

**Prevalence of Asthma-Related Health Conditions Among Michigan Adults with Current Asthma
Estimates from the Michigan Asthma Call-Back Survey
2014-2018 Combined**

Standard Tables

*Prepared by: Yan Tian
November 2021*

Table of Contents

Introduction..... 3
Table 1: Prevalence of Asthma Symptoms..... 4
Table 2: Percent Distribution of Number of Asthma Symptom-Free Days in Past 2 Weeks..... 5
Table 3: Prevalence of Asthma-Related Health Care Utilization..... 6
Table 4: Prevalence of Any Asthma Control Medication Use in Past 3 Months..... 7
Table 5: Prevalence of Comorbid Conditions..... 8
Table 6: Prevalence of Experiencing Cost Barriers to Asthma Care in Past 12 Months..... 9
Table 7: Prevalence of Knowledge Indicators Related to Asthma Management..... 10
Table 8: Prevalence of Asthma Triggers in Home Environment..... 12
Table 9: Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment..... 14
Table 10: Prevalence of Ever Being Advised to Modify Environment to Improve Asthma..... 16
Table 11: Percent Distribution of Number of Days Unable to Work or Carry Out Usual Activities..... 17
Table 12: Prevalence of Work-Related Asthma Using 3 Definitions..... 18

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 2014-2018 Michigan Asthma Call-Back Surveys combined. The total 5-year sample size of completed interviews for adults was 3,445, with 547 from 2014, 541 from 2015, 849 from 2016, 660 from 2017, and 657 from 2018. 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=2,410). 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?”

Table 1. Prevalence of Asthma Symptoms, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined				
	n^a	Had Asthma Symptoms on ≥ 9 Days in Past Month^b	Difficulty Sleeping Due to Asthma Symptoms on ≥ 2 Days in Past Month^c	Usual Activities Limited at Least a Little During Past 12 Months^d
Total	2,410	42.3 (39.5-45.1)	30.2 (27.6-32.9)	52.8 (50.0-55.5)
Age				
18-34	331	35.2 (28.9-42.0)	23.5 (18.2-29.8)	49.9 (43.3-56.5)
35-44	247	39.8 (32.6-47.6)	31.2 (24.2-39.0)	49.1 (41.6-56.7)
45-54	432	43.5 (37.9-49.3)	30.5 (25.3-36.2)	50.7 (45.0-56.3)
55-64	641	46.3 (41.3-51.3)	38.3 (33.4-43.4)	60.8 (55.9-65.4)
65-74	513	50.6 (45.2-55.8)	33.7 (28.5-39.3)	55.2 (49.9-60.4)
≥ 75	239	49.4 (40.6-58.1)	27.2 (20.4-35.2)	51.4 (42.7-60.0)
Gender				
Male	741	40.8 (36.3-45.5)	28.0 (23.9-32.4)	47.7 (43.0-52.4)
Female	1,669	43.1 (39.6-46.6)	31.4 (28.2-34.8)	55.5 (52.1-58.9)
Race				
White	1,985	41.7 (38.6-44.8)	27.3 (24.5-30.2)	49.9 (46.8-53.0)
Black	255	43.3 (35.6-51.3)	41.8 (34.2-49.9)	60.3 (52.3-67.7)
Household Income				
< \$20,000	510	58.2 (52.2-64.0)	52.7 (46.5-58.8)	71.6 (66.0-76.7)
\$20,000-34,999	430	43.8 (37.5-50.3)	34.1 (27.9-40.8)	56.8 (50.4-63.0)
\$35,000-49,999	278	39.2 (31.0-48.1)	27 (20.0-35.4)	47.6 (39.1-56.3)
\$50,000-74,999	285	30.3 (24.1-37.2)	16.9 (12.0-23.2)	44.8 (37.4-52.4)
≥ \$75,000	589	30.8 (25.8-36.2)	14.1 (10.8-18.2)	38.7 (33.4-44.2)
Education				
< HS graduate	157	56.9 (46.4-66.9)	51.2 (40.8-61.6)	63.3 (52.6-72.9)
HS graduate	556	48.2 (42.5-53.9)	37.1 (31.6-43.1)	59.5 (53.9-64.8)
Some college	806	41.2 (36.8-45.8)	28.2 (24.3-32.3)	53.0 (48.3-57.6)
College graduate	884	30.4 (26.6-34.4)	15.8 (12.9-19.1)	39.4 (35.2-43.7)
^a Sample size (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary due to missing values. ^b Reported ≥ 9 days to the following question, "During the past 30 days, on how many days did you have any symptoms of asthma?" ^c 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?" ^d 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?"				

