

**Prevalence of Asthma-Related Health Conditions Among Michigan Adults with Current Asthma  
Estimates from the Michigan Asthma Call-Back Survey  
2013-2017 Combined**

**Standard Tables**

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## **Introduction**

The Michigan Asthma Call-Back Survey has been conducted annually since 2005 in conjunction with the Michigan Behavioral Risk Factor Survey (MiBRFS), an annual, statewide landline and cellular telephone survey of Michigan adults aged 18 years and older. Both of these surveys are conducted through a collaborative effort among the Population Health Surveillance Branch (PHSB) at the Centers for Disease Control and Prevention (CDC), the Office for Survey Research at Michigan State University's Institute for Public Policy and Social Research, and the Michigan Department of Health and Human Services. The MiBRFS participates in the national [Behavioral Risk Factor Surveillance System](#) that is coordinated by PHSB.

Landline and cell phone respondents to the MiBRFS who had ever been diagnosed with asthma or whose randomly selected child had ever been diagnosed with asthma were asked at the end of the MiBRFS interview if they would be willing to participate in an additional interview focused on asthma. Those who agreed were called back within two weeks of the MiBRFS interview and administered a comprehensive, standardized questionnaire on asthma-related symptoms, health care, medication, and management. Two separate, but very similar, questionnaires were used: one with questions about the adult respondent with asthma and the other with questions about the selected child with asthma.

This report presents the results for adults from the 2013-2017 Michigan Asthma Call-Back Surveys combined. The total 5-year sample size of completed interviews for adults was 3,445, with 848 from 2013, 547 from 2014, 541 from 2015, 849 from 2016, and 660 from 2017. 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 and 95% confidence intervals, included within the tables that follow, were restricted to adults with current asthma (n=2,582). Current asthma was 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 had asthma?” and “Do you still have asthma?”

<b>Table 1. Prevalence of Asthma Symptoms, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>				
	<b>n<sup>a</sup></b>	<b>Had Asthma Symptoms on ≥ 9 Days in Past Month<sup>b</sup></b>	<b>Difficulty Sleeping Due to Asthma Symptoms on ≥ 2 Days in Past Month<sup>c</sup></b>	<b>Usual Activities Limited at Least a Little During Past 12 Months<sup>d</sup></b>
<b>Total</b>	<b>2,582</b>	<b>43.4 (40.7-46.2)</b>	<b>31.7 (29.1-34.5)</b>	<b>53.5 (50.7-56.3)</b>
<b>Age</b>				
18-34	268	34.2 (27.3-41.9)	26.9 (20.5-34.5)	50.6 (43.2-58.0)
35-44	220	38.9 (31.3-47.0)	31.5 (24.2-39.7)	50.2 (42.1-58.3)
45-54	380	45.2 (38.9-51.6)	36.2 (30.0-42.9)	53.6 (47.3-59.7)
55-64	570	49.0 (43.7-54.3)	36.4 (31.2-41.9)	59.0 (53.8-64.1)
65-74	429	50.3 (44.4-56.2)	33.1 (27.3-39.5)	54.9 (48.9-60.7)
≥ 75	198	43.8 (35.9-51.9)	28.5 (21.5-36.6)	55.8 (47.4-63.8)
<b>Gender</b>				
Male	764	40.9 (36.3-45.7)	29.1 (24.7-33.9)	48.7 (43.9-53.5)
Female	1,784	44.8 (41.4-48.2)	33.1 (29.9-36.5)	56.1 (52.7-59.4)
<b>Race</b>				
White	2,099	43.2 (40.1-46.3)	27.5 (24.7-30.4)	50.7 (47.7-53.8)
Black	272	42.0 (34.5-49.8)	50.3 (42.3-58.2)	62.3 (54.4-69.5)
<b>Household Income</b>				
< \$20,000	569	58.6 (52.8-64.1)	53.0 (47.0-58.8)	68.6 (62.9-73.9)
\$20,000-34,999	478	46.6 (40.3-53.0)	37.8 (31.5-44.5)	59.4 (53.2-65.4)
\$35,000-49,999	313	39.2 (31.4-47.7)	29.1 (21.8-37.6)	47.6 (39.3-56.0)
\$50,000-74,999	310	34.1 (27.8-41.0)	18.3 (13.5-24.3)	46.6 (39.4-53.9)
≥ \$75,000	584	32.5 (27.1-38.4)	15.3 (11.2-20.4)	40.9 (35.3-46.8)
<b>Education</b>				
< HS graduate	159	59.3 (48.7-69.1)	51.8 (41.3-62.1)	61.4 (51.0-70.9)
HS graduate	642	49.5 (44.0-55.0)	38.6 (33.3-44.2)	60.4 (55.0-65.5)
Some college	809	40.9 (36.5-45.5)	29.0 (25.0-33.4)	54.4 (49.7-59.0)
College graduate	932	32.0 (28.2-36.0)	17.6 (14.6-21.1)	39.5 (35.4-43.7)
<sup>a</sup> Sample size (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary due to missing values. <sup>b</sup> Reported ≥ 9 days to the following question, "During the past 30 days, on how many days did you have any symptoms of asthma?" <sup>c</sup> 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?" <sup>d</sup> 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?"				

