

INDOOR AIR QUALITY

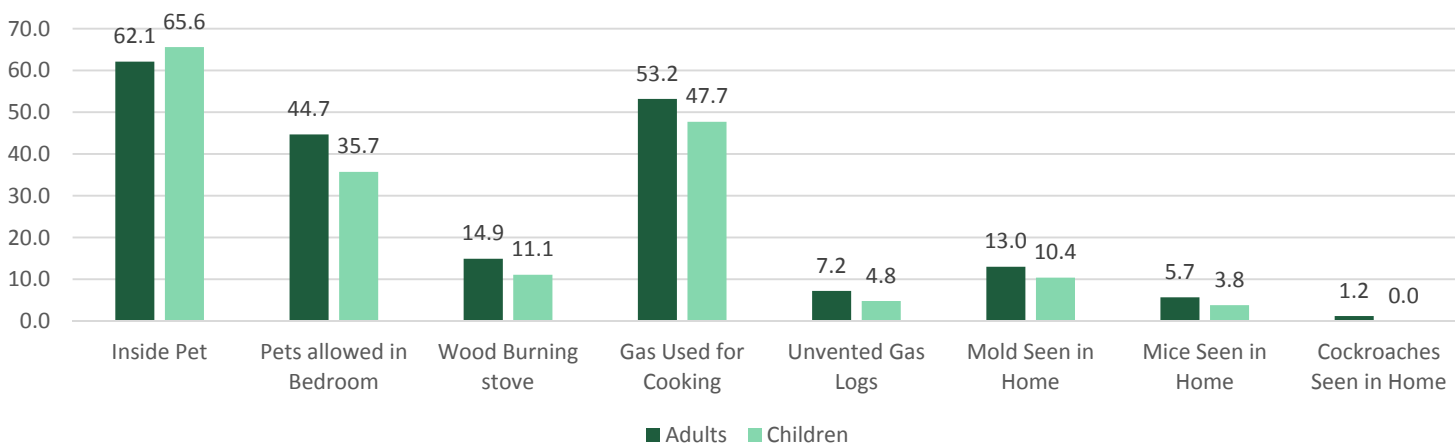
Many asthma triggers can be found in the home. These triggers include tobacco smoke, dust mites, mold, cockroaches, and pets. It is important to be educated on how to prevent, reduce or avoid these triggers in your home. This report highlights information on asthma triggers commonly found in the home and behaviors that help avoid these asthma triggers.

Asthma Triggers in the Home

Adults and Children with Asthma

- 62.1% of adults and 65.6% of children report they have indoor pets and 44.7% of adults and 35.7% of children report allowing the pet in their bedrooms. White adults (51.0%) were more likely to report allowing the pet in their bedroom than Black adults (15.5%) (data not shown).
- 14.9% of adults and 11.1% of children report having a wood burning stove or wood burning fireplace in their home. 7.2% of adults and 4.8% of children report living in a home that uses unvented gas logs, unvented fireplaces, or unvented gas stoves.
- 13.0% of adults and 10.4% of children report living in a home where mold was either seen or smelled.

Prevalence of Asthma Triggers in Home Environment among Michigan Adults and Children with Current Asthma, 2011-2013



Data source: Michigan Asthma Call Back Survey, 2011-2013

- Adults had an average of 4.0 asthma triggers in their home and children had 3.8 triggers. Triggers are listed in the graph above.
- Black adults had significantly fewer triggers than White and Other adults, 3.4 triggers compared to 4.1. No differences were seen by gender for adults.
- Adults with less than two emergency department (ED) visits in the last year had an average of 4.0 triggers whereas adults with two or more ED visits in the past year had 4.2 triggers.

	Average Number of Asthma Triggers in Home	
	Adults	Children
Total	4.0	3.8
Male	3.9	3.7
Female	4.0	3.9
White	4.1	3.9
Black	3.4	~
Other	4.1	~
<2 visits to ED in past year	4.0	3.8
≥2 visits to ED in past year	4.2	~