	None	1-6 Days	7-13 Days	14 Days
Total	24.7 (22.4-27.1)	16.4 (14.3-18.6)	24.0 (21.7-26.4)	35.0 (32.3-37.8)
Age				
18-34	14.2 (10.2-19.5)	17.1 (12.6-22.8)	26.0 (20.8-31.9)	42.7 (36.2-49.4)
35-44	18.4 (13.1-25.3)	17.3 (12.0-24.3)	30.1 (23.8-37.3)	34.1 (27.3-41.6)
45-54	28.3 (23.2-33.9)	17 (12.9-21.9)	21.2 (17.1-26.0)	33.5 (28.5-39.0)
55-64	32.1 (27.4-37.1)	15.3 (12.2-19.0)	21.8 (17.9-26.2)	30.9 (26.7-35.4)
65-74	38.0 (32.8-43.5)	15.6 (12.0-20.0)	18.4 (14.8-22.6)	28.0 (23.6-33.0)
≥ 75	31.3 (24.5-39.2)	13.1 (8.9-18.8)	24.9 (17.4-34.2)	30.7 (22.9-39.8)
Gender				
Male	22.8 (19.2-26.8)	15.8 (12.4-19.9)	25.7 (21.8-30.1)	35.7 (31.3-40.3)
Female	25.7 (22.9-28.8)	16.7 (14.2-19.5)	23.0 (20.3-26.0)	34.6 (31.2-38.2)
Race				
White	24.9 (22.4-27.6)	15.0 (12.9-17.4)	25.0 (22.4-27.7)	35.1 (32.1-38.3)
Black	23.7 (17.7-30.9)	23.9 (17.4-31.7)	17.4 (12.2-24.2)	35.1 (28.0-42.9)
Household Income				
< \$20,000	36.5 (30.7-42.6)	21.0 (16.4-26.5)	18.5 (14.2-23.7)	24.0 (19.2-29.6)
\$20,000-34,999	26.2 (21.1-32.1)	16.9 (12.7-22.1)	20.2 (15.3-26.0)	36.7 (30.6-43.3)
\$35,000-49,999	22.6 (16.5-30.1)	19.5 (13.2-28.0)	23.3 (16.7-31.6)	34.5 (26.0-44.2)
\$50,000-74,999	21.6 (16.4-28.0)	9.6 (6.3-14.1)	27.5 (21.0-35.2)	41.3 (33.9-49.1)
≥ \$75,000	14.2 (11.0-18.1)	10.7 (7.7-14.5)	33.7 (28.8-39.1)	41.4 (36.0-47.0)
Education				
< HS graduate	38.4 (29.5-48.2)	21.4 (14.1-31.0)	9.3 (5.2-16.1)	31.0 (21.6-42.2)
HS graduate	26.5 (21.8-31.8)	22.5 (17.8-28.0)	18.9 (15.0-23.5)	32.1 (27.0-37.7)
Some college	24.4 (20.9-28.3)	13.4 (10.7-16.5)	28.4 (24.3-32.9)	33.7 (29.3-38.4)
College graduate	15.9 (13.2-19.0)	12.0 (9.5-15.1)	30.5 (26.5-34.8)	41.6 (37.4-46.0)
^a 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?"				

Michigan Asthma Call-Back Survey, 2014-2018 (combined) Adult Estimates

Table 3. Prevalence of Asthma-Related Health Care Utilization in the Past 12 Months, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined					
	ER/Urgent Care Visits for Asthma^a		≥ 1 Hospital Stays for Asthma^b	≥ 2 Routine Asthma Care Visits^c	Received Flu Vaccine^d
	≥ 1 Visit	≥ 2 Visits			
Total	13.9 (12.1-15.8)	7.3 (5.9-8.9)	3.0 (2.4-3.8)	34.1 (31.6-36.8)	43.0 (40.3-45.7)
Age					
18-34	11.0 (7.8-15.2)	5.4 (3.3-8.8)	--†	21.7 (16.5-27.9)	33.2 (27.3-39.7)
35-44	19.5 (14.1-26.4)	9.6 (5.8-15.4)	2.0 (0.9-4.5) ~	37.5 (30.3-45.2)	32.9 (26.3-40.2)
45-54	13.5 (9.9-18.2)	8.4 (5.5-12.6)	3.3 (2.0-5.6)	33.4 (28.2-38.9)	39.1 (33.8-44.6)
55-64	16.9 (13.3-21.2)	9.8 (6.8-13.9)	5.2 (3.6-7.7)	43.4 (38.5-48.4)	51.8 (46.9-56.7)
65-74	11.8 (8.7-15.9)	6.1 (3.8-9.5)	5.8 (3.7-9.0)	46.5 (41.2-51.9)	62.3 (56.9-67.3)
75+	9.9 (6.0-15.9)	--†	3.4 (1.7-6.8) ~	36.4 (28.8-44.7)	63.0 (53.8-71.3)
Gender					
Male	9.1 (6.8-11.9)	5.2 (3.5-7.7)	2.1 (1.3-3.3)	27.3 (23.4-31.5)	41.0 (36.5-45.5)
Female	16.5 (14.1-19.2)	8.4 (6.6-10.6)	3.5 (2.6-4.6)	37.8 (34.5-41.3)	44.1 (40.8-47.6)
Race					
White	11.8 (10.1-13.9)	5.8 (4.5-7.5)	2.7 (2.1-3.6)	32.3 (29.5-35.2)	46.2 (43.2-49.3)
Black	22.8 (16.9-30.0)	14.1 (9.5-20.5)	4.5 (2.5-8.1) ~	44.6 (36.9-52.5)	30.8 (24.2-38.4)
Household Income					
< \$20,000	23.8 (19.2-29.2)	14.3 (10.8-18.6)	7.3 (5.2-10.2)	44.8 (38.8-51.0)	36.3 (31.0-42.0)
\$20,000-34,999	13.2 (9.5-18.0)	7.0 (4.3-11.2)	2.7 (1.6-4.4)	33.6 (28.1-39.7)	38.5 (32.7-44.6)
\$35,000-49,999	11.2 (7.2-17.0)	4.8 (2.4-9.2) ~	2.0 (0.9-4.5) ~	31.5 (24.0-40.0)	46.3 (37.3-55.4)
\$50,000-74,999	8.2 (5.2-12.5)	3.3 (1.6-6.6) ~	1.4 (0.6-3.4) ~	28.1 (22.1-35.0)	49.9 (42.3-57.5)
≥ \$75,000	9.8 (6.8-13.8)	4.2 (2.2-8.1) ~	0.5 (0.2-1.5)	30.2 (25.3-35.6)	46.9 (41.5-52.3)
Education					
< HS graduate	18.6 (12.4-27.1)	15.6 (9.9-23.8)	2.8 (1.4-5.7) ~	41.0 (31.4-51.3)	36.1 (27.0-46.3)
HS graduate	15.0 (11.7-19.1)	7.0 (4.8-10.1)	4.7 (3.2-7.0)	37.4 (32.0-43.0)	36.1 (31.2-41.3)
Some college	13.9 (11.1-17.2)	6.8 (4.8-9.4)	3.1 (2.1-4.5)	33.3 (29.2-37.7)	43.3 (38.8-47.8)
College graduate	10.3 (7.8-13.5)	4.3 (2.7-6.7)	1.2 (0.7-2.0)	28.7 (25.1-32.7)	53.2 (48.8-57.5)
^a 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?" ^b 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?" ^c 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?" ^d 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%).					