	<b>None</b>	<b>1-6 Days</b>	<b>7-13 Days</b>	<b>14 Days</b>
<b>Total</b>	<b>25.1 (22.8-27.5)</b>	<b>16.1 (14.1-18.3)</b>	<b>24.4 (22.0-26.8)</b>	<b>34.5 (31.8-37.2)</b>
<b>Age</b>				
18-34	15 (10.2-21.5)	16.4 (11.6-22.7)	26.6 (20.8-33.5)	42.0 (34.7-49.6)
35-44	17.4 (12.0-24.6)	16.0 (10.9-22.8)	29.9 (23.1-37.6)	36.7 (29.2-44.9)
45-54	27.4 (22.2-33.3)	18.1 (13.6-23.8)	24.7 (19.3-31.1)	29.8 (24.6-35.7)
55-64	31.7 (26.9-37.1)	14.6 (11.3-18.7)	23.9 (19.5-28.8)	29.8 (25.5-34.5)
65-74	36.0 (30.3-42.1)	16.7 (12.6-21.8)	18.2 (14.2-22.9)	29.1 (24.0-34.7)
≥ 75	34.0 (26.5-42.5)	13.4 (8.9-19.8)	17.9 (12.4-25.0)	34.7 (26.9-43.3)
<b>Gender</b>				
Male	22.8 (19.1-27.0)	15.1 (11.8-19.1)	26.8 (22.7-31.4)	35.3 (31.0-39.9)
Female	26.3 (23.5-29.3)	16.7 (14.3-19.3)	23.0 (20.3-26.0)	34.0 (30.7-37.5)
<b>Race</b>				
White	25.6 (23.1-28.4)	15.0 (12.9-17.3)	24.4 (21.9-27.2)	34.9 (32.0-38.1)
Black	21.2 (15.7-28.0)	22.5 (16.5-30.0)	24.5 (17.9-32.7)	31.7 (25.0-39.3)
<b>Household Income</b>				
< \$20,000	35.5 (30.1-41.4)	19.6 (15.4-24.6)	17.9 (13.8-22.9)	26.9 (21.9-32.6)
\$20,000-34,999	26.6 (21.5-32.3)	17.4 (13.2-22.4)	23.9 (18.5-30.2)	32.2 (26.5-38.4)
\$35,000-49,999	22.7 (17.0-29.7)	19.3 (13.3-27.2)	24.7 (17.9-33.2)	33.2 (25.1-42.5)
\$50,000-74,999	23.3 (18.1-29.4)	8.2 (5.4-12.4)	25.5 (19.4-32.8)	42.9 (35.8-50.4)
≥ \$75,000	15.9 (12.1-20.8)	10.8 (7.8-14.7)	34.1 (28.9-39.7)	39.2 (33.8-44.9)
<b>Education</b>				
< HS graduate	38.4 (29.4-48.3)	19.7 (13.0-28.7)	13.8 (8.0-22.6)	28.2 (19.3-39.2)
HS graduate	27.4 (22.9-32.5)	21.3 (16.9-26.4)	19.3 (15.4-23.8)	32.0 (27.1-37.4)
Some college	24.7 (21.2-28.6)	13.8 (11.1-17.0)	27.9 (23.7-32.5)	33.6 (29.2-38.3)
College graduate	15.5 (13.0-18.4)	12.1 (9.6-15.1)	30.7 (26.8-34.9)	41.7 (37.6-46.0)
<sup>a</sup> Response to the following question, "During the past two weeks, on how many days were you completely symptom-free, that is no coughing, wheezing, or other symptoms of asthma?"				

<b>Table 3. Prevalence of Asthma-Related Health Care Utilization in the Past 12 Months, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>					
	<b>ER/Urgent Care Visits for Asthma<sup>a</sup></b>		<b>≥ 1 Hospital Stays for Asthma<sup>b</sup></b>	<b>≥ 2 Routine Asthma Care Visits<sup>c</sup></b>	<b>Received Flu Vaccine<sup>d</sup></b>
	<b>≥ 1 Visit</b>	<b>≥ 2 Visits</b>			
<b>Total</b>	<b>14.7 (12.8-16.8)</b>	<b>7.9 (6.4-9.6)</b>	<b>3.9 (2.9-5.1)</b>	<b>35.5 (32.9-38.1)</b>	<b>44.0 (41.3-46.7)</b>
<b>Age</b>					
18-34	12.2 (8.3-17.8)	7.5 (4.4-12.6)	3.8 (1.5-9.1) ~	24.4 (18.4-31.5)	30.6 (24.3-37.8)
35-44	19.0 (13.2-26.6)	8.3 (4.5-14.8)	2.1 (0.8-5.3) ~	41.4 (33.5-49.8)	35.1 (27.9-42.9)
45-54	12.1 (8.9-16.3)	7.7 (5.2-11.2)	4.4 (2.7-7.1)	36.2 (30.2-42.8)	41.3 (35.4-47.4)
55-64	16.1 (12.4-20.5)	8.1 (5.2-12.4)	6.4 (4.1-9.9)	41.9 (36.7-47.3)	52.7 (47.5-57.9)
65-74	12.1 (8.5-16.7)	5.9 (3.5-10.0)	4.6 (2.6-7.9)	43.1 (37.3-49.1)	63.4 (57.4-68.9)
75+	10.7 (6.2-17.8)	--†	3.0 (1.3-6.7) ~	40.7 (32.8-49.1)	63.7 (55.5-71.2)
<b>Gender</b>					
Male	11.0 (8.1-14.7)	6.9 (4.5-10.3)	3.8 (2.0-7.0) ~	29.2 (25.0-33.8)	40.8 (36.3-45.3)
Female	16.7 (14.4-19.3)	8.4 (6.6-10.6)	3.9 (2.9-5.2)	38.8 (35.6-42.2)	45.7 (42.4-49.1)
<b>Race</b>					
White	12.3 (10.4-14.4)	5.8 (4.4-7.6)	3.2 (2.3-4.6)	32.6 (29.9-35.5)	47.2 (44.2-50.2)
Black	26.2 (20.0-33.5)	17.5 (12.3-24.2)	7.3 (4.2-12.4)	50.4 (42.4-58.3)	31.0 (24.4-38.4)
<b>Household Income</b>					
< \$20,000	24.6 (20.1-29.7)	16.2 (12.5-20.8)	9.2 (6.6-12.7)	48.8 (43.0-54.6)	34.6 (29.6-40.0)
\$20,000-34,999	14.3 (10.3-19.4)	6.5 (3.9-10.5)	3.2 (1.9-5.4)	34.7 (29.0-40.9)	40.8 (35.0-46.8)
\$35,000-49,999	11.2 (7.4-16.7)	5.4 (2.9-9.6)	2.3 (1.1-4.8) ~	34.0 (26.3-42.6)	44.6 (36.1-53.4)
\$50,000-74,999	9.4 (6.2-14.1)	4.3 (2.2-8.3)	1.5 (0.6-3.6) ~	26.6 (21.1-32.8)	53.9 (46.4-61.1)
≥ \$75,000	11.2 (7.6-16.3)	4.5 (2.0-10.2)	--†	29.9 (24.9-35.5)	50.3 (44.7-56.0)
<b>Education</b>					
< HS graduate	20.1 (13.1-29.6)	19.4 (12.5-29.0)	8.3 (3.9-17.0) ~	47.0 (37.1-57.2)	38.7 (29.5-48.7)
HS graduate	17.1 (13.5-21.3)	8.3 (5.9-11.6)	5.4 (3.8-7.8)	37.5 (32.5-42.9)	37.9 (33.1-42.9)
Some college	13.9 (11.1-17.3)	6.1 (4.3-8.7)	3.0 (2.0-4.4)	34.2 (30.0-38.7)	43.7 (39.2-48.2)
College graduate	10.3 (7.9-13.3)	3.8 (2.4-5.9)	1.1 (0.6-1.8)	29.1 (25.4-33.0)	54.0 (49.7-58.2)

<sup>a</sup> Response to the question, "During the past 12 months, how many times did you visit an emergency room or urgent care center because of your asthma?"  
<sup>b</sup> 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?"  
<sup>c</sup> Reported ≥ 2 times to the 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?"  
<sup>d</sup> Responded "yes" to either of the following questions, "A flu shot is an influenza vaccine injected in your arm. During the past 12 months, have you had a flu shot?" or "During the past 12 months, have you had a flu vaccine that was sprayed in your nose? The flu vaccine sprayed in the nose is also called FluMist."  
† 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 (relative standard error 31%-50%).

