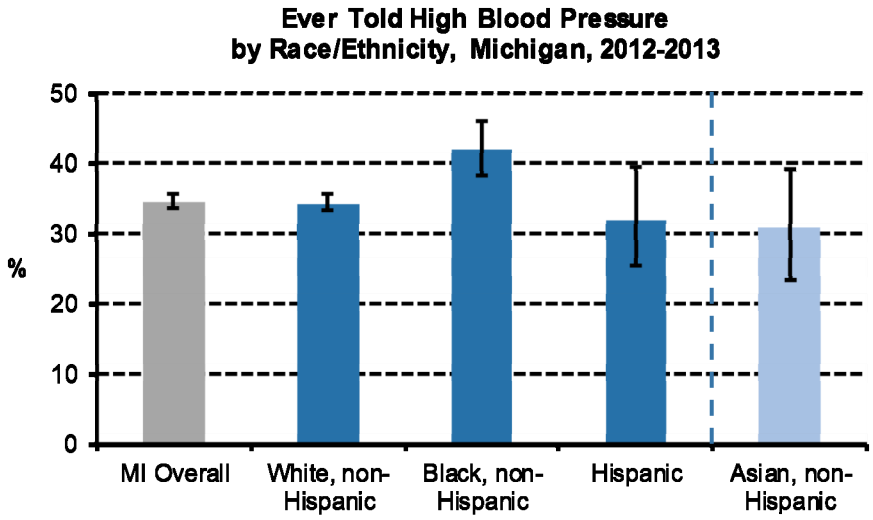
2012 APIBRFS

Adults with high blood pressure are at a higher risk for heart disease, stroke, chronic heart failure, and kidney disease.[27]

- In 2012, an estimated 30.6% of Asian adults reported ever being told by a doctor that they had high blood pressure (HBP). This was similar to 34.6% (95% CI: 33.5-35.7) of all Michigan adults in 2013.
- In 2012, an estimated 78.6% (95% CI: 62.7-88.9) of Asian adults with HBP were currently taking medications for their HBP compared to 75.7% (95% CI: 73.8-77.5) of all Michigan adults in 2013.
- Asian adults aged 18-44 years (13.9%) reported a significantly lower prevalence of HBP compared to Asian adults aged 45-64 years (36.9%) and those 65 years and older (73.2%†).
- Although the prevalence of HBP was higher among Asian males than Asian females, the difference was not significant.
- In 2012, the prevalence of high blood pressure among Asian adults (30.6%) did not significantly differ from that of any of the other racial/ethnic groups in Michigan in 2012-2013.

Asian, non-Hispanic Demographic Characteristics	Ever Told HBP[a]	
	%	95% Confidence Interval
Total	**30.6**	**(23.3-39.1)**
Age		
18 - 44	13.9	(8.0-23.1)
45 - 64	36.9	(24.7-51.0)
65+	73.2†	(50.3-88.1)
Gender		
Male	39.1	(27.1-52.5)
Female	23.3	(15.7-33.2)
Education		
HS graduate or less	--[b]	---
Some college or more	29.9	(22.0-39.3)
Household Income		
< $25,000	--[b]	---
$25,000 - $49,999	16.7†	(7.7-32.3)
$50,000+	31.4	(21.8-42.9)

[a] Among all Asian adults, the proportion who reported that they were ever told by a doctor that they had high blood pressure (HBP). Women who had HBP only during pregnancy and adults who were borderline hypertensive were considered to not have been diagnosed. (N = 408)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
† This estimate should be used with caution due to its low reliability and precision.



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2013 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Preventive Health Behaviors

2012 APIBRFS

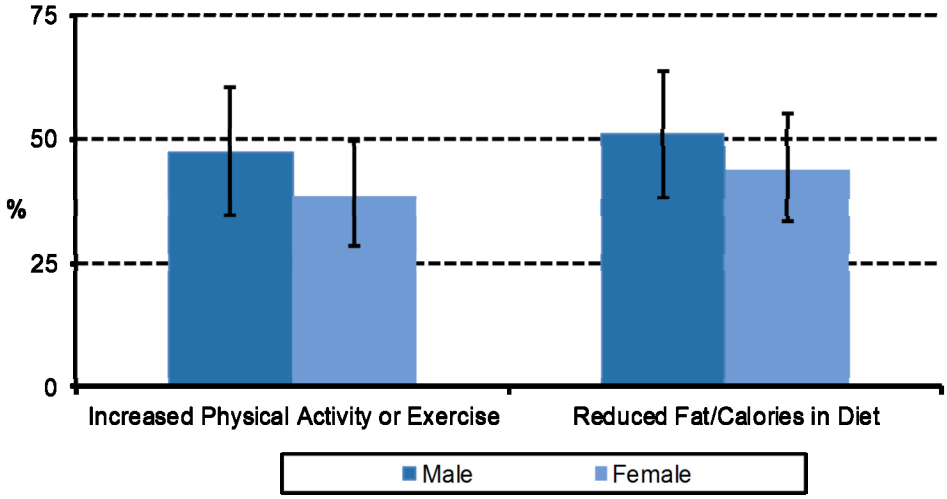
Weight management, diet, and adequate physical activity have been shown to help prevent and control many chronic diseases such as diabetes, heart disease, stroke, and some forms of cancer.[28-30]

- In 2012, an estimated 56.7% (95% CI: 48.3-64.8) of Asian adults reported trying to control or lose weight within the past 12 months. Furthermore, an estimated 42.5% of Asian adults reported increasing their physical activity or exercise within the past 12 months, and 47.1% reported decreasing the amount of fat or calories in their diet within the past 12 months.
- These questions were not asked at the state level and therefore are not available for comparison.
- Although the prevalence of Asian adults who reported increasing their physical activity/exercise tended to decrease with age, differences by age group† were not significant.
- Asian males reported a higher prevalence of increasing their physical activity/exercise and decreasing the amount of fat/calories in their diet than Asian females, although differences were not significant.

