

ASTHMA CONTROL AND CLINICAL MANAGEMENT

IN CHILDREN AND ADULTS, MICHIGAN, 2008-2010

Sarah Lyon Callo, Paul Dinh, Chris Fussman, Robert Wahl
MDCH Bureau of Disease Control, Prevention and
Epidemiology

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www.michigan.gov/brfs www.michigan.gov/asthma

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WHAT IS ASTHMA?

- Asthma is a chronic lung disease that inflames and narrows the airways. Asthma causes recurring periods of wheezing, chest tightness, shortness of breath, and coughing. The coughing often occurs at night or early in the morning.
- Asthma has no cure. However, with today's knowledge and treatments, most people who have asthma are able to manage the disease.

Data Notes:

Sources: <http://www.nhlbi.nih.gov/health/health-topics/topics/asthma/>

WHAT IS THE ASTHMA CALL BACK SURVEY (ACBS)?

- The ACBS collects detailed information about asthma symptoms, management, and trigger exposures:
 - Only source of Michigan specific asthma information
- Michigan has conducted the Asthma Call-back Survey since 2005
 - Michigan Behavioral Risk Factor Surveillance System (MiBRFSS)
 - Identify respondents who reported that they or a randomly selected child in their household had ever been told by a health care provider that they have asthma.
 - These respondents were invited to participate in the ACBS
 - Called back within two weeks
 - Standardized questionnaire
 - Funded by Air Pollution and Respiratory Health Branch of the National Center for Environmental Health, Centers for Disease Control and Prevention

PURPOSE OF THIS REPORT

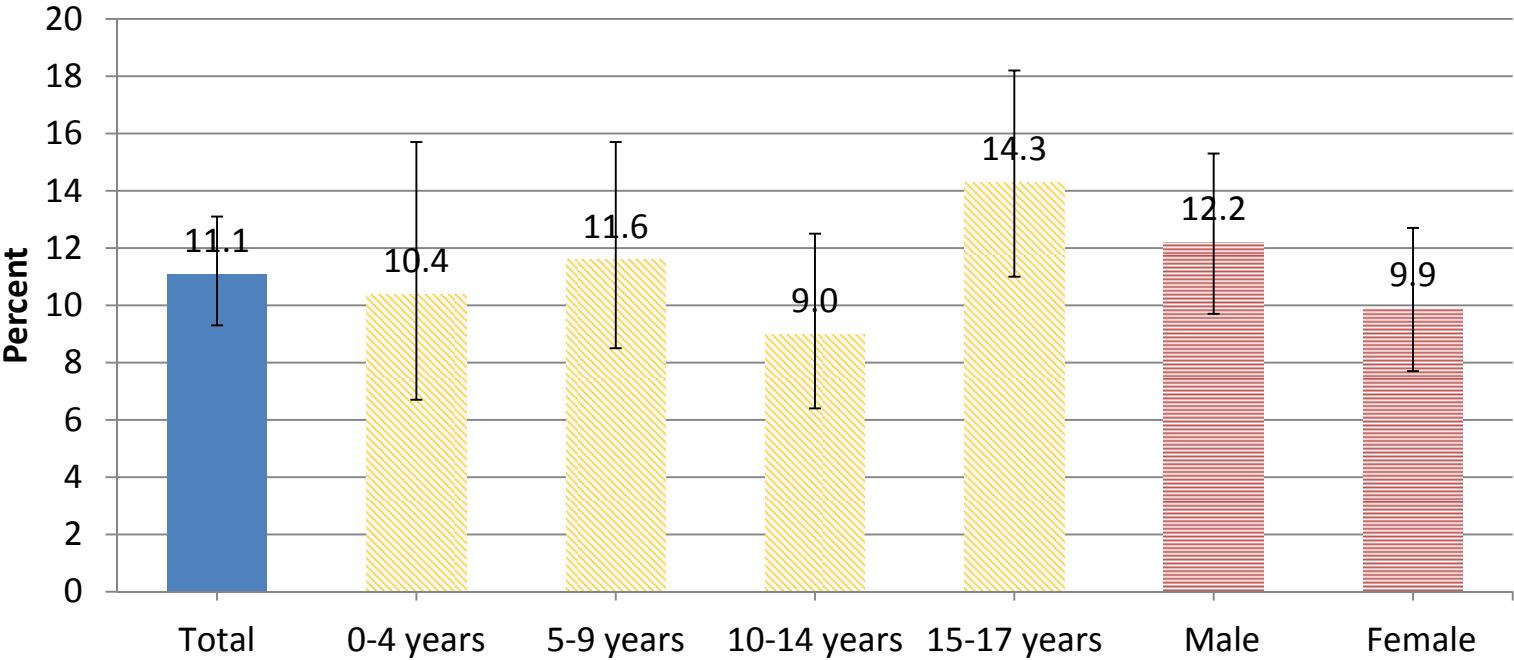
- Report Changes in Recent Statistics on Asthma Management and Treatment
 - Children and Adults
 - Self Reported data:
 - Symptoms, Activity Limitation, Missed School/Work, ED Visits, Hospitalization, Asthma Education, Routine Care, Medication Use
 - By Age, Race, Household Income, Respondent Education
 - 2008-2010
 - Graphics and Text

THE ASTHMA INITIATIVE OF MICHIGAN

AIM is a collaborative effort involving multiple partners from public and private sectors across the state and is committed to reducing the burden of asthma documented in this report. For information about AIM's priorities and interventions, please review the strategic plan for the initiative: *Asthma in Michigan: A Blueprint for Action*. (<http://www.getastmahelp.org/reports.aspx>)

ASTHMA—CHILDREN

Prevalence of Current Asthma¹ among Children² (≤18 years) by Demographic Characteristics, Michigan, 2010



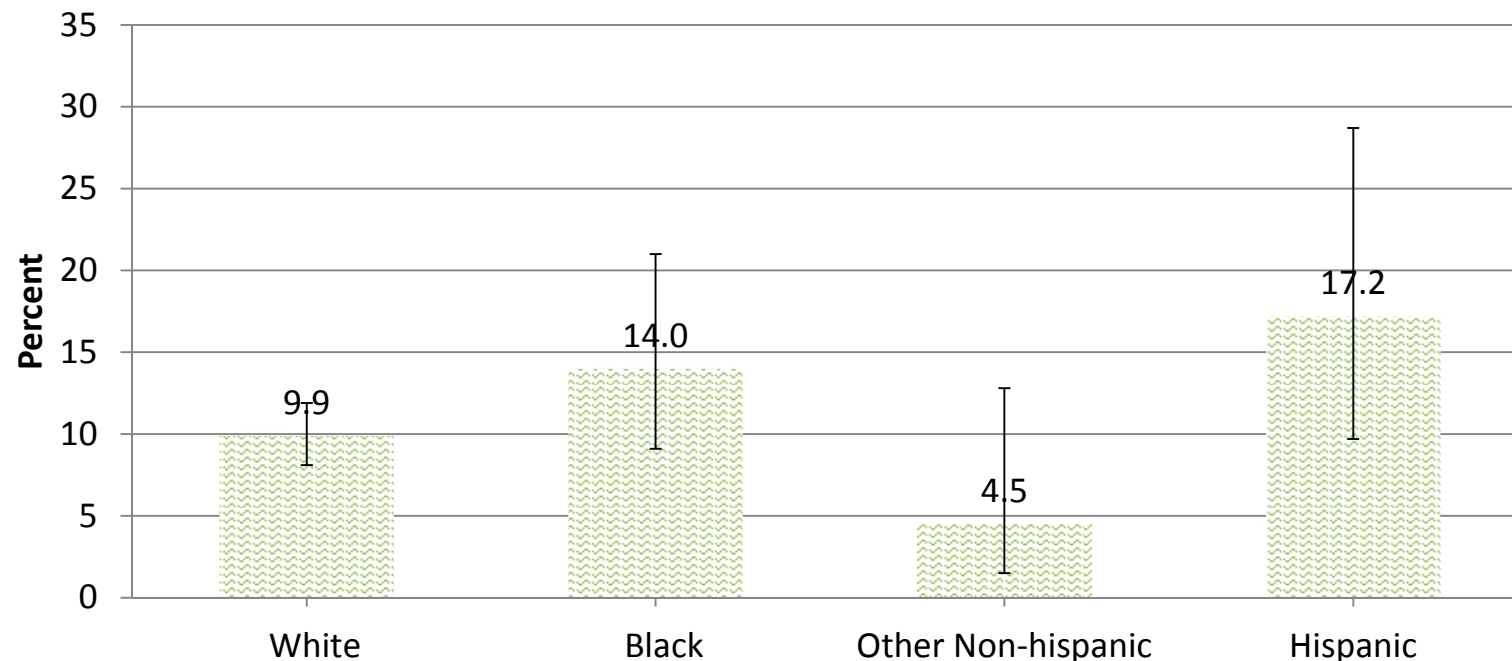
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Based on proxy responses from adult respondent in the household.

ASTHMA—CHILDREN

Prevalence of Current Asthma¹ among Children² (≤18 years) by
Demographic Characteristics, Michigan, 2010



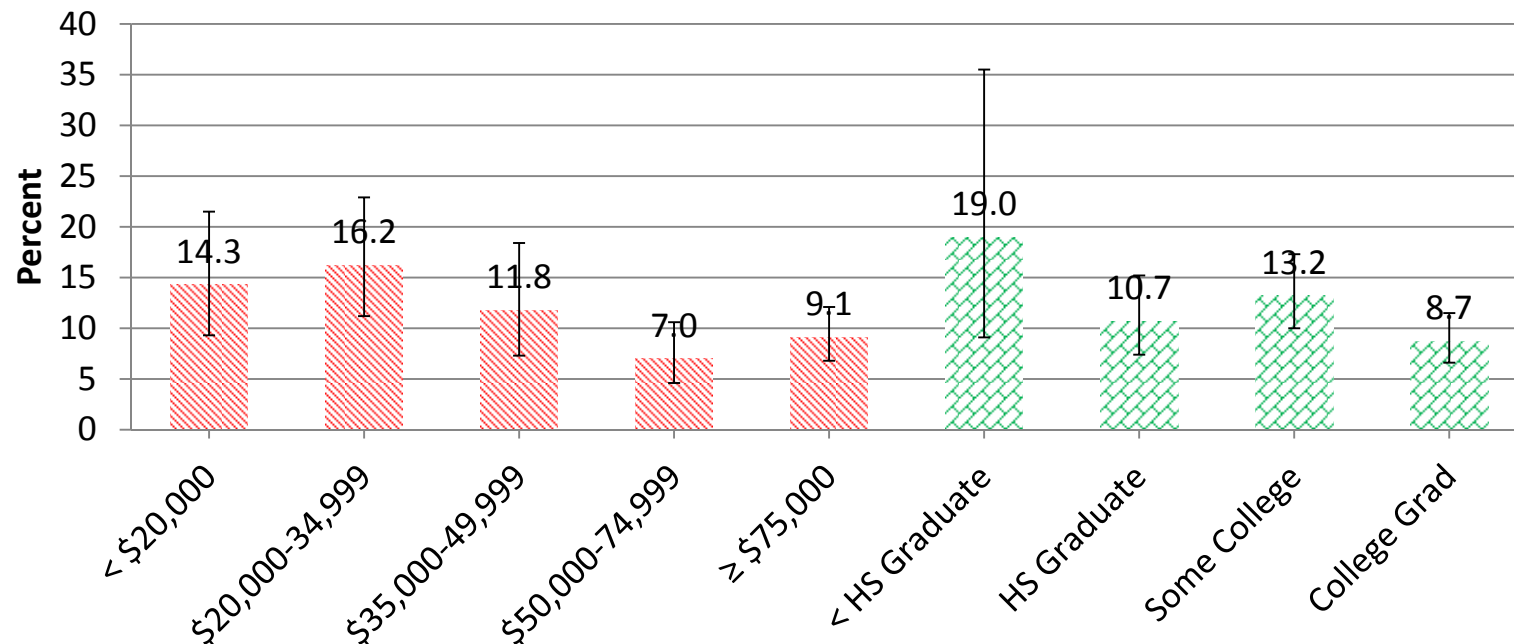
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Based on proxy responses from adult respondent in the household.

ASTHMA—CHILDREN

Prevalence of Current Asthma¹ among Children² (≤18 years) by Socioeconomic Characteristics , Michigan, 2010



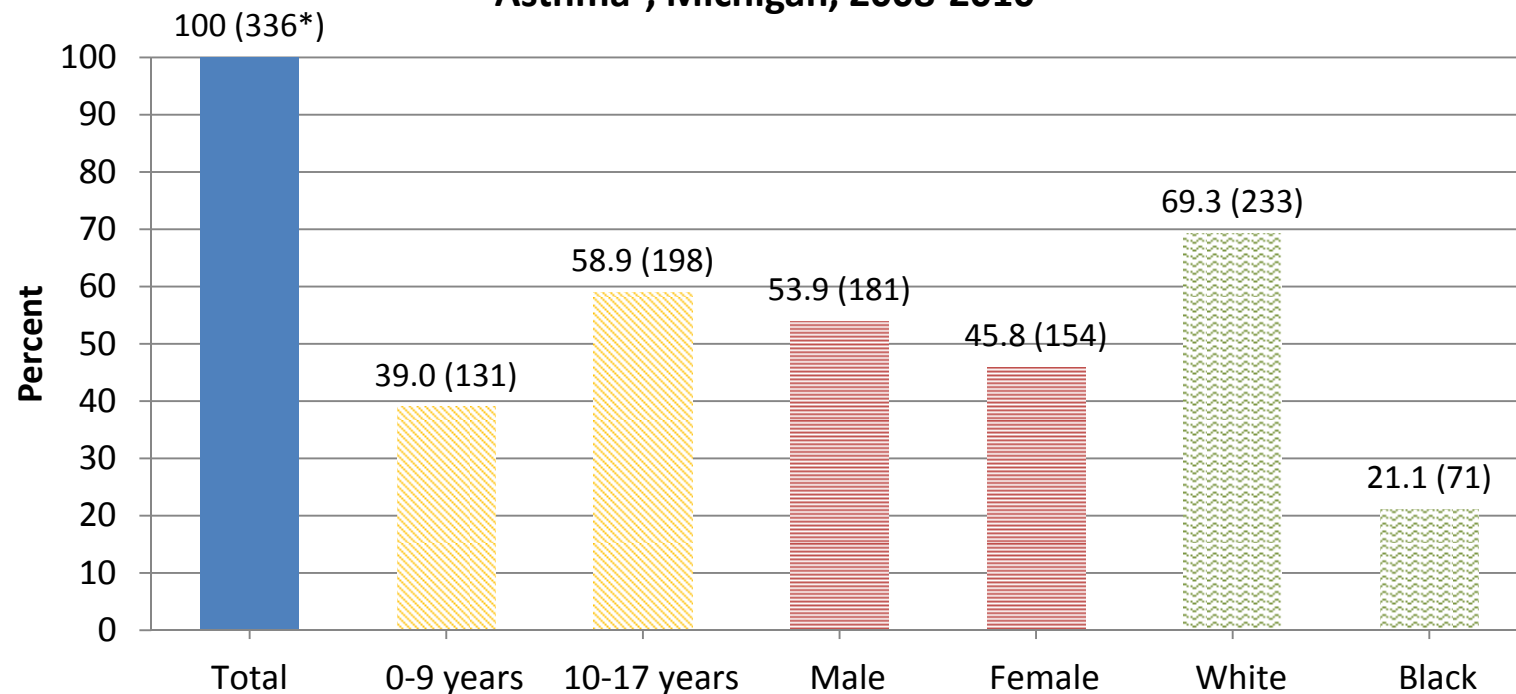
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Based on proxy responses from adult respondent in the household.

ASTHMA—CHILDREN

Demographic Characteristics of Children¹ (<18 years) with Current Asthma², Michigan, 2008-2010



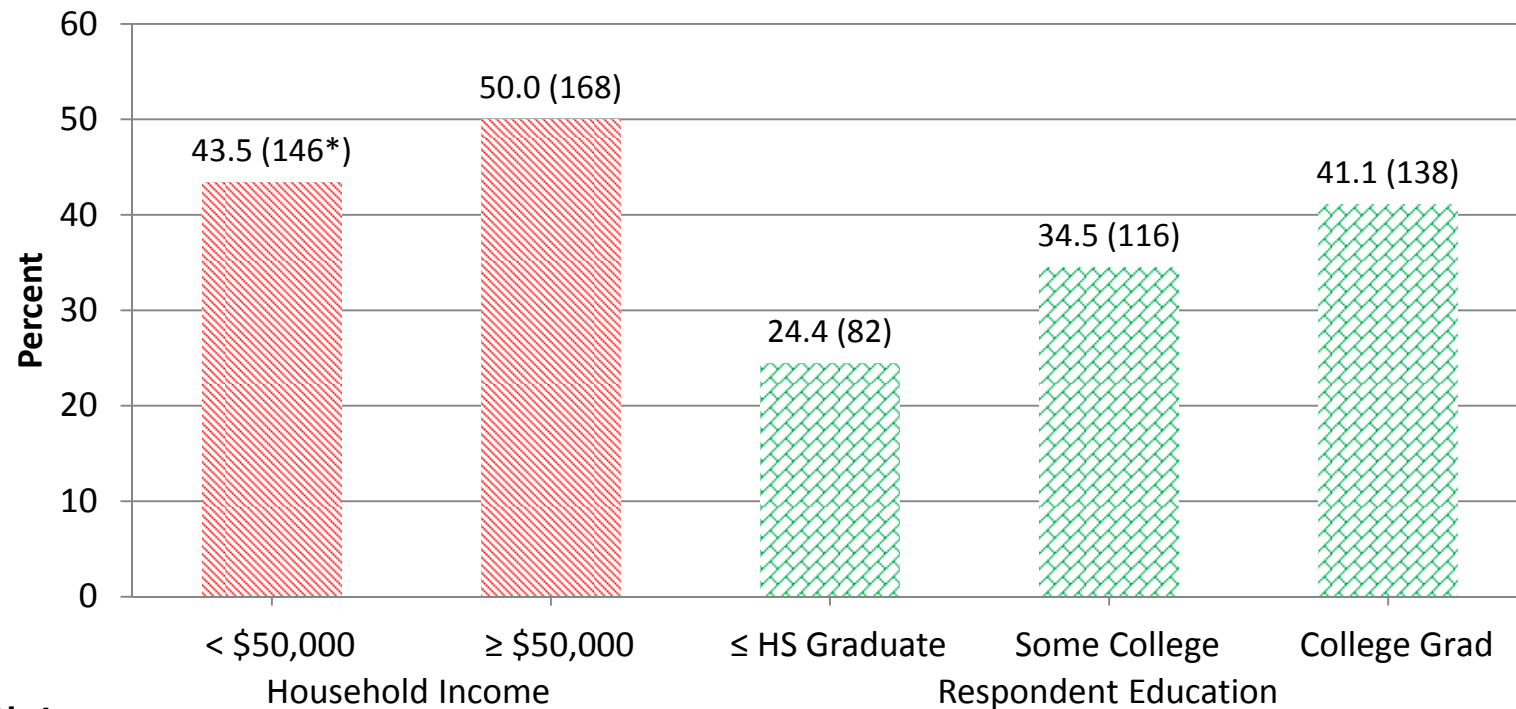
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Based on proxy responses from adult respondent in the household.
 2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
- * Sample sizes (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary because of missing values.

ASTHMA—CHILDREN

Socioeconomic Characteristics of Children¹ (<18 years) with Current Asthma², Michigan, 2008-2010



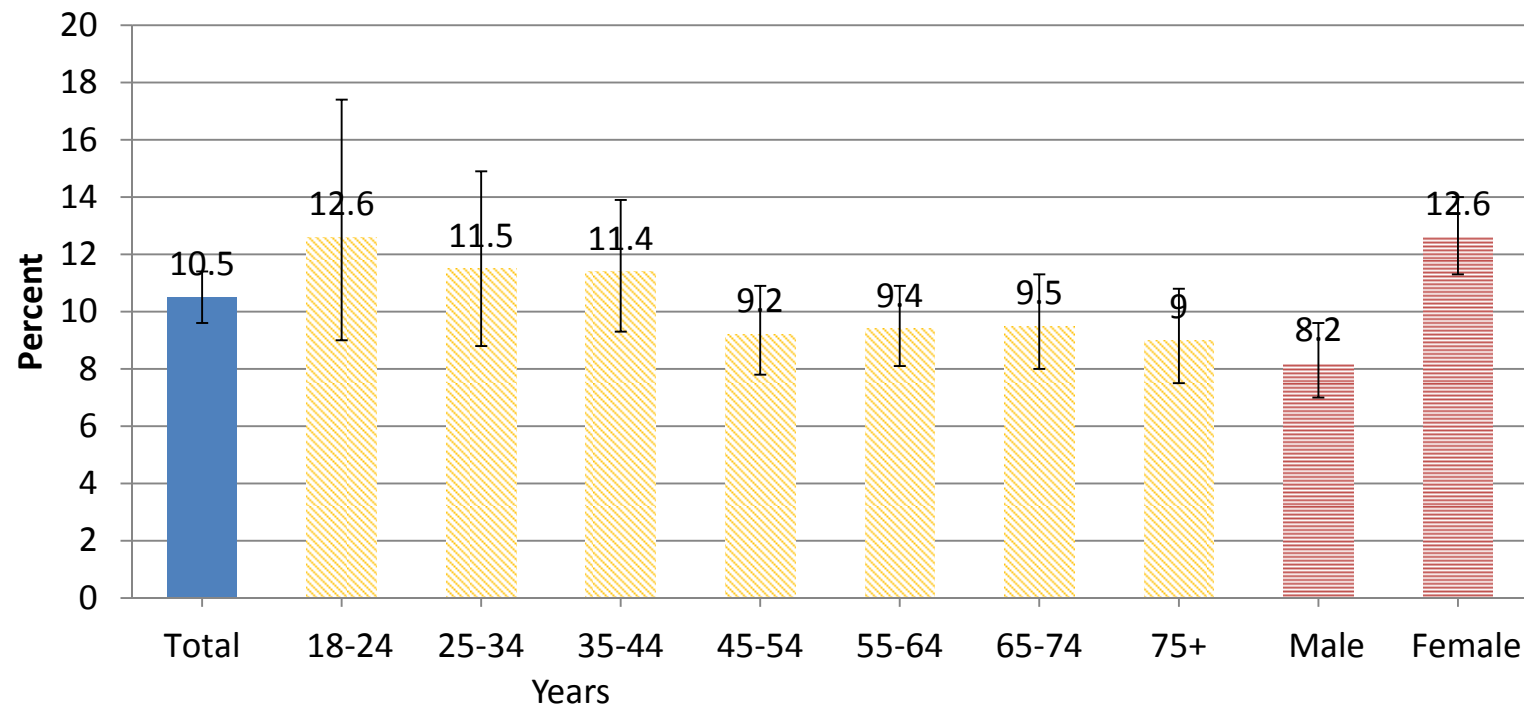
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Based on proxy responses from adult respondent in the household.
 2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
- * Sample sizes (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary because of missing values.

ASTHMA—ADULTS

Prevalence of Current Asthma¹ among Adults (≥18 years) by
Demographic Characteristics, Michigan, 2010



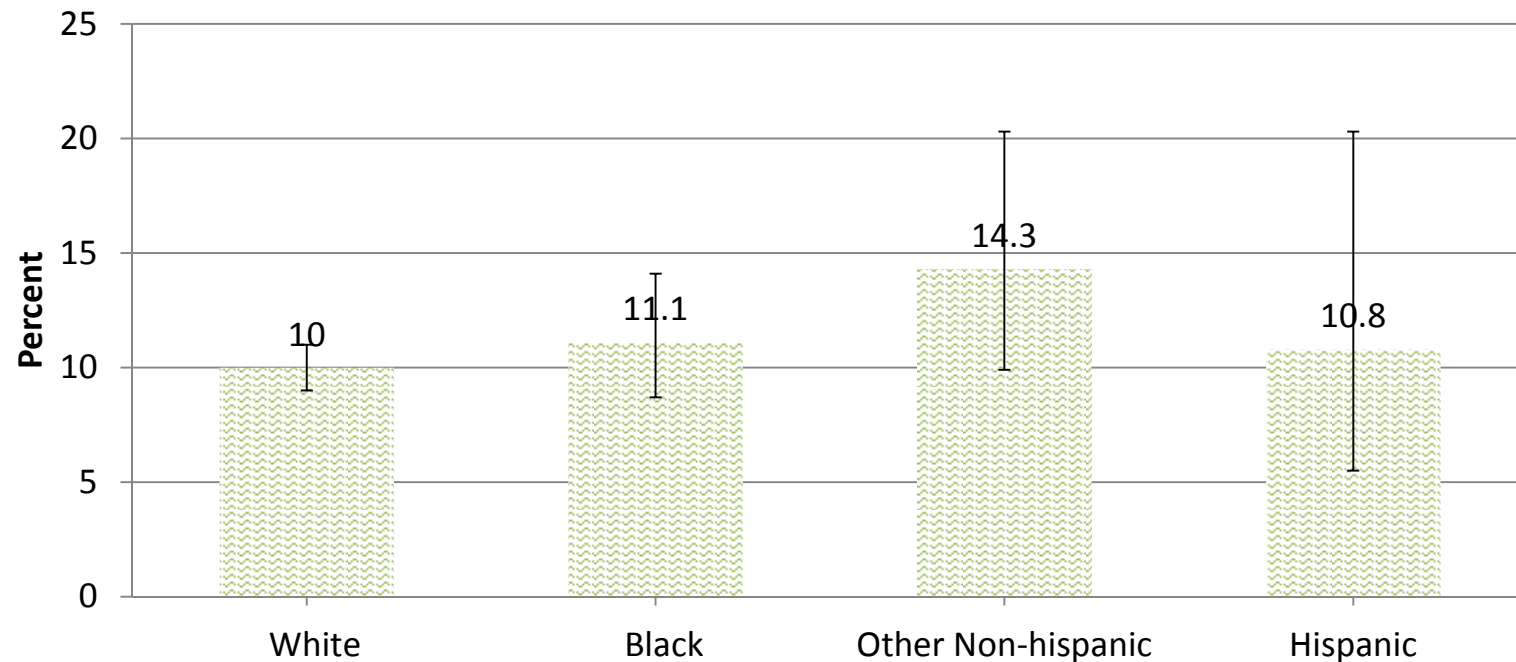
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.

ASTHMA—ADULTS

Prevalence of Current Asthma¹ among Adults (≥18 years) by
Demographic Characteristics, Michigan, 2010



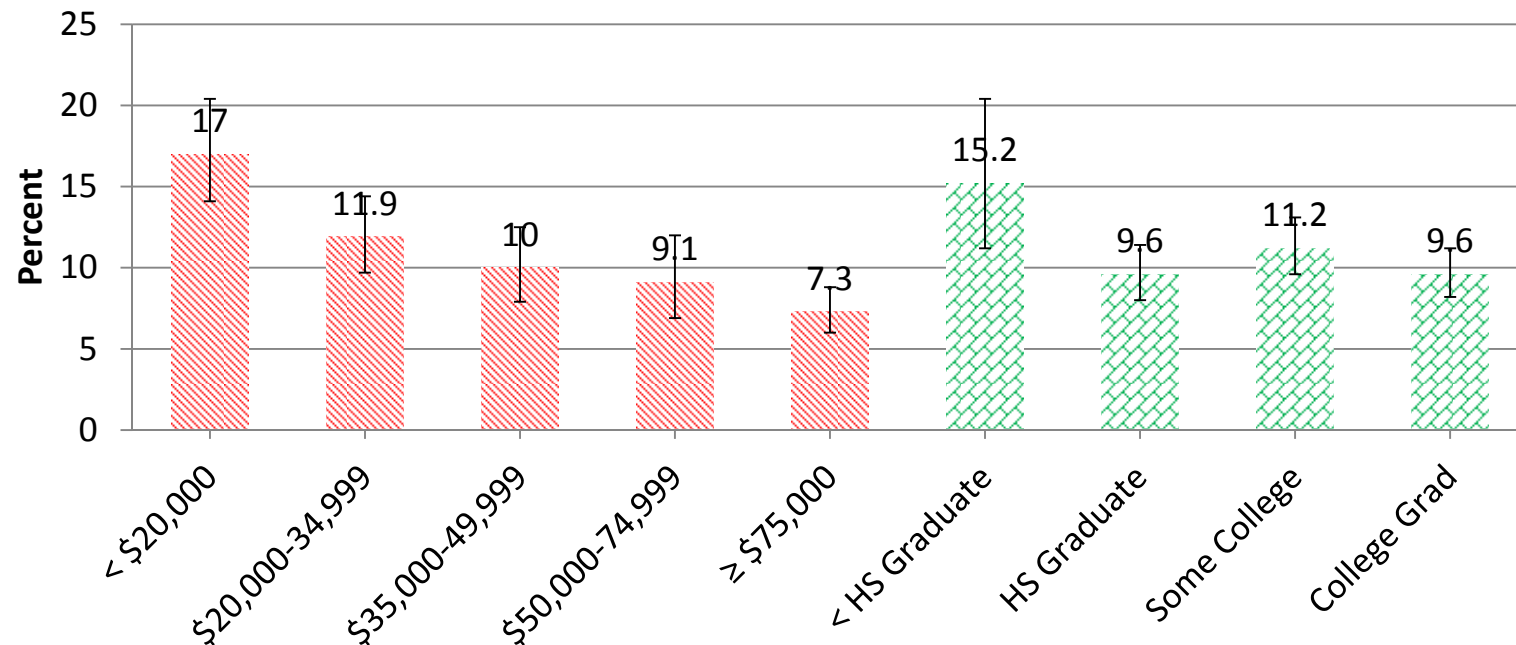
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.