<b>Table 4. Prevalence of Any Asthma Control Medication Use in Past 3 Months, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>	
	<b>Used ≥ 1 Asthma Control Medication in Past 3 Months<sup>a</sup></b>
<b>Total</b>	<b>41.1 (38.4-43.8)</b>
<b>Age</b>	
18-34	28.6 (22.3-36.0)
35-44	31.5 (24.6-39.2)
45-54	47.4 (41.1-53.8)
55-64	50.3 (45.1-55.6)
65-74	58.9 (52.9-64.7)
≥ 75	53.2 (44.7-61.5)
<b>Gender</b>	
Male	34.7 (30.5-39.2)
Female	44.5 (41.1-47.8)
<b>Race</b>	
White	42.0 (39.1-45.0)
Black	39.1 (31.8-47.0)
<b>Household Income</b>	
< \$20,000	40.0 (34.6-45.6)
\$20,000-34,999	39.7 (33.8-46.0)
\$35,000-49,999	38.9 (31.1-47.4)
\$50,000-74,999	42.2 (35.5-49.2)
≥ \$75,000	46.4 (40.7-52.1)
<b>Education</b>	
< HS graduate	36.8 (27.7-46.9)
HS graduate	40.2 (35.2-45.3)
Some college	41.8 (37.4-46.4)
College graduate	43.7 (39.6-47.9)
<sup>a</sup> Respondent reported they had taken at least one asthma control medication in the past 3 months, as defined by the CDC national Asthma Call-Back Survey Analysis Workgroup on Medications.	

<b>Table 5. Prevalence of Comorbid Conditions, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>		
	<b>Ever Diagnosed with COPD, Emphysema, or Chronic Bronchitis<sup>a</sup></b>	<b>Ever Diagnosed with Depression<sup>b</sup></b>
<b>Total</b>	<b>37.0 (34.4-39.6)</b>	<b>40.0 (37.3-42.8)</b>
<b>Age</b>		
18-34	16.5 (11.9-22.5)	34.8 (28.1-42.2)
35-44	33.1 (25.9-41.1)	44.3 (36.5-52.4)
45-54	42.0 (35.7-48.6)	42.0 (35.9-48.4)
55-64	51.1 (45.9-56.3)	46.4 (41.2-51.7)
65-74	58.0 (52.1-63.6)	35.1 (29.5-41.1)
≥ 75	59.5 (50.8-67.7)	27.1 (20.2-35.4)
<b>Gender</b>		
Male	38.6 (34.1-43.3)	34.7 (30.3-39.4)
Female	36.1 (33.0-39.3)	42.9 (39.6-46.3)
<b>Race</b>		
White	33.8 (31.1-36.5)	40.4 (37.4-43.4)
Black	47.9 (40.0-55.9)	35.7 (28.5-43.5)
<b>Household Income</b>		
< \$20,000	57.3 (51.3-63.2)	56.4 (50.5-62.1)
\$20,000-34,999	47.8 (41.5-54.1)	48.3 (42.0-54.7)
\$35,000-49,999	33.3 (26.0-41.4)	35.8 (28.5-43.8)
\$50,000-74,999	24.1 (18.8-30.3)	31.1 (24.8-38.2)
≥ \$75,000	16.2 (12.9-20.2)	24.8 (20.3-29.9)
<b>Education</b>		
< HS graduate	62.1 (51.0-72.0)	47.2 (37.4-57.1)
HS graduate	46.2 (40.9-51.6)	47.5 (42.0-53.0)
Some college	33.7 (29.7-37.8)	38.5 (34.2-43.0)
College graduate	17.7 (15.0-20.7)	30.9 (27.3-34.9)
<sup>a</sup> Replied “yes” to at least one of the following questions: “Have you ever been told by a doctor or health professional that you have chronic obstructive pulmonary disease also known as COPD?” “Have you ever been told by a doctor or other health professional that you have emphysema?” “Have you ever been told by a doctor or other health professional that you have chronic bronchitis?” <sup>b</sup> Replied “yes” to the following question, “Have you ever been told by a doctor or other health professional that you were depressed?”		



<b>Table 6. Prevalence of Experiencing Cost Barriers to Asthma Care in Past 12 Months, Among Adults with Current Asthma</b>				
<b>Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>				
	<b>Cost Barrier to Primary Care Doctor<sup>a</sup></b>	<b>Cost Barrier to Asthma Specialist<sup>b</sup></b>	<b>Cost Barrier to Obtaining Medication<sup>c</sup></b>	<b>Cost Barrier to Primary Care, Specialist, or Medication<sup>d</sup></b>
<b>Total</b>	<b>10.9 (9.2-12.8)</b>	<b>4.8 (3.7-6.1)</b>	<b>19.1 (16.9-21.6)</b>	<b>21.9 (19.6-24.4)</b>
<b>Age</b>				
18-34	9.7 (6.4-14.5)	3.3 (1.6-6.5)	18.9 (13.7-25.6)	21.6 (16.1-28.4)
35-44	17.4 (11.8-25.0)	8.5 (4.9-14.2)	22.4 (16.0-30.4)	26.0 (19.3-34.1)
45-54	12.4 (8.6-17.4)	5.6 (3.1-9.8)	22.4 (17.4-28.3)	24.0 (19.0-30.0)
55-64	11.2 (7.6-16.1)	4.7 (2.8-7.9)	19.7 (15.4-24.7)	21.7 (17.3-26.7)
65-74	8.4 (5.6-12.5)	4.7 (2.6-8.3)	15.7 (11.4-21.2)	21.3 (16.4-27.1)
≥ 75	--†	--†	4.8 (2.4-9.6) ~	6.2 (3.4-11.1) ~
<b>Gender</b>				
Male	12.1 (9.3-15.7)	4.9 (3.2-7.6)	17.5 (14.0-21.6)	21.4 (17.7-25.7)
Female	10.2 (8.2-12.7)	4.7 (3.5-6.3)	20.0 (17.2-23.1)	22.2 (19.3-25.4)
<b>Race</b>				
White	8.9 (7.2-10.9)	3.6 (2.6-4.8)	16.9 (14.5-19.5)	19.3 (16.9-22.0)
Black	19.9 (14.1-27.2)	10.3 (6.2-16.6)	28.5 (21.6-36.5)	34.0 (26.7-42.1)
<b>Household Income</b>				
< \$20,000	19.8 (15.5-24.9)	10.0 (6.9-14.1)	26.9 (22.1-32.3)	33.1 (27.9-38.7)
\$20,000-34,999	12.1 (8.7-16.5)	5.5 (3.5-8.6)	28.5 (22.8-35.0)	30.7 (24.9-37.1)
\$35,000-49,999	12.4 (8.0-18.9)	5.0 (2.3-10.4) ~	20.3 (14.5-27.6)	23.2 (17.0-30.8)
\$50,000-74,999	4.0 (1.9-8.3) ~	--†	8.8 (5.6-13.6)	10.6 (7.0-15.8)
≥ \$75,000	5.0 (2.4-10.0) ~	--†	7.9 (4.9-12.7)	8.7 (5.6-13.4)
<b>Education</b>				
< HS graduate	18.8 (12.3-27.6)	8.3 (4.4-15.2) ~	26.1 (18.3-35.7)	29.4 (21.2-39.2)
HS graduate	10.5 (7.8-14.0)	6.7 (4.5-9.8)	22.2 (17.9-27.2)	25.7 (21.2-30.7)
Some college	11.1 (8.4-14.6)	3.8 (2.4-5.9)	20.3 (16.6-24.6)	22.9 (19.1-27.3)
College graduate	6.2 (4.3-8.7)	2.2 (1.3-3.5)	9.7 (7.5-12.5)	11.9 (9.5-14.9)
<sup>a</sup> Responded “yes” to, “Was there a time in the past 12 months when you needed to see your primary care doctor for your asthma but could not because of the cost?” <sup>b</sup> Responded “yes” to, “Was there a time in the past 12 months when you were referred to a specialist for asthma care but could not go because of the cost?” <sup>c</sup> Responded “yes” to, “Was there a time in the past 12 months when you needed to buy medication for your asthma but could not because of the cost?” <sup>d</sup> Responded “yes” to at least one of the above 3 questions. † 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 (relative standard error 31%-50%).				