Asian, non-Hispanic Demographic Characteristics	Increased Physical Activity or Exercise[a]		Decreased Fat/ Calories in Diet[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**42.5**	**(34.3-51.1)**	**47.1**	**(38.7-55.7)**
Age				
18 - 44	52.2	(38.8-65.2)	55.8	(42.4-68.4)
45 - 64	38.7	(26.9-52.0)	39.3	(27.3-52.6)
65+	20.2†	(7.9-42.8)	44.0	(24.6-65.4)
Gender				
Male	47.1	(34.4-60.2)	50.8	(38.0-63.5)
Female	38.5	(28.6-49.4)	43.9	(33.3-55.1)
Education				
HS graduate or less	--[c]	---	--[c]	---
Some college or more	46.1	(37.1-55.3)	47.8	(38.8-56.9)
Household Income				
< $25,000	--[c]	---	--[c]	---
$25,000 - $49,999	32.3†	(16.6-53.4)	47.5	(27.9-68.0)
$50,000+	44.7	(33.8-56.1)	50.9	(39.8-62.0)

[a] Among all Asian adults, the proportion who reported increasing their physical activity or exercise in the past 12 month. (N = 395)
[b] Among all Asian adults, the proportion who reported reducing the amount of fat or calories in their diet in the past 12 months. (N = 394)
[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
† This estimate should be used with caution due to its low reliability and precision.

Preventive Health Behaviors by Gender, Asian Adults in Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS.

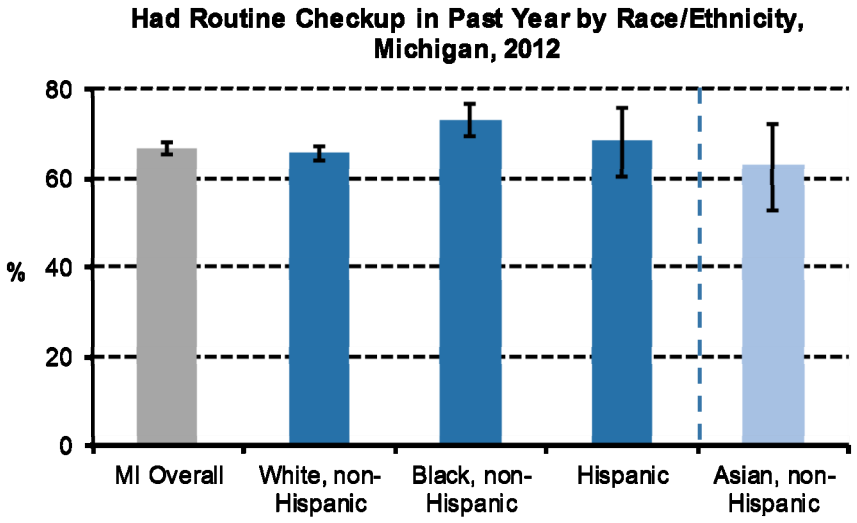
Routine Checkup in Past Year

The benefits of having an annual checkup include early diagnosis and treatment of existing conditions and prevention of future medical problems.[31]

- In 2012, an estimated 63.0% of Asian adults Michigan reported having a routine medical checkup within the past year, compared to 66.5% of all Michigan adults (95% CI: 65.2-67.8).
- Asian adults aged 18-44 years (52.4%) reported a significantly lower prevalence of a routine checkup in the past year compared to Asian adults aged 45-64 years (78.5%) and those 65 years and older (85.5%†).
- Although Asian females reported a higher prevalence of having a routine checkup within the past year than Asian males, the difference was not significant.
- The prevalence of having a routine checkup generally increased with increasing education and household income level although differences were not significant.
- In 2012, the prevalence of Asian adults (63.0%) that reported having a routine medical checkup in the past year did not significantly differ from that of any of the other racial/ethnic groups in Michigan.

Asian, non-Hispanic Demographic Characteristics	Had a Routine Checkup Within The Past Year[a]	
	%	95% Confidence Interval
Total	**63.0**	**(52.8-72.2)**
Age		
18 - 44	52.4	(39.0-65.5)
45 - 64	78.5	(65.8-87.3)
65+	85.5†	(65.6-94.8)
Gender		
Male	50.2	(36.2-64.2)
Female	74.9	(63.3-83.7)
Education		
HS graduate or less	57.6†	(32.0-79.7)
Some college or more	64.9	(54.9-73.6)
Household Income		
< $25,000	49.7	(24.9-74.7)
$25,000 - $49,999	62.9†	(39.9-81.2)
$50,000+	66.2	(52.6-77.6)

[a] Among all Asian adults, the proportion who reported that they had a routine medical checkup within the past year. (N = 507)
† This estimate should be used with caution due to its low reliability and precision.



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Breast Cancer Screening

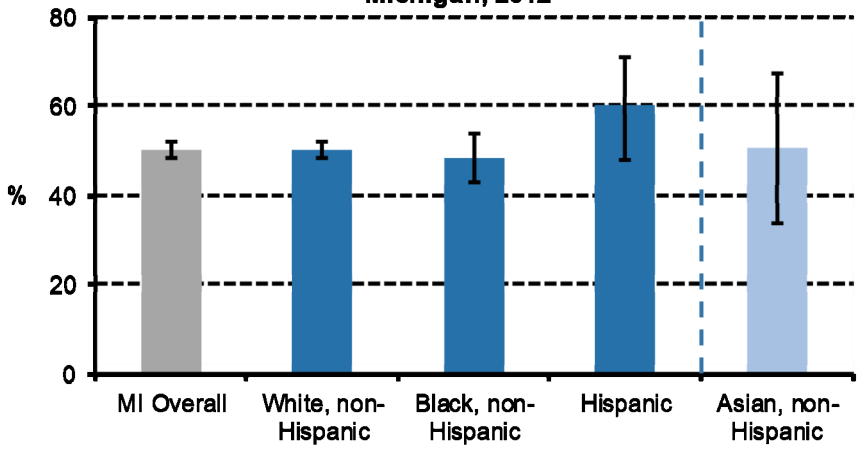
Breast cancer is the second leading cause of cancer deaths among United States women.[32] In 2010, there were 1,492 deaths among Michigan women due to breast cancer, second only to that of lung cancer.[33] Early detection of breast cancer can occur through the use of screening tools such as mammography and clinical breast exams.