Table 4. Prevalence of Any Asthma Control Medication Use in Past 3 Months, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined	
	Used \geq 1 Asthma Control Medication in Past 3 Months^a
Total	40.1 (37.4-42.7)
Age	
18-34	24.9 (19.6-31.0)
35-44	32.4 (25.9-39.6)
45-54	47.4 (41.7-53.1)
55-64	46.3 (41.4-51.2)
65-74	61.5 (56.2-66.4)
\geq 75	49.5 (40.9-58.1)
Gender	
Male	33.7 (29.6-38.0)
Female	43.5 (40.1-46.9)
Race	
White	41.2 (38.3-44.2)
Black	38.2 (31.1-46.0)
Household Income	
< \$20,000	38.2 (32.7-44.1)
\$20,000-34,999	38.1 (32.2-44.4)
\$35,000-49,999	38.2 (30.3-46.8)
\$50,000-74,999	40.6 (33.7-48.0)
\geq \$75,000	44.5 (39.1-50.1)
Education	
< HS graduate	29.8 (22.0-38.9)
HS graduate	38.2 (33.1-43.5)
Some college	42.9 (38.5-47.5)
College graduate	43.5 (39.3-47.8)
^a 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.	

Table 5. Prevalence of Comorbid Conditions, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined		
	Ever Diagnosed with COPD, Emphysema, or Chronic Bronchitis^a	Ever Diagnosed with Depression^b
Total	36.4 (33.8-39.0)	41.2 (38.4-44.0)
Age		
18-34	11.4 (8.0-15.9)	37.7 (31.5-44.2)
35-44	31.6 (24.9-39.2)	48.4 (41.0-56.0)
45-54	42.4 (36.8-48.3)	41.5 (35.9-47.4)
55-64	55.1 (50.2-59.9)	48.9 (44.0-53.9)
65-74	54.0 (48.6-59.2)	34.7 (29.7-40.0)
≥ 75	60.2 (51.5-68.4)	28.3 (21.3-36.6)
Gender		
Male	36.8 (32.5-41.4)	33.9 (29.7-38.4)
Female	36.2 (33.0-39.4)	45.1 (41.7-48.6)
Race		
White	34.6 (31.9-37.5)	41.2 (38.1-44.3)
Black	41.6 (34.0-49.6)	37.1 (29.9-45.0)
Household Income		
< \$20,000	57.8 (51.4-63.8)	57.2 (51.1-63.1)
\$20,000-34,999	44.8 (38.5-51.2)	49.2 (42.8-55.6)
\$35,000-49,999	31.0 (24.1-38.8)	38.9 (30.9-47.5)
\$50,000-74,999	22.9 (17.7-29.2)	33.2 (26.5-40.7)
≥ \$75,000	17.2 (13.8-21.2)	26.0 (21.5-31.2)
Education		
< HS graduate	63.3 (52.2-73.2)	50.4 (40.4-60.5)
HS graduate	44.3 (38.9-49.8)	49.7 (44.0-55.3)
Some college	34.1 (30.2-38.2)	38.6 (34.3-43.1)
College graduate	17.6 (14.9-20.7)	32.2 (28.4-36.2)
^a 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?” ^b Replied “yes” to the following question, “Have you ever been told by a doctor or other health professional that you were depressed?”		

Table 6. Prevalence of Experiencing Cost Barriers to Asthma Care in Past 12 Months, Among Adults with Current Asthma				
Michigan Asthma Call-Back Survey, 2014-2018 Combined				
	Cost Barrier to Primary Care Doctor^a	Cost Barrier to Asthma Specialist^b	Cost Barrier to Obtaining Medication^c	Cost Barrier to Primary Care, Specialist, or Medication^d
Total	9.8 (8.2-11.7)	3.9 (3.0-5.1)	17.7 (15.5-20.0)	20.6 (18.4-23.1)
Age				
18-34	7.6 (4.9-11.6)	2.4 (1.1-5.2) ~	17.2 (12.6-23.1)	19.5 (14.7-25.5)
35-44	14.1 (9.1-21.1)	5.9 (3.4-10.2)	15.8 (10.8-22.5)	21.0 (15.1-28.3)
45-54	11.2 (7.8-15.8)	5.0 (2.8-8.9)	23.2 (18.4-28.6)	24.9 (20.1-30.4)
55-64	12.8 (9.3-17.4)	5.0 (3.1-8.0)	19.9 (15.9-24.5)	23.1 (19.0-27.9)
65-74	6.0 (3.9-9.1)	3.7 (2.1-6.2)	14.4 (10.7-19.1)	18.2 (14.2-23.1)
≥ 75	3.5 (1.6-7.6) ~	0.7 (0.2-2.8)	5.1 (2.7-9.2) ~	7.6 (4.5-12.5)
Gender				
Male	11.1 (8.4-14.4)	3.9 (2.5-6.2)	16.2 (12.9-20.0)	20.1 (16.6-24.2)
Female	9.1 (7.1-11.5)	4.0 (2.8-5.5)	18.5 (15.7-21.6)	20.9 (18.1-24.1)
Race				
White	8.0 (6.5-9.9)	3.1 (2.2-4.3)	16.0 (13.7-18.6)	18.4 (16.0-21.0)
Black	17.9 (12.3-25.3)	7.6 (4.3-13.0)	24.2 (17.9-31.9)	31.6 (24.5-39.7)
Household Income				
< \$20,000	17.9 (13.6-23.2)	8.6 (5.9-12.5)	23.3 (18.7-28.7)	30.0 (24.8-35.8)
\$20,000-34,999	11.6 (8.1-16.5)	4.6 (2.8-7.7)	25.0 (19.5-31.5)	28.3 (22.6-34.7)
\$35,000-49,999	10.1 (6.0-16.6)	3.8 (1.5-9.3) ~	19.8 (13.8-27.5)	21.4 (15.2-29.2)
\$50,000-74,999	4.1 (1.8-8.8) ~	0.3 (0.1-1.4)	11.1 (7.2-16.7)	13.3 (8.9-19.4)
≥ \$75,000	4.3 (2.3-8.2) ~	1.2 (0.4-3.0) ~	8.0 (5.3-12.1)	9.2 (6.3-13.2)
Education				
< HS graduate	19.6 (12.8-28.9)	8.0 (4.2-14.5)	23.9 (16.3-33.7)	29.4 (20.9-39.5)
HS graduate	9.5 (6.8-13.1)	5.5 (3.5-8.6)	19.1 (14.8-24.3)	23.0 (18.5-28.3)
Some college	9.5 (7.1-12.7)	2.9 (1.8-4.6)	18.1 (14.8-22.1)	20.6 (17.1-24.6)
College graduate	4.9 (3.3-7.3)	1.9 (1.1-3.2)	11.9 (9.3-15.1)	13.5 (10.8-16.9)
^a 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?” ^b 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?” ^c 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?” ^d 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%).				

