

**Prevalence of Asthma-Related Health Conditions Among Michigan Children with Current Asthma
Estimates from the Michigan Asthma Call-Back Survey
2008-2010 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 telephone survey of Michigan adults aged 18 years and older. Both of these surveys are conducted through a collaborative effort among the Behavioral Surveillance Branch (BSB) at the Centers for Disease Control and Prevention, the Office for Survey Research (OSR) at Michigan State University's Institute for Public Policy and Social Research, and the Michigan Department of Community Health. The MiBRFS participates in the national [Behavioral Risk Factor Surveillance System](#) that is coordinated by BSB.

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 2 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 children aged less than 18 years from the 2008-2010 Michigan Asthma Call-Back Surveys combined. The total 3-year sample size of completed child interviews was 462, with 185 from 2008, 131 from 2009, and 146 from 2010. Estimates were weighted to adjust for the probabilities of selection and a post-stratification weighting factor that adjusted for the distribution of Michigan children by age, sex, and race/ethnicity 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 children with current asthma (n=336). 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 {child’s name} has asthma?” and “Does {child’s name} still have asthma?”

Michigan Asthma Call-Back Survey, 2008-2010 (combined) Child Estimates

Table 1. Prevalence of Asthma Symptoms, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 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	336	16.8 (12.0-23.1)	20.4 (14.9-27.2)	55.4 (48.3-62.3)
Age				
0-9 years	131	15.4 (8.7-25.8)	24.5 (15.8-35.9)	59.1 (48.0-69.3)
10-17 years	198	18.1 (12.0-26.3)	16.1 (10.5-24.0)	51.5 (43.0-59.9)
Sex				
Male	181	13.9 (8.2-22.6)	18.8 (11.7-28.9)	58.7 (48.7-68.0)
Female	154	19.8 (12.6-29.9)	22.4 (14.8-32.3)	50.9 (41.1-60.5)
Race				
White	233	15.0 (9.8-22.3)	16.4 (10.9-23.9)	53.7 (45.3-62.0)
Black	71	22.7 (10.7-41.8)	33.6 (18.8-52.5)	55.8 (39.6-71.0)
Household income				
< \$50,000	146	15.7 (9.7-24.6)	20.8 (13.6-30.5)	51.7 (41.5-61.8)
≥ \$50,000	168	12.7 (7.8-19.9)	15.2 (9.0-24.4)	55.5 (46.0-64.6)
Education of BRFs respondent				
≤ HS graduate	82	16.0 (6.9-32.8)	19.4 (9.2-36.6)	56.3 (39.7-71.6)
Some college	116	23.6 (14.8-35.5)	24.1 (15.3-35.9)	55.8 (44.4-66.5)
College graduate	138	11.1 (6.3-18.6)	17.6 (10.3-28.3)	54.4 (44.3-64.2)
^a Sample sizes (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary because of missing values. ^b Reported ≥ 9 days to the following question, "During the past 30 days, on how many days did {child's name} 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 {child's name} 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 {child's name} limited {his/her} usual activities due to asthma not at all, a little, a moderate amount, or a lot?"				

Michigan Asthma Call-Back Survey, 2008-2010 (combined) Child Estimates

Table 2. Percent Distribution of Number of Asthma Symptom-Free Days^a in Past 2 Weeks, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 Combined				
	None	1-6 Days	7-13 Days	14 Days
Total	11.2 (7.4-16.5)	9.3 (5.5-15.2)	21.7 (16.5-28.0)	57.9 (50.6-64.8)
Age				
0-9 years	8.1 (3.8-16.5)	9.9 (4.4-20.9)	22.0 (14.4-32.1)	60.0 (48.6-70.5)
10-17 years	14.4 (8.9-22.6)	8.8 (5.0-15.2)	20.9 (14.7-28.8)	55.9 (47.1-64.3)
Sex				
Male	7.7 (4.2-13.7)	12.1 (6.3-22.0)	21.6 (14.8-30.5)	58.6 (48.3-68.2)
Female	14.9 (8.5-24.8)	5.8 (2.6-12.2)	21.9 (14.6-31.5)	57.4 (47.2-67.0)
Race				
White	8.5 (4.7-14.7)	8.0 (4.7-13.3)	21.6 (15.6-29.1)	62.0 (53.6-69.7)
Black	12.2 (5.8-23.9)	21.1 (8.4-43.9)	14.3 (6.9-27.2)	52.4 (35.5-68.8)
Household income				
< \$50,000	15.3 (9.1-24.5)	6.6 (3.0-13.6)	26.4 (17.9-37.2)	51.8 (41.2-62.1)
≥ \$50,000	7.4 (4.0-13.5)	8.9 (4.3-17.6)	20.1 (13.7-28.6)	63.5 (53.8-72.3)
Education of BRF^s respondent				
≤ HS graduate	9.4 (3.8-21.3)	9.3 (2.4-29.8)	13.0 (7.2-22.2)	68.3 (52.0-81.1)
Some college	16.7 (9.3-28.1)	6.2 (2.7-13.7)	28.5 (18.7-40.9)	48.7 (37.5-59.9)
College graduate	7.3 (3.5-14.4)	12.1 (6.1-22.5)	21.0 (13.9-30.4)	59.6 (49.0-69.3)
^a Response to the following question, "During the past two weeks, on how many days was {child's name} completely symptom-free, that is no coughing, wheezing, or other symptoms of asthma?"				