- In 2012, an estimated 61.4% of Asian women 40 years and older reported having a mammogram within the past year, while 50.5% reported having both a clinical breast exam and a mammogram within the past year. This was similar to the prevalences among all women aged 40 years and older in Michigan (59.2% [95% CI: 57.5-61.0], 50.4% [95% CI: 48.6-52.2] respectively).
- Breast cancer screening was relatively even across age groups among Asian women.
- In 2012, the prevalence of Asian women aged 40 years and older (50.5%) who reported having both a clinical breast exam and a mammogram within the past year did not significantly differ from women in any of the other racial/ethnic groups in Michigan.

Asian, non-Hispanic Demographic Characteristics	Had Mammogram in the Past Year Among Women Aged 40 Years and Older [a]		Had Clinical Breast Exam and Mammogram in Past Year Among Women Aged 40 Years and Older[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**61.4**	**(44.9-75.6)**	**50.5**	**(33.6-67.2)**
Age				
40 - 59	61.6	(41.1-78.6)	48.8	(27.9-70.2)
60+	60.8[†]	(35.5-81.4)	54.6	(30.8-76.5)
Education				
HS graduate or less	--[c]	---	--[c]	---
Some college or more	44.4	(29.9-59.8)	37.6	(24.2-53.3)
Household Income				
< $25,000	--[c]	---	--[c]	---
$25,000 - $49,999	--[c]	---	--[c]	---
$50,000+	61.2	(40.7-78.5)	48.5	(28.3-69.1)

[a] Among Asian women aged 40 years and older, the proportion who reported having a mammogram within the past year. (N = 154)
[b] Among Asian women aged 40 years and older, the proportion who reported having a clinical breast exam and a mammogram within the past year. (N = 153)
[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.

Had Clinical Breast Exam and Mammogram in Past Year Among Women Aged 40 Years and Older by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Cervical Cancer Screening

2012 APIBRFS

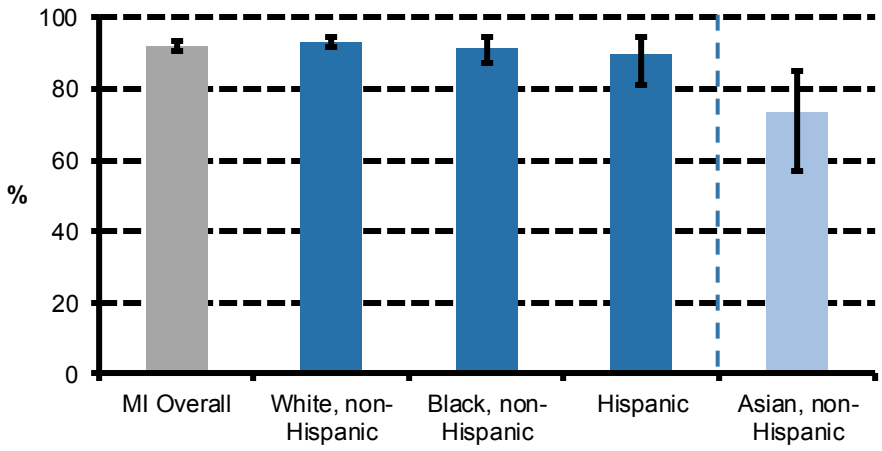
Current guidelines for cervical cancer screening recommend that routine Pap testing for women begin at 21 years of age and be performed at least once every three years.[34]

- In 2012, an estimated 73.4% of Asian women 18 years and older reported ever having a Pap test, significantly less than 92.1% (95% CI: 90.6-93.4) of all women 18 years and older in Michigan.
- In 2012, an estimated 67.4% of Asian women aged 18 years and older reported having had a Pap test within the past three years, compared to 79.4% (95% CI: 77.6-81.1) of all Michigan women aged 18 years and older.
- The prevalence of having had a Pap test in the past three years was similar by age for Asian women.[†]
- In 2012, Asian women aged 18 years and older reported a significantly lower prevalence of ever having a Pap test (73.4%) compared to White, non-Hispanic (93.1%) and Black, non-Hispanic women (91.3%) in Michigan. The prevalence among Asian women did not vary from Hispanic women.
- In 2012, the prevalence of Asian women aged 18 years and older that reported having had a Pap test within the past three years did not significantly differ from women in any of the other racial/ethnic groups in Michigan (data not shown).

Asian, non-Hispanic Demographic Characteristics	Ever Had a Pap Test[a]		Had Appropriately Timed Pap Test[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**73.4**	**(56.9-85.2)**	**67.4**	**(51.6-80.0)**
Age				
18 - 49	67.3	(46.7-82.9)	66.7	(46.3-82.4)
50+	--[c]	---	69.3[†]	(44.3-86.4)
Education				
HS graduate or less	--[c]	---	--[c]	---
Some college or more	77.3[†]	(57.1-89.7)	70.3[†]	(51.8-83.9)
Household Income				
< $25,000	--[c]	---	--[c]	---
$25,000 - $49,999	--[c]	---	--[c]	---
$50,000+	84.6[†]	(67.6-93.5)	81.7[†]	(65.4-91.3)

Note: Data includes diagnostic tests and excludes women who have had a hysterectomy.
[a] Among Asian women aged 18 years and older, the proportion who reported ever having a Pap test. (N = 204)
[b] Among Asian women aged 18 years and older, the proportion who reported having a Pat test within the previous three years. (N = 201)
[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.