Table 7. Prevalence of Knowledge Indicators Related to Asthma Management, Among Adults with Current Asthma			
Michigan Asthma Call-Back Survey, 2014-2018 Combined			
	Ever Taught to Recognize Early Signs of Asthma Episode^a	Ever Taught What to Do During Asthma Episode^b	Ever Taught How to Use Peak Flow Meter^c
Total	66.6 (63.9-69.2)	78.1 (75.8-80.3)	43.7 (41.0-46.5)
Age			
18-34	71.7 (65.1-77.4)	82.1 (76.4-86.6)	43.2 (36.7-49.8)
35-44	69.5 (62.3-75.8)	80.2 (73.8-85.3)	42.5 (35.2-50.1)
45-54	65.7 (60.1-70.9)	77.6 (72.5-82.0)	45.6 (40.0-51.2)
55-64	64.4 (59.5-69.1)	76.9 (72.3-81.0)	44.6 (39.8-49.5)
65-74	63.3 (57.9-68.4)	76.5 (71.3-80.9)	44.9 (39.7-50.2)
≥ 75	50.5 (41.7-59.3)	63.5 (54.3-71.8)	39.8 (31.5-48.8)
Gender			
Male	65.5 (61.0-69.7)	74.3 (70.0-78.1)	40.5 (36.0-45.2)
Female	67.2 (63.8-70.4)	80.2 (77.4-82.8)	45.5 (42.0-49.0)
Race			
White	66.1 (63.1-69.0)	78.4 (75.9-80.8)	40.6 (37.6-43.7)
Black	66.6 (58.9-73.6)	77.1 (69.7-83.1)	55.3 (47.3-63.0)
Household Income			
< \$20,000	61.3 (55.1-67.2)	74.6 (69.3-79.4)	49.7 (43.6-55.7)
\$20,000-34,999	71.2 (65.1-76.7)	79.2 (73.8-83.7)	44.9 (38.5-51.4)
\$35,000-49,999	69.2 (60.2-76.9)	79.5 (70.1-86.5)	43.2 (34.9-52.0)
\$50,000-74,999	67.7 (60.2-74.4)	81.7 (75.0-86.9)	34.9 (28.1-42.4)
≥ \$75,000	70.7 (65.6-75.2)	80.1 (75.5-84.0)	43.2 (37.8-48.8)
Education			
< HS graduate	54.4 (44.2-64.3)	62.5 (52.2-71.8)	38.9 (29.9-48.8)
HS graduate	62.8 (57.2-68.0)	74.5 (69.7-78.8)	43.4 (37.9-49.1)
Some college	71.5 (67.3-75.4)	83.2 (79.8-86.2)	46.8 (42.2-51.5)
College graduate	69.7 (65.5-73.5)	82.5 (79.0-85.5)	41.8 (37.6-46.2)
^a Responded “yes” to the question, “Has a doctor or other health professional ever taught youhow to recognize early signs or symptoms of an asthma episode?” ^b Responded “yes” to the question, “.....what to do during an asthma episode or attack?” ^c Responded “yes” to the question, “.....how to use a peak flow meter to adjust your daily medications?”			

Table 7 (continued). Prevalence of Knowledge Indicators Related to Asthma Management, Among Adults with Current Asthma			
Michigan Asthma Call-Back Survey, 2014-2018 Combined			
	Ever Received Asthma Action Plan^d	Ever Taken Asthma Management Class^e	Received ≥ 3 Types of Asthma Education^f
Total	34.3 (31.7-37.1)	8.3 (6.9-10.0)	45.8 (43.1-48.6)
Age			
18-34	32.8 (27.0-39.3)	7.8 (4.8-12.4)	48.4 (41.9-55.0)
35-44	39.0 (31.7-46.9)	9.7 (5.9-15.5)	50.1 (42.6-57.6)
45-54	36.0 (30.6-41.8)	6.9 (4.6-10.2)	45.2 (39.6-51.0)
55-64	33.8 (29.4-38.5)	9.7 (7.4-12.7)	43.1 (38.4-48.0)
65-74	35.0 (30.1-40.2)	8.3 (5.8-11.5)	45.4 (40.2-50.7)
≥ 75	26.1 (19.8-33.6)	8.1 (5.1-12.6)	34.3 (26.6-43.1)
Gender			
Male	25.8 (21.9-30.0)	6.7 (4.7-9.3)	39.2 (34.7-43.9)
Female	39.0 (35.7-42.5)	9.2 (7.4-11.5)	49.4 (46.0-52.9)
Race			
White	32.7 (29.9-35.7)	7.2 (5.8-9.0)	43.8 (40.8-46.9)
Black	39.6 (32.2-47.5)	12.3 (8.4-17.8)	52.4 (44.5-60.2)
Household Income			
< \$20,000	36.1 (30.4-42.2)	10.6 (7.4-14.8)	44.6 (38.6-50.6)
\$20,000-34,999	36.0 (29.9-42.5)	9.7 (6.5-14.1)	48.9 (42.5-55.4)
\$35,000-49,999	33.6 (26.3-41.9)	9.1 (5.3-15.2)	48.7 (40.1-57.4)
\$50,000-74,999	29.5 (23.1-36.9)	8.4 (5.1-13.6)	40.5 (33.3-48.1)
≥ \$75,000	37.0 (31.8-42.5)	4.9 (3.4-7.0)	48.8 (43.3-54.3)
Education			
< HS graduate	27.4 (19.6-36.9)	9.5 (5.2-17.0) ~	32.9 (24.4-42.7)
HS graduate	34.6 (29.5-40.1)	9.8 (6.6-14.3)	45.6 (40.0-51.3)
Some college	36.3 (31.8-41.0)	7.9 (5.9-10.3)	48.8 (44.2-53.5)
College graduate	34.5 (30.6-38.7)	6.9 (5.1-9.2)	48.0 (43.7-52.4)
^d 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?”			
^e Responded “yes” to the question, “Have you ever taken a course or class on how to manage your asthma?”			
^f 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%).			