ASTHMA—ADULTS

Prevalence of Current Asthma¹ among Adults (≥18 years) by Socioeconomic Characteristics, Michigan, 2010



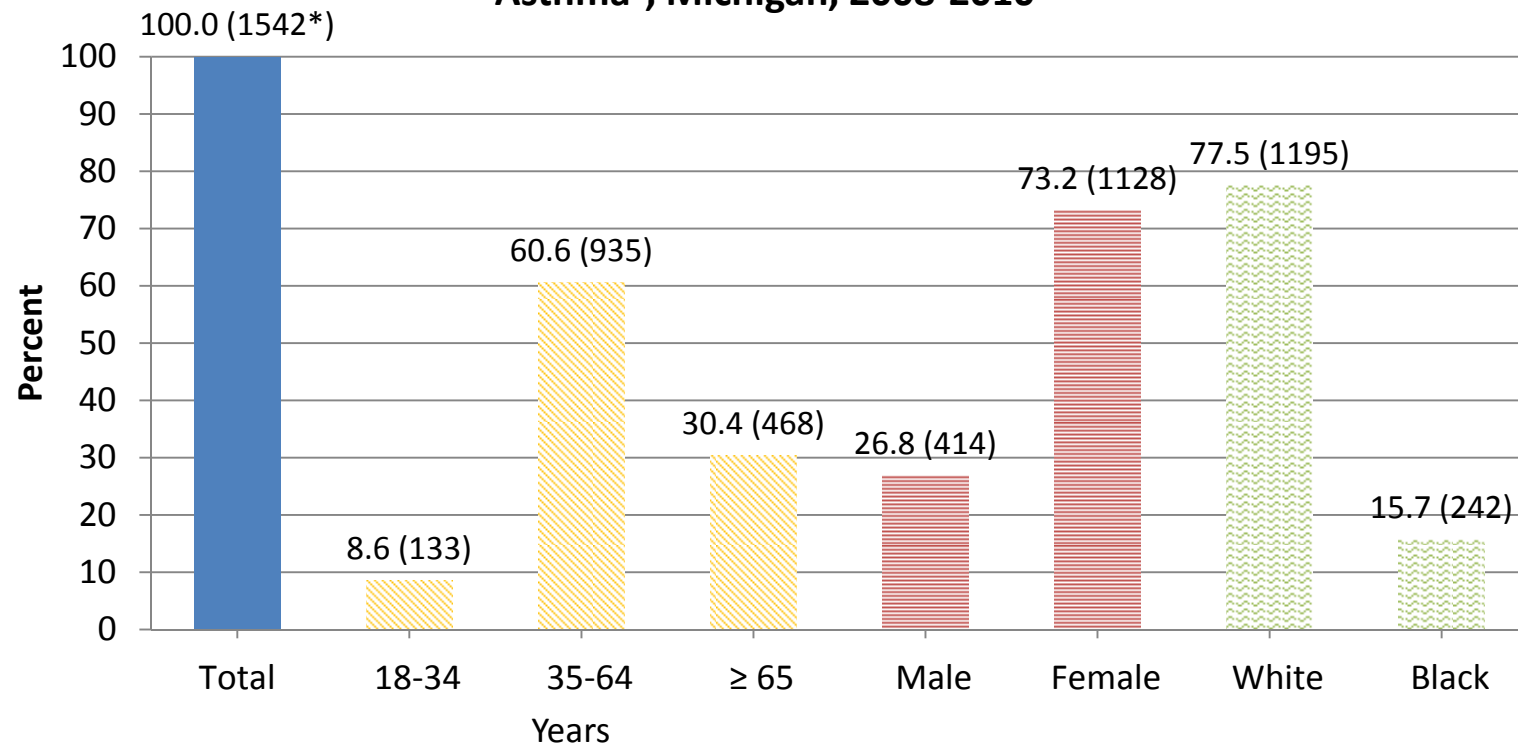
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
- * Sample sizes (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary because of missing values.

ASTHMA—ADULTS

Demographic Characteristics of Adults (≥18 years) who have Current Asthma¹, Michigan, 2008-2010



Data Notes:

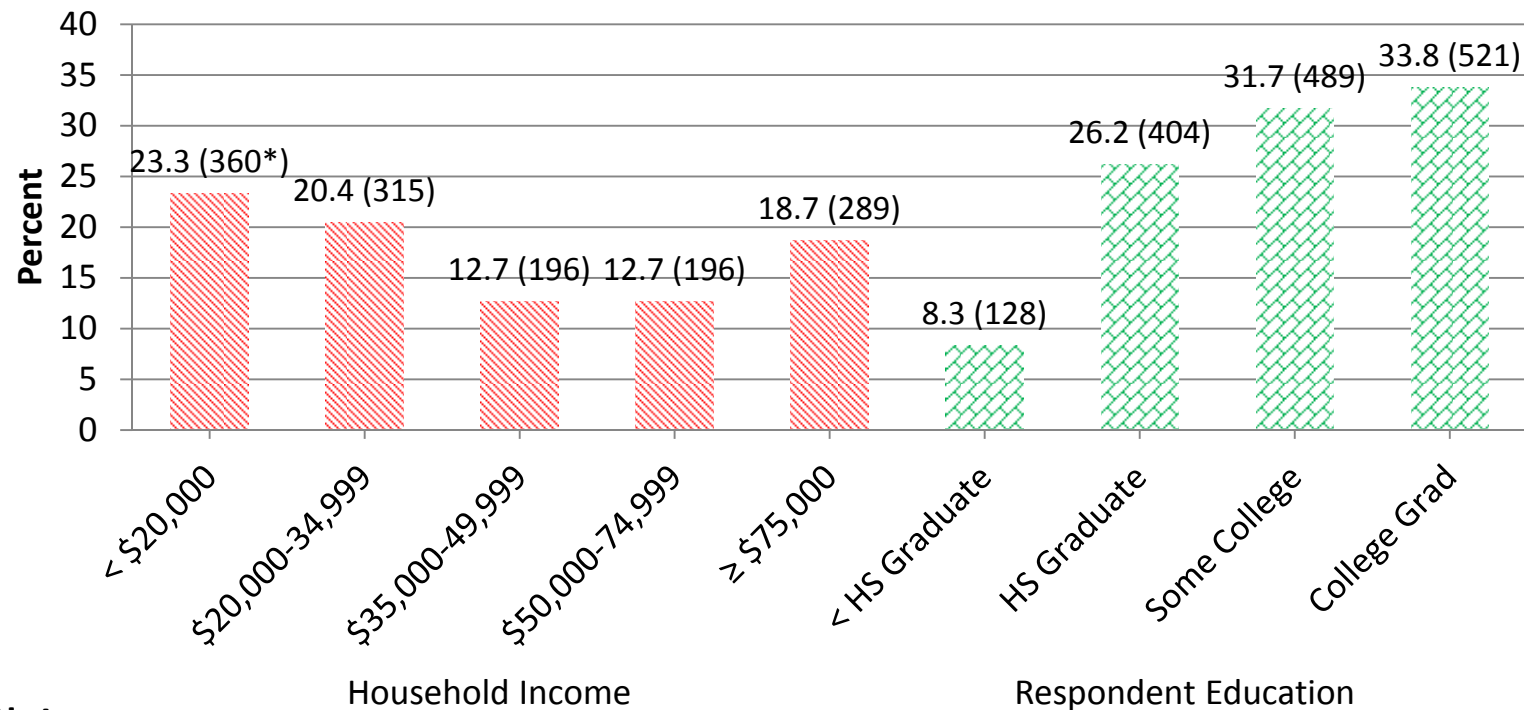
Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.

* Sample sizes (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary because of missing values.

ASTHMA—ADULTS

Socioeconomic Characteristics of Adults (≥18 years) with Current Asthma¹, Michigan, 2008-2010



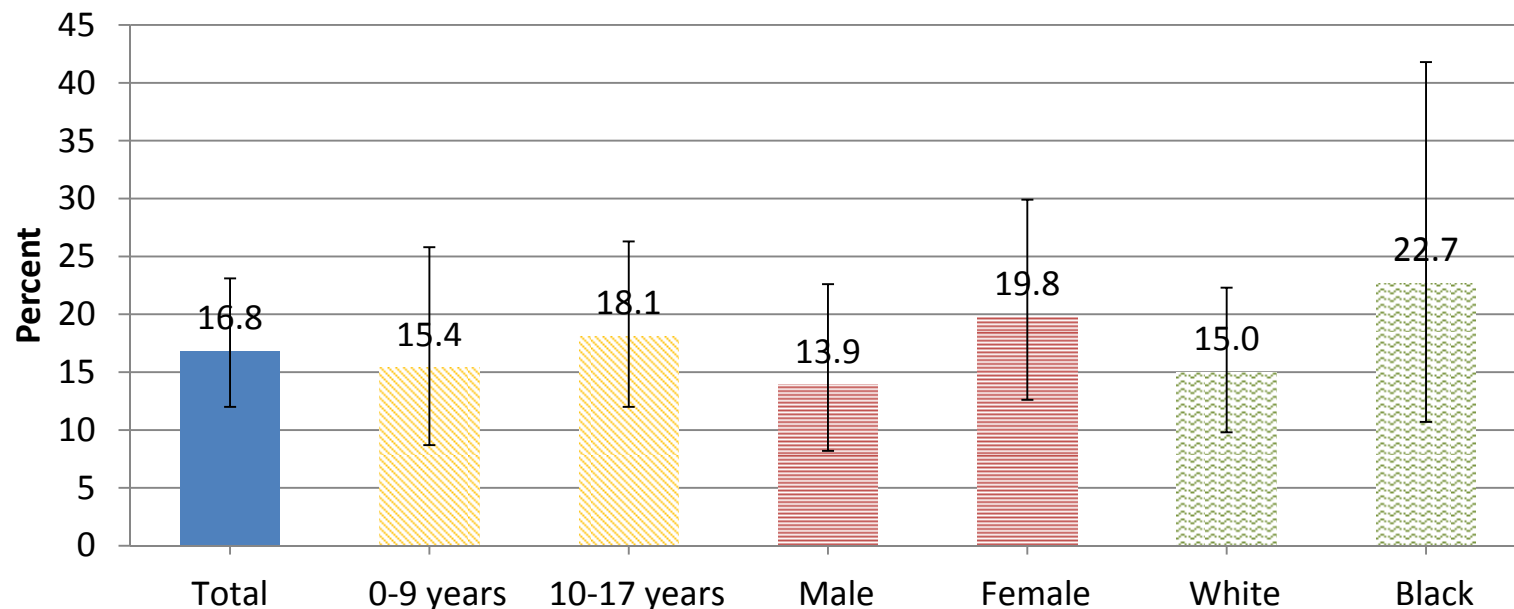
Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
- * Sample sizes (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary because of missing values.

ASTHMA SYMPTOMS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had Asthma Symptoms on ≥ 9 Days During Past Month³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

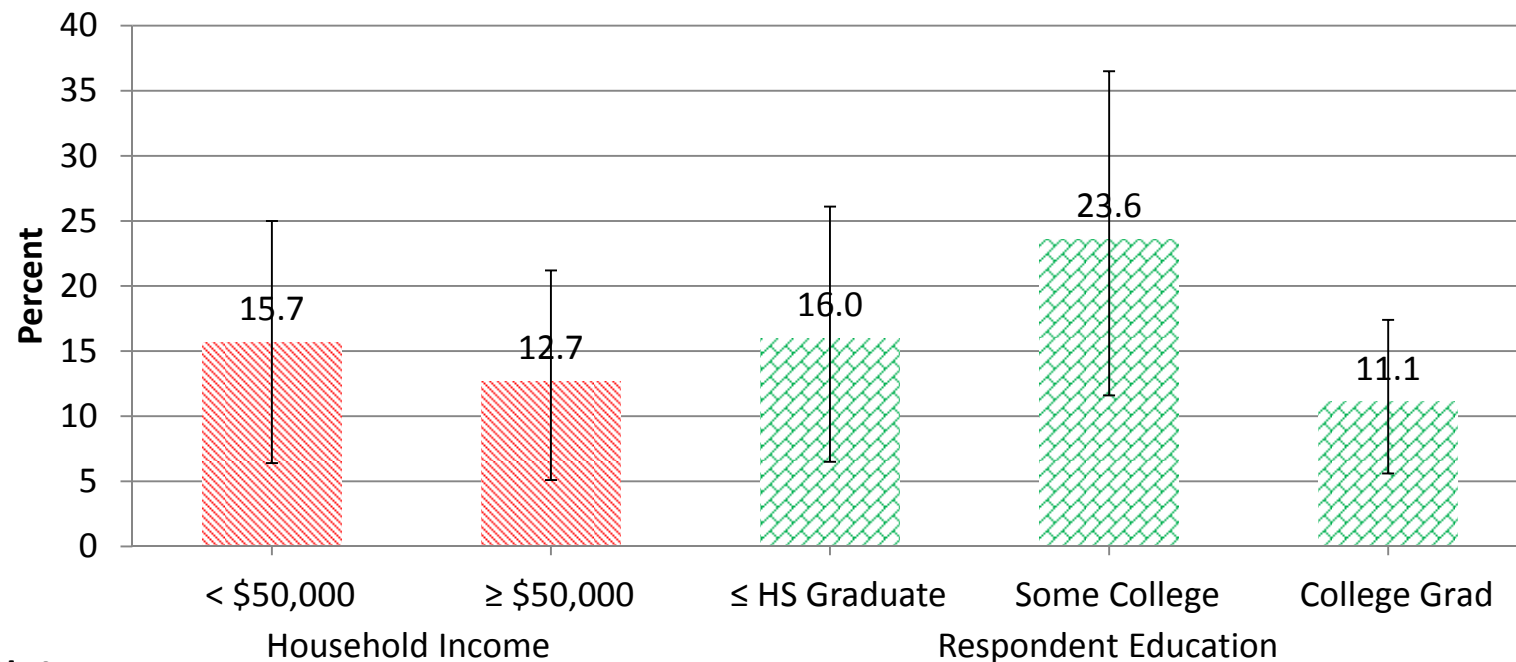
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 9 days to the following question, “During the past 30 days, on how many days did {child’s name} have symptoms of asthma?” Symptoms on ≥ 9 days during the past month is consistent with “Not Well Controlled” or “Very Poorly Controlled” asthma according to national treatment guidelines.

ASTHMA SYMPTOMS—CHILDREN

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few asthma symptoms.
 - 16.8% of children with current asthma had asthma symptoms on 9 or more days during the past month.
 - No significant differences within age, sex, or race groups

ASTHMA SYMPTOMS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had Asthma Symptoms on ≥ 9 Days During Past Month³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

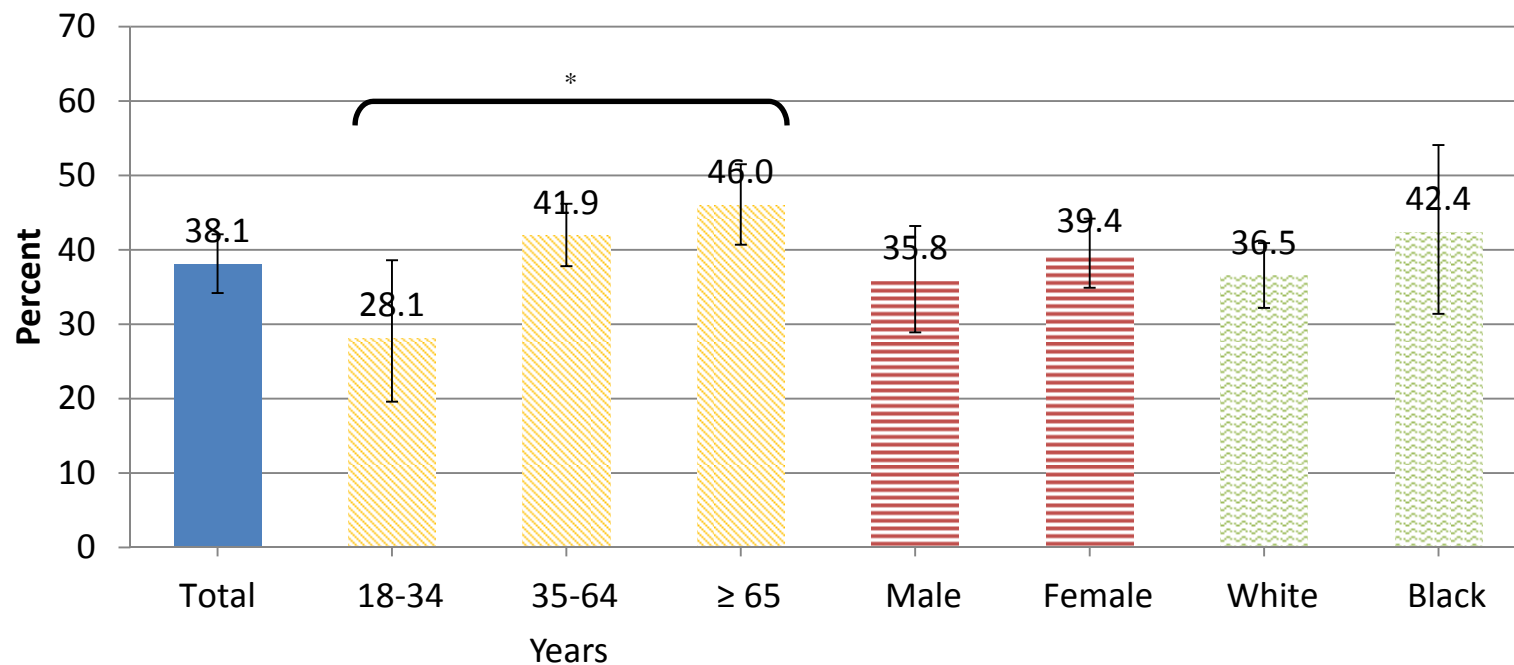
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 9 days to the following question, “During the past 30 days, on how many days did {child’s name} have symptoms of asthma?” Symptoms on ≥ 9 days during the past month is consistent with “Not Well Controlled” or “Very Poorly Controlled” asthma according to national treatment guidelines.

ASTHMA SYMPTOMS—CHILDREN

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few asthma symptoms.
 - No significant differences in the prevalence of frequent symptoms for children with current asthma within household income or respondent education groups

ASTHMA SYMPTOMS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had Asthma Symptoms on ≥9 Days During Past Month² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥9 days to the following question, “During the past 30 days, on how many days did you have symptoms of asthma?” Symptoms on ≥9 days during the past month is consistent with “Not Well Controlled” or “Very Poorly Controlled” asthma according to national treatment guidelines.

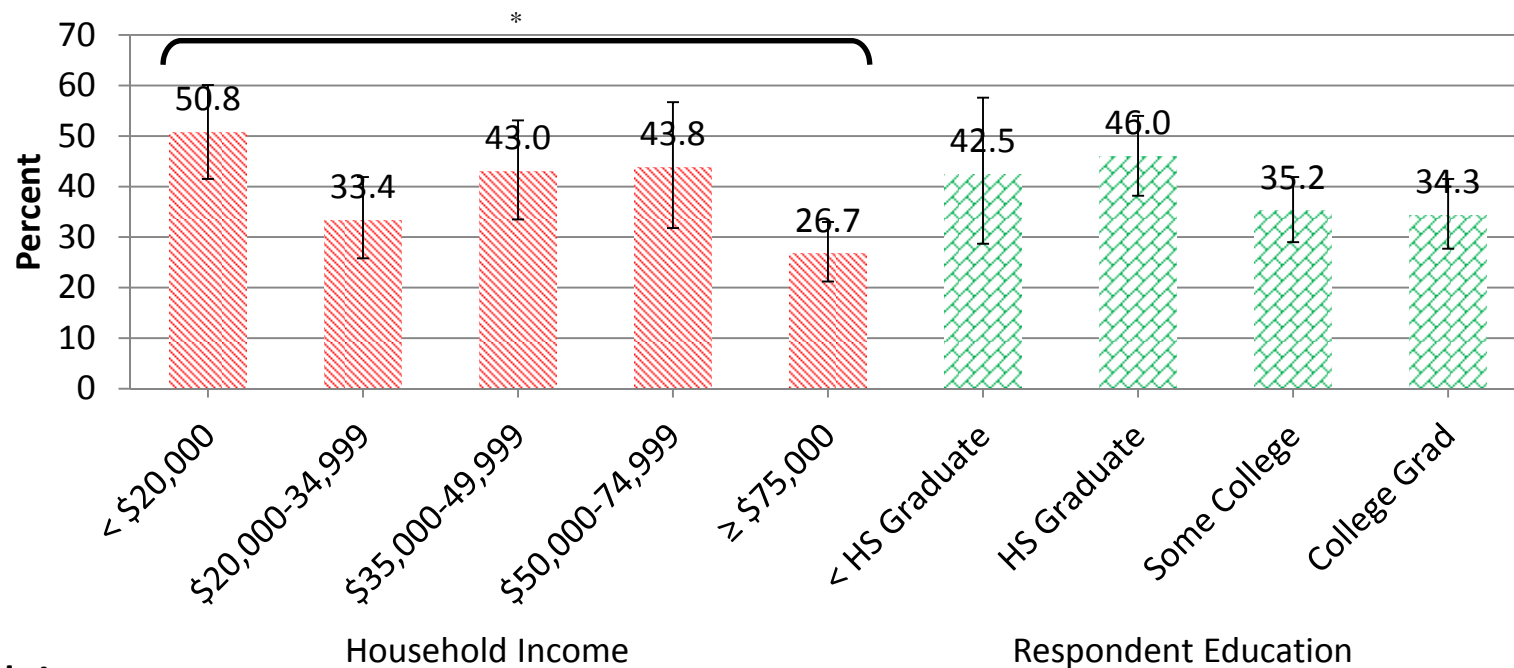
* χ^2 Test for independence within groups, p-value <0.05.

ASTHMA SYMPTOMS—ADULTS

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few asthma symptoms.
 - 38.1% of adults with current asthma had asthma symptoms on 9 or more days during the past month.
 - The prevalence of frequent symptoms was significantly higher among adults aged 35-64 and ≥ 65 than adults aged 18-34 .
 - No significant differences within sex and race groups

ASTHMA SYMPTOMS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had Asthma Symptoms on ≥9 Days During Past Month² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥9 days to the following question, “During the past 30 days, on how many days did you have symptoms of asthma?” Symptoms on ≥9 days during the past month is consistent with “Not Well Controlled” or “Very Poorly Controlled” asthma according to national treatment guidelines.

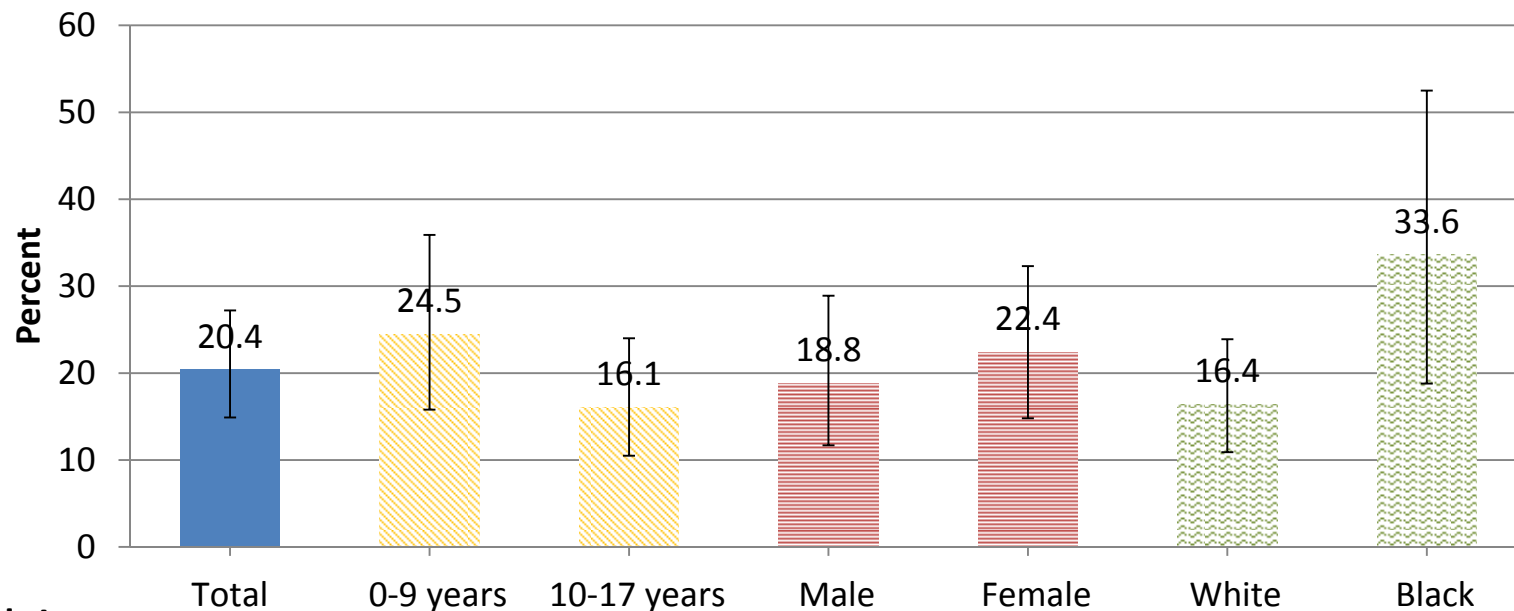
* χ^2 Test for independence within groups, p-value < 0.05.