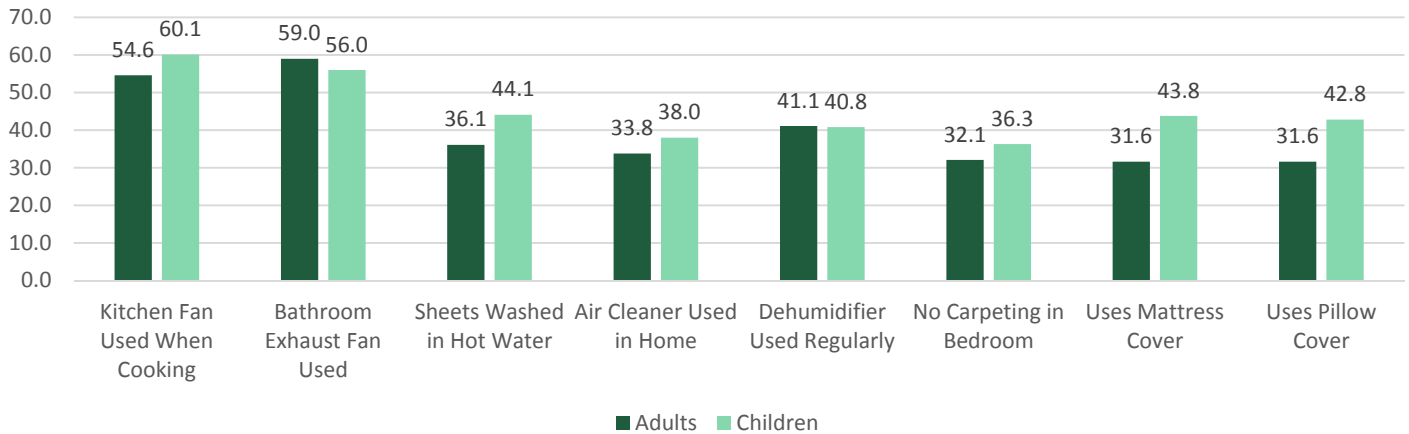
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Asthma Trigger Avoidance Behaviors

Adults and Children with Current Asthma

- 54.6% of adults and 60.1% of children reported living in a home where the kitchen fan is used when cooking and 59.0% of adults and 56.0% of children in a home where the bathroom exhaust fan is used.
- 36.1% of adults and 44.1% of children report that their sheets are washed in hot water, adult females (38.5%) reported this more than adult males (31.9%).
- 31.6% of adults and 43.8% of children reported using a mattress cover and 31.6% of adults and 42.8% of children reported using a pillow cover.

Prevalence of Asthma Trigger Avoidance in the Home among Michigan Adults and Children with Current Asthma, 2011-2013



Data source: Michigan Asthma Call Back Survey, 2011-2013

- Adults reported on average 3.5 asthma trigger avoidance behaviors in their home and children reported 3.9. Trigger avoidance behaviors are listed in the graph above.
- Male adults reported significantly fewer asthma trigger avoidances (3.3) compared to female adults (3.7). There was no significant differences by gender among the children.
- Adults with two or more ED visits in the past year had fewer asthma trigger avoidance behaviors (3.3) compared to adults with less than two ED visits (3.6), though the difference was not significant.

	Average Number of Asthma Triggers Avoided in Home	
	Adults	Children
Total	3.5	3.9
Male	3.3	4.1
Female	3.7	3.6
White	3.6	4.0
Black	3.3	~
Other	3.6	~
<2 visits to ED in past year	3.6	3.9
≥2 visits to ED in past year	3.3	~

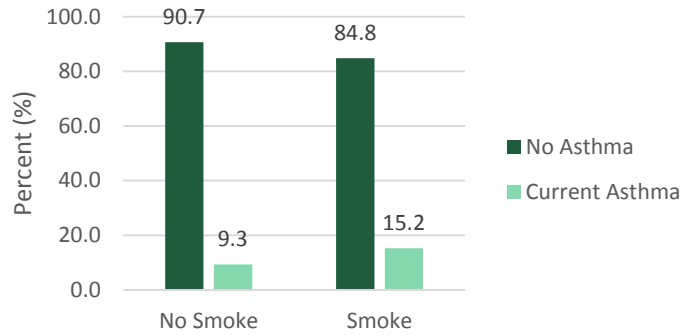
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Secondhand Smoke among Adults

Smoking in the House

- Adults who reported being exposed to secondhand smoke within their home were more likely to report current asthma (15.2%) compared to those not exposed to secondhand smoke (9.3%).

Prevalence of Michigan Adults by Exposure to Cigarette Smoke in the Home, 2015

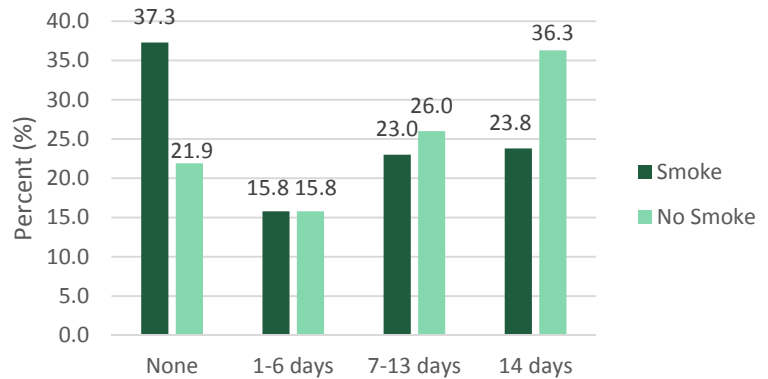


Data source: Michigan Behavior Risk Factor Survey, 2015

Asthma Symptom-Free Days

- Adults who were exposed to secondhand smoke in the home were more likely to report having no symptom-free days (37.3%) compared to adults not exposed to secondhand smoke (21.9%).
- Adults who were not exposed to secondhand smoke in the home were more likely to report being symptom-free all 14 days (36.3%) compared to adults exposed to secondhand smoke (23.8%).