Table 8. Prevalence of Asthma Triggers in Home Environment, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined				
	Cigarettes Smoked in Home^a	Mold Seen/Smelled in Home^b	Saw Cockroaches in Home^c	Saw Mice/Rat in Home^d
Total	19.0 (16.9-21.4)	12.7 (10.9-14.9)	2.5 (1.7-3.6)	7.5 (6.1-9.1)
Age				
18-34	14.9 (10.8-20.2)	14.1 (9.8-19.9)	2.2 (1.0-4.9) ~	6.4 (3.6-11.0)
35-44	22.5 (16.6-29.8)	16.7 (11.5-23.6)	--†	7.9 (4.7-13.0)
45-54	21.6 (16.9-27.2)	12.0 (8.7-16.3)	3.3 (1.5-7.1) ~	9.6 (6.7-13.4)
55-64	26.6 (22.1-31.6)	12.5 (9.6-16.1)	3.3 (1.7-6.4) ~	7.2 (5.2-9.8)
65-74	14.3 (10.6-18.9)	8.4 (6.0-11.7)	--†	7.2 (5.0-10.3)
≥ 75	8.4 (5.1-13.5)	7.5 (4.4-12.4)	--†	7.4 (4.3-12.3)
Gender				
Male	22.5 (18.7-26.8)	12.7 (9.8-16.4)	3.1 (1.7-5.5)	9.0 (6.8-11.8)
Female	17.1 (14.6-19.9)	12.8 (10.4-15.6)	2.1 (1.3-3.5)	6.7 (5.0-8.8)
Race				
White	15.7 (13.6-18.1)	12.4 (10.4-14.8)	1.3 (0.7-2.3) ~	6.9 (5.4-8.7)
Black	32.8 (25.7-40.8)	14.6 (9.4-22.0)	9.0 (5.2-14.9)	6.5 (3.6-11.4)
Household Income				
< \$20,000	37.1 (31.5-43.1)	18.0 (13.1-24.4)	6.4 (3.9-10.3)	9.3 (6.5-13.0)
\$20,000-34,999	23.4 (17.9-30.1)	15.0 (10.9-20.3)	1.4 (0.6-3.3) ~	7.3 (5.0-10.6)
\$35,000-49,999	16.2 (11.1-23.0)	7.0 (4.5-10.9)	--†	8.5 (4.2-16.6) ~
\$50,000-74,999	7.2 (4.0-12.8) ~	8.5 (5.0-14.0)	-- ^e	7.1 (4.4-11.3)
≥ \$75,000	4.3 (2.5-7.1)	11 (8.1-14.7)	--†	6.0 (3.8-9.4)
Education				
< HS graduate	46.5 (36.7-56.5)	15.4 (8.8-25.4)	8.6 (4.5-15.9)	7.9 (4.5-13.8)
HS graduate	22.3 (18.3-27.1)	13.6 (9.5-19.1)	2.7 (1.4-5.2)	10.3 (7.2-14.6)
Some college	17.1 (14.0-20.8)	12.7 (10.1-15.9)	1.1 (0.5-2.4)	7.0 (4.8-9.9)
College graduate	4.4 (3.0-6.4)	10.6 (8.2-13.5)	1.0 (0.4-2.4)	5.2 (3.8-7.1)
^a Responded "yes" to the question, "In the past week, has anyone smoked inside your home?" ^b 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." ^c Responded "yes" to the question, "In the past 30 days, has anyone seen a cockroach inside your home?" ^d 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." ^e No positive responses in this cell. † 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%).				

**Table 8 (continued). Prevalence of Asthma Triggers in Home Environment, Among Adults with Current Asthma
Michigan Asthma Call-Back Survey, 2014-2018 Combined**