ASTHMA SYMPTOMS—ADULTS

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few asthma symptoms.
 - The prevalence of frequent symptoms was significantly higher among adults with a household income <\$20,000 per year and those with incomes between \$35,000 and \$74,999 per year than those with a household income of ≥\$75,000 per year.
 - No significant differences within education groups

DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had Difficulty Sleeping due to Asthma Symptoms³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

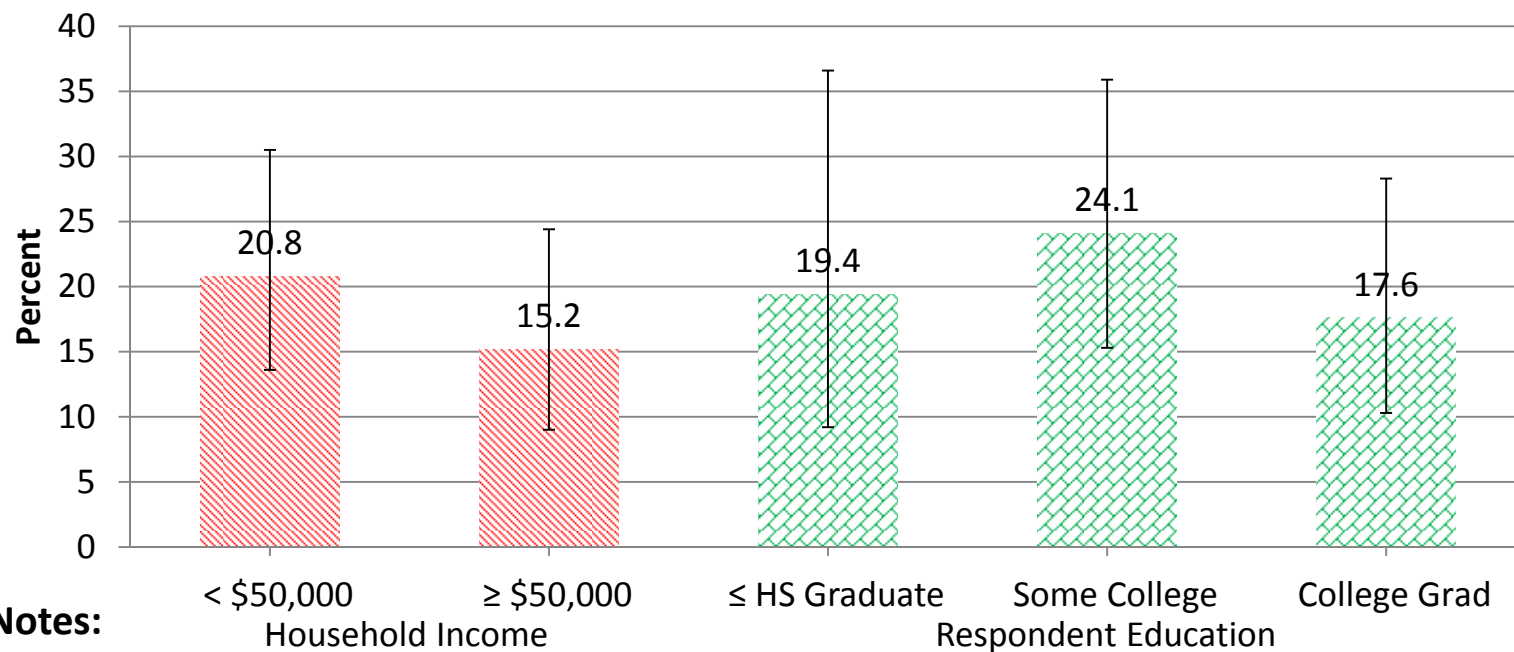
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 2 days to the following question, "During the past 30 days, on how many days did symptoms of asthma make it difficult for {child's name} to stay asleep?" Sleep disturbing symptoms on ≥ 2 days during the past month is consistent with "Not Well Controlled" or "Very Poorly Controlled" asthma according to national treatment guidelines.

DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—CHILDREN

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few sleep disturbing asthma symptoms.
 - 20.4% of children with current asthma had difficulty sleeping due to asthma symptoms on 2 or more days during the past month.
 - The prevalence was 52.2% higher among children ages 0-9 than children ages 10-17.
 - No significant differences within sex or race groups

DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had Difficulty Sleeping due to Asthma Symptoms³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

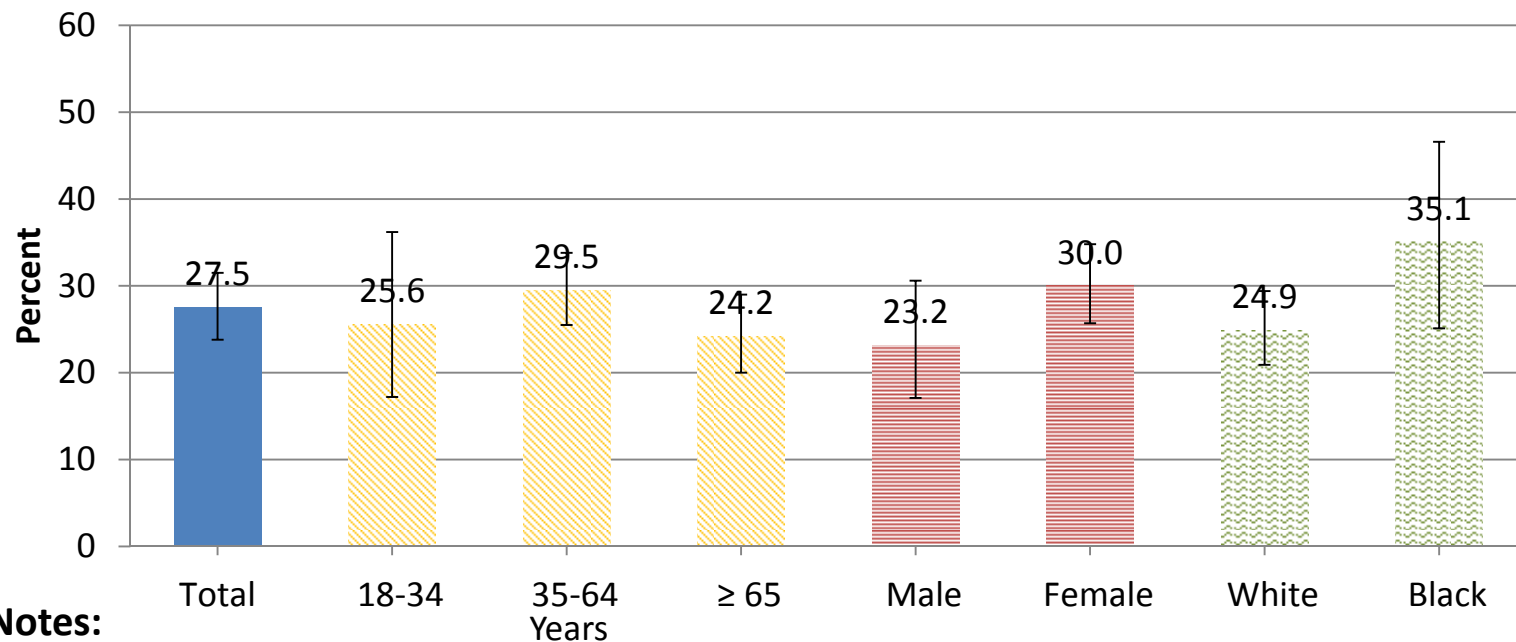
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 2 days to the following question, "During the past 30 days, on how many days did symptoms of asthma make it difficult for {child's name} to stay asleep?" Sleep disturbing symptoms on ≥ 2 days during the past month is consistent with "Not Well Controlled" or "Very Poorly Controlled" asthma according to national treatment guidelines.

DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—CHILDREN

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few sleep disturbing asthma symptoms.
 - No significant differences in the prevalence of frequent sleep disturbing symptoms for children with current asthma within household income or respondent education groups

DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who had Difficulty Sleeping due to Asthma Symptoms on ≥ 2 Days During Past Month² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

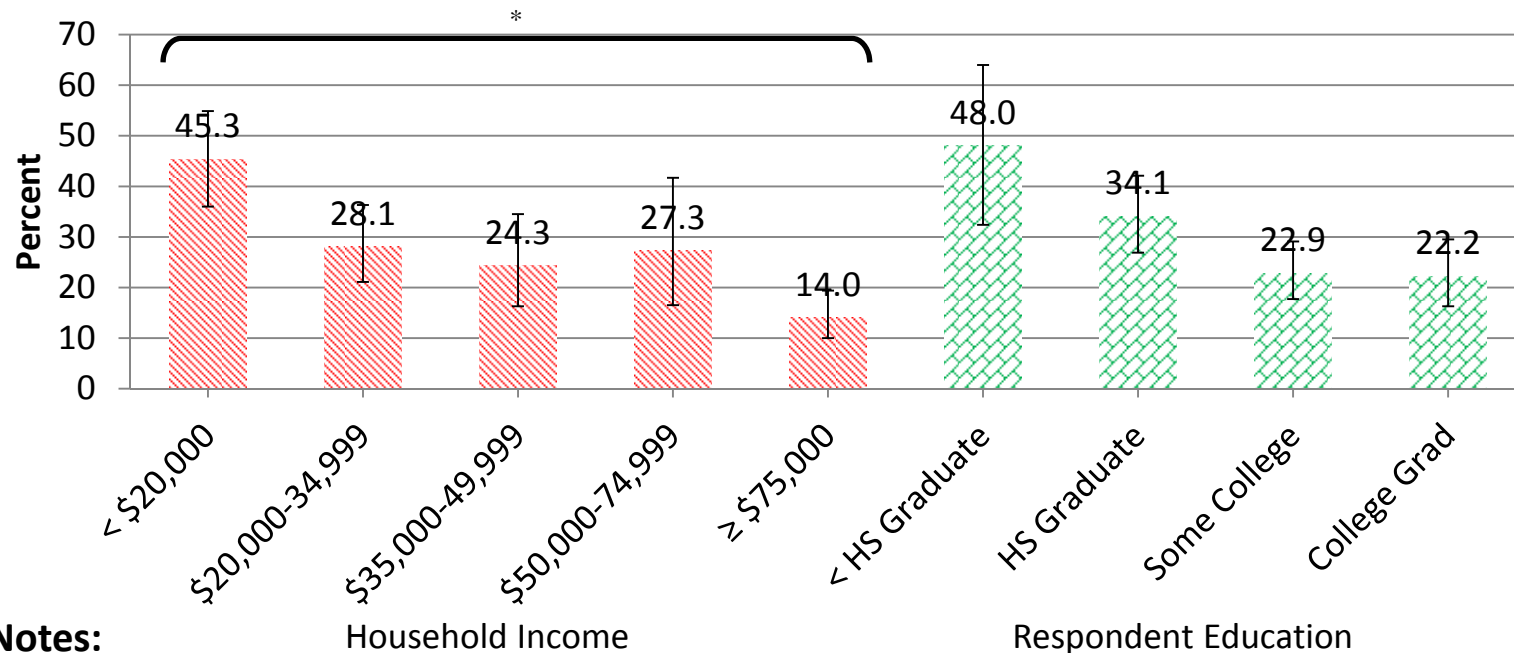
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥ 2 days to the following question, "During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?" Sleep disturbing symptoms on ≥ 2 days during the past month is consistent with "Not Well Controlled" or "Very Poorly Controlled" asthma according to national treatment guidelines.

DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—ADULTS

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few sleep disturbing asthma symptoms.
 - 27.5% of adults with current asthma had difficulty sleeping due to asthma symptoms on 2 or more days during the past month.
 - No significant differences in the prevalence of frequent sleep disturbing symptoms within race, age, or sex groups

DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—ADULTS

8. Percent of Adults (≥ 18 years) with Current Asthma¹ who had Difficulty Sleeping due to Asthma Symptoms on ≥ 2 Days During Past Month² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥ 2 days to the following question, "During the past 30 days, on how many days did symptoms of asthma make it difficult for you to stay asleep?" Sleep disturbing symptoms on ≥ 2 days during the past month is consistent with "Not Well Controlled" or "Very Poorly Controlled" asthma according to national treatment guidelines.

* χ^2 Test for independence within groups, p-value < 0.05 .

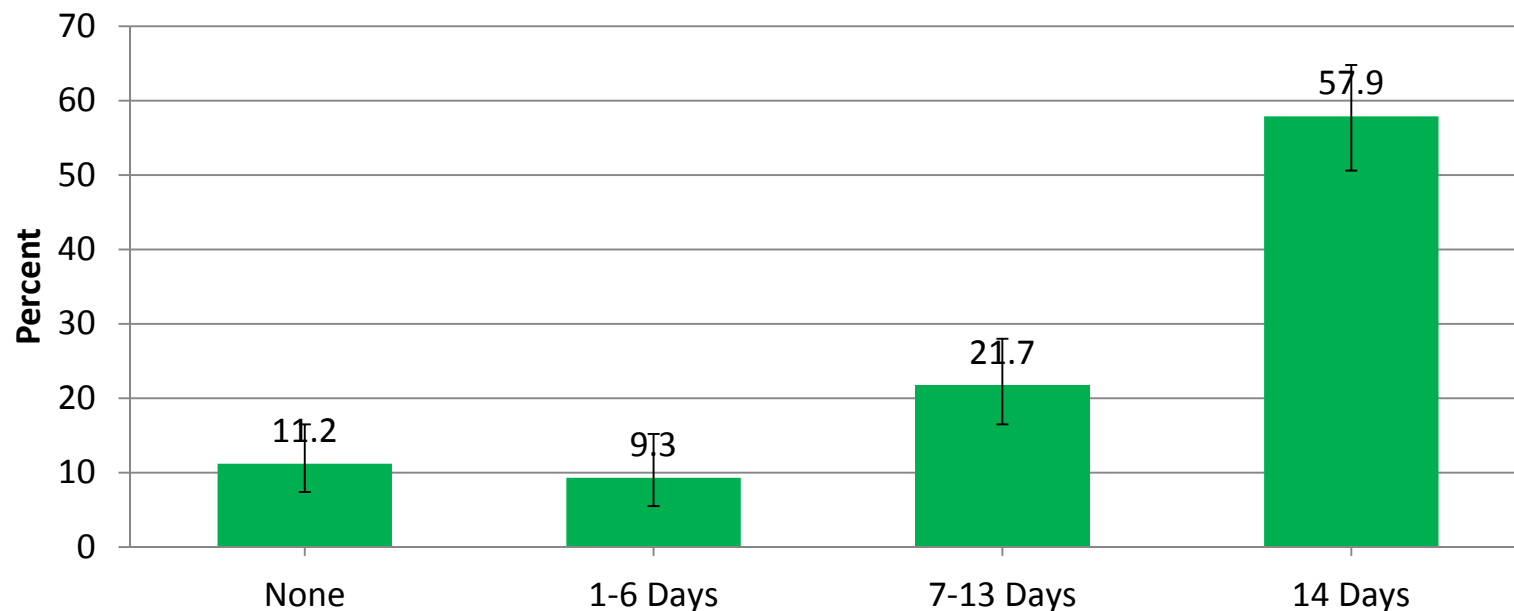
DIFFICULTY SLEEPING DUE TO ASTHMA SYMPTOMS—ADULTS

According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by no or few sleep disturbing asthma symptoms.

- The prevalence of frequent sleep disturbing symptoms was significantly higher (3.2 times) among adults with a household income <\$20,000 per year than those with a household income of ≥\$75,000 per year.
- The prevalence was significantly higher among adults with a high school education or less compared to adults with some college or who graduated from college.

ASTHMA SYMPTOM-FREE DAYS—CHILDREN

Distribution of the Number of Symptom-Free Days During Past 2 Weeks¹ Among Children² (<18 years) with Current Asthma³, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

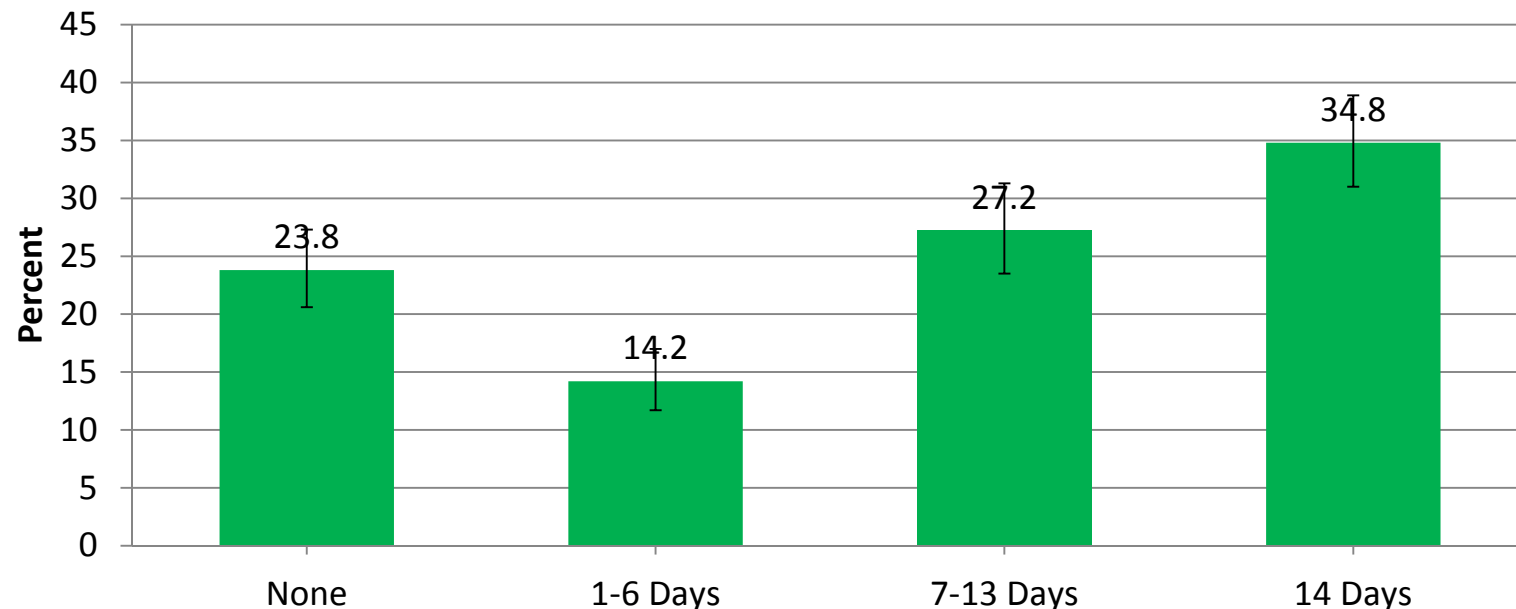
1. Response to the following question, “During the past two weeks, on how many days was/were {child’s name/you} completely symptom free, that is no coughing, wheezing, or other symptoms of asthma?”
2. Based on proxy responses from adult respondent in the household.
3. Current asthma is defined as a positive response to both lifetime and current asthma questions.

ASTHMA SYMPTOM-FREE DAYS—CHILDREN

- 57.9% of children with current asthma experienced 14 asthma symptom-free days during the past 2 weeks.
- 11.2% of children with current asthma had asthma symptoms every day of the last 2 weeks.

ASTHMA SYMPTOM-FREE DAYS—ADULT

Distribution of the Number of Symptom-Free Days During Past 2 Weeks¹ Among Adults (≥ 18 years) with Current Asthma², Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

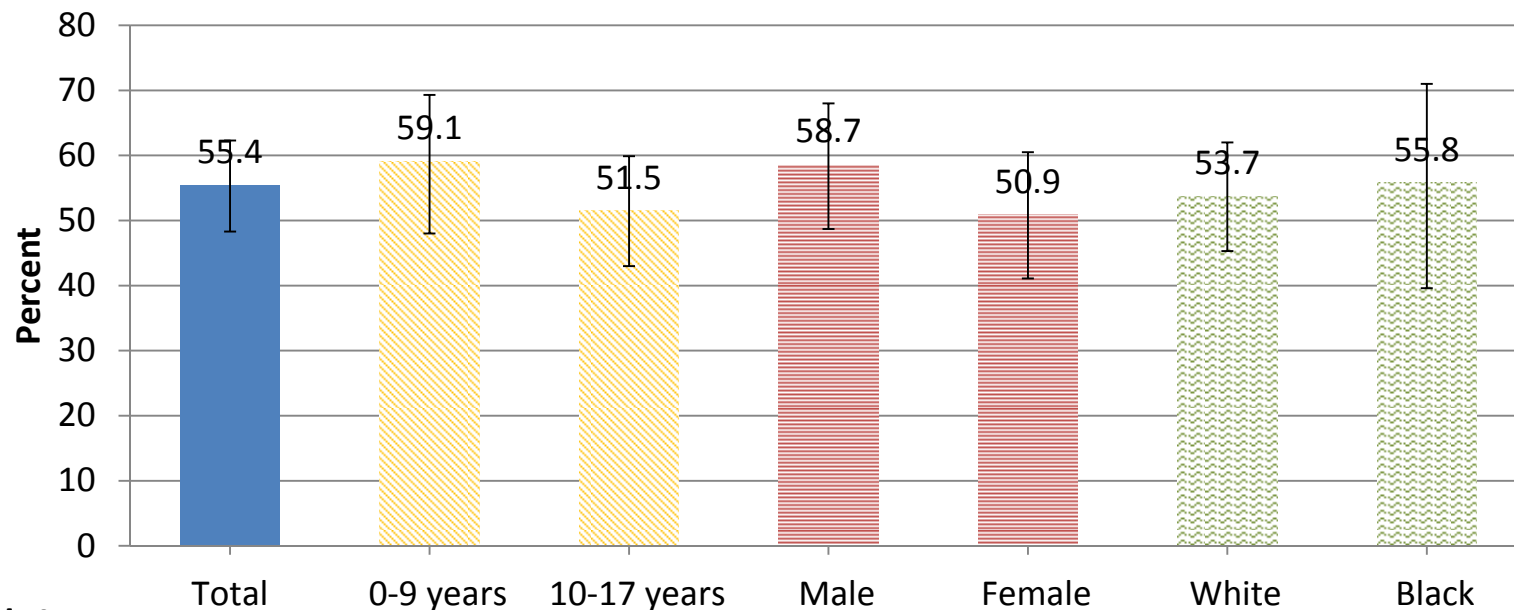
1. Response to the following question, “During the past two weeks, on how many days was/were {child’s name/you} completely symptom free, that is no coughing, wheezing, or other symptoms of asthma?”
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.

ASTHMA SYMPTOM-FREE DAYS—ADULT

- 34.8% of adults with current asthma experienced 14 asthma symptom-free days during the past 2 weeks.
- 23.8% of adults with current asthma had asthma symptoms every day of the last 2 weeks.
- The prevalence of having no symptom-free days was 2.1 times higher for adults with current asthma than children with current asthma.

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² whose Usual Activities were Limited During Past 12 Months³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

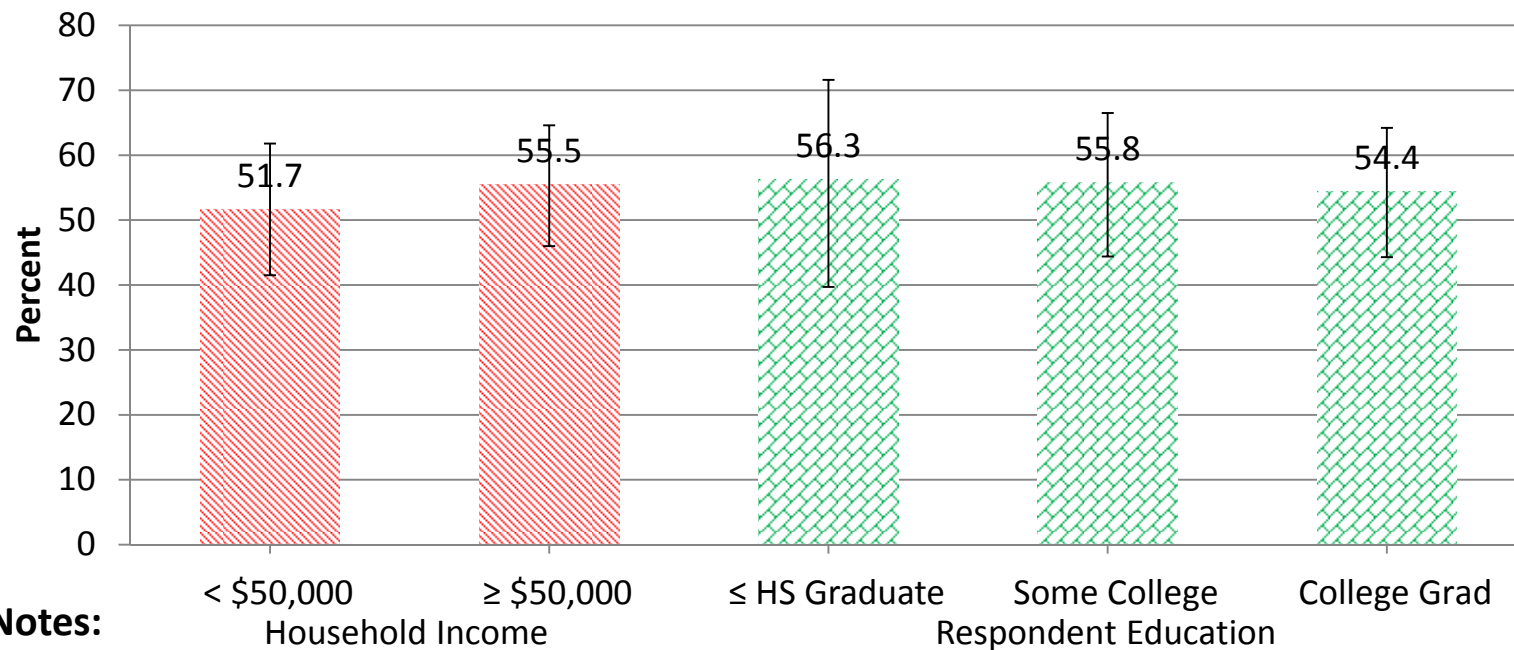
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported “a little”, “a moderate amount”, or “a lot” to the following question, “During the past 12 months, would you say {child’s name} limited {his/her} usual activities due to asthma not at all, a little, a moderate amount, or a lot?”

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— CHILDREN

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by participation in all activities, including exercise.
 - 55.4% of children with current asthma experienced limited usual activities due to asthma during the past 12 months.
 - No significant differences within age, sex, and race groups

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² whose Usual Activities were Limited During Past 12 Months³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

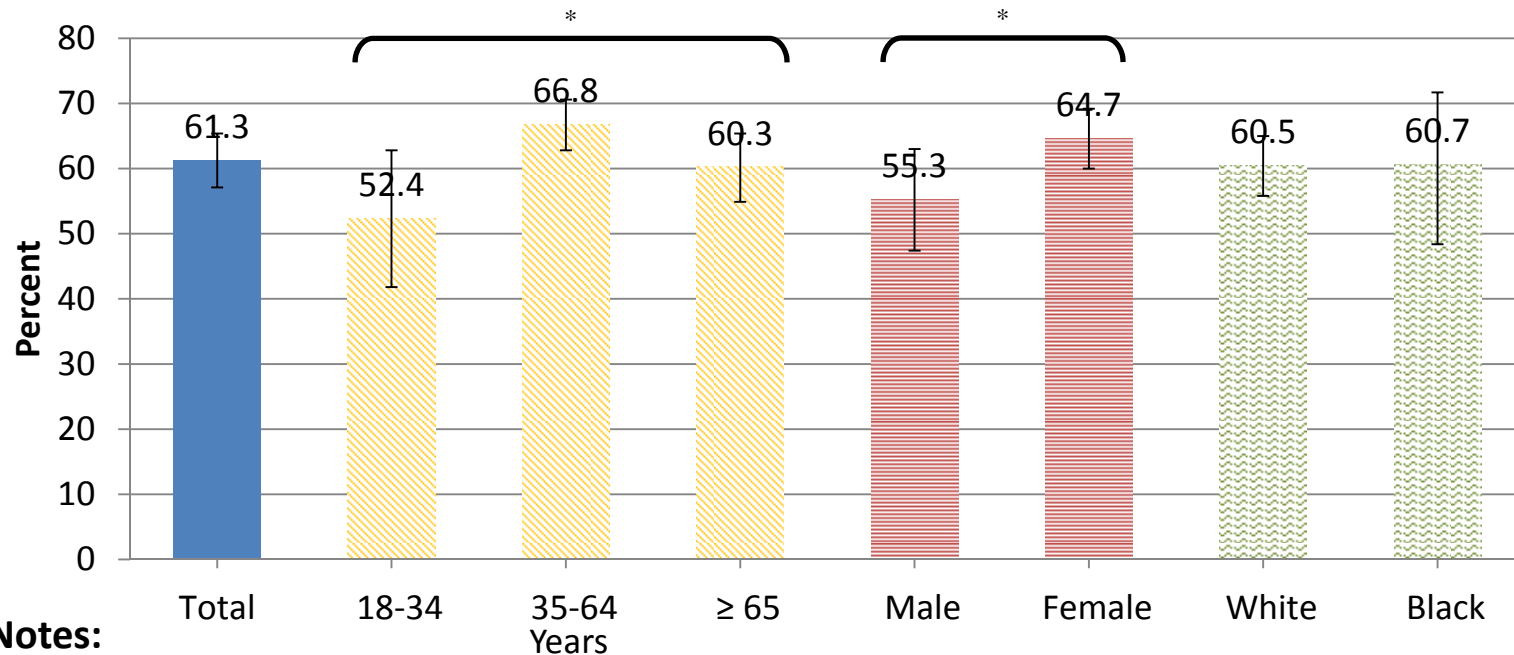
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported “a little”, “a moderate amount”, or “a lot” to the following question, “During the past 12 months, would you say {child’s name} limited {his/her} usual activities due to asthma not at all, a little, a moderate amount, or a lot?”