Number of Days with No Asthma Symptoms in the Past 2 Weeks among Michigan Adults with Current Asthma, by Secondhand Smoke Exposure, 2011-2013

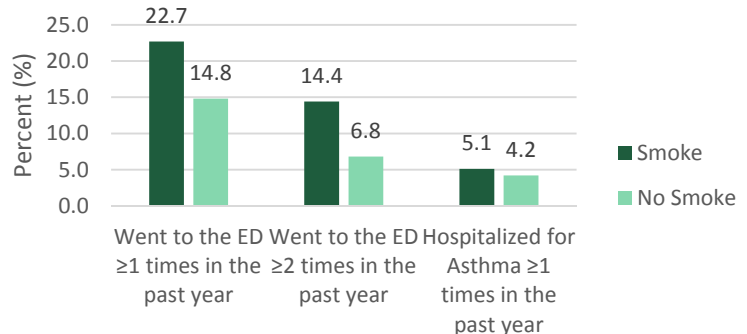


Data source: Michigan Asthma Call Back Survey, 2011-2013

Healthcare Utilization

- Adults who were exposed to secondhand smoke in the home were more likely to report visiting the emergency department (ED) at least once (22.7%) compared to adults not exposed to secondhand smoke (14.8%).
- Adults who were exposed to secondhand smoke in the home were more likely to report visiting the ED two or more times (14.4%) compared to adults not exposed to secondhand smoke (6.8%).
- Adults who were exposed to secondhand smoke in the home were more likely to report being hospitalized at least once (5.1%) compared to adults not exposed to secondhand smoke (4.2%). However this difference is not statistically significant.

Prevalence of Health Care Utilization among Michigan Adults with Current Asthma, by Exposure to Secondhand Smoke, 2011-2013



Data source: Michigan Asthma Call Back Survey, 2011-2013

Notes**Definitions:**

- Current asthma is defined as a “yes” response to both of the following questions: “Have you ever been told by a doctor or other health professional that you have asthma?” and “Do you still have asthma?”.
- Secondhand smoke exposure in the was defined as a ‘yes’ response to the question: “In the past 7 days did anyone smoke cigarettes, cigars, or pipes anywhere inside your home?”.

Methods:

- For the Behavior Risk Factor Survey a weighting methodology known as iterative proportional fitting or raking was used in 2014 to allow for the incorporation of cell phone data and to improve the accuracy of prevalence estimates based on MiBRFS 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. 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. If the 95% CIs for two estimates from different subpopulations or survey years did not overlap, they were considered to be statistically different. Unless otherwise specified, respondents who answered that they did not know or refused to answer were not included in the calculation of estimates.
- For the Adult Asthma Call Back Survey, the total 3-year sample size of completed interviews for adults was 2,314 with 748 from 2011, 718 from 2012, and 848 from 2013 and for the Child Asthma Call Back Survey, the total 3-year sample size of completed interviews by a parent or guardian for children less than 18 years was 435, with 148 from 2011, 147 from 2012, and 140 from 2013. Estimates were weighted to adjust for the probabilities of selection and a raking adjustment factor that adjusted for the distribution of Michigan Adults by telephone source, detailed race/ethnicity, education level, marital status, age by gender, gender by race/ethnicity, age by race/ethnicity, and renter/owner status all at the state level. Analyses were performed in SAS-Callable SUDAAN, a statistical computing program that was designed for complex sample surveys. The prevalence estimates shown in the graphs within this report are restricted to adults with current asthma (N=1,785) and to children with current asthma (N=310).

Data Source:

- Michigan Behavioral Risk Factor Survey, 2014, Lifecourse Epidemiology and Genomics Division, Michigan Department of Health and Human Services.
- Michigan Asthma Call Back Survey, 2011-2013, Lifecourse Epidemiology and Genomics Division, Michigan Department of Health and Human Services.

For More Information

Visit www.michigan.gov/asthma or www.michigan.gov/asthmaepi to view information on asthma, and to see additional data and reports.

www.michigan.gov/brfs to view more information on the Michigan Behavioral Risk Factor Survey.

Suggested Citation:

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