Ever Had a Pap Test Among Women Aged 18 Years and Older by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Prostate Cancer Screening

2012 APIBRFS

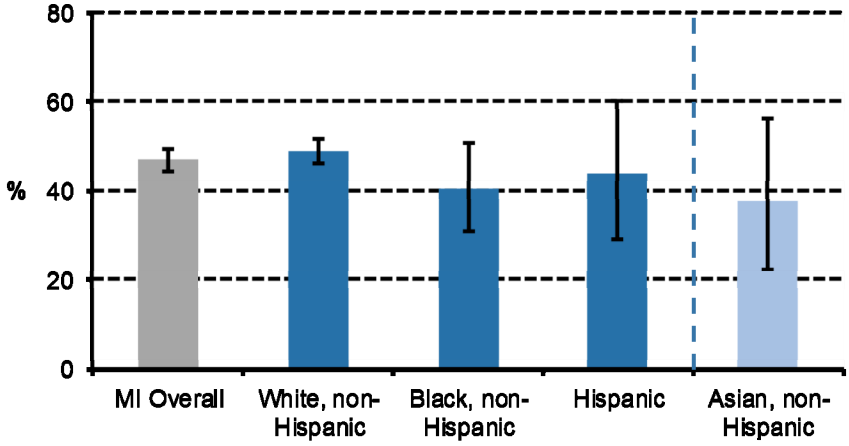
Prostate cancer is the second leading cause of cancer deaths among males in Michigan; there were 981 deaths in 2010 (21.9 deaths per 100,000 male population, age-adjusted).[33]

- In 2012, an estimated 73.0% of Asian men aged 50 years and older reported discussing the advantages of a Prostate-Specific Antigen (PSA) test with their doctor, the same as 73.0% (95% CI: 70.6 -75.4) of all Michigan men aged 50 years and older.
- In 2012, the prevalence of Asian men aged 50 years and older reporting having had a PSA test in the past year (37.8%) was lower compared to all male adults 50 years and older in Michigan (46.9% [95% CI: 44.4-49.5]), although the difference was not significant.
- In 2012, the prevalence of Asian men reporting ever discussing the advantages of a PSA test with a doctor did not significantly differ from men in any of the other racial/ethnic groups in Michigan (data not shown).
- In 2012, the prevalence of Asian men reporting having had a PSA test in the past year ever did not significantly differ from men in any of the other racial/ethnic groups in Michigan.

Asian, non-Hispanic Demographic Characteristics	Ever Discussed Advantages of PSA Test with Doctor[a]		Had PSA Test in Past Year[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**73.0**	**(58.4-83.9)**	**37.8**	**(22.6-55.9)**
Education				
HS graduate or less	--[c]	---	--[c]	---
Some college or more	72.1	(55.9-84.0)	38.2	(22.0-57.5)
Household Income				
< $25,000	--[c]	---	--[c]	---
$25,000 - $49,999	--[c]	---	--[c]	---
$50,000+	74.8[†]	(57.4-86.8)	41.6	(23.4-62.4)

[a] Among Asian men aged 50 years and older, the proportion who reported ever discussing the advantages of a PSA test with doctor, nurse, or other health professional. (N = 124)
[b] Among Asian men aged 50 years and older, the proportion who reported having a PSA test within the past year. (N = 121)
[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.

Had a PSA Test in the Past Year Among Men Aged 50 Years and Older by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Colorectal Cancer Screening

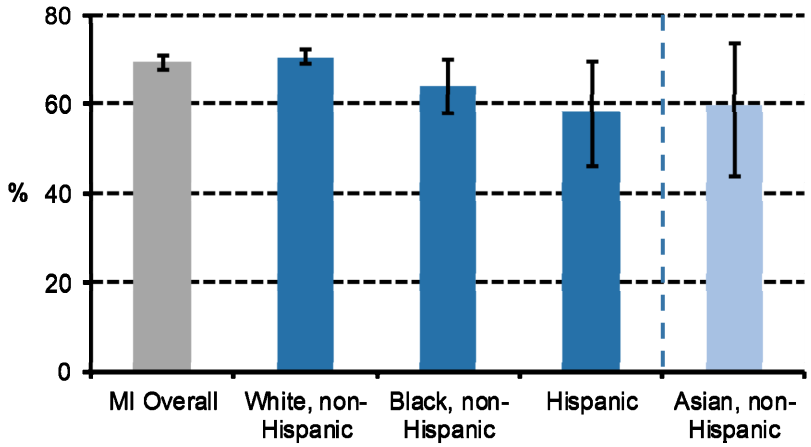
In 2010, colorectal cancer was the third leading cause of cancer-related deaths in Michigan with 1,791 deaths.[33] Fecal occult blood tests, sigmoidoscopy, and colonoscopy are screening procedures that are performed to detect colorectal cancer in the early stages. Appropriate colorectal cancer screening consists of a fecal occult blood test within the past year, a sigmoidoscopy within the past five years, or a colonoscopy within the past ten years.

- In 2012, an estimated 51.3% of Asian adults aged 50 years and older reported having a sigmoidoscopy or colonoscopy within the past five years, while 59.6% reported appropriate colorectal cancer screening. Both of these estimates were lower compared to prevalences among all adults aged 50 years in Michigan (55.4% [95% CI: 53.8-57.0], 69.4% [95% CI: 67.8 -70.9], respectively), even though the differences were not significant.
- The prevalences of both colorectal screenings were higher among Asian males than Asian females, although the differences were not significant.
- In 2012, the prevalence of Asian adults (59.6%) that reported having the appropriate colorectal cancer screening did not significantly differ from that of any of the other racial/ethnic groups in Michigan.