<b>Table 7. Prevalence of Knowledge Indicators Related to Asthma Management, Among Adults with Current Asthma</b>			
<b>Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>			
	<b>Ever Taught to Recognize Early Signs of Asthma Episode<sup>a</sup></b>	<b>Ever Taught What to Do During Asthma Episode<sup>b</sup></b>	<b>Ever Taught How to Use Peak Flow Meter<sup>c</sup></b>
<b>Total</b>	<b>65.7 (63.0-68.3)</b>	<b>78.5 (76.2-80.6)</b>	<b>44.3 (41.6-47.1)</b>
<b>Age</b>			
18-34	70.4 (62.9-76.9)	83.5 (77.3-88.3)	48.0 (40.6-55.4)
35-44	68.1 (60.1-75.1)	79.7 (72.3-85.4)	42.5 (34.7-50.6)
45-54	64.7 (58.5-70.5)	78.8 (73.4-83.4)	43.1 (36.9-49.5)
55-64	62.3 (57.1-67.3)	75.7 (70.5-80.2)	43.6 (38.5-48.8)
65-74	62.4 (56.3-68.1)	74.3 (68.4-79.5)	40.5 (34.9-46.4)
≥ 75	48.3 (39.9-56.8)	61.6 (52.7-69.8)	34.2 (26.8-42.5)
<b>Gender</b>			
Male	64.3 (59.7-68.6)	75.2 (70.9-79.0)	40.7 (36.1-45.4)
Female	66.5 (63.1-69.7)	80.3 (77.6-82.7)	46.3 (42.9-49.7)
<b>Race</b>			
White	64.7 (61.7-67.6)	78.5 (76.1-80.8)	41.1 (38.1-44.2)
Black	69.0 (61.2-75.9)	80.7 (73.8-86.1)	55.8 (47.8-63.4)
<b>Household Income</b>			
< \$20,000	60.6 (54.7-66.2)	74.0 (68.9-78.6)	47.5 (41.7-53.3)
\$20,000-34,999	67.5 (61.2-73.3)	77.6 (72.3-82.2)	44.4 (38.2-50.8)
\$35,000-49,999	67.6 (59.1-75.1)	79.5 (70.6-86.1)	43.2 (35.1-51.7)
\$50,000-74,999	70.5 (63.5-76.6)	83.2 (77.1-87.9)	38.4 (31.5-45.7)
≥ \$75,000	69.9 (64.6-74.8)	82.9 (78.5-86.6)	44.8 (39.1-50.6)
<b>Education</b>			
< HS graduate	57.7 (47.4-67.4)	66.4 (56.3-75.2)	45.1 (35.4-55.2)
HS graduate	63.2 (57.8-68.2)	74.5 (69.9-78.5)	44.9 (39.5-50.4)
Some college	67.5 (63.0-71.8)	81.9 (78.5-85.0)	44.9 (40.3-49.5)
College graduate	70.3 (66.3-74.0)	84.8 (81.6-87.5)	42.2 (38.1-46.5)
<sup>a</sup> Responded "yes" to the question, "Has a doctor or other health professional ever taught you .....how to recognize early signs or symptoms of an asthma episode?"			
<sup>b</sup> Responded "yes" to the question, ".....what to do during an asthma episode or attack?"			
<sup>c</sup> Responded "yes" to the question, ".....how to use a peak flow meter to adjust your daily medications?"			

<b>Table 7 (continued). Prevalence of Knowledge Indicators Related to Asthma Management, Among Adults with Current Asthma</b>			
<b>Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>			
	<b>Ever Received Asthma Action Plan<sup>d</sup></b>	<b>Ever Taken Asthma Management Class<sup>e</sup></b>	<b>Received ≥ 3 Types of Asthma Education<sup>f</sup></b>
<b>Total</b>	<b>33.9 (31.3-36.5)</b>	<b>8.4 (7.0-10.0)</b>	<b>46.3 (43.6-49.1)</b>
<b>Age</b>			
18-34	32.5 (25.9-39.8)	7.0 (3.9-12.1)	50.8 (43.5-58.2)
35-44	36.5 (29.0-44.7)	10.9 (6.6-17.3)	50.0 (42.0-58.1)
45-54	35.5 (29.6-41.9)	7.4 (5.0-10.8)	42.2 (36.1-48.6)
55-64	35.7 (30.8-41.0)	9.5 (6.8-13.1)	44.1 (38.9-49.4)
65-74	31.3 (26.2-36.9)	7.5 (5.1-10.7)	42.9 (37.2-48.7)
≥ 75	27.7 (20.9-35.6)	9.5 (5.7-15.2)	33.5 (26.2-41.6)
<b>Gender</b>			
Male	24.6 (20.8-28.8)	7.4 (5.3-10.3)	39.8 (35.2-44.6)
Female	38.8 (35.5-42.3)	8.9 (7.2-11.0)	49.9 (46.5-53.3)
<b>Race</b>			
White	31.7 (28.9-34.6)	6.6 (5.2-8.2)	43.9 (40.8-47.0)
Black	39.3 (31.9-47.3)	14.9 (10.6-20.6)	55.3 (47.4-63.0)
<b>Household Income</b>			
< \$20,000	35.9 (30.4-41.8)	11.2 (8.1-15.3)	44.9 (39.2-50.7)
\$20,000-34,999	32.4 (26.7-38.6)	10.0 (6.9-14.2)	45.6 (39.3-51.9)
\$35,000-49,999	34.4 (27.0-42.7)	8.7 (5.1-14.4)	48.2 (39.9-56.6)
\$50,000-74,999	32.2 (25.9-39.2)	5.5 (3.3-9.1)	43.9 (36.9-51.3)
≥ \$75,000	36.5 (31.2-42.2)	5.7 (4.0-8.1)	50.5 (44.8-56.1)
<b>Education</b>			
< HS graduate	34.4 (25.5-44.5)	8.4 (4.4-15.5) ~	40.4 (31.0-50.6)
HS graduate	31.8 (27.1-36.9)	9.0 (6.1-13.2)	47.0 (41.7-52.5)
Some college	35.1 (30.7-39.8)	8.5 (6.5-11.1)	46.8 (42.2-51.5)
College graduate	33.7 (29.8-37.8)	7.5 (5.6-9.8)	48.0 (43.8-52.3)
<sup>d</sup> 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?”			
<sup>e</sup> Responded “yes” to the question, “Have you ever taken a course or class on how to manage your asthma?”			
<sup>f</sup> Responded “yes” to ≥ 3 of the 5 questions above (b-f).			
~ This estimate should be used with caution due to its low reliability and precision (relative standard error 31%-50%).			