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— CHILDREN

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by participation in all activities, including exercise.
 - No significant differences in the prevalence of limited usual activities for children with current asthma within household income or respondent education groups

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— ADULTS

Percent of Adults¹ (≥18 years) with Current Asthma¹ whose Usual Activities were Limited During Past 12 Months² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported “a little”, “a moderate amount”, or “a lot” to the following question, “During the past 12 months, would you say you limited your usual activities due to asthma not at all, a little, a moderate amount, or a lot?”

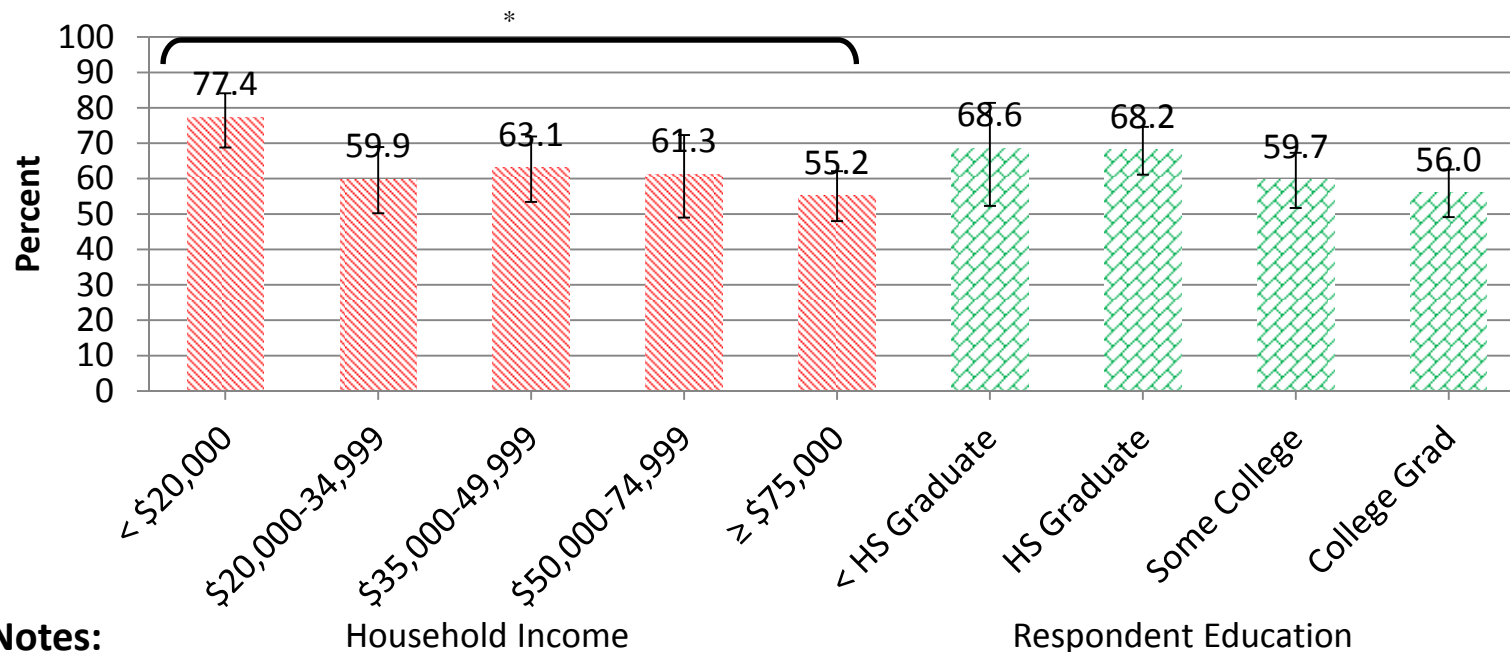
* χ^2 Test for independence within groups, p-value <0.05.

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— ADULTS

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by participation in all activities, including exercise.
 - 61.3% of adults with current asthma experienced limited usual activities due to asthma during the past 12 months.
 - The prevalence was significantly higher (27.5%) among adults 35-64 than adults 18-34.
 - The prevalence was significantly higher (17.0%) among females than males.
 - No significant differences within race groups

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— ADULTS

14. Percent of Adults (≥ 18 years) with Current Asthma¹ whose Usual Activities were limited During Past 12 Months² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported “a little”, “a moderate amount”, or “a lot” to the following question, “During the past 12 months, would you say you limited your usual activities due to asthma not at all, a little, a moderate amount, or a lot?”

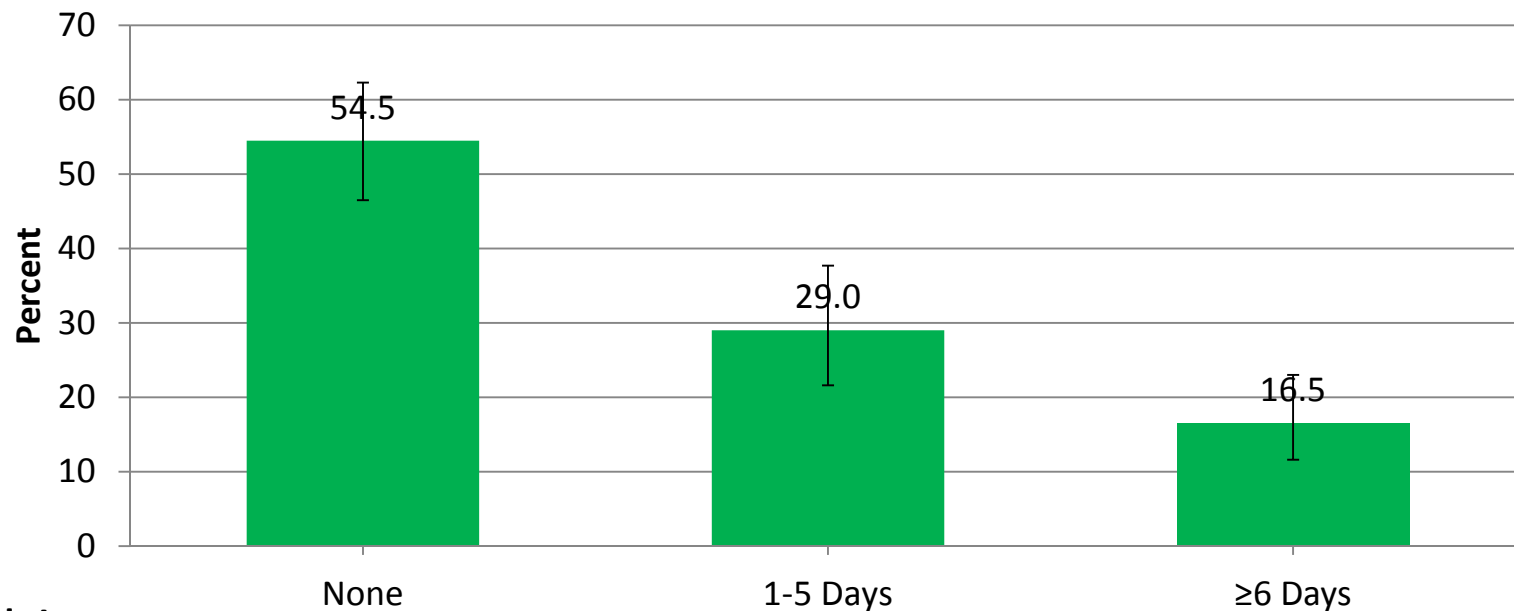
* χ^2 Test for independence within groups, p-value < 0.05.

USUAL ACTIVITIES LIMITED DUE TO ASTHMA— ADULTS

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by participation in all activities, including exercise.
 - The prevalence of limited usual activities due to asthma was significantly higher among adults with a household income <\$20,000 per year than those in other household income groups.
 - No significant differences within education groups

NUMBER OF SCHOOL DAYS MISSED DUE TO ASTHMA

Percent Distribution of the Number of Missed School Days Due to Asthma During Past 12 Months¹ Among Children² in Grades K-12 with Current Asthma³, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

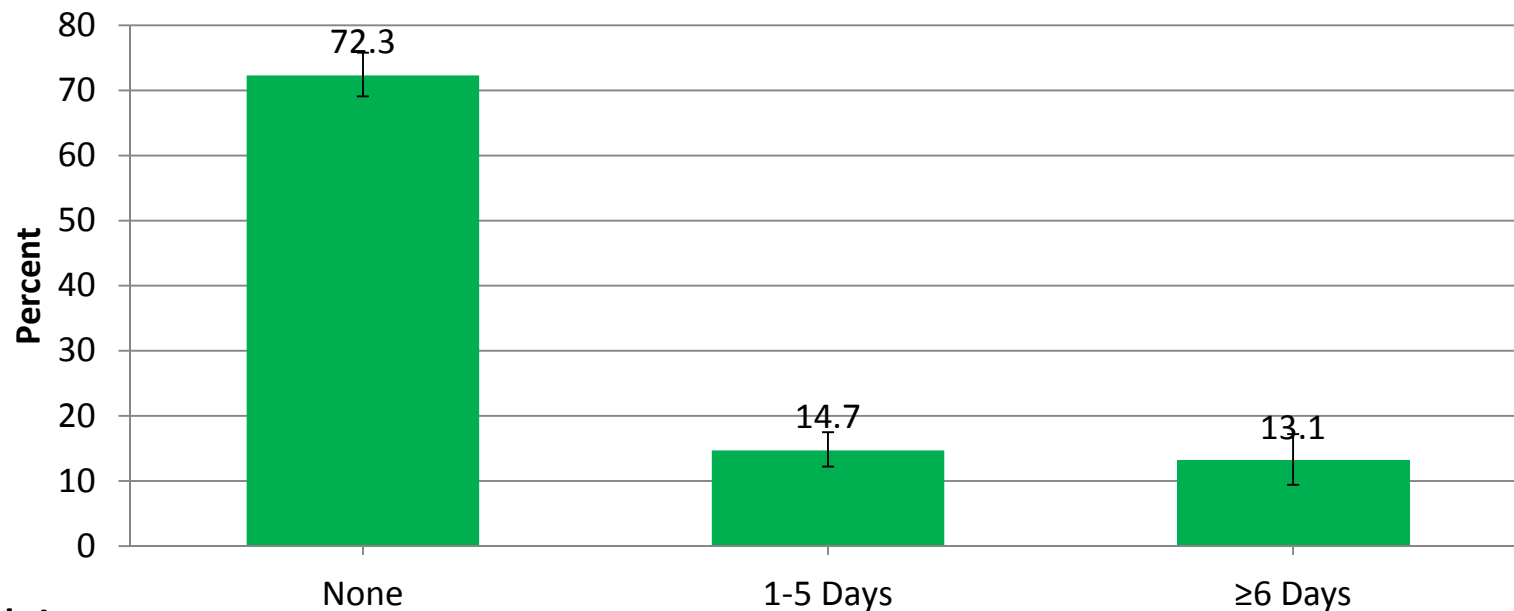
1. Response to the following question, "During the past 12 months, about how many days of school did {child's name} miss because of {his/her} asthma?"
2. Based on proxy responses from adult respondent in the household.
3. Current asthma is defined as a positive response to both lifetime and current asthma questions.

NUMBER OF SCHOOL DAYS MISSED DUE TO ASTHMA

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by normal attendance at school or work.
 - 16.5% of children with current asthma missed 6 or more school days due to asthma in the past 12 months due to asthma.
 - 54.5% of children with current asthma missed no school days due to asthma in the past 12 months due to asthma.

NUMBER OF WORK DAYS MISSED DUE TO ASTHMA

Percent Distribution of the Number of Days of Missed Work or Usual Activities Due to Asthma During Past 12 Months¹ Among Adults (≥ 18 years) with Current Asthma², Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

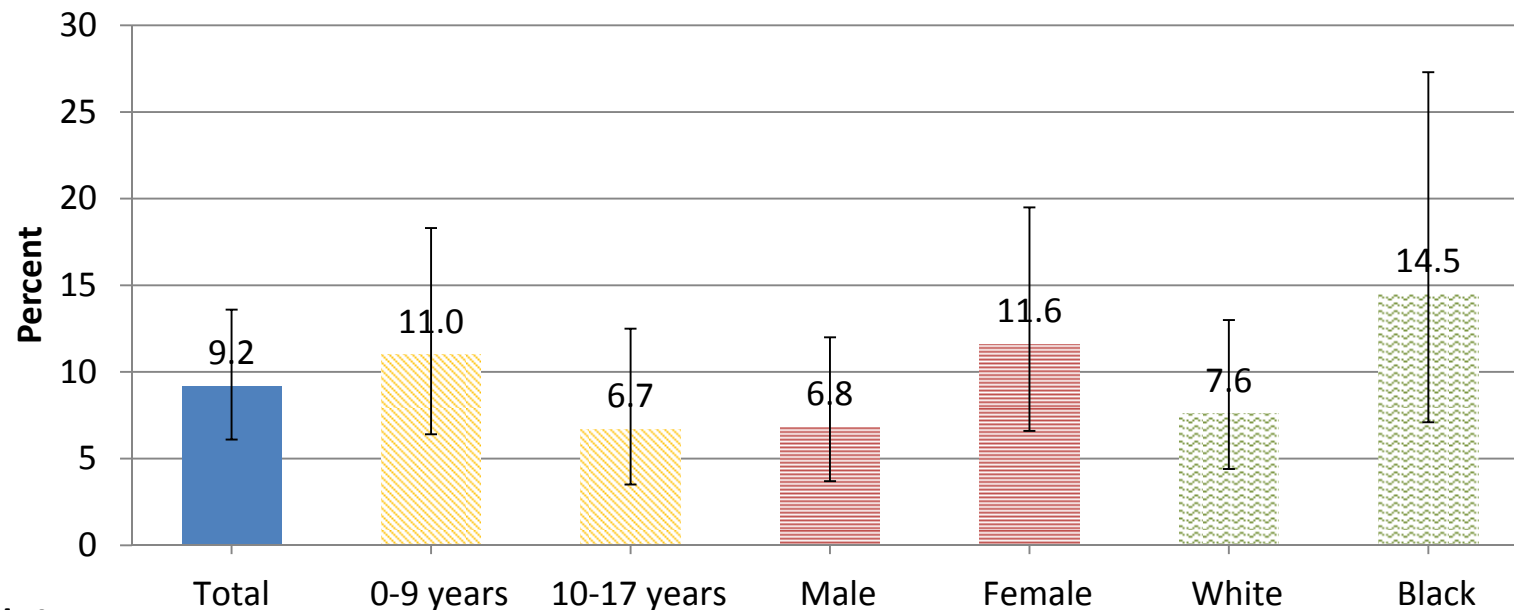
1. Response to the following question, "During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?"
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.

NUMBER OF WORK DAYS MISSED DUE TO ASTHMA

- According to national treatment guidelines, the overarching goal of therapy is to achieve asthma control, defined, in part, by normal attendance at school or work.
 - 13.1% of adults with current asthma missed 6 or more work days or usual activities due to asthma in the past 12 months.
 - 72.3% of adults with current asthma missed no work days or usual activities due to asthma in the past 12 months.

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had ≥ 2 ED/Urgent Care Visits for Asthma During Past 12 Months³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

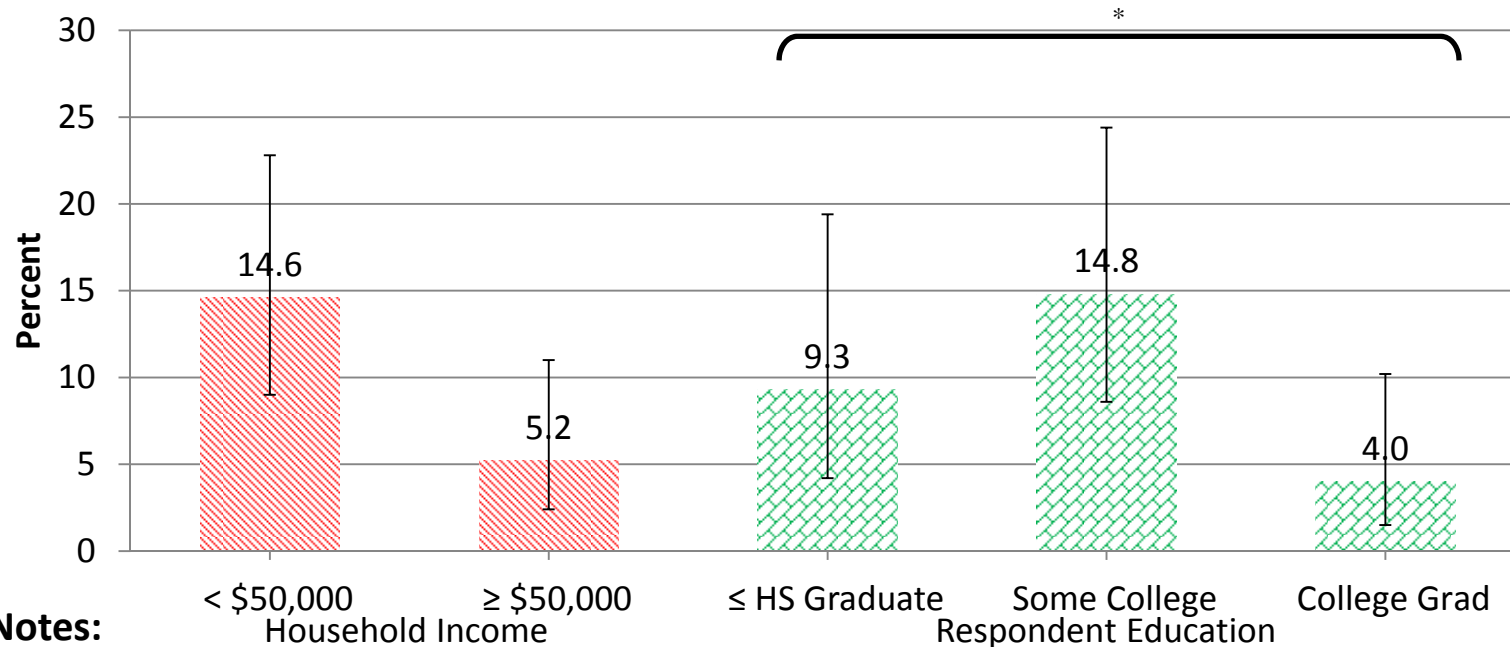
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 2 times to the following question, "During the past 12 months, how many times did {child's name} visit an emergency room or urgent care center because of {his/her} asthma?"

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—CHILDREN

- It is a goal of asthma therapy that persons with asthma experience minimal or no emergency department visits.
 - 9.2% of children with current asthma visited the emergency department or urgent care center for asthma 2 or more times during the past 12 months.
 - No significant differences within age, gender or race groups

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had ≥ 2 ED/Urgent Care Visits for Asthma During Past 12 Months³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 2 times to the following question, "During the past 12 months, how many times did {child's name} visit an emergency room or urgent care center because of {his/her} asthma?"

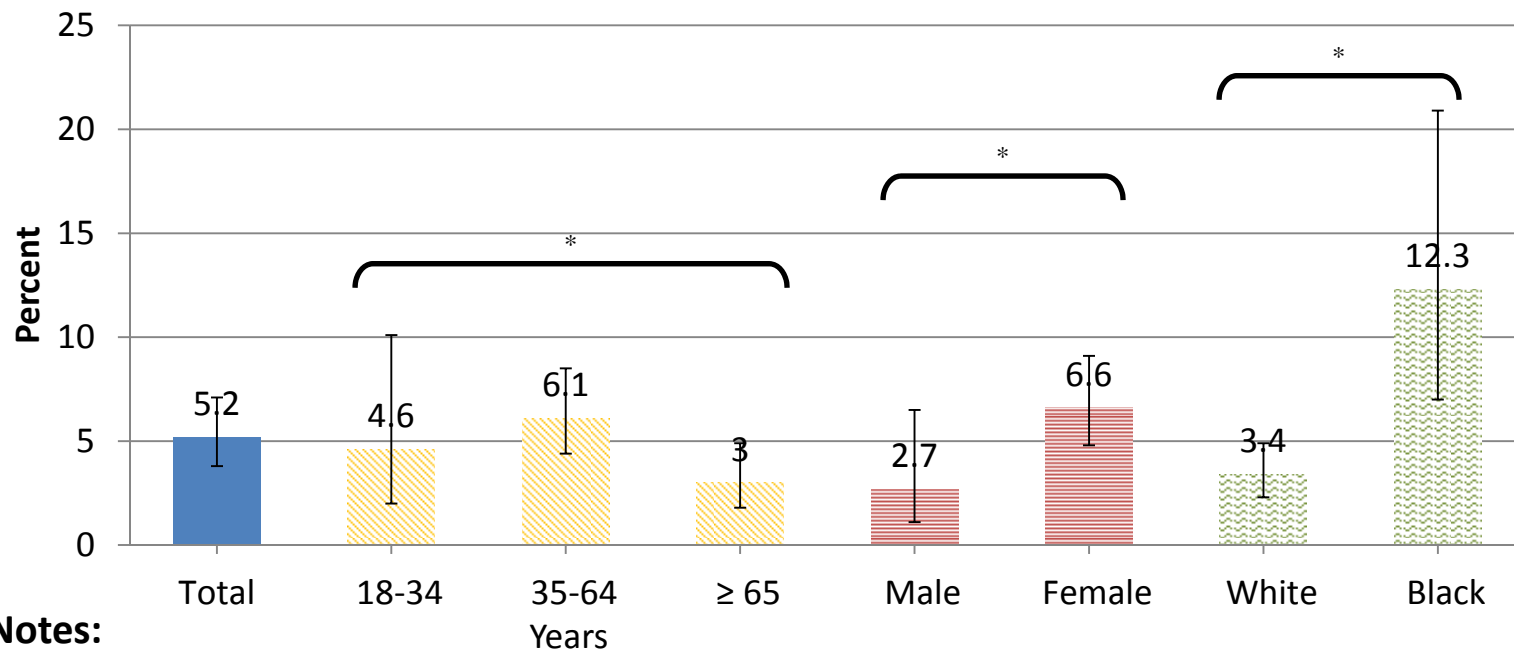
* χ^2 Test for independence within groups, p-value <0.05.

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—CHILDREN

- It is a goal of asthma therapy that persons with asthma experience minimal or no emergency department visits.
 - The prevalence of frequent asthma emergency department or urgent care center visits for children with current asthma was significantly higher (3.7 times) among respondents who attended Some College than respondents who Graduated from College.
 - No significant differences within household income groups

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who had ≥ 2 ED/Urgent Care Visits for Asthma During Past 12 Months² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥ 2 times to the following question, "During the past 12 months, how many times did you visit an emergency room or urgent care center because of your asthma?"

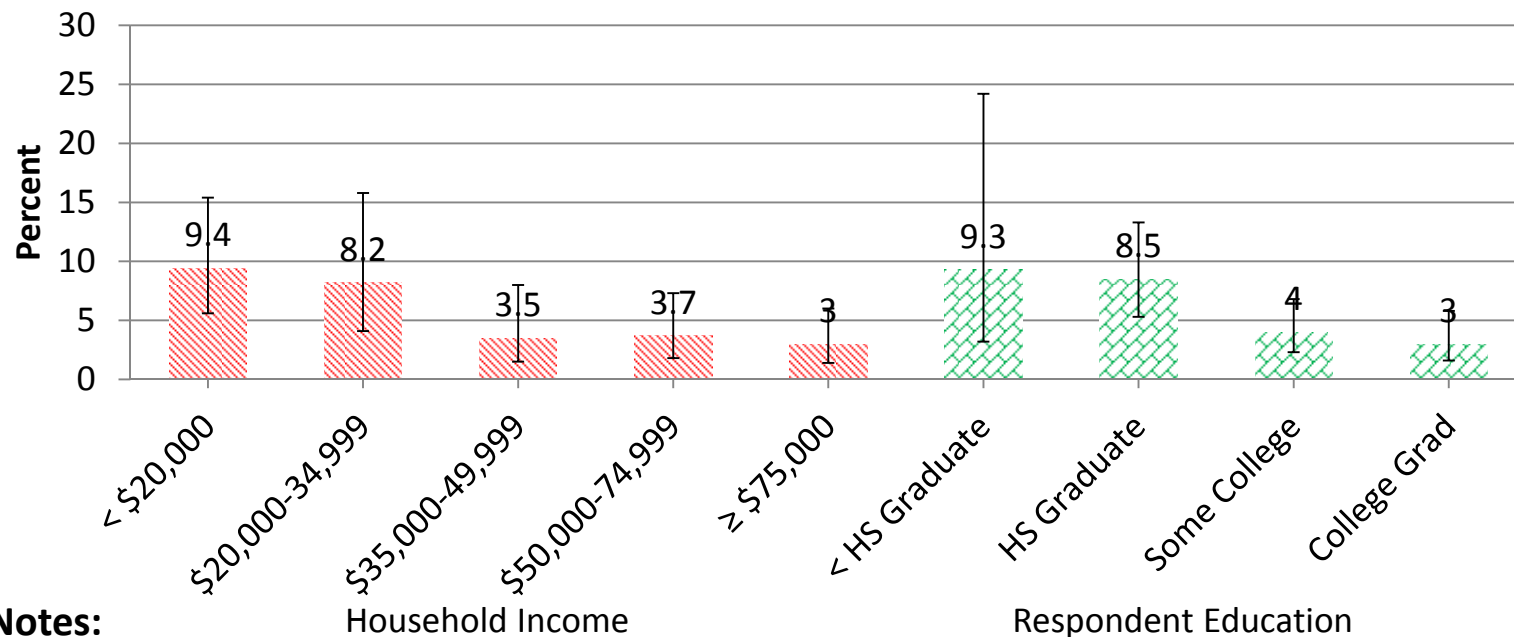
* χ^2 Test for independence within groups, p-value < 0.05 .

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—ADULTS

- It is a goal of asthma therapy that persons with asthma experience minimal or no emergency department visits.
 - 5.2% of adults with current asthma visited the emergency department or urgent care center for asthma 2 or more times during the past 12 months.
 - The prevalence was significantly different within age, sex, and race groups:
 - 2.0 times higher among adults 35-64 than adults ≥ 65 .
 - 2.4 times higher among female adults than male adults.
 - 3.6 times higher among black adults than white adults.

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who had ≥ 2 ED/Urgent Care Visits for Asthma During Past 12 Months² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

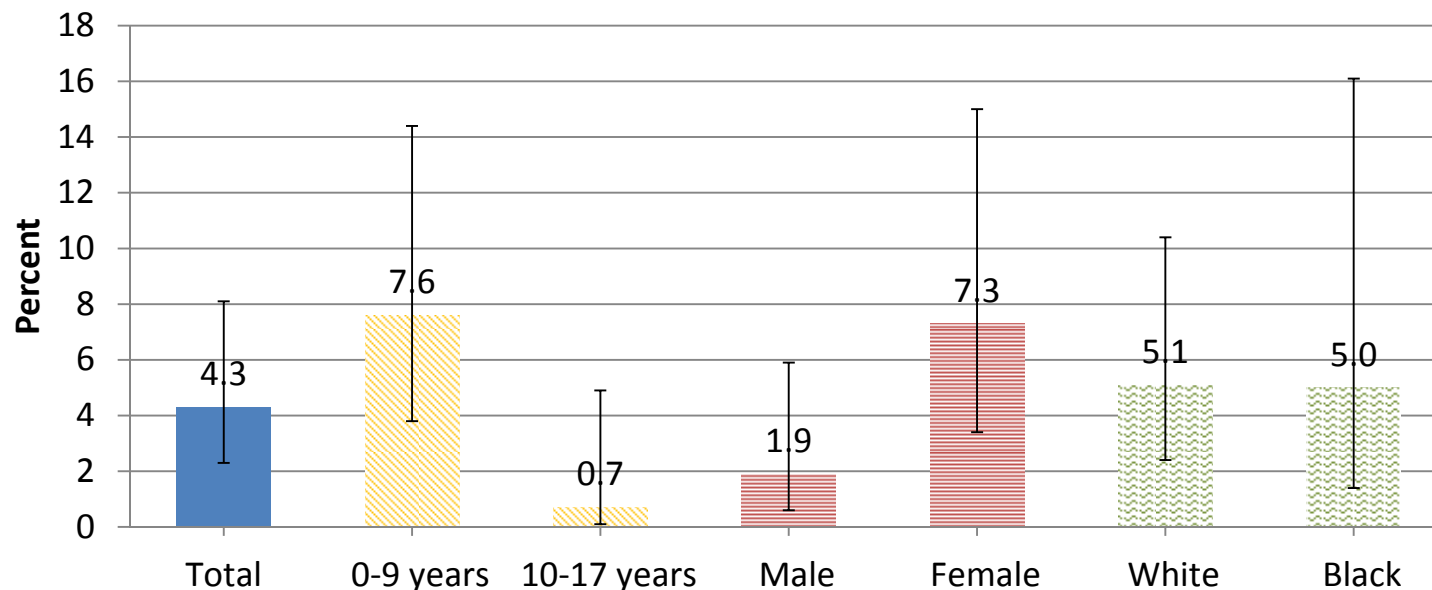
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥ 2 times to the following question, "During the past 12 months, how many times did you visit an emergency room or urgent care center because of your asthma?"