Asian, non-Hispanic Demographic Characteristics	Had Sigmoidoscopy or Colonoscopy in Past 5 Years[a]		Had Appropriate Colorectal Cancer Screening[b]	
	%	95% Confidence Interval	%	95% Confidence Interval
Total	**51.3**	**(36.6-65.7)**	**59.6**	**(44.1-73.5)**
Gender				
Male	64.4	(47.3-78.4)	75.8	(61.4-86.1)
Female	41.2	(21.8-63.8)	47.2	(26.5-68.9)
Education				
HS graduate or less	--[c]	---	--[c]	---
Some college or more	59.2	(44.9-72.2)	69.5	(55.1-80.8)
Household Income				
< $25,000	--[c]	---	--[c]	---
$25,000 - $49,999	--[c]	---	--[c]	---
$50,000+	57.2	(39.0-73.6)	67.9	(49.0-82.4)

[a] Among Asian adults aged 50 years and older, the proportion who reported having a sigmoidoscopy or colonoscopy within the past five years. (N = 214)
[b] Among Asian adults aged 50 years and older, the proportion who reported having a fecal occult blood test within the past year, a sigmoidoscopy within the past five years, or a colonoscopy within the past ten years. (N = 213)
[c] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
[†] This estimate should be used with caution due to its low reliability and precision.

Appropriate Colorectal Cancer Screening by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Oral Health

2012 APIBRFS

Oral health is an important part of one's general health and quality of life. Regular dental care includes preventive dental services such as teeth cleaning, allowing early diagnosis and treatment of tooth decay and periodontal diseases.[35] It has been estimated that low income adults are 2.5 times more likely to have at least one untreated decayed tooth compared with higher income adults (40% vs. 16%).[36]

- In 2012, an estimated 28.7% of Asian adults in Michigan reported not having had a dental visit within the past year, compared to 32.0% (95% CI: 30.7-33.3) of all Michigan adults. The prevalence of having 6 or more teeth missing was 3.2% (95% CI: 1.8-5.5) among Asian adults, significantly lower compared to 15.8% (95% CI: 14.9-16.7) of all Michigan adults.

- Although Asian males were more likely to report not having a dental visit within the past year compared to Asian females, the difference was not significant.

- Asian adults with a household income level of $50,000 or more (14.3%[†]) were significantly less likely to report not having a dental visit within the past year compared to those with a household income of less than $50,000.

- In 2012, the prevalence of no dental visit within the past year among Asian adults (28.7%) was significantly lower than among Black non-Hispanics (44.8%). The prevalence among Asian adults did not significantly differ from that of White, non-Hispanics and Hispanics (data not shown).

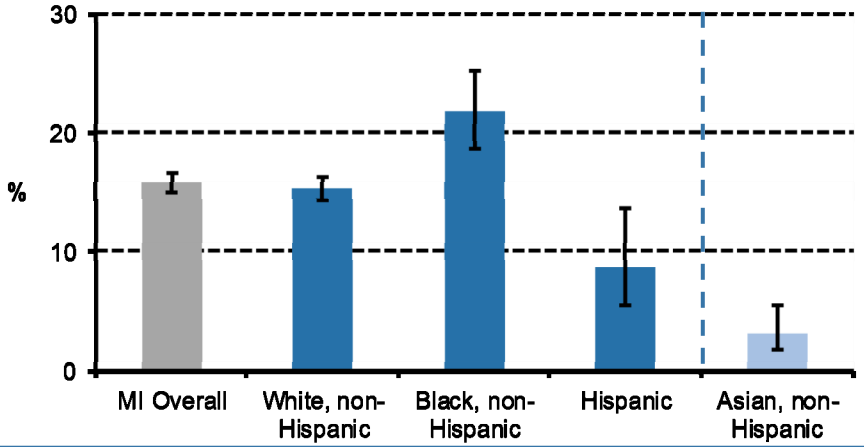
Asian, non-Hispanic Demographic Characteristics	No Dental Visit in Past Year[a]	
	%	95% Confidence Interval
Total	**28.7**	**(20.4-38.8)**
Age		
18 - 44	29.5	(18.7-43.4)
45 - 64	25.4[†]	(13.4-42.9)
65+	34.8[†]	(14.1-63.4)
Gender		
Male	36.6	(23.7-51.7)
Female	21.5	(12.2-35.0)
Education		
HS graduate or less	38.7[†]	(18.2-64.2)
Some college or more	25.2	(17.6-34.7)
Household Income		
< $25,000	57.9[†]	(32.7-79.6)
$25,000 - $49,999	51.1	(28.0-73.7)
$50,000+	14.3	(8.5-23.2)

[a] Among all Asian adults, the proportion who reported that they had not visited a dentist or dental clinic for any reason in the previous year. (N = 505)

[†] This estimate should be used with caution due to its low reliability and precision.

- In 2012, the prevalence of missing six or more teeth among Asian adults (3.2%) was significantly lower than among White, non-Hispanics (15.3%) and Black, non-Hispanics (21.8%). Black, non-Hispanics were 6.8 times more likely to be missing six or more teeth and White, non-Hispanics were 4.8 times more likely to be missing six or more teeth than Asians. The prevalence among Asians did not significantly differ from that of Hispanics.