	Inside Pets ^f	Pets Allowed in Bedroom ^g	Wood Burning Stove/Fireplace Used ^h	Unvented Gas Logs, Stoves, or Fireplaces Used ⁱ	Gas Used for Cooking ^j
Total	63.6 (60.9-66.2)	50.0 (47.2-52.8)	13.4 (11.4-15.7)	7.5 (6.0-9.2)	54.3 (51.6-57.1)
Age					
18-34	65.0 (58.8-70.8)	50.9 (44.3-57.5)	13.9 (9.1-20.7)	8.5 (5.2-13.8)	59.1 (52.5-65.4)
35-44	73.0 (65.6-79.3)	55.6 (48.0-63.1)	11.3 (7.3-17.2)	6.7 (3.9-11.4)	51.0 (43.5-58.5)
45-54	67.5 (61.9-72.6)	50.9 (45.2-56.6)	14.3 (10.9-18.6)	7.1 (4.8-10.3)	56.3 (50.7-61.8)
55-64	64.6 (59.6-69.2)	53.5 (48.6-58.4)	15.4 (12.3-19.1)	6.4 (4.5-9.0)	52.4 (47.5-57.3)
65-74	52.2 (46.9-57.5)	41.6 (36.5-46.9)	13.3 (10.1-17.3)	7.9 (5.4-11.6)	49.2 (43.9-54.5)
≥ 75	40.1 (31.7-49.0)	33.4 (25.3-42.6)	7.7 (4.4-13.2)	8.1 (3.7-16.6) ~	46.8 (38.3-55.5)
Gender					
Male	58.1 (53.4-62.6)	44.5 (40.0-49.2)	11.8 (9.0-15.2)	8.7 (6.4-11.7)	54.1 (49.4-58.8)
Female	66.6 (63.4-69.6)	52.9 (49.4-56.4)	14.4 (11.7-17.4)	6.8 (5.1-9.1)	54.4 (51.0-57.8)
Race					
White	69.6 (66.9-72.2)	56.1 (53.0-59.1)	15.2 (12.8-17.9)	7.3 (5.7-9.2)	53.4 (50.3-56.4)
Black	31.7 (24.7-39.6)	18.0 (12.7-24.8)	4.0 (1.9-8.1) ~	9.7 (5.7-16.0)	58.7 (50.7-66.3)
Household Income					
< \$20,000	60.5 (54.5-66.2)	43.3 (37.4-49.4)	8.4 (5.1-13.7)	7.7 (4.9-11.8)	52.4 (46.2-58.4)
\$20,000-34,999	60.2 (53.6-66.4)	49.5 (43.1-55.9)	12.7 (8.9-17.9)	5.4 (3.1-9.1)	60.1 (53.8-66.1)
\$35,000-49,999	64.1 (55.7-71.7)	44.8 (36.1-53.7)	17.3 (9.6-29.2)	8.3 (4.8-14.1)	52.4 (43.6-61.1)
\$50,000-74,999	63.3 (55.7-70.3)	54.3 (46.7-61.7)	13.6 (9.5-19.0)	6.0 (3.2-11.1) ~	47.6 (40.1-55.3)
≥ \$75,000	69.0 (64.0-73.6)	55.4 (50.0-60.7)	16.5 (13.1-20.5)	9.3 (6.0-14.3)	55.0 (49.6-60.3)
Education					
< HS graduate	63.4 (53.6-72.2)	45.9 (36.1-56.0)	11.8 (5.9-22.2)	12.2 (6.7-21.3)	54.2 (44.0-64.1)
HS graduate	65.0 (59.7-70.0)	52.9 (47.3-58.5)	12.9 (8.8-18.6)	8.7 (5.7-13.1)	59.7 (54.1-65.1)
Some college	62.9 (58.4-67.1)	49.7 (45.1-54.3)	12.7 (9.7-16.4)	6.4 (4.6-8.8)	55.5 (50.9-60.0)
College graduate	63.4 (59.2-67.5)	50.2 (45.9-54.5)	15.4 (12.8-18.6)	5.5 (4.0-7.7)	47.0 (42.7-51.4)

^f 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?”

^g Responded “yes” to the question, “Are pets allowed in your bedroom?” (Among all respondents).

^h Responded “yes” to the question, “Is a wood burning fireplace or wood burning stove used in your home?”

ⁱ Responded “yes” to the question, “Are unvented gas logs, unvented gas fireplaces, or unvented gas stoves used in your home?”

^j 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%).

Table 9. Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined				
	Kitchen Fan Used When Cooking^a	Bathroom Exhaust Fan Used^b	Sheets Washed in Hot Water^c	Air Cleaner Used in Home^d
Total	51.8 (49.0-54.6)	56.4 (53.5-59.2)	37.6 (35.0-40.3)	33.9 (31.3-36.6)
Age				
18-34	49.4 (42.7-56.0)	49.3 (42.7-56.0)	30.0 (24.4-36.4)	33.3 (27.4-39.8)
35-44	49.2 (41.6-56.8)	57.2 (49.5-64.7)	38.1 (31.0-45.9)	33.9 (26.9-41.6)
45-54	55.8 (50.2-61.3)	55.5 (49.7-61.2)	40.7 (35.2-46.4)	34.3 (29.0-39.9)
55-64	53.9 (48.9-58.7)	58.9 (54.0-63.7)	38.9 (34.2-43.9)	33.1 (28.5-38.0)
65-74	50.5 (45.1-55.8)	66.6 (61.3-71.5)	42.8 (37.7-48.1)	35.0 (30.1-40.3)
≥ 75	52.9 (44.1-61.5)	64.0 (55.8-71.4)	51.2 (42.4-60.0)	36.2 (28.1-45.2)
Gender				
Male	48.1 (43.4-52.8)	59.9 (55.1-64.5)	33.0 (28.6-37.7)	32.2 (27.9-36.8)
Female	53.8 (50.4-57.3)	54.5 (50.9-57.9)	40.0 (36.8-43.4)	34.8 (31.5-38.2)
Race				
White	51.8 (48.7-54.9)	61.7 (58.5-64.8)	37.4 (34.5-40.4)	33.2 (30.4-36.2)
Black	51.3 (43.4-59.2)	31.4 (24.6-39.0)	37.8 (30.5-45.6)	35.0 (27.6-43.2)
Household Income				
< \$20,000	47.1 (41.1-53.2)	40.6 (34.9-46.6)	40.0 (34.3-46.1)	29.2 (23.9-35.2)
\$20,000-34,999	52.4 (45.9-58.8)	52.2 (45.8-58.6)	41.1 (35.0-47.6)	31.0 (25.4-37.2)
\$35,000-49,999	57.2 (48.4-65.6)	57.8 (48.5-66.5)	27.9 (21.4-35.5)	37.5 (28.9-47.0)
\$50,000-74,999	56.3 (48.6-63.7)	70.5 (63.4-76.8)	42.3 (34.9-50.0)	39.5 (32.1-47.4)
≥ \$75,000	54.7 (49.3-60.1)	70.4 (64.9-75.4)	37.9 (32.8-43.3)	34.9 (30.1-40.1)
Education				
< HS graduate	50.2 (40.1-60.2)	40.5 (31.0-50.8)	42.8 (33.3-52.9)	32.6 (23.2-43.5)
HS graduate	47.4 (41.8-53.0)	52.8 (47.1-58.4)	36.9 (31.6-42.6)	31.3 (26.3-36.7)
Some college	55.8 (51.2-60.3)	56.0 (51.3-60.6)	36.1 (31.9-40.5)	36.2 (32.0-40.7)
College graduate	51.4 (47.0-55.7)	69.5 (65.4-73.3)	38.5 (34.3-42.8)	34.0 (30.0-38.2)
^a Responded "yes" to the question, "Is an exhaust fan that vents to the outside used regularly when cooking in your kitchen?" ^b Responded "yes" to the question, "In your bathroom, do you regularly use an exhaust fan that vents to the outside?" ^c Responded "hot" to the question, "Are your sheets and pillowcases washed in cold, warm, or hot water?" ^d 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?"				