ASTHMA EMERGENCY DEPARTMENT/URGENT CARE VISITS—ADULTS

- It is a goal of asthma therapy that persons with asthma experience minimal or no emergency department visits.
 - No significant differences in the prevalence of frequent asthma emergency department or urgent care center visits for adults with current asthma within respondent household income or education groups

ASTHMA HOSPITALIZATIONS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had ≥ 1 Hospitalization for Asthma During Past 12 Months³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

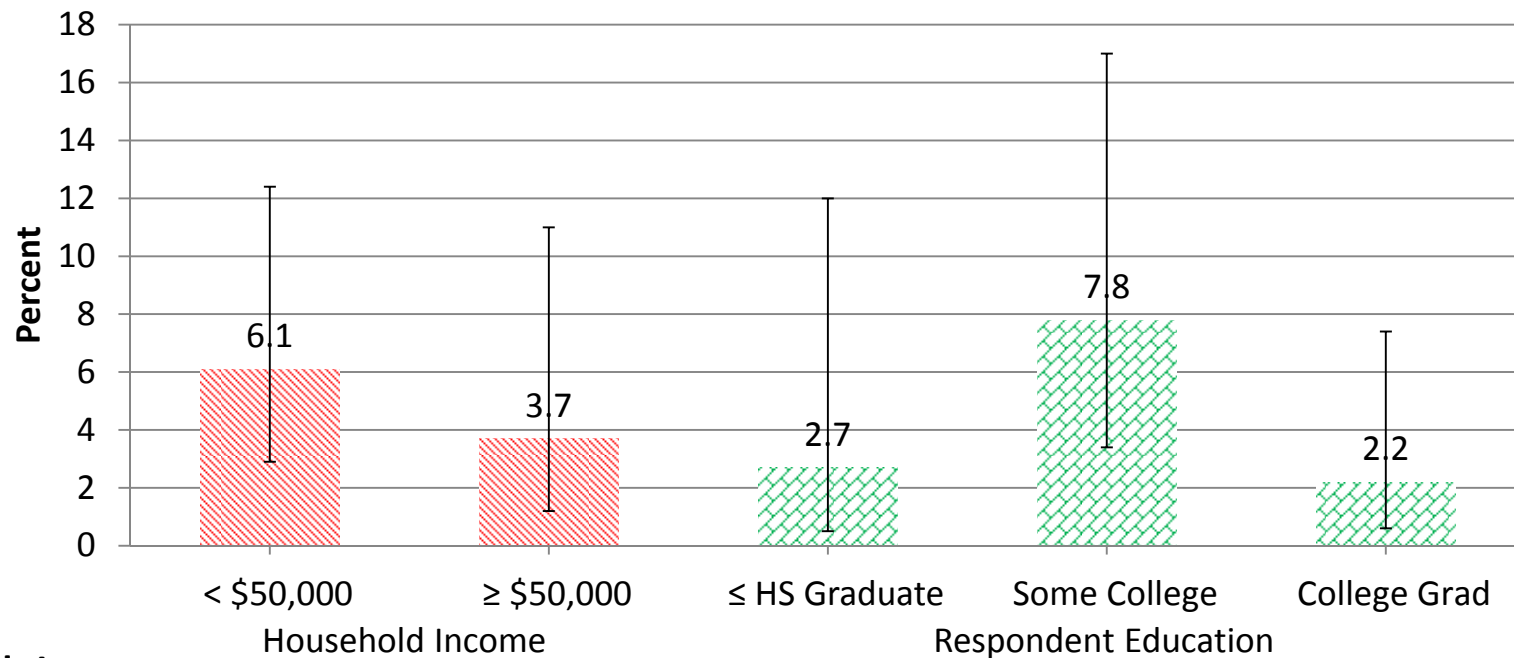
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the following question, “During the past 12 months, that is since [1 year ago today], has {child’s name} had to stay overnight in a hospital because of {his/her} asthma? Do not include an overnight stay in the emergency room.”

ASTHMA HOSPITALIZATIONS—CHILDREN

- It is a goal of asthma therapy that persons with asthma experience minimal or no hospitalizations.
 - 4.2% of children with current asthma had at least 1 hospitalization for asthma the past 12 months.
 - No significant differences within age, sex, or race groups

ASTHMA HOSPITALIZATIONS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had ≥ 1 Hospitalization for Asthma During Past 12 Months³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

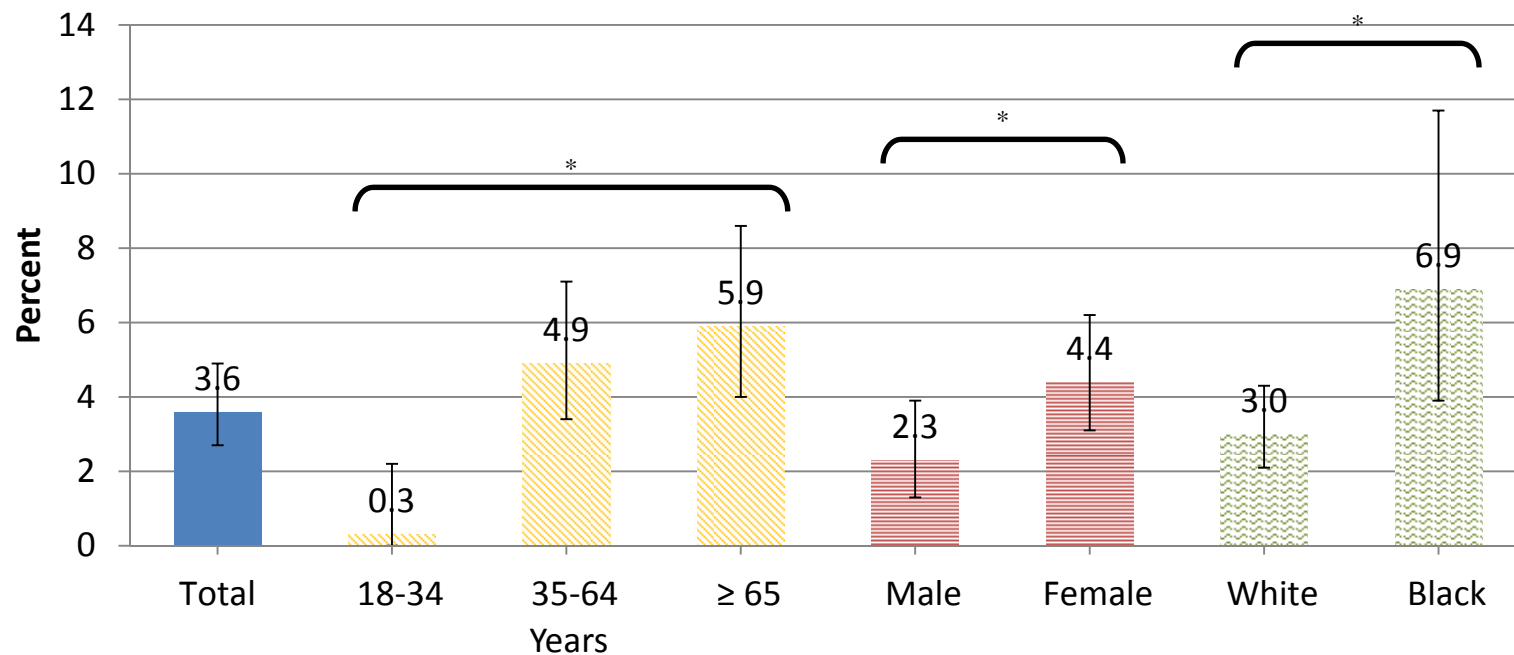
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the following question, “During the past 12 months, that is since [1 year ago today], has {child’s name} had to stay overnight in a hospital because of {his/her} asthma? Do not include an overnight stay in the emergency room.”

ASTHMA HOSPITALIZATIONS—CHILDREN

- It is a goal of asthma therapy that persons with asthma experience minimal or no hospitalizations.
 - No significant differences in the prevalence of having an asthma hospitalization for children with current asthma within household income or respondent education groups

ASTHMA HOSPITALIZATIONS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had ≥1 Hospitalization for Asthma During Past 12 Months² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded at least one time to the question, "During the past 12 months, how many different times did you stay in any hospital overnight or longer because of your asthma?"

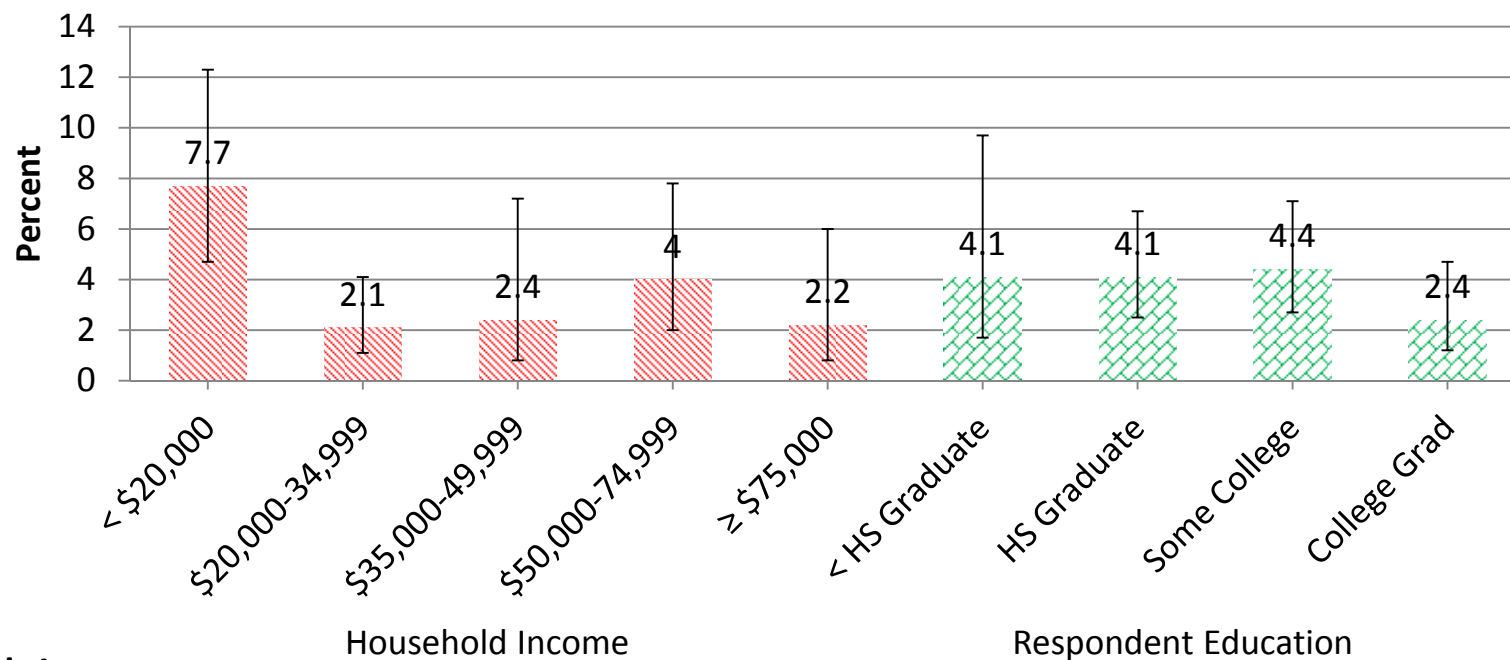
* χ^2 Test for independence within groups, p-value < 0.05.

ASTHMA HOSPITALIZATIONS—ADULTS

- It is a goal of asthma therapy that persons with asthma experience minimal or no hospitalizations.
 - 3.6% of adults with current asthma had at least 1 hospitalization for asthma the past 12 months.
 - The prevalence was significantly different within age, sex, and race groups :
 - 16.3 times higher among adults age 35-64 than adults 18-34; 19.7 times higher among adults age 65 and over than adults 18-34
 - 1.9 times higher among females than males
 - 2.3 times higher among blacks than whites

ASTHMA HOSPITALIZATIONS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had ≥1 Hospitalization for Asthma During Past 12 Months² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

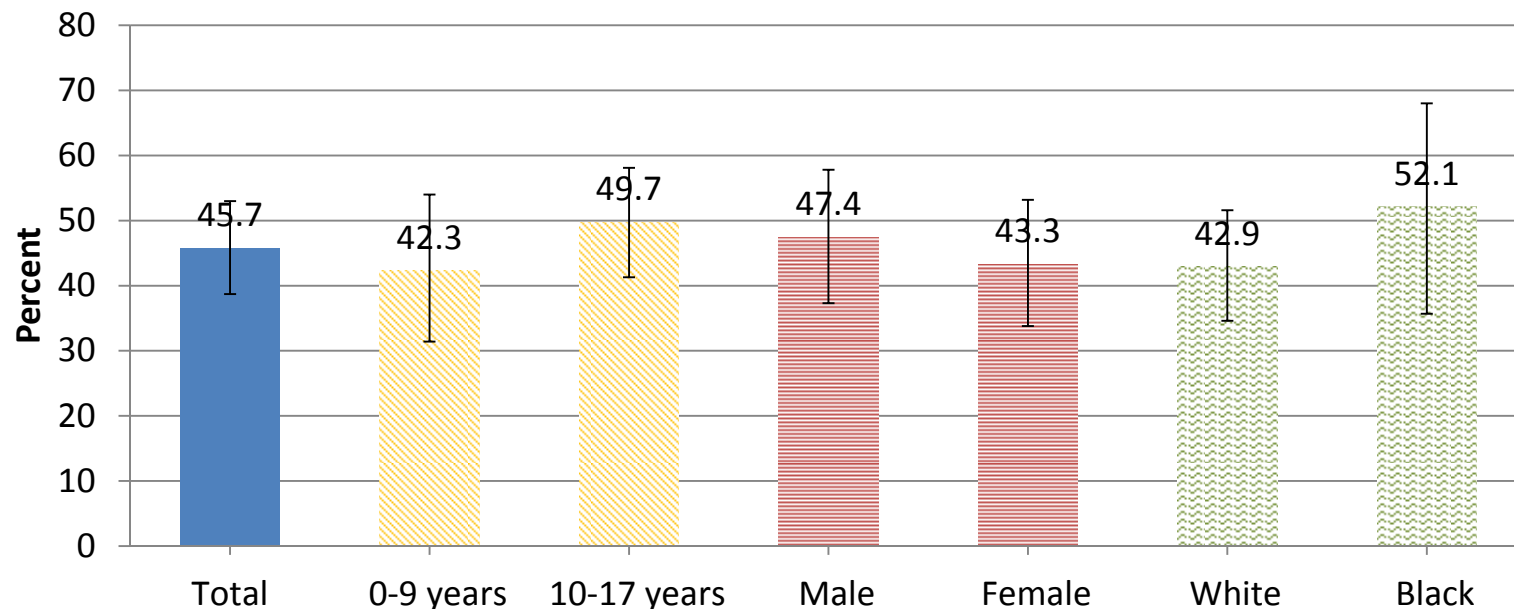
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded at least one time to the question, "During the past 12 months, how many different times did you stay in any hospital overnight or longer because of your asthma?"

ASTHMA HOSPITALIZATIONS—ADULTS

- It is a goal of asthma therapy that persons with asthma experience minimal or no hospitalizations.
 - No significant statistical association between the prevalence of having an asthma hospitalization during the past 12 months and household income or education groups

ASTHMA ACTION PLANS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who Ever Received an Asthma Action Plan³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

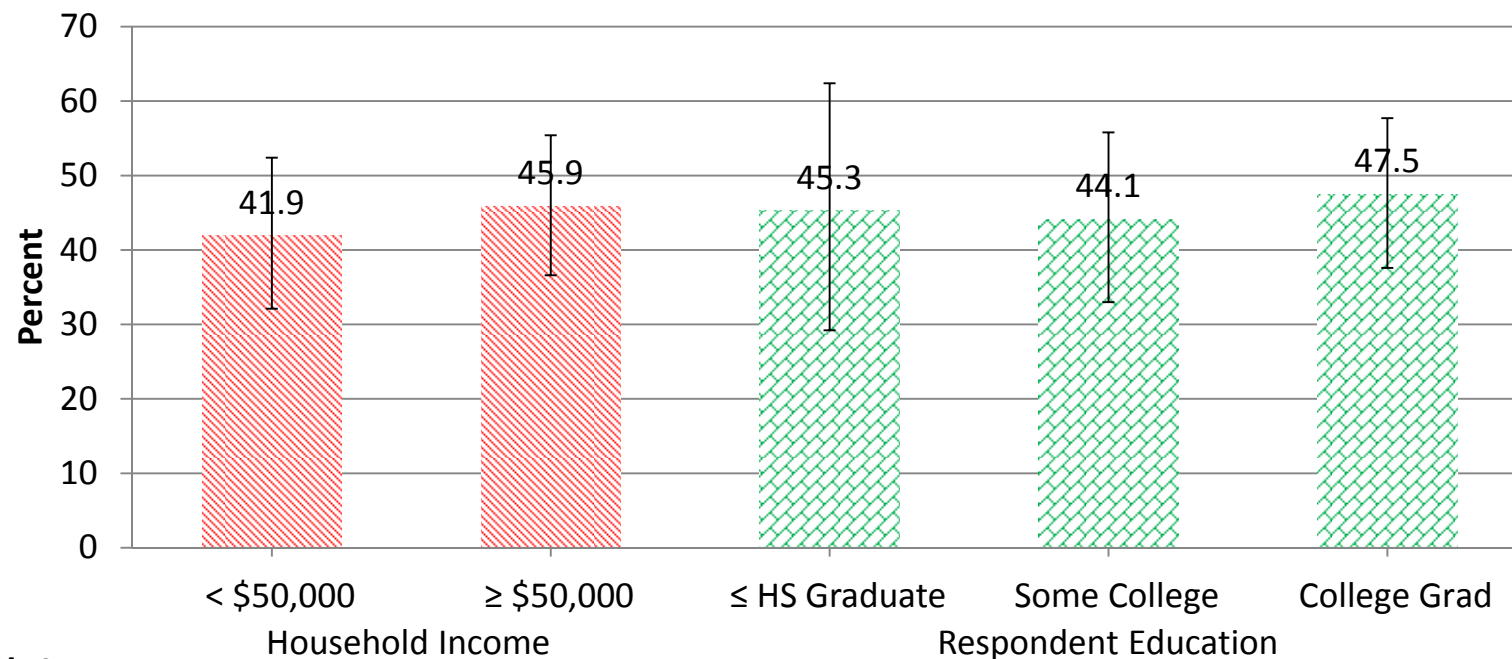
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the question, “An asthma action plan, or asthma management plan, is a form with instructions about when to change the amount or type of medicine, when to call the doctor for advice, and when to go to the emergency room. Has a doctor or other health professional ever given you or {child’s name} an asthma action plan?”

ASTHMA ACTION PLANS—CHILDREN

- Developing a written asthma action plan in partnership with the patient is a key clinical activity for the management of asthma.
 - 45.7% of children with current asthma had received an asthma action plan at some point in their life.
 - No significant differences within age, sex, or race groups

ASTHMA ACTION PLANS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who Ever Received an Asthma Action Plan³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

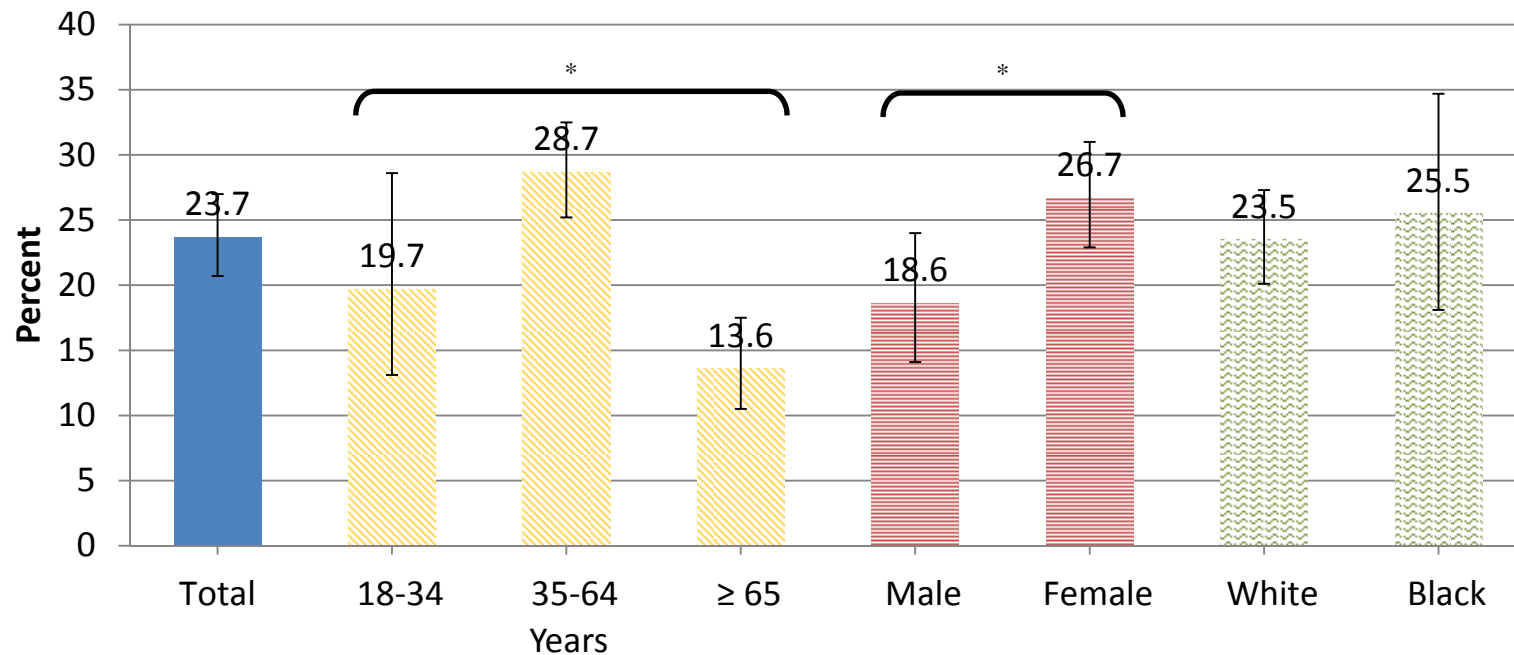
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the question, “An asthma action plan, or asthma management plan, is a form with instructions about when to change the amount or type of medicine, when to call the doctor for advice, and when to go to the emergency room. Has a doctor or other health professional ever given you or {child’s name} an asthma action plan?”

ASTHMA ACTION PLANS—CHILDREN

- Developing a written asthma action plan in partnership with the patient is a key clinical activity for the management of asthma.
 - No significant differences in the prevalence of having received an asthma action plan for children with current asthma within household income or respondent education groups

ASTHMA ACTION PLANS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who Ever Received and Asthma Action Plan² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded “yes” to the question, “An asthma action plan, or asthma management plan, is a form with instructions about when to change the amount or type of medicine, when to call the doctor for advice, and when to go to the emergency room. Has a doctor or other health professional ever given you an asthma action plan?”

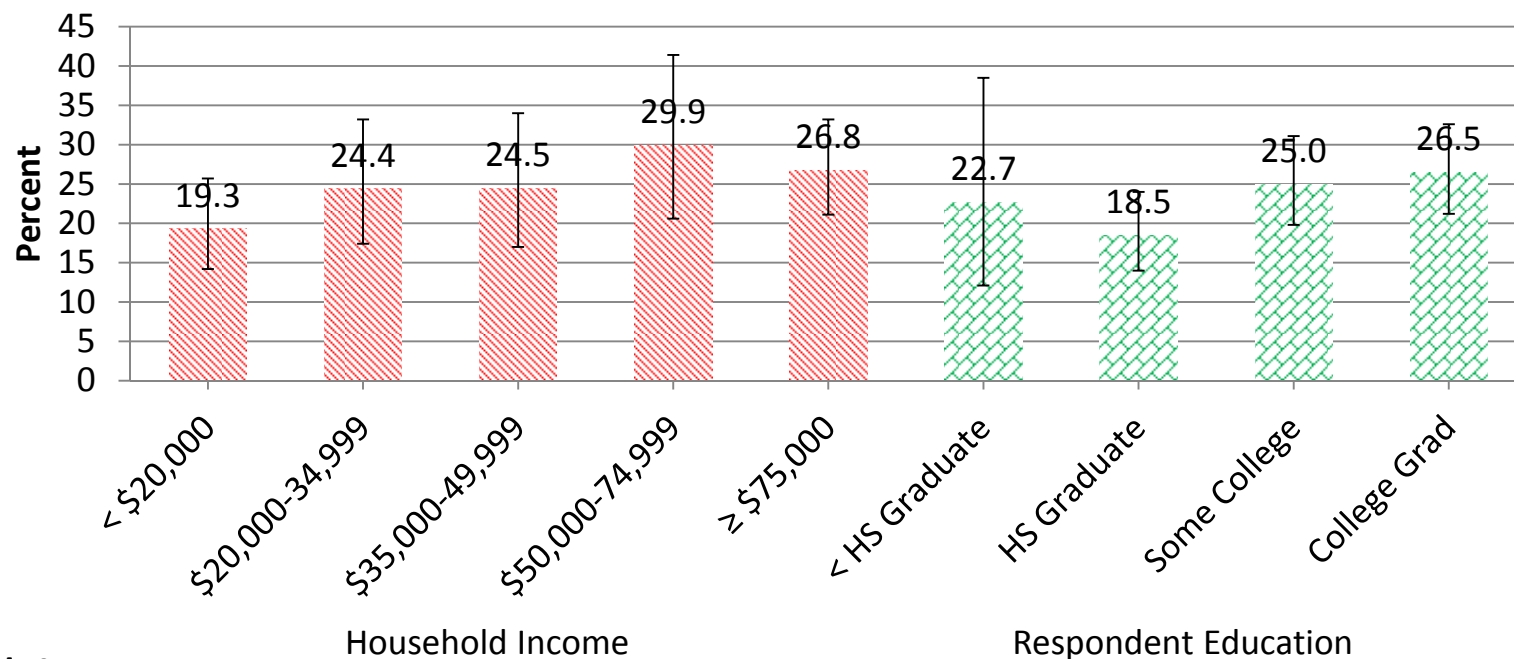
* χ^2 Test for independence within groups, p-value <0.05.