Missing 6 or More Teeth by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

HIV Testing

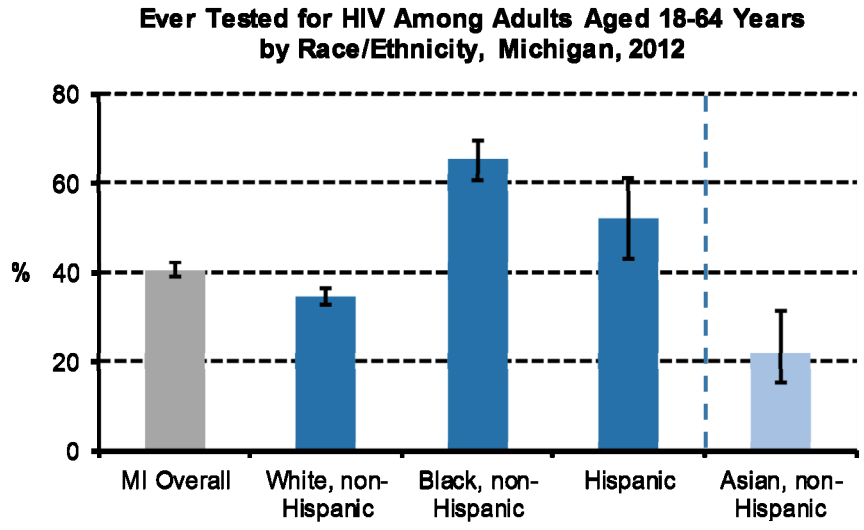
2012 APIBRFS

Early awareness of an HIV infection through HIV testing can prevent further spread of the disease, and an early start on antiretroviral therapy can increase the quality of life among those who are living with HIV/AIDS.[17]

- In 2012, an estimated 22.1% of Hispanic adults in Michigan aged 18-64 years reported ever being tested for HIV, significantly lower than all Michigan adults aged 18-64 years (40.4% [95% CI: 38.9-42.0]).
- The prevalence of HIV testing was relatively even across age group[†].
- Although Asian females reported a higher prevalence of HIV testing than Asian males, the difference was not significant.
- In 2012, Asian adults (22.1%) reported a significantly lower prevalence of HIV testing than all other race/ethnicity groups in Michigan (White, non-Hispanic (34.6%), Black, non-Hispanic (65.5%), and Hispanic (52.0%)). In other words, the prevalence of HIV testing was 3.0 times higher among Black, non-Hispanics, 2.4 times higher among Hispanics, and 1.6 times higher among White, non-Hispanics than among Asians.

Asian, non-Hispanic Demographic Characteristics	Ever Had an HIV Test[a]	
	%	95% Confidence Interval
Total	**22.1**	**(15.0-31.2)**
Age		
18 - 44	21.0	(12.9-32.1)
45 - 64	24.5[†]	(12.8-41.8)
Gender		
Male	19.3	(10.7-32.5)
Female	24.7	(14.8-38.2)
Education		
HS graduate or less	--[b]	---
Some college or more	22.6	(15.7-31.3)
Household Income		
< $25,000	--[b]	---
$25,000 - $49,999	--[b]	---
$50,000+	30.5	(20.1-43.2)

[a] Among Asian adults aged 18-64 years, the proportion who reported that they ever had been tested for HIV, apart from tests that were part of a blood donation. (N = 396)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Arthritis

2012 APIBRFS

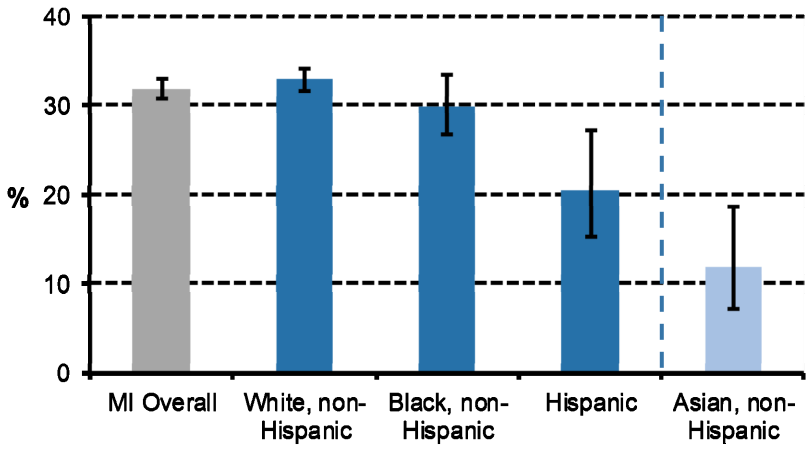
Arthritis is one of the leading causes of disability within the United States.[18]

- In 2012, an estimated 11.8% of Asian adults in Michigan reported ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia; significantly less than all Michigan adults (31.8% [95% CI: 30.7-33.0]).
- Although the prevalence of arthritis among Asian adults generally increased with age†, the difference was not significant.
- Asian females reported a higher prevalence of arthritis than Asian males†,although the difference was not significant.
- In 2012, Asian adults (11.8%) reported a significantly lower prevalence of arthritis than White, non-Hispanics (33.0%) and Black, non-Hispanics (29.9%). Thus, the prevalence of arthritis was 2.8 times higher among White, non-Hispanics and 2.5 times higher among Black, non-Hispanics than Asians. The prevalence among Asians did not significantly differ from that of Hispanics.

Asian, non-Hispanic Demographic Characteristics	Ever Told Arthritis[a]	
	%	95% Confidence Interval
Total	**11.8**	**(7.2-18.6)**
Age		
18 - 44	--[b]	---
45 - 64	25.5	(13.9-42.2)
65+	34.3†	(15.8-59.2)
Gender		
Male	9.0†	(4.9-16.0)
Female	14.4†	(7.2-26.6)
Education		
HS graduate or less	--[b]	---
Some college or more	11.8	(7.5-18.1)
Household Income		
< $25,000	--[b]	---
$25,000 - $49,999	17.1†	(6.4-38.3)
$50,000+	9.4	(5.4-15.7)

[a] Among all Asian adults, the proportion who reported ever being told by a doctor that they had some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia. (N = 500)
[b] This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%.
† This estimate should be used with caution due to its low reliability and precision.