Table 9 (continued). Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Adults with Current Asthma				
Michigan Asthma Call-Back Survey, 2014-2018 Combined				
	Dehumidifier Used Regularly in Home^e	No Carpeting in Bedroom^f	Uses Mattress Cover^g	Uses Pillow Cover^h
Total	39.2 (36.5-42.0)	64.9 (62.1-67.6)	36.9 (34.3-39.5)	29.4 (27.0-31.9)
Age				
18-34	38.4 (32.0-45.2)	65.6 (59.0-71.7)	29.3 (23.8-35.6)	22.2 (17.3-28.2)
35-44	40.1 (33.0-47.6)	60.0 (52.2-67.2)	32.2 (25.8-39.3)	24.2 (18.7-30.7)
45-54	38.2 (32.8-43.9)	60.5 (54.7-66.0)	41.7 (36.2-47.5)	32.4 (27.5-37.8)
55-64	36.8 (32.2-41.6)	69.0 (64.3-73.3)	42.9 (38.1-47.8)	34.6 (30.1-39.5)
65-74	40.9 (35.9-46.1)	67.7 (62.4-72.5)	43.3 (38.0-48.7)	39.6 (34.5-45.1)
≥ 75	48.2 (39.7-56.9)	68 (58.5-76.2)	40.7 (32.7-49.2)	32.0 (25.0-39.8)
Gender				
Male	35.8 (31.5-40.4)	64.1 (59.4-68.5)	32.2 (27.9-36.7)	23.6 (20.0-27.7)
Female	41.0 (37.6-44.5)	65.3 (61.9-68.7)	39.4 (36.1-42.7)	32.5 (29.5-35.7)
Race				
White	42.2 (39.1-45.3)	67.2 (64.1-70.1)	38.3 (35.4-41.3)	31.1 (28.4-33.9)
Black	26.9 (20.6-34.3)	54.9 (46.9-62.6)	28.5 (22.0-36.0)	21.4 (16.1-27.9)
Household Income				
< \$20,000	28.3 (22.8-34.5)	65.8 (59.7-71.4)	27.9 (23.0-33.4)	23.0 (18.7-28.0)
\$20,000-34,999	35.2 (29.3-41.5)	62.0 (55.4-68.2)	41.5 (35.3-47.9)	33.3 (27.7-39.5)
\$35,000-49,999	48.1 (39.1-57.3)	67.4 (57.8-75.7)	41.2 (32.5-50.5)	34.3 (26.0-43.7)
\$50,000-74,999	43.3 (36.1-50.9)	58.7 (51.0-66.0)	43.4 (36.0-51.1)	35.4 (28.7-42.9)
≥ \$75,000	48.2 (42.7-53.7)	70.2 (64.8-75.1)	43.3 (38.0-48.8)	31.3 (26.6-36.3)
Education				
< HS graduate	29.3 (20.3-40.3)	59.0 (48.4-68.8)	22.0 (14.4-32.1)	18.0 (11.1-27.9)
HS graduate	36.0 (30.5-41.9)	62.5 (56.7-68.0)	33.5 (28.5-38.8)	28.7 (23.9-33.9)
Some college	39.8 (35.4-44.3)	68.8 (64.5-72.9)	37.9 (33.7-42.4)	26.8 (23.2-30.7)
College graduate	46.4 (42.1-50.7)	65.4 (61.2-69.4)	46.5 (42.2-50.8)	39.8 (35.7-44.1)
^e Responded “yes” to the question, “Is a dehumidifier regularly used to reduce moisture inside your home?” ^f 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.” ^g Responded “yes” to the question, “Do you use a mattress cover that is made especially for controlling dust mites?” ^h Responded “yes” to the question, “Do you use a pillow cover that is made especially for controlling dust mites?”				

Table 10. Prevalence of Ever Being Advised to Modify Environment to Improve Asthma, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined	
	Ever Advised to Modify Environment to Improve Asthma^a
Total	40.5 (37.8-43.3)
Age	
18-34	39.7 (33.4-46.3)
35-44	45.3 (37.9-52.9)
45-54	43.0 (37.5-48.8)
55-64	43.6 (38.7-48.6)
65-74	37.2 (32.3-42.4)
≥ 75	22.1 (16.4-29.0)
Gender	
Male	39.0 (34.5-43.6)
Female	41.3 (37.9-44.8)
Race	
White	41.4 (38.3-44.5)
Black	33.3 (26.3-41.2)
Household Income	
< \$20,000	38.5 (32.6-44.7)
\$20,000-34,999	39.4 (33.2-46.0)
\$35,000-49,999	32.1 (25.3-39.9)
\$50,000-74,999	34.7 (27.8-42.3)
≥ \$75,000	48.7 (43.2-54.2)
Education	
< HS graduate	32.4 (23.6-42.8)
HS graduate	38.1 (32.5-44.0)
Some college	42.1 (37.6-46.6)
College graduate	44.6 (40.4-49.0)
^a 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?”	