<b>Table 8. Prevalence of Asthma Triggers in Home Environment, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>				
	<b>Cigarettes Smoked in Home<sup>a</sup></b>	<b>Mold Seen/Smelled in Home<sup>b</sup></b>	<b>Saw Cockroaches in Home<sup>c</sup></b>	<b>Saw Mice/Rat in Home<sup>d</sup></b>
<b>Total</b>	<b>19.6 (17.4-22.0)</b>	<b>12.5 (10.6-14.6)</b>	<b>2.0 (1.3-3.1)</b>	<b>7.6 (6.2-9.3)</b>
<b>Age</b>				
18-34	17.0 (12.3-23.0)	13.6 (9.1-19.8)	1.9 (0.8-4.6) <sup>-</sup>	8.4 (5.0-13.8)
35-44	23.1 (16.6-31.1)	14.7 (9.9-21.4)	-- <sup>†</sup>	10.4 (6.3-16.8)
45-54	24.4 (18.8-31.0)	14.9 (10.3-21.0)	3.2 (1.4-7.5) <sup>-</sup>	5.1 (3.0-8.4)
55-64	25.2 (20.7-30.2)	11.6 (8.6-15.4)	0.6 (0.2-1.7) <sup>-</sup>	6.6 (4.5-9.5)
65-74	14.4 (10.4-19.6)	6.6 (4.2-10.1)	-- <sup>†</sup>	5.7 (3.6-8.9)
≥ 75	10.5 (6.1-17.5)	7.6 (4.4-12.9)	-- <sup>†</sup>	6.8 (3.6-12.6) <sup>-</sup>
<b>Gender</b>				
Male	22.3 (18.4-26.7)	11.3 (8.5-14.7)	2.5 (1.3-4.9) <sup>-</sup>	9.0 (6.8-11.8)
Female	18.2 (15.6-21.1)	13.1 (10.8-15.9)	1.7 (1.0-3.0)	6.8 (5.1-9.1)
<b>Race</b>				
White	16.0 (13.9-18.5)	12.1 (10.1-14.4)	1.2 (0.7-2.2) <sup>-</sup>	7.4 (5.8-9.4)
Black	34.1 (26.7-42.3)	13.3 (8.2-20.8)	6.4 (3.4-11.8) <sup>-</sup>	3.8 (1.8-8.0) <sup>-</sup>
<b>Household Income</b>				
< \$20,000	37.0 (31.7-42.6)	16.8 (12.3-22.4)	5.1 (3.0-8.5)	7.3 (5.1-10.4)
\$20,000-34,999	24.8 (19.2-31.5)	12.5 (8.9-17.4)	1.1 (0.5-2.4) <sup>-</sup>	8.6 (5.9-12.5)
\$35,000-49,999	19.0 (13.0-26.9)	10.8 (6.3-17.8)	-- <sup>†</sup>	9.4 (5.0-16.9) <sup>-</sup>
\$50,000-74,999	7.7 (4.3-13.3)	8.3 (5.0-13.6)	-- <sup>e</sup>	7.2 (4.5-11.3)
≥ \$75,000	4.2 (2.4-7.1)	11.8 (8.7-15.8)	-- <sup>†</sup>	6.6 (3.9-10.9)
<b>Education</b>				
< HS graduate	45.2 (35.6-55.2)	14.7 (8.2-24.7)	6.2 (2.8-13.1) <sup>-</sup>	7.0 (3.8-12.6) <sup>-</sup>
HS graduate	23.3 (19.2-27.9)	12.7 (8.9-17.8)	2.6 (1.3-5.0) <sup>-</sup>	9.2 (6.4-13.1)
Some college	18.2 (14.9-22.1)	13.2 (10.5-16.3)	0.7 (0.4-1.5) <sup>-</sup>	8.4 (5.9-11.9)
College graduate	3.8 (2.6-5.5)	10.0 (7.7-12.9)	1.0 (0.4-2.4) <sup>-</sup>	4.9 (3.6-6.7)
<sup>a</sup> Responded "yes" to the question, "In the past week, has anyone smoked inside your home?" <sup>b</sup> Responded "yes" to the question, "In the past 30 days, has anyone seen or smelled mold or a musty odor inside your home? Do not include mold on food." <sup>c</sup> Responded "yes" to the question, "In the past 30 days, has anyone seen a cockroach inside your home?" <sup>d</sup> Responded "yes" to the question, "In the past 30 days, has anyone seen mice or rats inside your home? Do not include mice or rats kept as pets." <sup>e</sup> No positive responses in this cell. <sup>†</sup> This estimate was suppressed due to it having a denominator of less than 50 and/or a relative standard error of greater than 50%. <sup>-</sup> This estimate should be used with caution due to its low reliability and precision (relative standard error 31%-50%).				