Ever Told Arthritis by Race/Ethnicity, Michigan, 2012



All Asian prevalence estimates used data from the 2012 APIBRFS while estimates for Michigan overall, White and Black non-Hispanic used data from the 2012 Michigan BRFS, and Hispanic estimates were from the 2012 Hispanic BRFS.

Reactions to Race

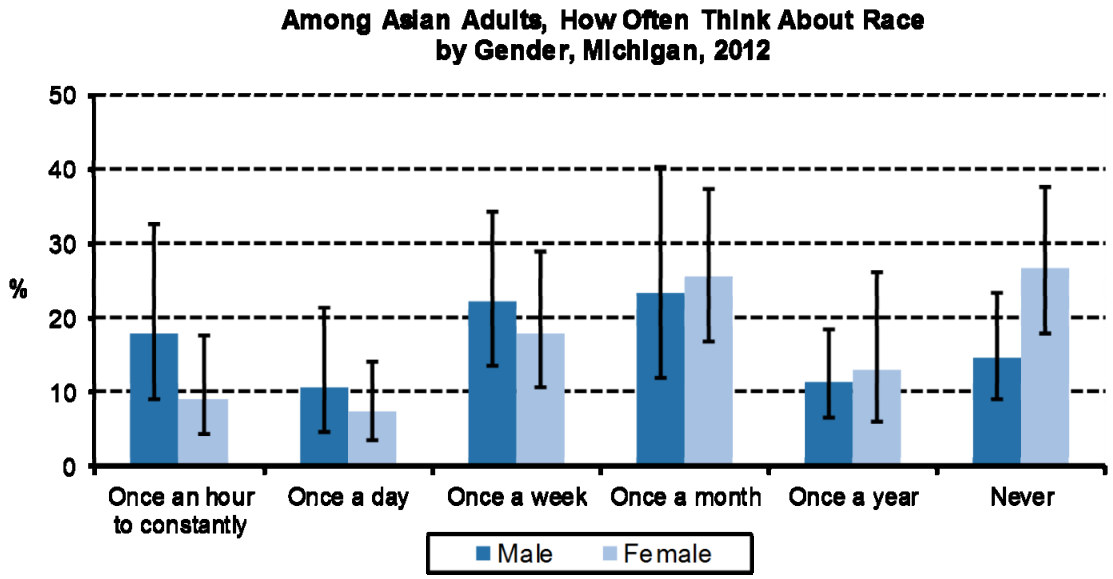
2012 APIBRFS

"Race" can be a strong predictor of health outcomes, even though "race" is widely recognized as a social construct with no inherent impact on the biological health of an individual.[37] How often a person thinks about their race can help explain the importance race plays in their daily interactions.[38] For example, a person that thinks frequently about their race would be expected to make choices more often based on their race which could influence healthy behaviors. A study using BRFSS data from various states found that persons who constantly thought about their race were less likely to be screened for colorectal cancer.[37]

- The highest proportion of Asian adults reported thinking about their race once a month (24.5%), followed by never (20.9%) and once a week (20.1%), although differences were not significant.
- A higher proportion of Asian females reported never thinking about their race (26.7%) than Asian males (14.7%) and a higher proportion of Asian males (18.0%†) reported thinking about their race once an hour to constantly than Asian females (9.1%†), although differences were not significant.
- An estimated 4.8%† of Asian adults reported having physical symptoms as a result of how they were treated based on their race in the past 30 days, while 11.4% reported having emotional symptoms as a result of how they were treated based on race in the past 30 days.

	%	95% Confidence Interval
Race Consciousness[a]		
Once an hour to constantly	13.4	(8.0-21.5)
Once a day	8.9	(5.2-14.8)
Once a week	20.1	(14.1-27.8)
Once a month	24.5	(16.9-34.1)
Once a year	12.2	(7.5-19.3)
Never	20.9	(15.2-27.9)
Physical Symptoms Due to How Treated Based on Race[b]	4.8†	(2.4-9.6)
Emotional Symptoms Due to How Treated Based on Race[c]	11.4	(7.1-17.9)

[a] Among all Asian adults, race consciousness was measured by asking, "How often do you think about your race?" (N = 361)
[b] Among all Asian adults, the proportion who reported experiencing any physical symptoms, for example, a headache, an upset stomach, tensing of muscles, or a pounding heart, as a result of how they were treated based on their race within the past 30 days. (N = 384)
[c] Among all Asian adults, the proportion who reported experiencing emotionally upset, for example angry, sad, or frustrated, as a result of how they were treated based on their race within the past 30 days. (N = 389)
† This estimate should be used with caution due to its low reliability and precision.



All Asian prevalence estimates used data from the 2012 APIBRFS.

APIBRFS Methods

The Michigan Behavioral Risk Factor Survey (MiBRFS) is an annual, statewide telephone survey of Michigan adults, aged 18 years and older, conducted to collect prevalence data of the adult population related to risk factors and conditions associated with many of the leading causes of morbidity and mortality. The MiBRFS is a collaborative effort among the Population Health Surveillance Branch (PHSB) of the Centers for Disease Control and Prevention (CDC), the Michigan State University (MSU) Institute for Public Policy and Social Research (IPPSR) Office for Survey Research, and the MDHHS. Michigan Behavioral Risk Factor Surveillance System (MiBRFSS) data contribute to the CDC Behavioral Risk Factor Surveillance System (BRFSS) that is conducted within every state, the District of Columbia, and within several U.S. territories.