Table 11. Percent Distribution of Number Days Unable to Work or Carry Out Usual Activities Because of Asthma,^a Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined			
	None	1-5 Days	≥ 6 Days
Total	67.5 (64.8-70.1)	17.6 (15.6-19.9)	14.9 (13.0-17.0)
Age			
18-34	73.9 (67.6-79.4)	17.2 (12.6-22.9)	8.9 (5.9-13.3)
35-44	60.8 (52.9-68.1)	24.6 (18.6-31.8)	14.6 (9.5-21.8)
45-54	66.0 (60.4-71.2)	17.1 (13.4-21.6)	16.9 (12.8-21.9)
55-64	60.5 (55.4-65.3)	17.4 (14.0-21.5)	22.1 (18.1-26.8)
65-74	68.2 (63.0-73.1)	14.7 (11.3-19.0)	17.0 (13.3-21.6)
≥ 75	76.7 (69.8-82.5)	12.1 (8.0-17.7)	11.2 (7.5-16.3)
Gender			
Male	72.8 (68.4-76.9)	13.3 (10.3-16.9)	13.9 (10.9-17.5)
Female	64.5 (61.1-67.8)	20.0 (17.4-23.0)	15.4 (13.1-18.0)
Race			
White	70.2 (67.3-72.9)	16.1 (13.9-18.5)	13.8 (11.8-16.0)
Black	57.6 (49.5-65.3)	22.9 (16.9-30.4)	19.5 (13.7-26.9)
Household Income			
< \$20,000	52.9 (46.7-59.0)	18.3 (14.0-23.6)	28.8 (23.7-34.4)
\$20,000-34,999	64.7 (58.3-70.7)	19.0 (14.6-24.4)	16.3 (12.0-21.6)
\$35,000-49,999	73.5 (65.7-80.1)	15.7 (10.6-22.7)	10.7 (6.9-16.4)
\$50,000-74,999	75.0 (68.1-80.7)	16.0 (11.2-22.3)	9.1 (6.0-13.5)
≥ \$75,000	75.9 (70.7-80.5)	16.8 (12.9-21.5)	7.3 (4.8-11.1)
Education			
< HS graduate	59.1 (48.3-69.0)	17.6 (10.8-27.5)	23.3 (15.8-32.9)
HS graduate	65.7 (60.0-70.9)	17.5 (13.3-22.7)	16.8 (13.2-21.1)
Some college	65.1 (60.6-69.4)	18.9 (15.7-22.7)	15.9 (12.9-19.6)
College graduate	76.7 (72.9-80.1)	15.6 (12.8-19.0)	7.7 (5.8-10.1)
^a 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?"			

Table 12. Prevalence of Work-Related Asthma Using 3 Definitions, Among Adults with Current Asthma Michigan Asthma Call-Back Survey, 2014-2018 Combined			
	Asthma Caused or Aggravated by Current or Previous Job^a	Ever Told or Told by Doctor That Asthma Was Work-Related^b	Any Indication of Work-Related Asthma^c
Total	56.8 (53.9-59.6)	24.1 (21.8-26.6)	58.0 (55.1-60.7)
Age			
18-34	47.7 (41.1-54.4)	18.5 (13.7-24.4)	48.3 (41.7-55.0)
35-44	56.4 (48.7-63.7)	24.6 (18.6-31.8)	57.3 (49.6-64.7)
45-54	61.3 (55.5-66.8)	25.0 (20.4-30.1)	63.5 (57.7-68.9)
55-64	67.5 (62.8-71.9)	31.9 (27.4-36.7)	69.0 (64.3-73.3)
65-74	60.4 (54.9-65.6)	27.8 (23.2-32.9)	61.4 (55.9-66.6)
≥ 75	47.4 (38.5-56.4)	16.6 (10.2-26.0)	48.6 (39.7-57.6)
Gender			
Male	59.2 (54.4-63.8)	25.4 (21.5-29.7)	60.4 (55.6-65.0)
Female	55.5 (51.9-58.9)	23.4 (20.7-26.5)	56.7 (53.1-60.1)
Race			
White	56.5 (53.3-59.6)	23.5 (21.0-26.2)	57.5 (54.4-60.6)
Black	55.2 (47.0-63.0)	27.2 (20.7-34.7)	57.7 (49.6-65.5)
Household Income			
< \$20,000	63.2 (57.1-68.9)	26.0 (21.2-31.6)	64.3 (58.2-69.9)
\$20,000-34,999	64.3 (57.7-70.5)	33.3 (27.4-39.8)	65.5 (58.9-71.6)
\$35,000-49,999	60.2 (51.3-68.4)	32.9 (24.5-42.6)	61.7 (52.9-69.7)
\$50,000-74,999	51.0 (43.2-58.8)	19.3 (14.2-25.8)	53.2 (45.4-61.0)
≥ \$75,000	48.1 (42.6-53.7)	18.0 (14.4-22.2)	49.3 (43.8-54.9)
Education			
< HS graduate	63.3 (52.9-72.6)	23.6 (15.5-34.2)	63.4 (53.0-72.6)
HS graduate	62.2 (56.4-67.5)	28.7 (23.9-34.0)	63.6 (57.9-68.9)
Some college	58.1 (53.3-62.7)	23.2 (19.7-27.1)	59.3 (54.5-63.9)
College graduate	45.9 (41.6-50.3)	21.4 (18.2-25.0)	47.5 (43.2-51.9)
^a 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?”			
^b 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?”			
^c Responded “yes” to at least one of the above 6 questions (a and b).			