<b>Table 8 (continued). Prevalence of Asthma Triggers in Home Environment, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>					
	<b>Inside Pets<sup>f</sup></b>	<b>Pets Allowed in Bedroom<sup>g</sup></b>	<b>Wood Burning Stove/Fireplace Used<sup>h</sup></b>	<b>Unvented Gas Logs, Stoves, or Fireplaces Used<sup>i</sup></b>	<b>Gas Used for Cooking<sup>j</sup></b>
<b>Total</b>	<b>63.2 (60.6-65.8)</b>	<b>48.8 (46.1-51.6)</b>	<b>14.0 (12.0-16.3)</b>	<b>7.1 (5.8-8.6)</b>	<b>53.2 (50.5-56.0)</b>
<b>Age</b>					
18-34	65.2 (58.0-71.7)	49.7 (42.4-57.1)	15.1 (9.7-22.7)	8.6 (5.3-13.7)	58.4 (51.0-65.5)
35-44	70.6 (62.4-77.7)	55.1 (47.0-63.0)	9.6 (6.2-14.6)	4.2 (2.2-8.1) ~	54.6 (46.4-62.5)
45-54	65.4 (59.2-71.1)	48.1 (41.8-54.4)	15.2 (11.5-19.8)	7.0 (4.7-10.3)	55.4 (49.2-61.5)
55-64	62.6 (57.2-67.7)	50.4 (45.1-55.6)	14.3 (11.3-17.9)	5.8 (4.0-8.3)	48.2 (43.1-53.5)
65-74	53.4 (47.5-59.2)	42.9 (37.2-48.8)	14.0 (10.4-18.6)	6.3 (4.0-10.0)	48.3 (42.4-54.3)
≥ 75	31.5 (23.8-40.3)	27.4 (20.1-36.3)	9.2 (5.5-14.9)	3.4 (1.6-7.0) ~	44.7 (36.6-53.1)
<b>Gender</b>					
Male	57.8 (53.0-62.4)	43.0 (38.5-47.7)	13.2 (10.5-16.6)	8.5 (6.2-11.5)	54.0 (49.3-58.7)
Female	66.2 (63.0-69.2)	51.9 (48.5-55.4)	14.4 (11.8-17.5)	6.3 (4.8-8.2)	52.8 (49.4-56.2)
<b>Race</b>					
White	69.4 (66.6-72.0)	54.9 (51.8-57.9)	15.8 (13.5-18.6)	6.9 (5.6-8.6)	51.9 (48.9-54.9)
Black	31.2 (24.1-39.3)	17.0 (12.0-23.5)	4.3 (2.2-8.2) ~	8.1 (4.5-14.1)	60.2 (52.3-67.6)
<b>Household Income</b>					
< \$20,000	62.9 (60.1-65.7)	42.4 (36.8-48.1)	8.0 (4.9-12.8)	7.3 (4.7-11.0)	51.0 (45.1-56.7)
\$20,000-34,999	58.1 (52.2-63.7)	44.6 (38.5-50.9)	9.6 (6.4-14.1)	6.0 (3.8-9.4)	57.1 (50.9-63.1)
\$35,000-49,999	56.3 (49.9-62.5)	46.5 (38.1-55.2)	20.0 (12.4-30.6)	7.6 (4.3-13.0)	54.0 (45.5-62.3)
\$50,000-74,999	67.7 (60.0-74.6)	54.1 (46.9-61.2)	16.8 (12.3-22.5)	5.9 (3.1-10.9) ~	49.9 (42.6-57.1)
≥ \$75,000	64.8 (57.9-71.2)	53.8 (48.1-59.5)	18.5 (14.7-23.1)	8.3 (5.5-12.5)	53.6 (48.0-59.1)
<b>Education</b>					
< HS graduate	63.3 (60.6-65.8)	42.1 (32.8-52.1)	8.3 (3.5-18.5) ~	7.1 (3.6-13.6) ~	50.4 (40.5-60.3)
HS graduate	60.6 (50.6-69.7)	50.8 (45.4-56.2)	14.2 (10.1-19.6)	8.7 (5.8-12.9)	57.7 (52.3-62.9)
Some college	62.8 (57.6-67.7)	47.6 (43.0-52.2)	13.6 (10.4-17.4)	6.6 (4.8-9.0)	54.8 (50.2-59.4)
College graduate	64.2 (59.7-68.4)	52.9 (48.7-57.1)	17.2 (14.4-20.5)	6.0 (4.3-8.4)	47.5 (43.3-51.8)
<sup>f</sup> Responded “yes” to the question, “Does your household have pets, such as dogs, cats, hamsters, birds, or other feathered or furry pets that spend time indoors?” <sup>g</sup> Responded “yes” to the question, “Are pets allowed in your bedroom?” (Among all respondents). <sup>h</sup> Responded “yes” to the question, “Is a wood burning fireplace or wood burning stove used in your home?” <sup>i</sup> Responded “yes” to the question, “Are unvented gas logs, unvented gas fireplaces, or unvented gas stoves used in your home?” <sup>j</sup> Responded “yes” to the question, “Is gas used for cooking?” ~ This estimate should be used with caution due to its low reliability and precision (relative standard error 31%-50%).					

<b>Table 9. Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>				
	<b>Kitchen Fan Used When Cooking<sup>a</sup></b>	<b>Bathroom Exhaust Fan Used<sup>b</sup></b>	<b>Sheets Washed in Hot Water<sup>c</sup></b>	<b>Air Cleaner Used in Home<sup>d</sup></b>
<b>Total</b>	<b>53.6 (50.8-56.3)</b>	<b>57.2 (54.4-60.0)</b>	<b>37 (34.4-39.6)</b>	<b>33.6 (31.0-36.3)</b>
<b>Age</b>				
18-34	48.8 (41.5-56.2)	52.2 (44.6-59.6)	29.1 (23.0-36.2)	29.1 (22.7-36.4)
35-44	59.0 (50.9-66.7)	60.9 (52.7-68.6)	34.8 (27.6-42.9)	32.1 (24.9-40.2)
45-54	56.4 (50.1-62.4)	57.5 (51.1-63.6)	41.6 (35.4-48.0)	33.1 (27.3-39.5)
55-64	55.2 (50.0-60.4)	61.1 (55.9-66.1)	39.4 (34.3-44.7)	35.6 (30.6-40.9)
65-74	53.0 (47.0-59.0)	65.5 (59.7-70.9)	45.7 (39.9-51.6)	33.6 (28.3-39.4)
≥ 75	48.3 (39.9-56.8)	60.2 (51.8-68.0)	43.3 (35.3-51.8)	30.7 (23.5-38.9)
<b>Gender</b>				
Male	48.6 (43.9-53.4)	61.0 (56.2-65.6)	31.8 (27.4-36.5)	29.9 (25.7-34.6)
Female	56.2 (52.8-59.6)	55.2 (51.7-58.6)	39.7 (36.5-42.9)	35.6 (32.4-39.0)
<b>Race</b>				
White	52.9 (49.8-56.0)	61.7 (58.6-64.7)	37.3 (34.4-40.3)	33.2 (30.3-36.1)
Black	55.6 (47.6-63.2)	35.4 (28.1-43.4)	34.3 (27.5-41.8)	33.2 (25.9-41.3)
<b>Household Income</b>				
< \$20,000	53.7 (47.9-59.5)	44.8 (39.1-50.6)	35.1 (29.9-40.6)	28.0 (23.1-33.6)
\$20,000-34,999	52.6 (46.2-58.8)	51.6 (45.3-57.9)	40.4 (34.5-46.7)	30.2 (24.9-36.2)
\$35,000-49,999	57.3 (48.9-65.3)	59.3 (50.4-67.6)	26.9 (20.8-33.9)	35.8 (27.5-45.0)
\$50,000-74,999	60.9 (53.4-67.8)	70.8 (63.8-76.9)	42.3 (35.3-49.7)	38.0 (30.9-45.6)
≥ \$75,000	53.6 (47.9-59.3)	71.4 (65.8-76.5)	40.6 (35.1-46.2)	37.9 (32.6-43.4)
<b>Education</b>				
< HS graduate	52.1 (42.0-62.1)	44.1 (34.4-54.3)	35.7 (26.7-45.8)	32.0 (22.6-43.1)
HS graduate	51.0 (45.6-56.4)	50.8 (45.4-56.1)	36.7 (31.6-42.0)	29.8 (25.1-34.9)
Some college	57.2 (52.6-61.7)	58.8 (54.2-63.4)	36.0 (31.8-40.4)	35.4 (31.2-39.8)
College graduate	51.6 (47.3-55.9)	69.8 (65.8-73.6)	40.0 (35.9-44.3)	36.2 (32.2-40.4)
<sup>a</sup> Responded “yes” to the question, “Is an exhaust fan that vents to the outside used regularly when cooking in your kitchen?” <sup>b</sup> Responded “yes” to the question, “In your bathroom, do you regularly use an exhaust fan that vents to the outside?” <sup>c</sup> Responded “hot” to the question, “Are your sheets and pillowcases washed in cold, warm, or hot water?” <sup>d</sup> Responded “yes” to the question, “An air cleaner or air purifier can filter out pollutants like dust, pollen, mold and chemicals. It can be attached to the furnace or free standing. It is not, however, the same as a normal furnace filter. Is an air cleaner or purifier regularly used inside your home?”				