ASTHMA ACTION PLANS—ADULTS

- Developing a written asthma action plan in partnership with the patient is a key clinical activity for the management of asthma.
 - 23.7% of adults with current asthma had received an asthma action plan at some point in their life.
 - The prevalence was significantly higher (111.0%) among adults 35-64 than adults ≥ 65 .
 - The prevalence was significantly higher (43.5%) among females than males
 - No significant differences within race groups

ASTHMA ACTION PLANS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who Ever Received and Asthma Action Plan² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

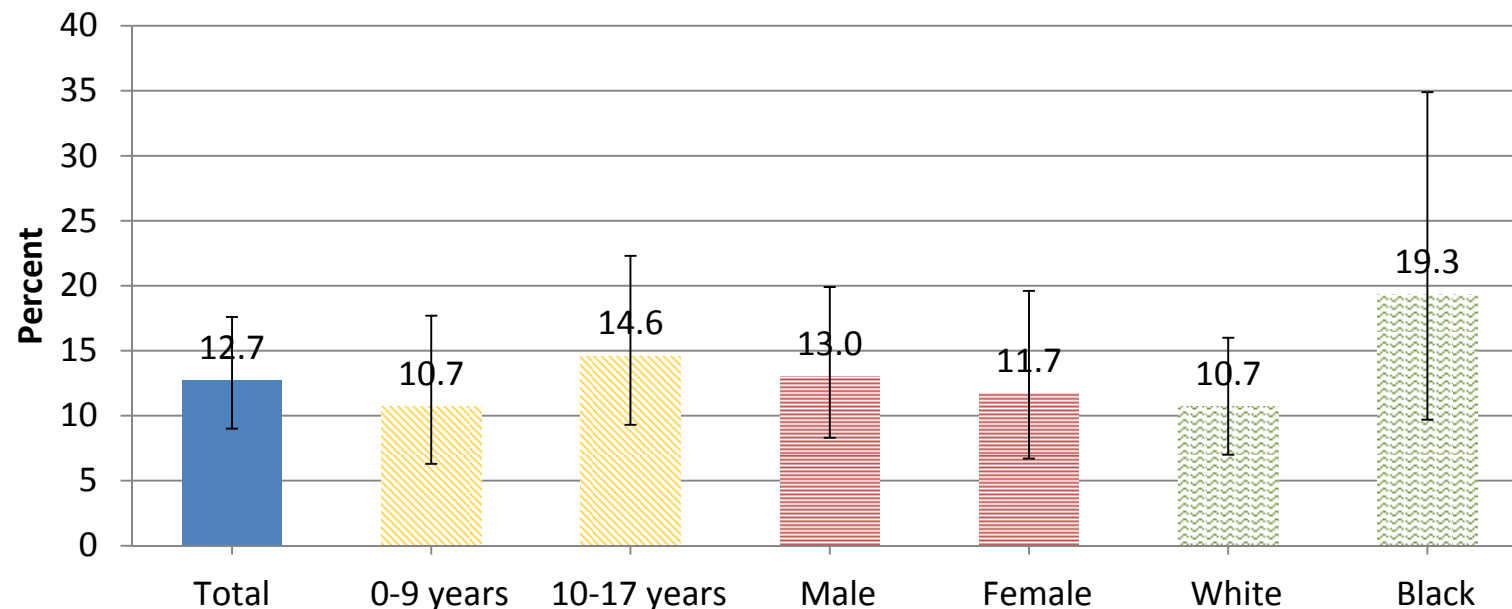
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded “yes” to the question, “An asthma action plan, or asthma management plan, is a form with instructions about when to change the amount or type of medicine, when to call the doctor for advice, and when to go to the emergency room. Has a doctor or other health professional ever given you an asthma action plan?”

ASTHMA ACTION PLANS—ADULTS

- Developing a written asthma action plan in partnership with the patient is a key clinical activity for the management of asthma.
 - No significant differences in the prevalence of having received an asthma action plan for adults with current asthma within household income or respondent education groups

ASTHMA MANAGEMENT CLASS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who Ever Taken an Asthma Management Class³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

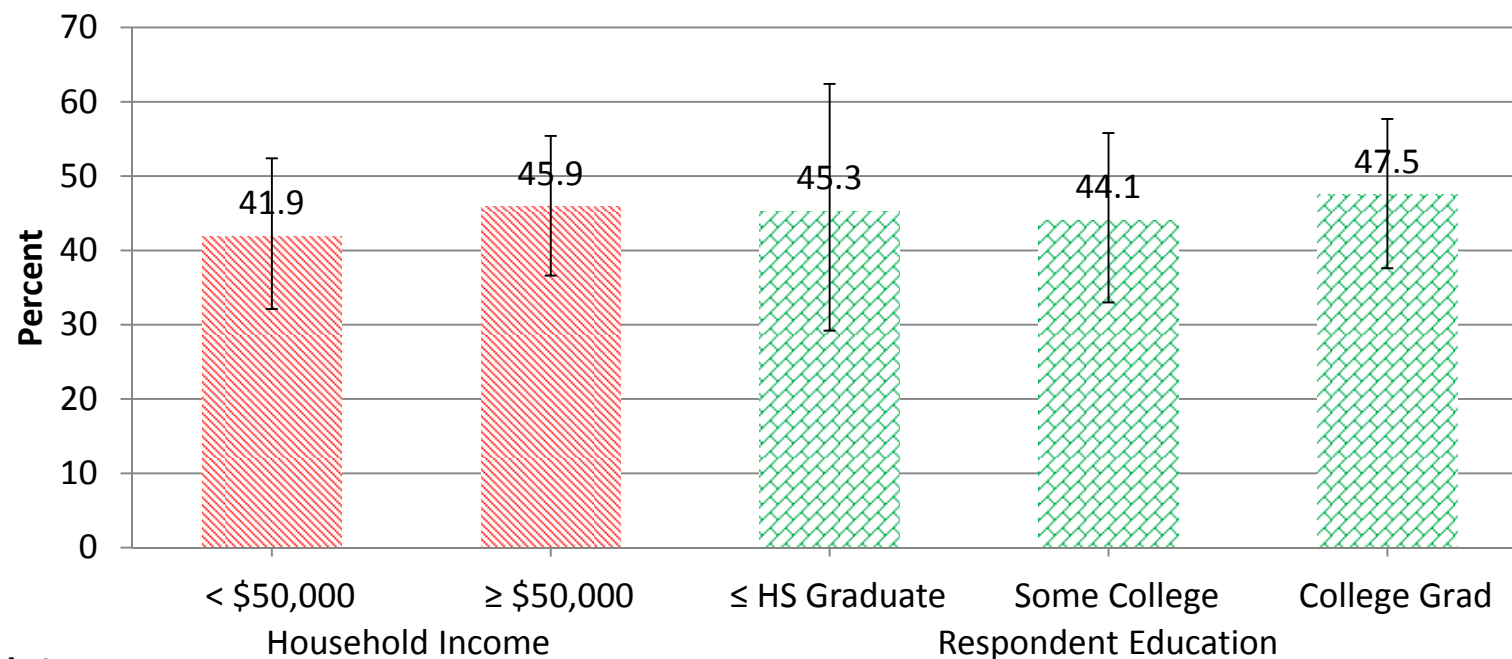
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the question, “Have you or {child’s name} ever taken a course or class on how to manage {his/her} asthma?”

ASTHMA MANAGEMENT CLASS—CHILDREN

- Providing self-management education is a key clinical activity for the management of asthma.
 - 12.7% of children with current asthma or an adult in their household have taken an asthma management class at some point in their life.
 - No significant differences within age, sex, or race groups

ASTHMA MANAGEMENT CLASS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who Ever Taken an Asthma Management Class³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

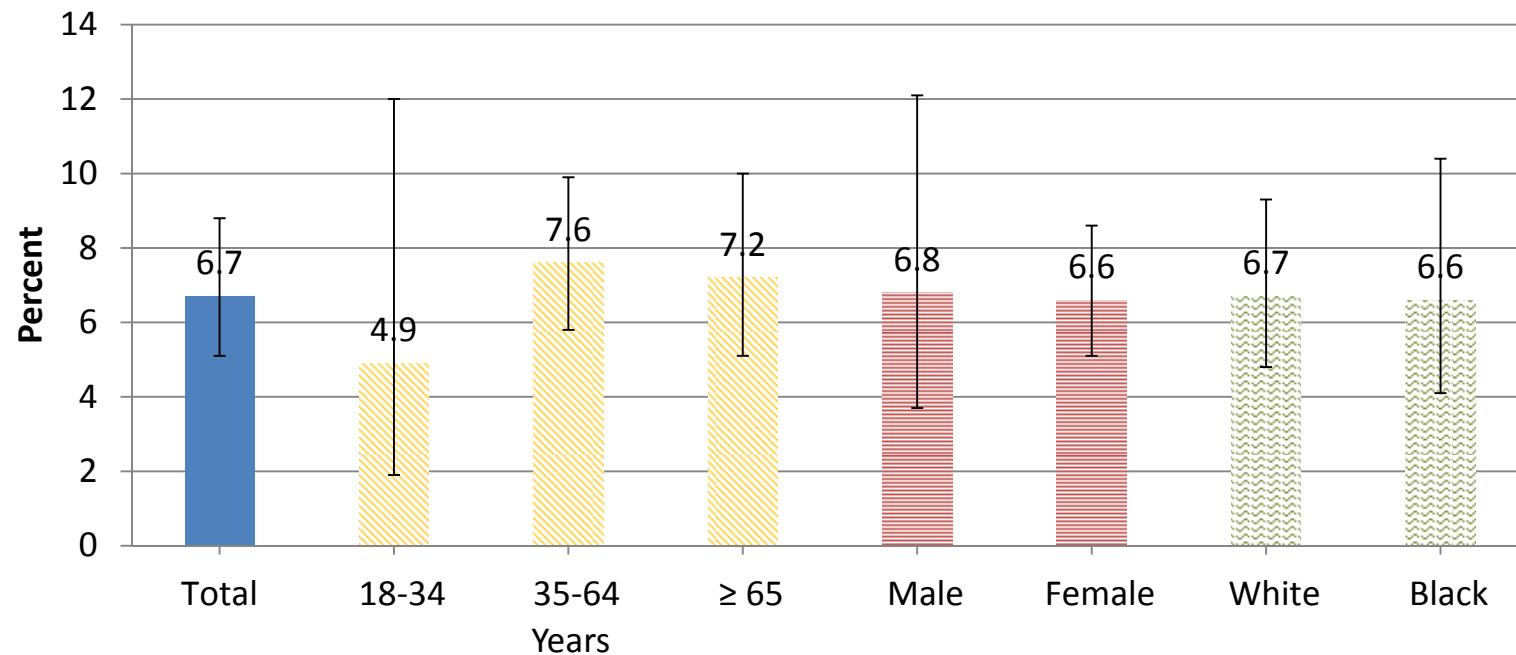
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the question, “Have you or {child’s name} ever taken a course or class on how to manage {his/her} asthma?”

ASTHMA MANAGEMENT CLASS—CHILDREN

- Providing self-management education is a key clinical activity for the management of asthma.
 - No significant differences in the prevalence of having taken an asthma management class for children with current asthma within respondent household income or education groups

ASTHMA MANAGEMENT CLASS—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who Ever Taken an Asthma Management Class² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

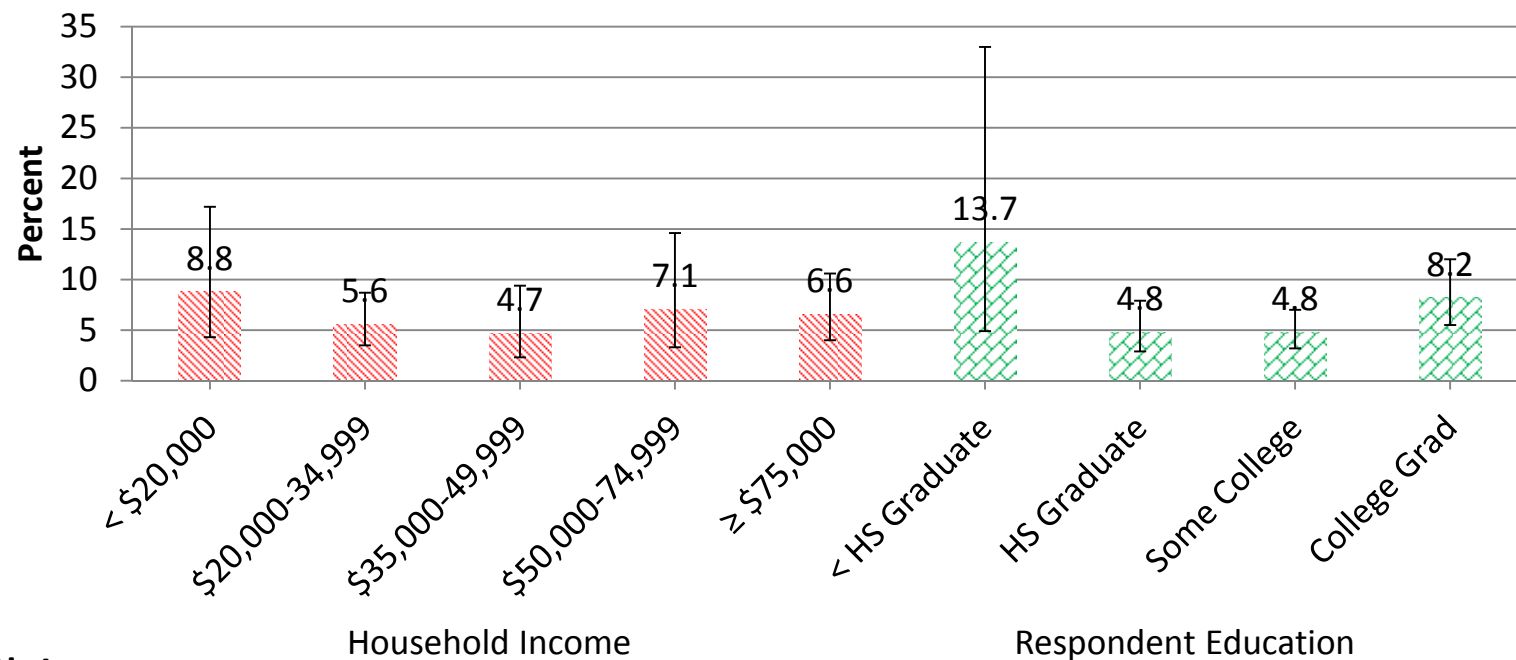
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded "yes" to the question, "Have you ever taken a course or class on how to manage your asthma?"

ASTHMA MANAGEMENT CLASS—ADULTS

- Providing self-management education is a key clinical activity for the management of asthma.
 - No significant differences in the prevalence of having taken an asthma management class for adults with current asthma within age, sex, and race groups

ASTHMA MANAGEMENT CLASS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who Ever Taken an Asthma Management Class² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

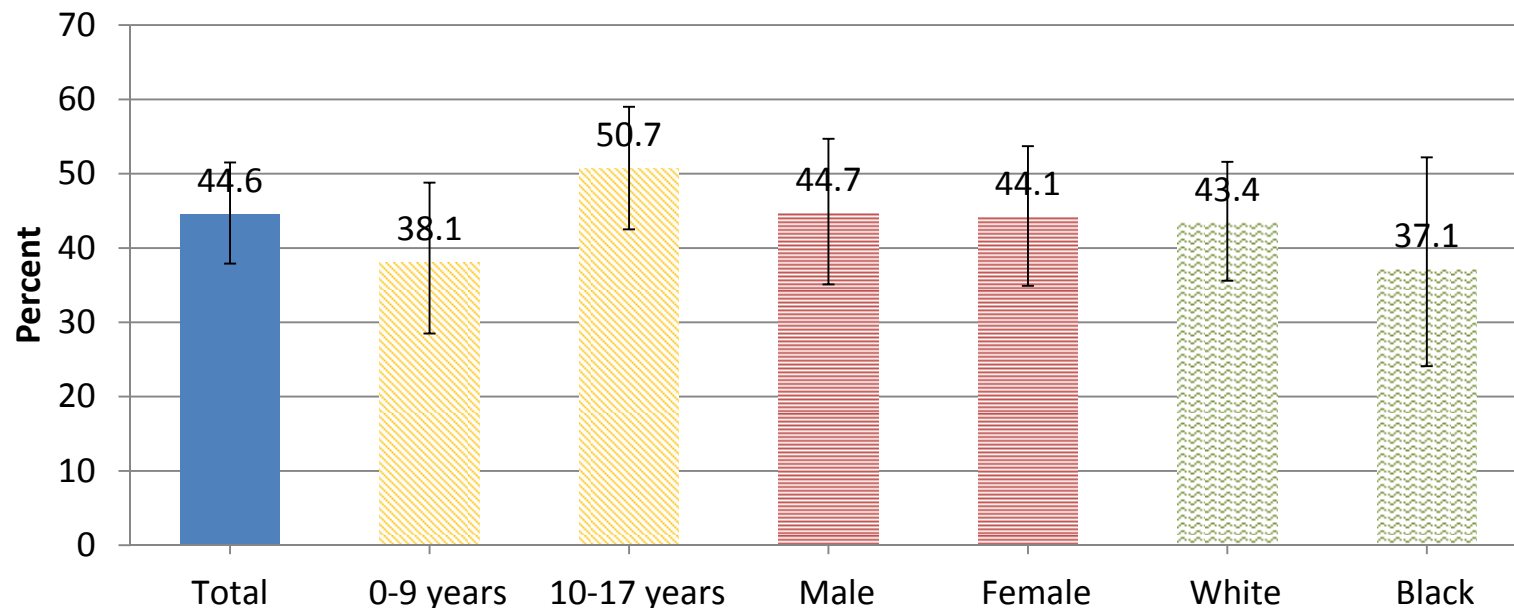
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded “yes” to the question, “Have you ever taken a course or class on how to manage your asthma?”

ASTHMA MANAGEMENT CLASS—ADULTS

- Providing self-management education is a key clinical activity for the management of asthma.
 - No significant differences in the prevalence of having taken an asthma management class for adults with current asthma within household income or respondent education groups

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who Ever Advised to Modify their Environment to Improve their Asthma³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

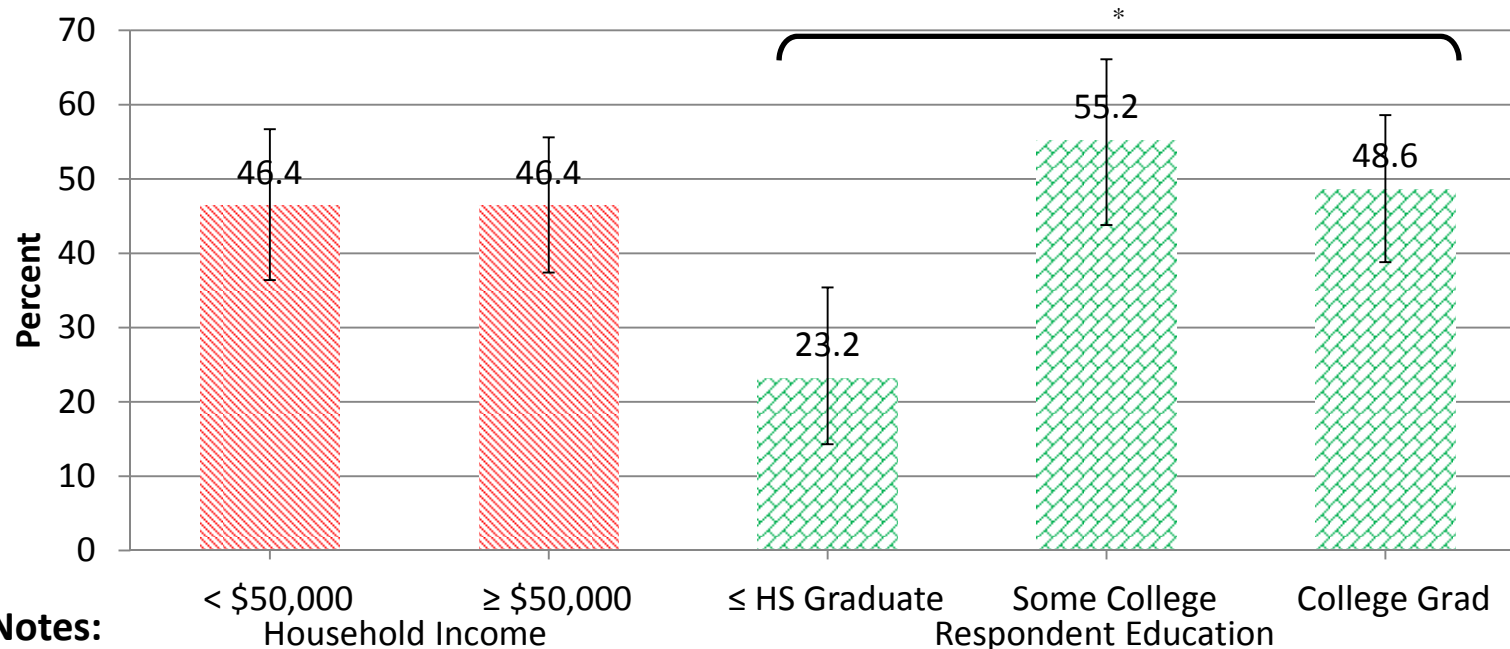
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the question, “Has a health professional ever advised you to change things in {child’s name} home, school, or work to improve {his/her} asthma?”

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—CHILDREN

- Recommending measures to control exposure to asthma triggers is a key clinical activity for the management of asthma.
 - 44.6% of respondents for children with current asthma or an adult in their household have been advised by a health professional to modify the child's environment to improve their asthma at some point in their life.
 - No significant differences within age, sex, or race groups

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who Ever Advised to Modify their Environment to Improve their Asthma³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to the question, “Has a health professional ever advised you to change things in {child’s name} home, school, or work to improve {his/her} asthma?”

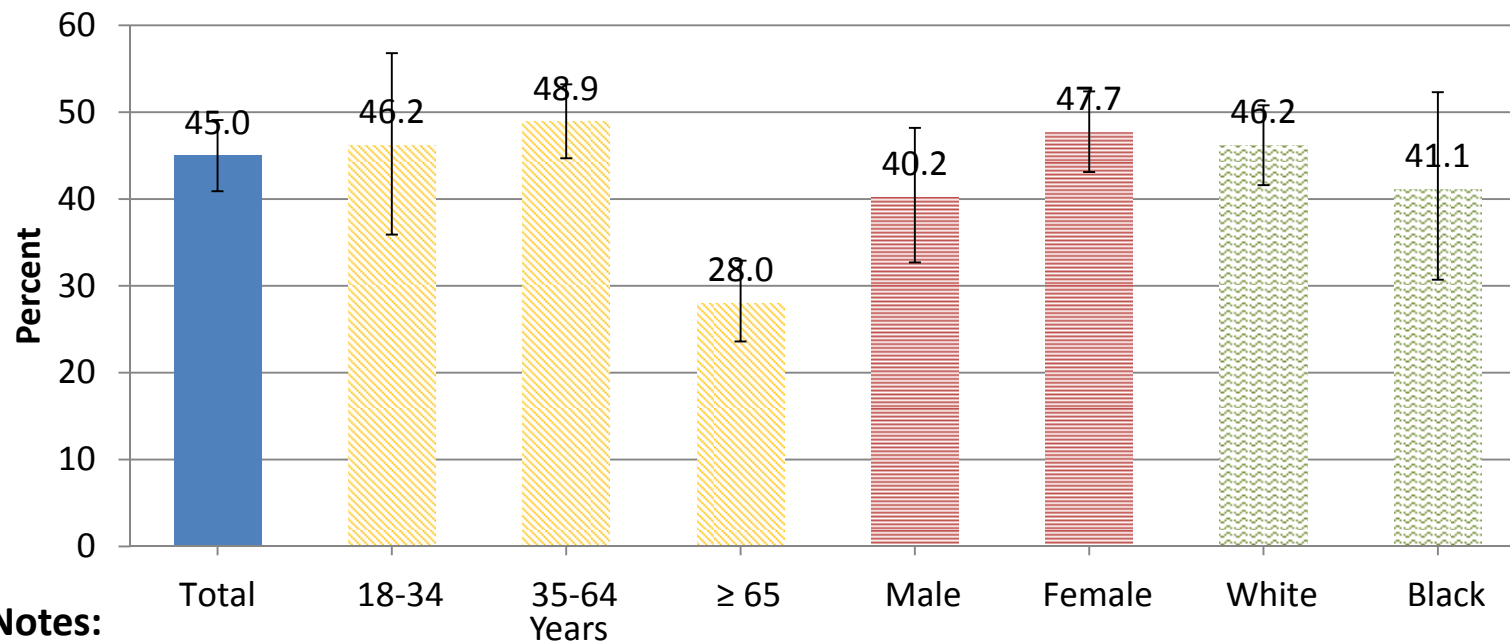
* χ^2 Test for independence within groups, p-value < 0.05.

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—CHILDREN

- Recommending measures to control exposure to asthma triggers is a key clinical activity for the management of asthma.
 - The prevalence of having been advised to modify their environment to improve asthma for children with current asthma within household was significantly higher among respondents who attended some college or graduated from college than respondents with less formal education.
 - No significant differences within household income groups

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who Ever Advised to Modify their Environment to Improve Their Asthma² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

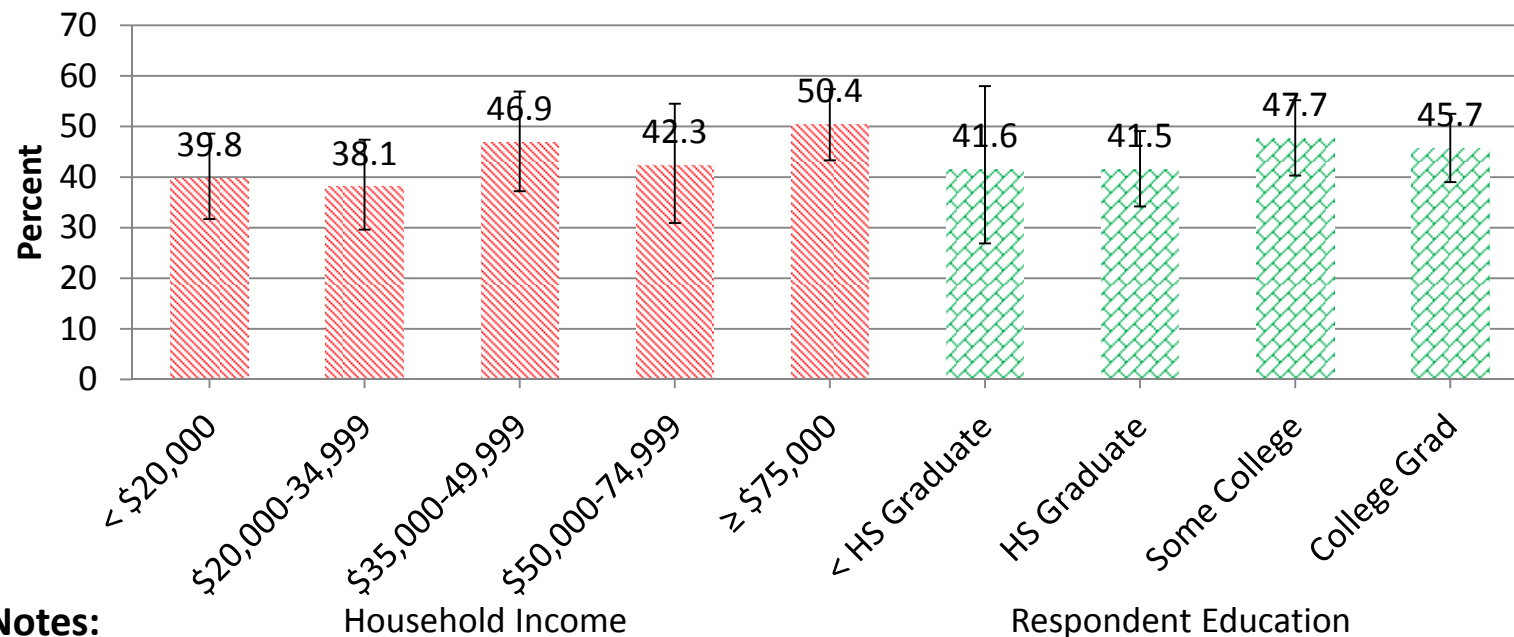
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded "yes" to the question, "Has a health professional ever advised you to change things in your home, school, or work to improve your asthma?"