Although nearly 10,000 adults are interviewed each year in the MiBRFS, the sample contains relatively few respondents who are Asian. Without special over-sampling, the typical MiBRFS sample includes too few Asian respondents to reliably estimate health outcomes and behaviors within the group. Due to the small number of Asian respondents, results for Asians are included in the 'Other, non-Hispanic' or 'Hispanic' group, depending on their reported ethnicity. Therefore, estimates for health outcomes and behaviors among Asian adults in Michigan are generally not available on a yearly basis and years must be combined.

The MDHHS Health Disparities Reduction and Minority Health Section (HDRMHS) has as a priority to improve the availability of health related data for racial and ethnic minorities in Michigan. In keeping with this priority, the HDRMHS arranged for a stand-alone survey among Asians in Michigan, and in 2012, the APIBRFS was conducted in partnership with the Lifecourse Epidemiology and Genomics Division. The IPPSR Office for Survey Research assisted with the interviewing of all of the respondents. The APIBRFS included interviews from two different data sources: (1) interviews from Michigan Asian adults conducted by a stand-alone survey overseen by the IPPSR Office for Survey Research (landline only) and (2) Asian interviews included in the 2012 MiBRFS sample (landline and cell phone).

The sample of landline telephone numbers for the 2012 MiBRFS was selected using a list-assisted, random-digit-dialed methodology with a disproportionate stratification based on phone bank density and listedness. The sample of cell phone numbers for the 2012 MiBRFS was randomly selected from dedicated cellular telephone banks sorted on the basis of area code and exchange. For the 2012 APIBRFS stand-alone survey, the sample of landline telephone numbers was selected randomly from directory listed numbers belonging only to subscribers with surnames identified by the U.S. Census Bureau as being Asian. Cell phone numbers were not sampled because supplementing the surname-targeted landline frame with the cell phone frame was judged cost inefficient, particularly considering how rare the eligible individuals would be.

A weighting methodology known as iterative proportional fitting or raking was used to allow for the incorporation of cell phone data from MiBRFS and to improve the accuracy of prevalence estimates based on MiBRFS and APIBRFS data. Estimates based on this weighting methodology were weighted to adjust for the probabilities of selection and a raking adjustment factor that adjusted for the distribution of the Michigan adult population by telephone source (landline or cell phone), detailed race/ethnicity, education level, marital status, age by gender, gender by race/ethnicity, age by race/ethnicity, and renter/owner status.

For comparison purposes, the statewide prevalence estimates, as well as White non-Hispanic and Black non-Hispanic estimates, were used from the 2012 MiBRFS. For three indicators (adequate physical activity, fruit and vegetable consumption, hypertension awareness and medication use), the 2013 MiBRFS estimates were used as a comparison since the questions were not included in the 2012 MiBRFS. All Hispanic prevalence estimates were used from the 2012 Hispanic BRFS. The questionnaire for the 2012 APIBRFS stand-alone survey included additional questions not asked in the 2012 MiBRFS. Therefore, the following indicators had results from the stand-alone survey interviews only: adequate physical activity, fruit and vegetable consumption, hypertension awareness and medication use, preventive health behaviors, and reactions to race.

APIBRFS Methods, continued

Although the 2012 APIBRFS dataset contained a larger sample of Michigan Asian adults than the 2012 MiBRFS alone, estimates by demographic subgroups for many of the 2012 APIBRFS indicators were not reported due to low reliability and precision. Estimates with a denominator of less than 50 and/or a relative standard error of greater than 50% were suppressed. When the prevalence estimate for the entire Asian population had a relative standard error greater than 30%, the indicator table with a breakdown by demographic subgroups was not included. These indicators included: general health status, quality of life, disability, no health care coverage, asthma, chronic obstructive pulmonary disease (COPD), cardiovascular disease, cancer, kidney disease, diabetes, and depression. All of these indicators were included in the overall summary tables at the beginning of the report (pages 1-4). Some questions asked on the 2012 MiBRFS were not included in the 2012 APIBRFS stand-alone survey and therefore were not included in this report: secondhand smoke exposure, motor vehicle safety, adult immunizations, asthma in children, and prediabetes.

Prevalence estimates and asymmetric 95% confidence intervals (95% CIs) were calculated using SAS-Callable SUDAAN (version 11.0.1), a statistical computing program that was designed for analyzing data from multistage sample surveys.[39] Comparisons between estimates with non-overlapping 95% confidence intervals were considered significantly different. Due to many prevalence estimates having wide confidence intervals, non-significant differences and trends were still noted to allow for general comparisons. These differences were stated as non-significant in the text. When the prevalence estimates had low reliability and precision (defined as a relative standard error > 30 and $\leq$ 50), a footnote was included in the text to indicate caution with interpreting the results. Unless otherwise specified, respondents who answered that they did not know or refused to answer were not included in the calculation of estimates.

Sample Results for the 2012 APIBRFS

The total sample size for the 2012 APIBRFS was 510 (stand-alone survey of Asian adults=410, Asian interviews from 2012 MiBRFS=102). Two individuals from the 2012 Michigan APIBRFS indicated being Hispanic and were included within the 2012 Hispanic BRFS but excluded from the 2012 APIBRFS. There were a total of 476 landline interviews and 34 cell phone interviews. The AAPOR[40] response rate for the stand-alone survey portion of the 2012 APIBRFS was 28.2% (landline only) while the AAPOR response rate for the landline portion of the 2012 MiBRFS was 50.1% and 33.3% for the cell phone portion of the survey, respectively. The overall weighted AAPOR response rate (landline and cell phones combined) for the 2012 MiBRFS was 47.3%.[41] The overall weighted U.S. median response rate for 2012 was 45.2%. The Asian stand-alone survey and MiBRFS were only offered in English.

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