<b>Table 9 (continued). Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Adults with Current Asthma</b>				
<b>Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>				
	<b>Dehumidifier Used Regularly in Home<sup>e</sup></b>	<b>No Carpeting in Bedroom<sup>f</sup></b>	<b>Uses Mattress Cover<sup>g</sup></b>	<b>Uses Pillow Cover<sup>h</sup></b>
<b>Total</b>	<b>40.4 (37.7-43.2)</b>	<b>65.8 (63.0-68.4)</b>	<b>34.9 (32.4-37.5)</b>	<b>29.7 (27.4-32.2)</b>
<b>Age</b>				
18-34	40.4 (33.1-48.1)	67.1 (59.8-73.7)	23.7 (18.0-30.4)	20.9 (15.3-27.9)
35-44	39.2 (31.7-47.2)	60.7 (52.4-68.4)	29.3 (23.0-36.5)	25.2 (19.4-32.1)
45-54	42.1 (35.9-48.6)	62.8 (56.4-68.9)	42.4 (36.2-48.8)	36.7 (30.8-43.0)
55-64	39.0 (34.0-44.3)	67.5 (62.5-72.1)	41.0 (35.9-46.4)	35.0 (30.0-40.3)
65-74	37.8 (32.4-43.5)	69.8 (64.0-75.0)	42.9 (37.1-48.9)	41.0 (35.2-47.0)
≥ 75	52.1 (43.6-60.4)	73.8 (65.7-80.5)	36.5 (29.0-44.8)	30.0 (23.2-37.8)
<b>Gender</b>				
Male	37.7 (33.2-42.5)	65.5 (60.8-69.9)	28.7 (24.7-33.0)	22.1 (18.6-26.1)
Female	41.9 (38.5-45.4)	65.9 (62.5-69.1)	38.3 (35.1-41.5)	33.8 (30.7-37.0)
<b>Race</b>				
White	42.3 (39.3-45.4)	68.1 (65.0-70.9)	36.1 (33.4-39.0)	31.1 (28.5-33.9)
Black	33.3 (26.2-41.3)	55.5 (47.6-63.2)	27.1 (20.7-34.6)	23.4 (17.5-30.4)
<b>Household Income</b>				
< \$20,000	30.9 (25.4-36.9)	65.9 (60.2-71.2)	25.9 (21.4-30.9)	22.5 (18.4-27.2)
\$20,000-34,999	32.9 (27.3-39.0)	65.8 (59.5-71.5)	38.1 (32.3-44.3)	30.4 (25.1-36.2)
\$35,000-49,999	50.1 (41.4-58.8)	65.2 (56.1-73.3)	37.7 (29.5-46.7)	37.8 (29.5-46.9)
\$50,000-74,999	45.2 (38.1-52.4)	57.7 (50.2-64.8)	43.3 (36.2-50.5)	36.3 (29.8-43.4)
≥ \$75,000	48.1 (42.5-53.8)	71.3 (65.8-76.2)	42.7 (37.3-48.3)	32.1 (27.1-37.5)
<b>Education</b>				
< HS graduate	34.1 (24.7-44.9)	64.4 (54.0-73.6)	21.0 (13.5-31.1)	20.4 (13.1-30.4)
HS graduate	39.6 (34.2-45.2)	63.8 (58.3-69.1)	31.3 (26.8-36.3)	28.6 (24.1-33.5)
Some college	40.0 (35.6-44.5)	67.6 (63.1-71.7)	35.5 (31.4-39.9)	27.4 (23.6-31.4)
College graduate	45.3 (41.1-49.6)	66.7 (62.6-70.6)	45.8 (41.6-50.0)	39.7 (35.6-43.8)
<sup>e</sup> Responded “yes” to the question, “Is a dehumidifier regularly used to reduce moisture inside your home?” <sup>f</sup> Responded “no” to the question, “Do you have carpeting or rugs in your bedroom? This does not include throw rugs small enough to be laundered.” <sup>g</sup> Responded “yes” to the question, “Do you use a mattress cover that is made especially for controlling dust mites?” <sup>h</sup> Responded “yes” to the question, “Do you use a pillow cover that is made especially for controlling dust mites?”				

<b>Table 10. Prevalence of Ever Being Advised to Modify Environment to Improve Asthma, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>	
	<b>Ever Advised to Modify Environment to Improve Asthma<sup>a</sup></b>
<b>Total</b>	<b>41.8 (39.0-44.5)</b>
<b>Age</b>	
18-34	40.2 (33.2-47.6)
35-44	44.7 (36.9-52.8)
45-54	48.6 (42.3-54.9)
55-64	45.1 (39.9-50.4)
65-74	42.3 (36.6-48.1)
≥ 75	20 (14.5-26.9)
<b>Gender</b>	
Male	39.7 (35.1-44.4)
Female	42.9 (39.5-46.3)
<b>Race</b>	
White	42.4 (39.4-45.5)
Black	35.3 (28.0-43.3)
<b>Household Income</b>	
< \$20,000	37.9 (32.4-43.8)
\$20,000-34,999	42 (35.7-48.5)
\$35,000-49,999	38.5 (30.9-46.7)
\$50,000-74,999	39.7 (32.8-47.1)
≥ \$75,000	47.9 (42.3-53.6)
<b>Education</b>	
< HS graduate	30.9 (22.5-40.8)
HS graduate	38.1 (32.7-43.7)
Some college	44.4 (39.9-49.0)
College graduate	47.6 (43.4-51.9)
<sup>a</sup> 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?”	