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—ADULTS

- Recommending measures to control exposure to asthma triggers is a key clinical activity for the management of asthma.
 - 45.0% of adults with current asthma have been advised by a health professional to modify their environment to improve their asthma at some point in their life.
 - The prevalence was significantly higher among adults 18-34 or 35-64 than adults ≥ 65 .
 - No significant differences within race or sex groups

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who Ever Advised to Modify their Environment to Improve Their Asthma² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

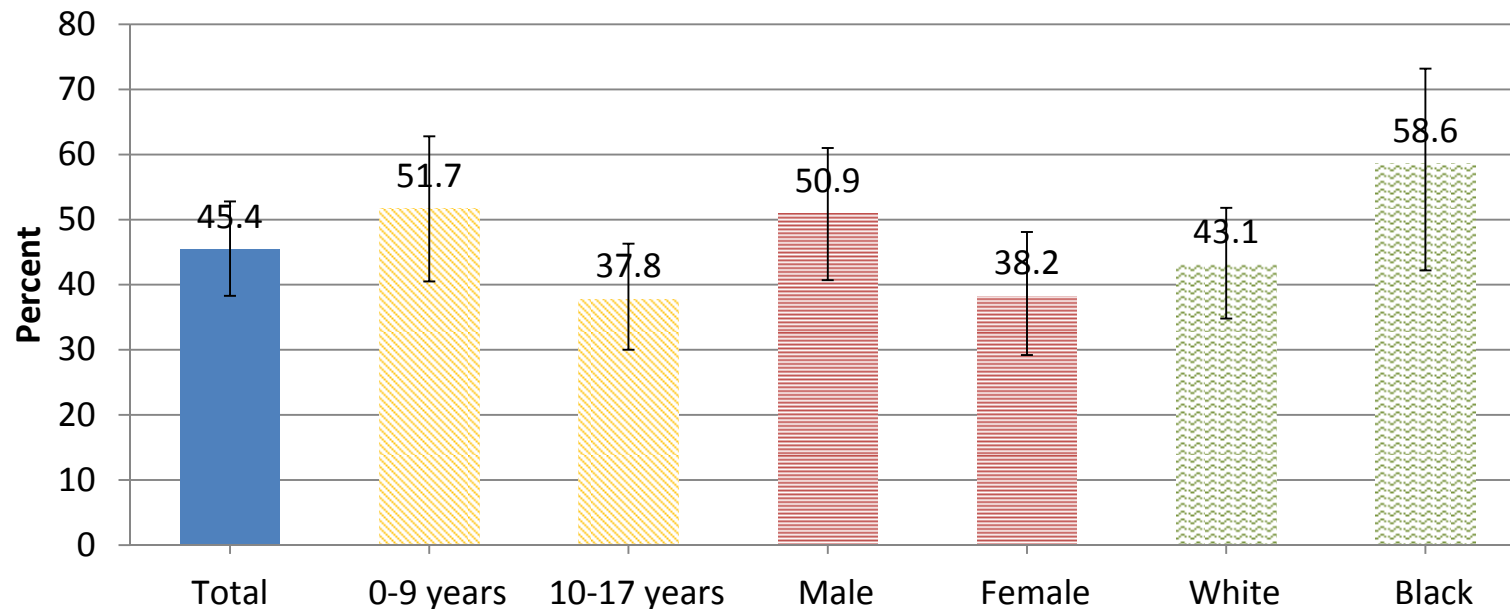
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded “yes” to the question, “Has a health professional ever advised you to change things in your home, school, or work to improve your asthma?”

ADVISED TO MODIFY ENVIRONMENT TO IMPROVE ASTHMA—ADULTS

- Recommending measures to control exposure to asthma triggers is a key clinical activity for the management of asthma.
 - No significant differences in the prevalence of having been advised to modify their environment to improve asthma for adults with current asthma within household income or education groups

ROUTINE ASTHMA CARE VISITS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had ≥ 2 Routine Asthma Care Visits for Asthma During Past 12 Months³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

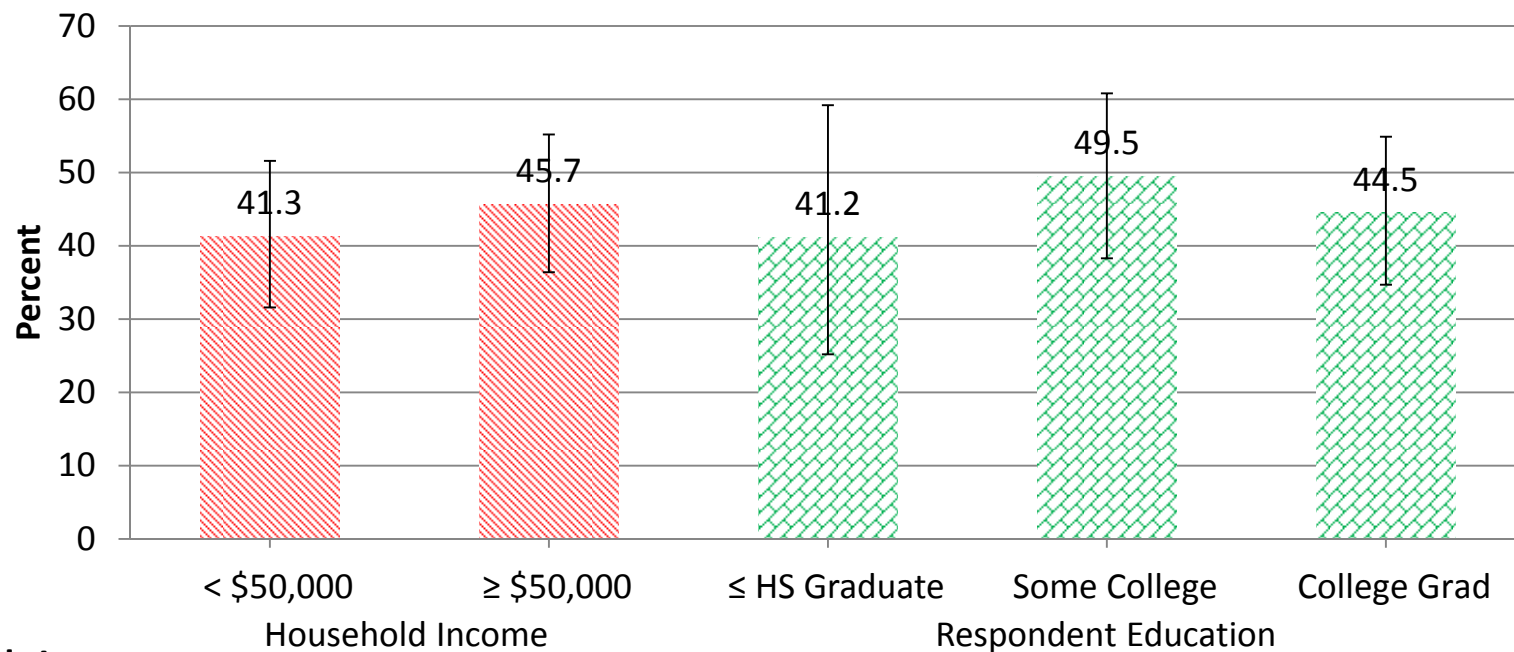
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 2 times to the following question, "During the past 12 months, how many times did {child's name} see a doctor or other health professional for a routine checkup for {his/her} asthma?"

ROUTINE ASTHMA CARE VISITS—CHILDREN

- According to national treatment guidelines, persons with asthma should visit their primary care provider for routine asthma care at least twice a year.
 - 45.4% of children with current asthma had 2 or more routine asthma care visits during the past 12 months.
 - No significant differences within age, sex, or race groups

ROUTINE ASTHMA CARE VISITS—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had ≥ 2 ED/Urgent Care Visits for Asthma During Past 12 Months³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

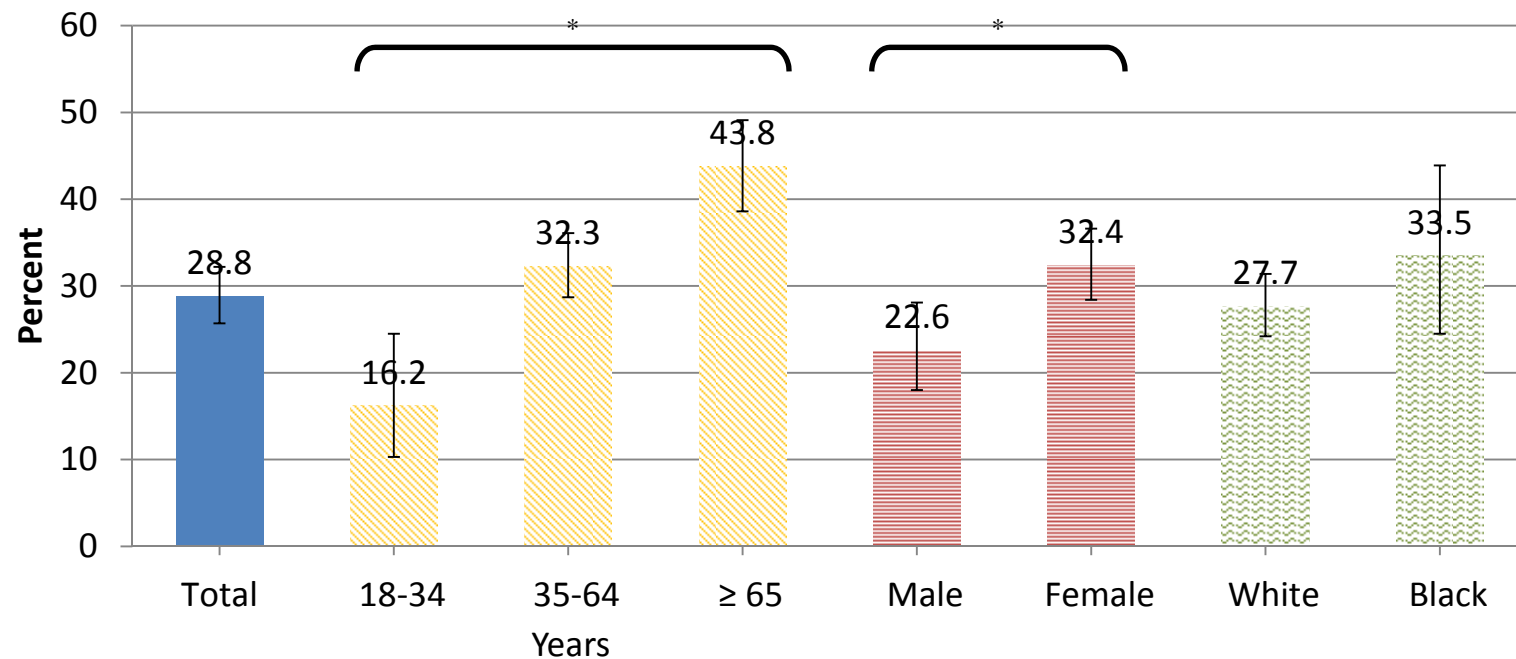
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported ≥ 2 times to the following question, "During the past 12 months, how many times did {child's name} see a doctor or other health professional for a routine checkup for {his/her} asthma?"

ROUTINE ASTHMA CARE VISITS—CHILDREN

- According to national treatment guidelines, persons with asthma should visit their primary care provider for routine asthma care at least twice a year.
 - No significant differences in the prevalence of having 2 or more routine asthma care visits during the past 12 months for children with current asthma within household income or respondent education groups

ROUTINE ASTHMA CARE VISITS—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had ≥2 Routine Asthma Care Visits for Asthma During Past 12 Months² by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥2 times to the following question, “During the past 12 months, how many times did you see a doctor or other health professional for a routine checkup for your asthma?”

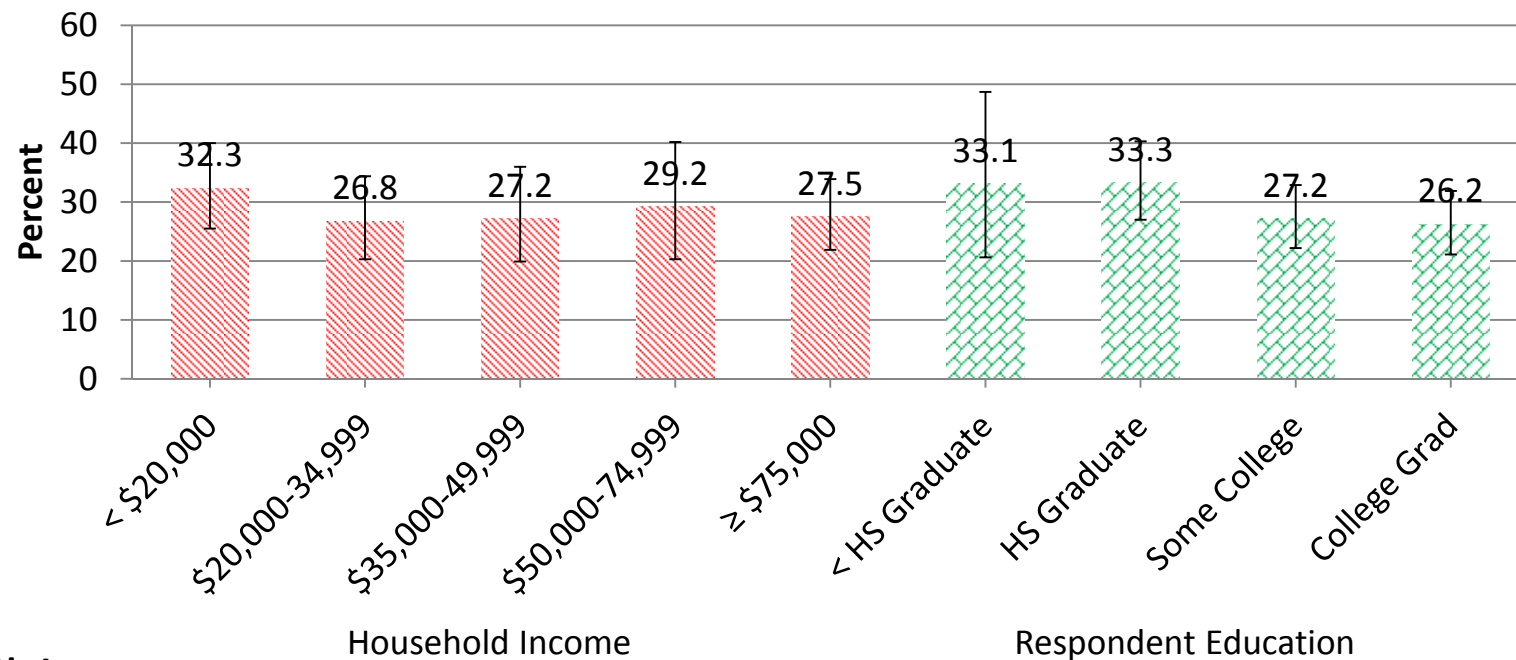
* χ^2 Test for independence within groups, p-value <0.05.

ROUTINE ASTHMA CARE VISITS—ADULTS

- According to national treatment guidelines, persons with asthma should visit their primary care provider for routine asthma care at least twice a year.
 - 28.8% of adults with current asthma had 2 or more routine asthma care visits during the past 12 months.
 - Prevalence increased significantly with each older age group.
 - No significant differences within race groups

ROUTINE ASTHMA CARE VISITS—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who had ≥ 2 Routine Asthma Care Visits for Asthma During Past 12 Months² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

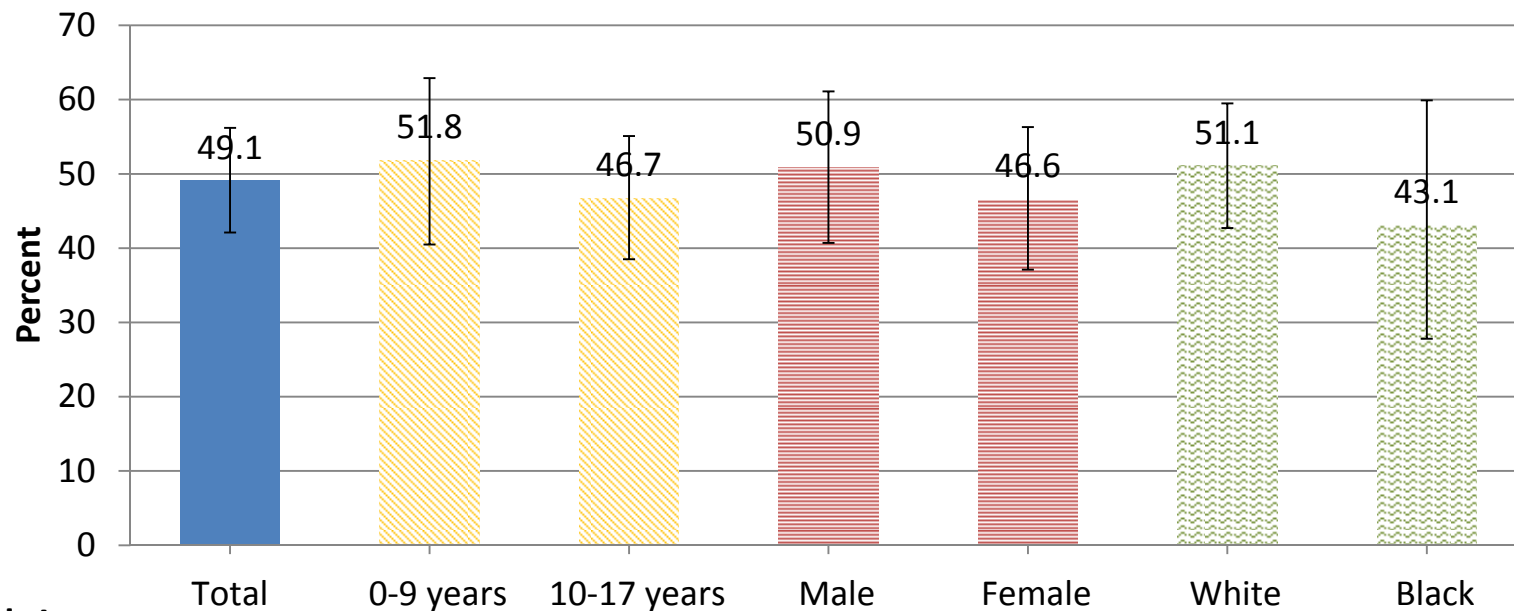
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported ≥ 2 times to the following question, "During the past 12 months, how many times did you see a doctor or other health professional for a routine checkup for your asthma?"

ROUTINE ASTHMA CARE VISITS—ADULTS

- According to national treatment guidelines, persons with asthma should visit their primary care provider for routine asthma care at least twice a year.
 - No significant differences in the prevalence of having 2 or more routine asthma care visits during the past 12 months for adults with current asthma within household income or education groups

LONG TERM CONTROL MEDICATION USE— CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had Used a Long Term Control medication³ During Past 3 months by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

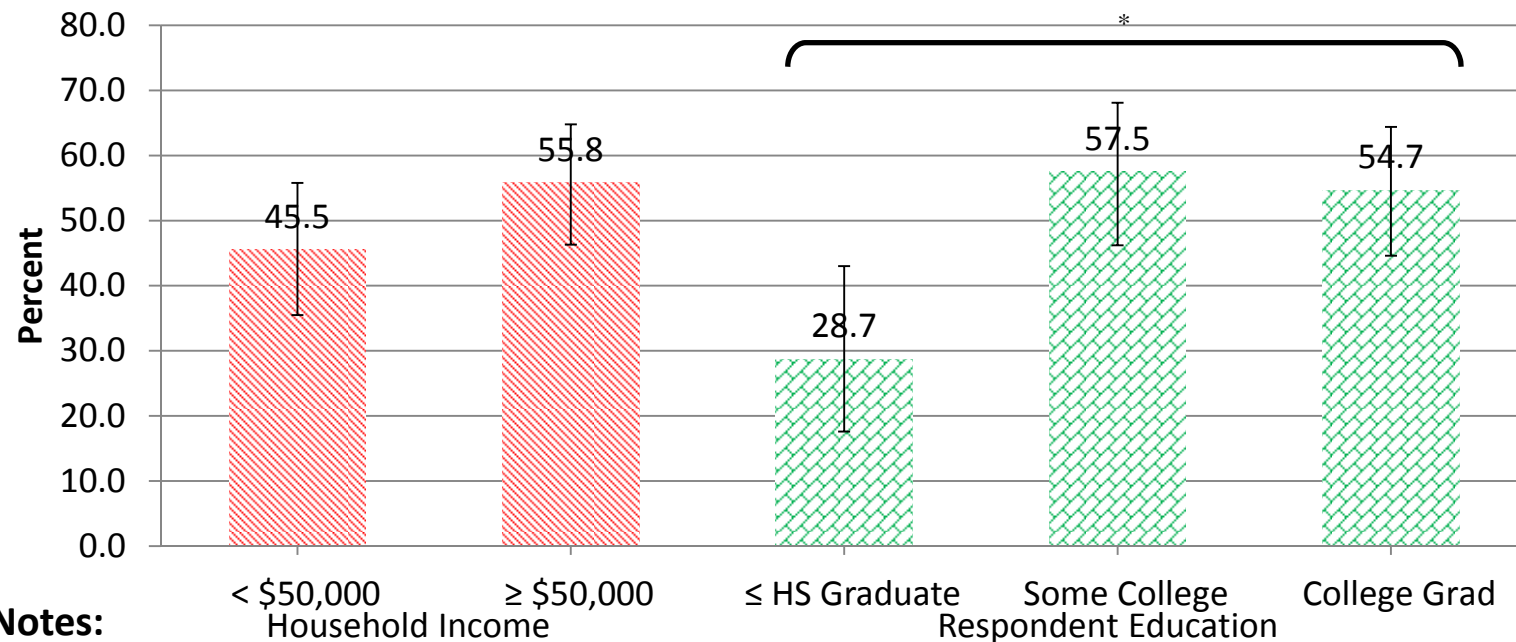
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported using a long term control medication in the past 3 months. Long term control medications were identified using the list of acceptable primary therapies for long term control of asthma by the NCQA HEDIS Technical Specifications for 2007. These included Inhaled Corticosteroids, Mast Cell Stabilizers, Leukotriene Modifiers, Methylxanthines, and certain combination therapies.

LONG TERM CONTROL MEDICATION USE— CHILDREN

- Long term control medication is recommended for children with persistent asthma.
 - 49.1% of children with current asthma had used a long term control medication during the past 3 months.
 - No significant differences in the prevalence of using a long term control medication for children with current asthma within age, race, or sex groups

LONG TERM CONTROL MEDICATION USE— CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had Used a Long term Control Medication³ During Past 3 Months by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Reported using a long term control medication in the past 3 months. Long term control medications were identified using the list of acceptable primary therapies for long term control of asthma by the NCQA HEDIS Technical Specifications for 2007. These included Inhaled Corticosteroids, Mast Cell Stabilizers, Leukotriene Modifiers, Methylxanthines, and certain combination therapies.

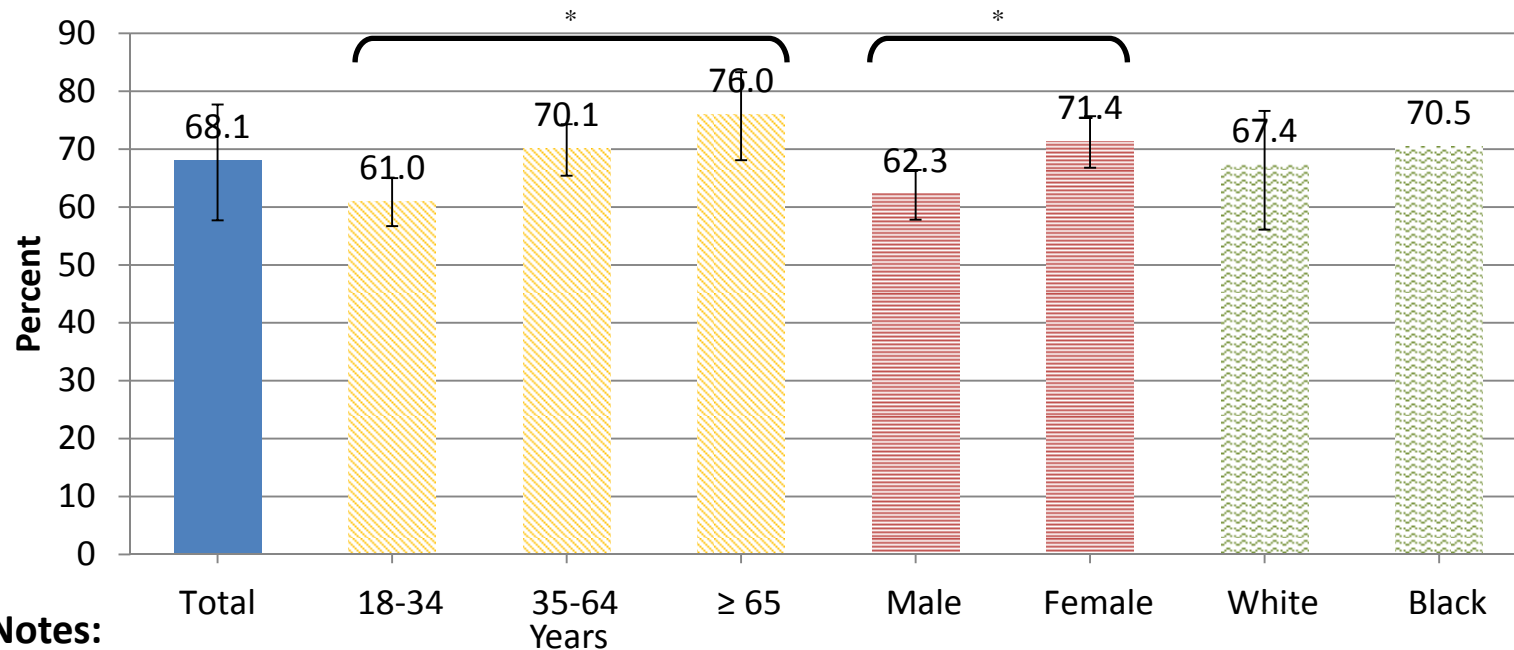
* χ^2 Test for independence within groups, p-value <0.05.

LONG TERM CONTROL MEDICATION USE— CHILDREN

- Long term control medication is recommended for children with persistent asthma.
 - The prevalence of using a long term control medication was significantly higher among respondents who attended some college or graduated from college than respondents who did not attend at least some college.
 - No significant differences in the prevalence of using a long term control medication for children with current asthma within respondent income groups

LONG TERM CONTROL MEDICATION USE— ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had Used a Long Term Control Medication² During Past 3 Months by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported using a long term control medication in the past 3 months. Long term control medications were identified using the list of acceptable primary therapies for long term control of asthma by the NCQA HEDIS Technical Specifications for 2007. These included Inhaled Corticosteroids, Mast Cell Stabilizers, Leukotriene Modifiers, Methylxanthines, and certain combination therapies.

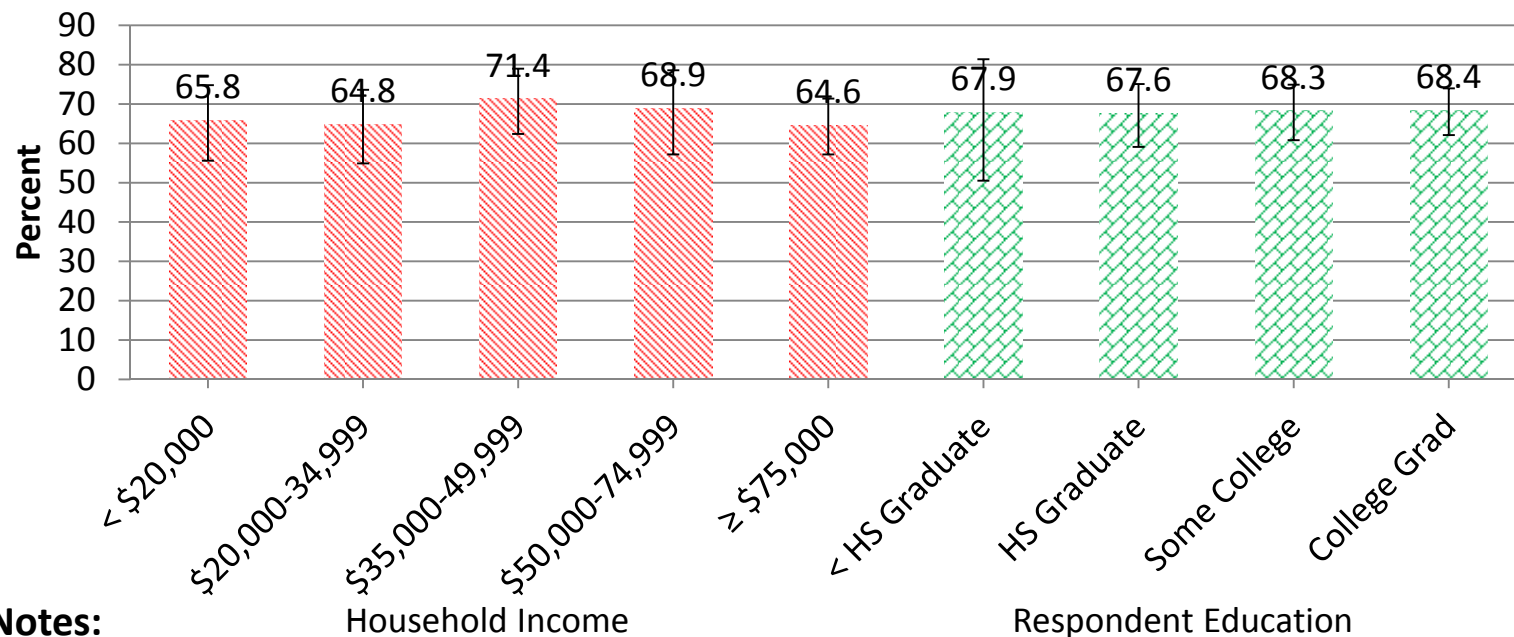
* χ^2 Test for independence within groups, p-value <0.05.

LONG TERM CONTROL MEDICATION USE— ADULTS

- Long term control medication is recommended for adults with persistent asthma.
 - 68.1% of adults with current asthma had used a long term control medication during the past 3 months.
 - The prevalence was significantly higher (24.6%) among adults ≥ 65 than adults 18-34.
 - The prevalence was significantly higher (14.6%) among females than males.
 - No significant differences within race groups

LONG TERM CONTROL MEDICATION USE— ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had Used a Long Term Control Medication² During Past 3 Months by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

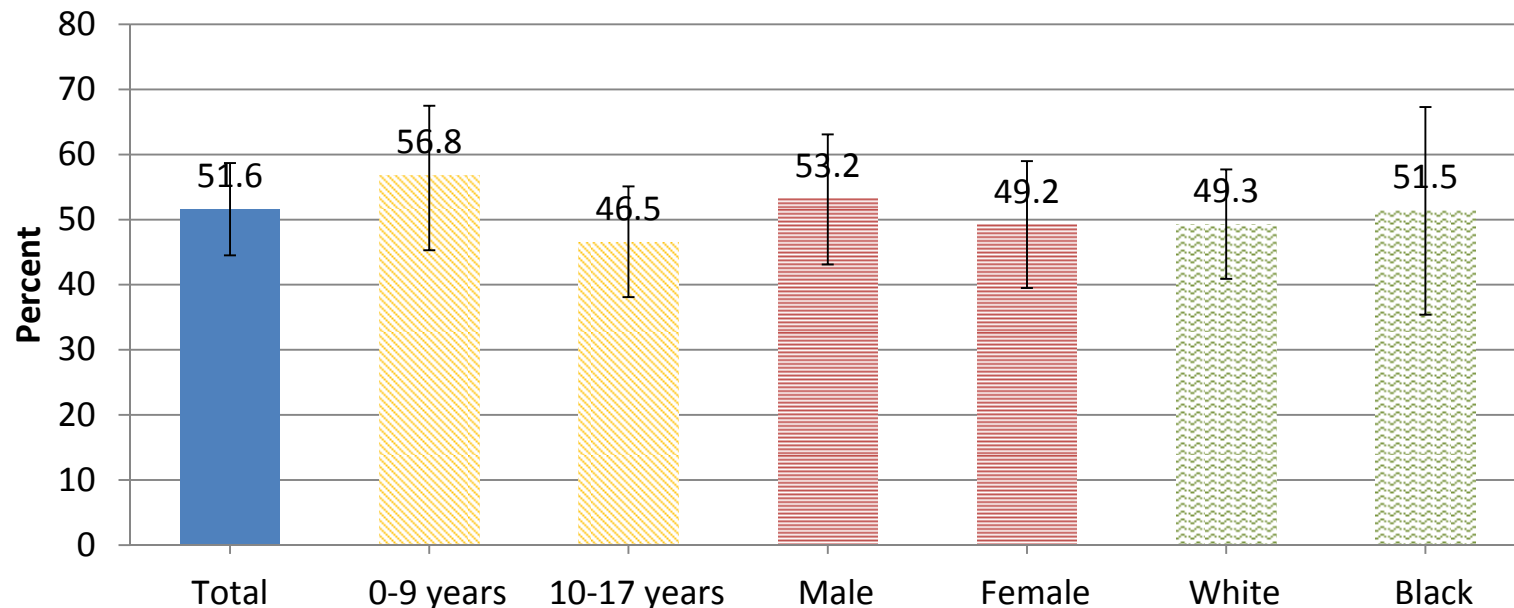
1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Reported using a long term control medication in the past 3 months. Long term control medications were identified using the list of acceptable primary therapies for long term control of asthma by the NCQA HEDIS Technical Specifications for 2007. These included Inhaled Corticosteroids, Mast Cell Stabilizers, Leukotriene Modifiers, Methylxanthines, and certain combination therapies.

LONG TERM CONTROL MEDICATION USE— ADULTS

- Long term control medication is recommended for adults with persistent asthma.
 - No significant differences in the prevalence of using a long term control medication for adults with current asthma within household income or respondent education groups

INFLUENZA VACCINE—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had an Influenza Vaccine During Past 12 Months³ by Demographic Characteristics, Michigan, 2008-2010



Data Notes:

Sources: Asthma Callback Survey and MiBRFSS, MDCH

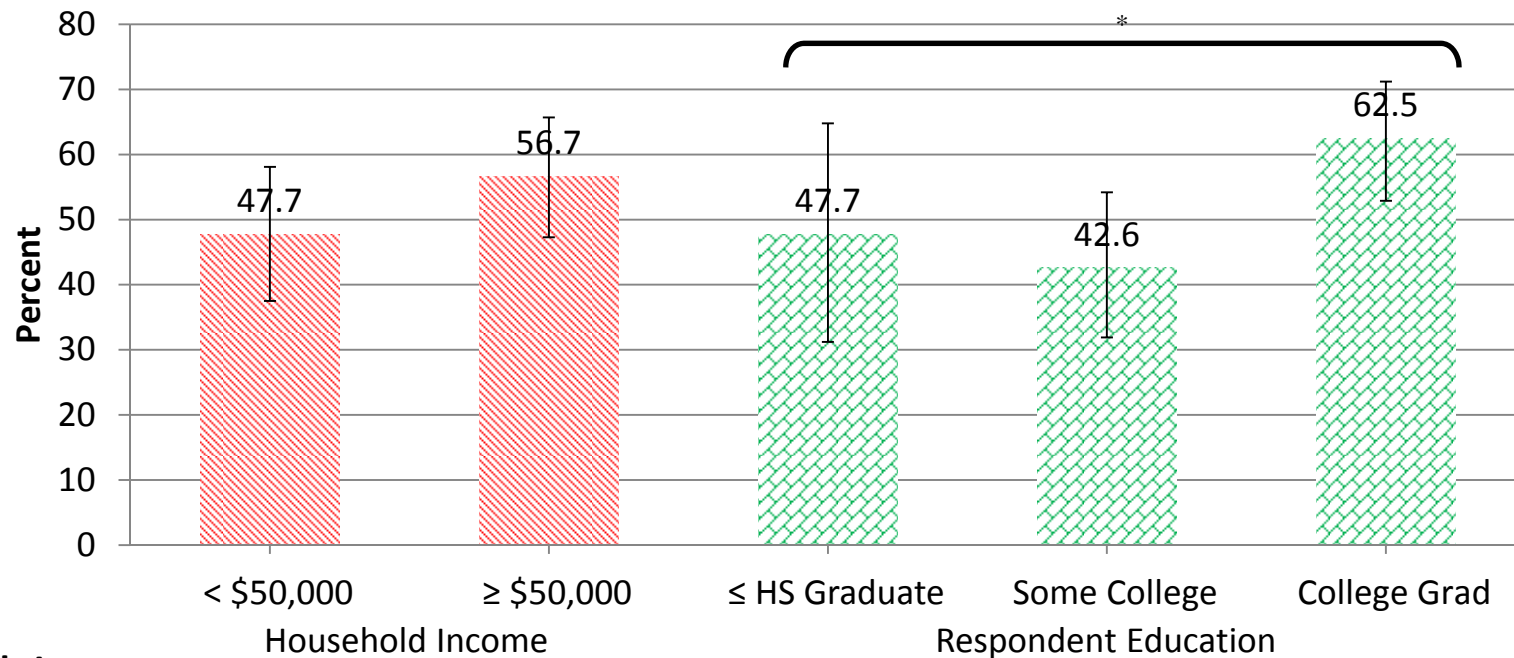
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to either of the following questions, “A flu shot is an influenza vaccine injected in your arm. During the past 12 months, did {child’s name} have a flu shot?” or “A flu vaccine that is sprayed in the nose is called FluMist. During the past 12 months, did {child’s name} have a flu vaccine that was sprayed in {his/her} nose?”

INFLUENZA VACCINE—CHILDREN

- According to national treatment guidelines, persons with asthma should receive an annual influenza vaccine, regardless of severity.
 - 51.6% of children with current asthma had an influenza vaccine during the past 12 months.
 - No significant difference in the prevalence of having received an influenza vaccination during the past 12 months for children with current asthma within age, sex, or race groups

INFLUENZA VACCINE—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who had an Influenza Vaccine During Past 12 Months³ by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Sources: Asthma Callback Survey and MiBRFSS, MDCH

1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Responded “yes” to either of the following questions, “A flu shot is an influenza vaccine injected in your arm. During the past 12 months, did {child’s name} have a flu shot?” or “A flu vaccine that is sprayed in the nose is called FluMist. During the past 12 months, did {child’s name} have a flu vaccine that was sprayed in {his/her} nose?”

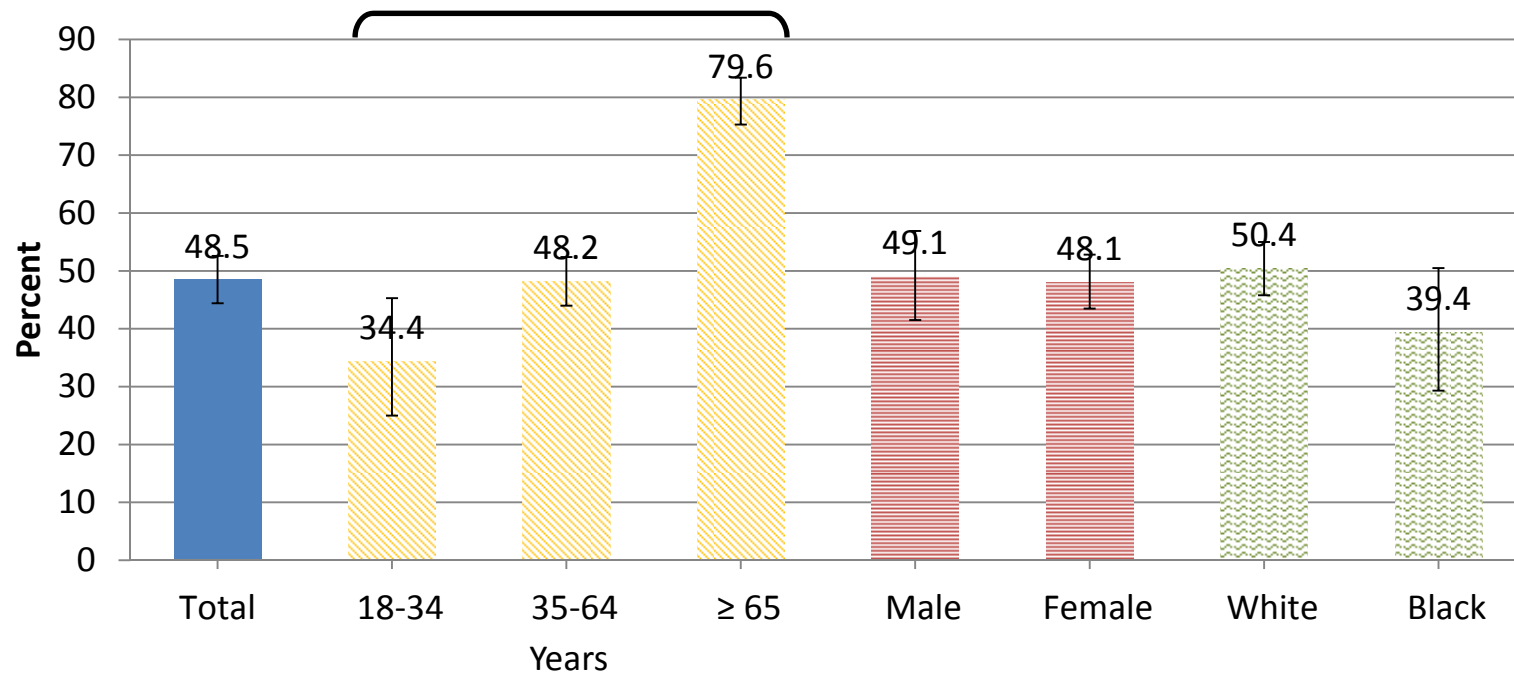
* χ^2 Test for independence within groups, p-value <0.05.

INFLUENZA VACCINE—CHILDREN

- The prevalence of having received an influenza vaccination during the past 12 months for children with current asthma was significantly greater (46.7%) among respondents who Graduated from College than respondents who attended Some College.
- No significant differences within household income

INFLUENZA VACCINE—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who had a
Influenza Vaccine During Past 12 Months² by Demographic
Characteristics, Michigan, 2008-2010



Data Notes:

Sources: Asthma Callback Survey and MiBRFSS, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded “yes” to either of the following questions on the MiBRFSS, “A flu shot is an influenza vaccine injected in your arm. During the past 12 months, did you have a flu shot?” or “A flu vaccine that is sprayed in the nose is called FluMist. During the past 12 months, did you have a flu vaccine that was sprayed in your nose?”

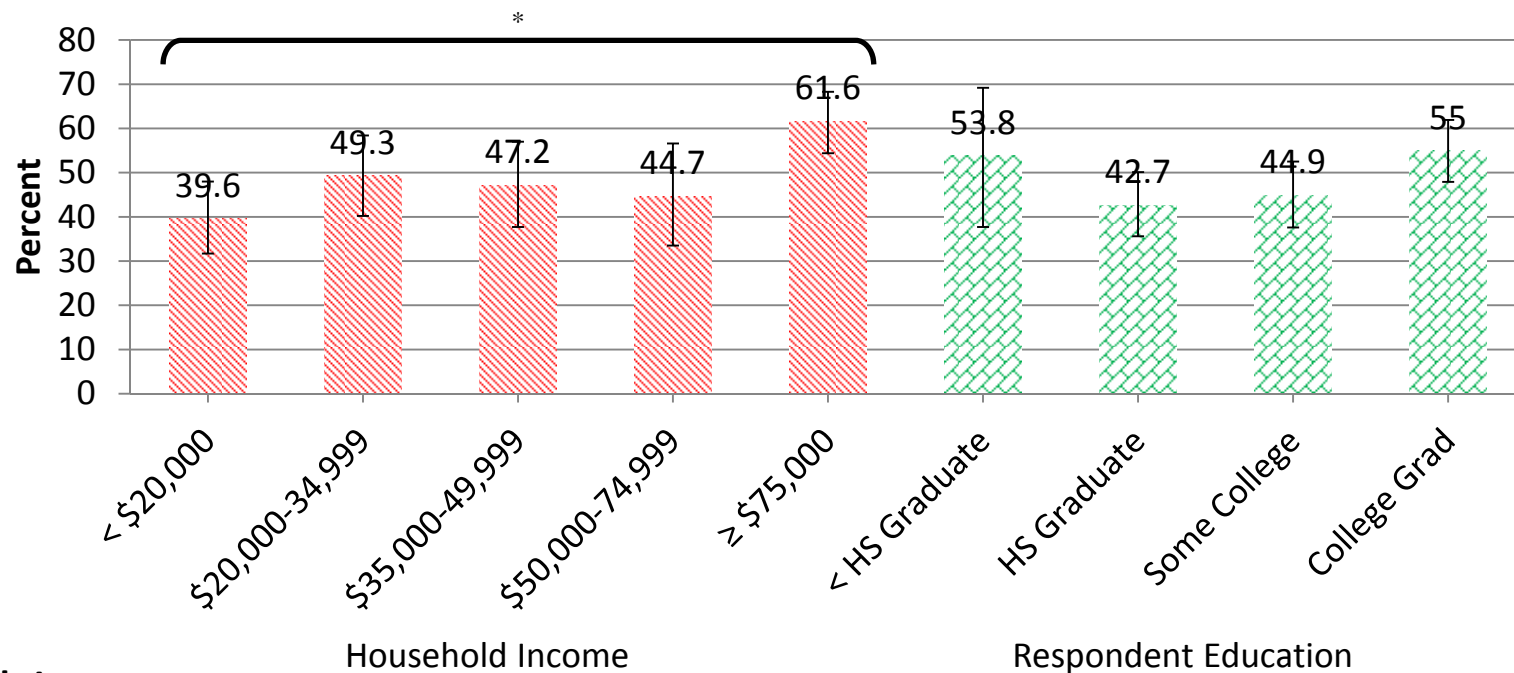
* χ^2 Test for independence within groups, p-value <0.05.

INFLUENZA VACCINE—ADULTS

- According to national treatment guidelines, persons with asthma should receive an annual influenza vaccine, regardless of severity.
 - 48.5% of adults with current asthma had received an influenza vaccination during the past 12 months.
 - The prevalence was significantly different within age groups:
 - 1.7 times higher for adults ≥ 65 than adults 35-64
 - 2.3 times higher for adults ≥ 65 than adults 18-34
 - 1.4 times higher for adults 35-64 than adults 18-34
 - No significant difference within sex groups

INFLUENZA VACCINE—ADULTS

Percent of Adults (≥ 18 years) with Current Asthma¹ who had a Influenza Vaccine During Past 12 Months² by Socioeconomic Characteristics, Michigan, 2008-2010



Data Notes:

Sources: Asthma Callback Survey and MiBRFSS, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Responded “yes” to either of the following questions on the MiBRFSS, “A flu shot is an influenza vaccine injected in your arm. During the past 12 months, did you have a flu shot?” or “A flu vaccine that is sprayed in the nose is called FluMist. During the past 12 months, did you have a flu vaccine that was sprayed in your nose?”

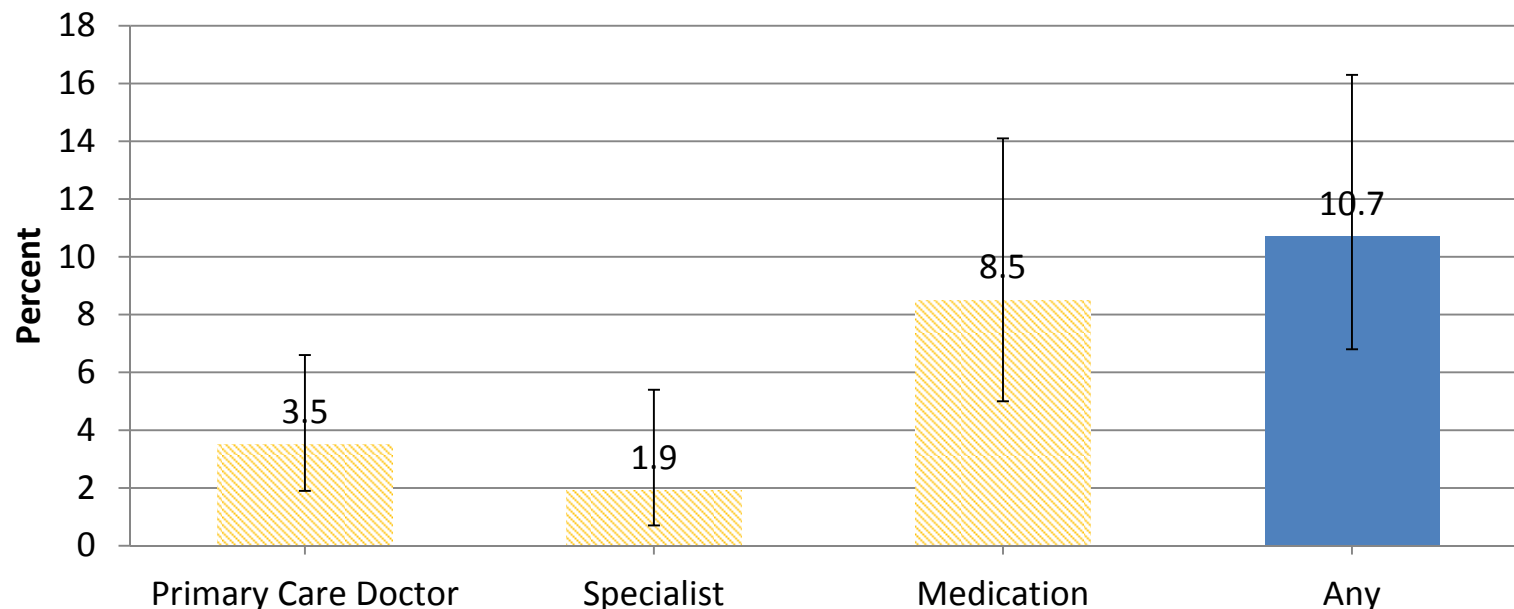
* χ^2 Test for independence within groups, p-value <0.05.

INFLUENZA VACCINE—ADULTS

- According to national treatment guidelines, persons with asthma should receive an annual influenza vaccine, regardless of severity.
 - The prevalence of having received an influenza vaccination during the past 12 months for adults with asthma was significantly higher (55.6%) among those with a household income $\geq \$75,000$ per year per year than those with a household income of $< \$20,000$

COST BARRIERS TO CARE—CHILDREN

Percent of Children¹ (<18 years) with Current Asthma² who Experienced a Cost Barrier to Care During Past 12 Months by Type of Care³, Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

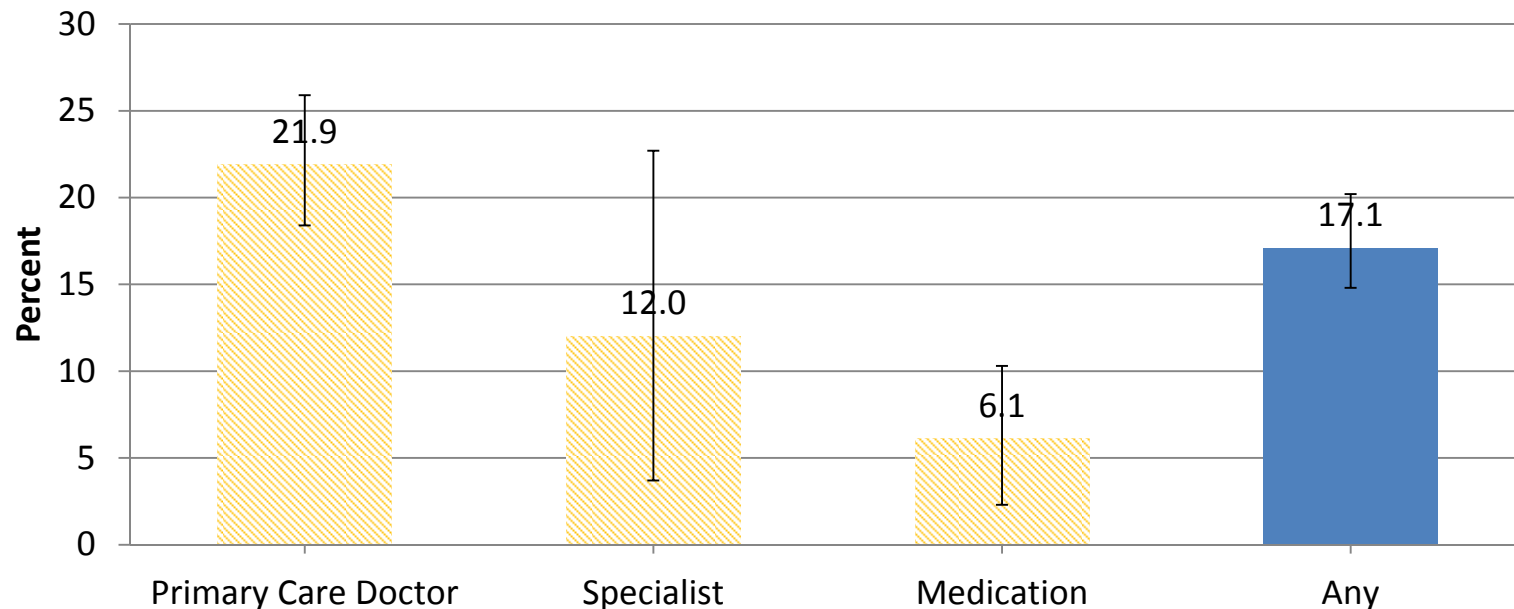
1. Based on proxy responses from adult respondent in the household.
2. Current asthma is defined as a positive response to both lifetime and current asthma questions.
3. Primary Care Doctor: Responded “yes” to the question, “Was there a time in the past 12 months when {child’s name/you} needed to see {his/her/your} primary care doctor for asthma but could not because of the cost?”
Specialist: Responded “yes” to the question, “Was there a time in the past 12 months when you were referred to a specialist for {child’s name/your} asthma care but could not go because of the cost?”
Medication: Responded “yes” to the question, “Was there a time in the past 12 months when {child’s name/you} needed medication for {his/her/your} asthma but you could not buy it because of the cost?”

COST BARRIERS TO CARE—CHILDREN

- 10.7% of respondents for children with current asthma reported experiencing a cost barrier to their asthma care during the past 12 months.
- The most frequent type of cost barrier was related to medication; during the past 12 months, 8.5% respondents for children with current asthma reported needing asthma medication for the child but could not buy it because of cost.

COST BARRIERS TO CARE—ADULTS

Percent of Adults (≥18 years) with Current Asthma¹ who Experienced a Cost Barrier to Care During Past 12 Months by Type of Care², Michigan, 2008-2010



Data Notes:

Source: Asthma Callback Survey, MDCH

1. Current asthma is defined as a positive response to both lifetime and current asthma questions.
2. Primary Care Doctor: Responded “yes” to the question, “Was there a time in the past 12 months when {child’s name/you} needed to see {his/her/your} primary care doctor for asthma but could not because of the cost?”
Specialist: Responded “yes” to the question, “Was there a time in the past 12 months when you were referred to a specialist for {child’s name/your} asthma care but could not go because of the cost?”
Medication: Responded “yes” to the question, “Was there a time in the past 12 months when {child’s name/you} needed medication for {his/her/your} asthma but you could not buy it because of the cost?”

COST BARRIERS TO CARE—ADULTS

- 17.1% of adults with asthma experienced a cost barrier to their asthma care during the past 12 months. This is significantly higher than the prevalence of cost barriers among children with current asthma.
- The most frequent type of cost barrier for adults is that related to Primary Care; during the past 12 months, 21.9% of adults with current asthma could not access Primary Care because of cost

For More Information on ACBS, MiBRFSS, Asthma Surveillance

- If you would like a .ppt version of this report, please contact WahlR@michigan.gov
- Contact:
 - MiBRFSS
Chris Fussman
Chronic Disease Epidemiology Unit
517 335-8144
FussmanC@michigan.gov
 - Asthma
Robert Wahl
Environmental Epidemiologist
Division of Environmental Health, Bureau of Epidemiology
517-335-9151
WahlR@Michigan.gov

For More Information on Asthma Management

- **National Heart Lung & Blood Institute** – 2007 NAEPP Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma, Full and Summary Reports: www.nhlbi.nih.gov/guidelines/asthma/asthgdln.html
- **Guideline Implementation Steps & Tools (GIST)** – provider education and practice redesign program for primary care clinicians: www.GetAsthmaHelp.org/GIST
- **ASTHMA IQ** – a web-based tool to help track and manage patients with asthma: www.asthmaiq.org/
- **Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers** – to help integrate environmental management of asthma into pediatric health care. www.neefusa.org/health/asthma/asthmaguidelines.html