<b>Table 11. Percent Distribution of Number Days Unable to Work or Carry Out Usual Activities Because of Asthma,<sup>a</sup> Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>			
	<b>None</b>	<b>1-5 Days</b>	<b>≥ 6 Days</b>
<b>Total</b>	<b>66.3 (63.6-68.9)</b>	<b>18.6 (16.4-20.9)</b>	<b>15.2 (13.3-17.3)</b>
<b>Age</b>			
18-34	69.2 (61.7-75.8)	21.9 (16.1-29.0)	8.9 (5.6-14.0)
35-44	64.1 (55.7-71.7)	22.8 (16.7-30.4)	13.1 (8.1-20.5)
45-54	61.2 (54.5-67.5)	18.3 (14.0-23.6)	20.5 (15.1-27.3)
55-64	59.8 (54.3-65.0)	19.4 (15.5-24.1)	20.8 (16.5-26.0)
65-74	69.6 (63.8-74.8)	14.8 (11.0-19.7)	15.6 (11.7-20.4)
≥ 75	74.8 (67.2-81.1)	10.2 (6.3-16.3)	15.0 (10.2-21.5)
<b>Gender</b>			
Male	70.2 (65.3-74.7)	14.5 (11.0-18.9)	15.3 (12.1-19.1)
Female	64.2 (60.8-67.4)	20.7 (18.1-23.6)	15.1 (12.8-17.7)
<b>Race</b>			
White	70.1 (67.2-72.9)	17.0 (14.7-19.5)	12.9 (11.1-14.9)
Black	48.8 (40.8-56.9)	24.6 (18.2-32.4)	26.6 (19.5-35.0)
<b>Household Income</b>			
< \$20,000	52.6 (46.7-58.5)	17.4 (13.4-22.3)	30.0 (24.9-35.5)
\$20,000-34,999	63.4 (56.9-69.4)	22.3 (17.2-28.5)	14.3 (10.5-19.1)
\$35,000-49,999	70.4 (62.2-77.5)	15.6 (10.8-22.2)	13.9 (8.8-21.3)
\$50,000-74,999	73.7 (67.1-79.3)	16.1 (11.7-21.9)	10.2 (6.9-14.9)
≥ \$75,000	75.9 (70.4-80.6)	17.1 (13.0-22.1)	7.0 (4.5-10.9)
<b>Education</b>			15.2 (13.3-17.3)
< HS graduate	52.7 (42.0-63.1)	18.8 (11.7-28.9)	
HS graduate	63.5 (58.0-68.6)	19.7 (15.4-24.8)	16.8 (13.4-20.9)
Some college	65.5 (60.9-69.7)	20.0 (16.6-24.0)	14.5 (11.6-17.9)
College graduate	77.3 (73.5-80.6)	14.8 (12.0-18.1)	7.9 (6.1-10.3)
<sup>a</sup> 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?"			

<b>Table 12. Prevalence of Work-Related Asthma Using 3 Definitions, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2013-2017 Combined</b>			
	<b>Asthma Caused or Aggravated by Current or Previous Job<sup>a</sup></b>	<b>Ever Told or Told by Doctor That Asthma Was Work-Related<sup>b</sup></b>	<b>Any Indication of Work-Related Asthma<sup>c</sup></b>
<b>Total</b>	<b>57.0 (54.2-59.8)</b>	<b>24.3 (22.0-26.8)</b>	<b>58.0 (55.2-60.8)</b>
<b>Age</b>			
18-34	49.3 (41.8-56.7)	19.0 (13.4-26.2)	49.5 (42.0-56.9)
35-44	58.1 (49.7-65.9)	25.3 (18.8-33.0)	58.7 (50.4-66.6)
45-54	62.9 (56.4-68.9)	29.9 (24.3-36.2)	65.2 (58.8-71.1)
55-64	67.5 (62.4-72.2)	27.8 (23.4-32.6)	68.6 (63.5-73.3)
65-74	58.4 (52.3-64.3)	26.7 (21.7-32.3)	59.4 (53.2-65.2)
≥ 75	46.5 (38.0-55.2)	14.7 (9.3-22.3)	48.1 (39.5-56.8)
<b>Gender</b>			
Male	59.8 (55.0-64.5)	26.8 (22.7-31.3)	60.6 (55.7-65.2)
Female	55.5 (52.0-58.9)	23.0 (20.2-26.0)	56.7 (53.2-60.1)
<b>Race</b>			
White	55.5 (52.4-58.6)	22.9 (20.4-25.6)	56.5 (53.4-59.6)
Black	60.8 (52.7-68.2)	31.0 (23.9-39.2)	62.2 (54.2-69.6)
<b>Household Income</b>			
< \$20,000	63.9 (58.0-69.4)	27.8 (23.1-33.1)	64.8 (58.9-70.2)
\$20,000-34,999	64.8 (58.3-70.7)	29.8 (24.1-36.2)	66.0 (59.5-71.8)
\$35,000-49,999	61.4 (53.1-69.1)	31.9 (23.6-41.5)	62.9 (54.7-70.5)
\$50,000-74,999	54.5 (46.9-61.9)	18.4 (13.5-24.5)	55.5 (47.9-62.8)
≥ \$75,000	47.7 (42.0-53.4)	20.6 (16.3-25.7)	48.9 (43.1-54.6)
<b>Education</b>			
< HS graduate	60.5 (50.1-70.0)	26.6 (17.9-37.5)	60.9 (50.5-70.4)
HS graduate	61.5 (56.0-66.7)	27.4 (22.9-32.3)	62.4 (56.9-67.6)
Some college	58.3 (53.6-63.0)	23.3 (19.8-27.3)	59.4 (54.6-64.0)
College graduate	48.3 (44.0-52.6)	21.4 (18.2-25.0)	49.7 (45.4-54.1)
<sup>a</sup> Responded “yes” to one or more of the following 4 questions: “Was your asthma caused by chemicals, smoke, fumes, or dust in your current job?” “Is your asthma made worse by chemicals, smoke, fumes, or dust in your current job?” “Was your asthma caused by chemicals, smoke, fumes, or dust in any previous job you ever had?” “Was your asthma made worse by chemicals, smoke, fumes, or dust in any previous job you ever had?”			
<sup>b</sup> Responded “yes” to one or more of the following 2 questions: “Were you ever told by a doctor or other health professional that your asthma was related to any job you ever had?” “Did you ever tell a doctor or other health professional that your asthma was related to any job you ever had?”			
<sup>c</sup> Responded “yes” to at least one of the above 6 questions (a and b).			