Michigan Asthma Call-Back Survey, 2008-2010 (combined) Child Estimates

Table 3. Prevalence of Asthma-Related Health Care Utilization, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 Combined					
	ER/Urgent Care Visits for Asthma^a		≥ 1 Hospital Stays for Asthma in Past 12 Months^b	≥ 2 Routine Asthma Care Visits in Past 12 Months^c	Received Flu Vaccine in Past 12 Months^d
	≥ 1 Visit	≥ 2 Visits			
Total	17.7 (13.0-23.5)	9.2 (6.1-13.6)	4.3 (2.3-8.1)	45.4 (38.3-52.8)	51.6 (44.5-58.7)
Age					
0-9 years	20.6 (13.4-30.3)	11.0 (6.4-18.3)	7.6 (3.8-14.4)	51.7 (40.5-62.8)	56.8 (45.3-67.5)
10-17 years	13.5 (8.7-20.4)	6.7 (3.5-12.5)	0.7 (0.1-4.9)	37.8 (30.0-46.3)	46.5 (38.1-55.1)
Sex					
Male	16.1 (10.3-24.2)	6.8 (3.7-12.0)	1.9 (0.6-5.9)	50.9 (40.7-61.0)	53.2 (43.1-63.1)
Female	19.0 (12.4-28.0)	11.6 (6.6-19.5)	7.3 (3.4-15.0)	38.2 (29.2-48.1)	49.2 (39.5-59.0)
Race					
White	16.7 (11.5-23.5)	7.6 (4.4-13.0)	5.1 (2.4-10.4)	43.1 (34.8-51.8)	49.3 (40.9-57.7)
Black	19.8 (11.0-33.0)	14.5 (7.1-27.3)	5.0 (1.4-16.1)	58.6 (42.2-73.2)	51.5 (35.4-67.3)
Household income					
< \$50,000	24.5 (16.5-34.7)	14.6 (9.0-22.8)	6.1 (2.9-12.4)	41.3 (31.6-51.6)	47.7 (37.5-58.1)
≥ \$50,000	13.1 (8.0-20.7)	5.2 (2.4-11.0)	3.7 (1.2-11.0)	45.7 (36.4-55.2)	56.7 (47.3-65.7)
Education of BRFSS respondent					
≤ HS graduate	13.8 (7.2-24.9)	9.3 (4.2-19.4)	2.7 (0.5-12.0)	41.2 (25.2-59.2)	47.7 (31.2-64.8)
Some college	27.0 (17.6-39.0)	14.8 (8.6-24.4)	7.8 (3.4-17.0)	49.5 (38.3-60.8)	42.6 (31.9-54.2)
College graduate	11.7 (6.9-19.2)	4.0 (1.5-10.2)	2.2 (0.6-7.4)	44.5 (34.7-54.9)	62.5 (52.9-71.2)

^a Response to the 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?"

^b Responded one or more times to the question, "During the past 12 months, how many different times did {he/she} stay in any hospital overnight or longer because of {his/her} asthma?"

^c Reported ≥ 2 times to the 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?"

^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, 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?"

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Table 4. Prevalence of Any Asthma Controller Medication Use in Past 3 Months, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 Combined	
	Used \geq 1 Asthma Controller Medication in Past 3 Months^a
Total	49.1 (42.1-56.2)
Age	
0-9 years	51.8 (40.5-62.9)
10-17 years	46.7 (38.5-55.1)
Sex	
Male	50.9 (40.7-61.1)
Female	46.6 (37.1-56.3)
Race	
White	51.1 (42.7-59.5)
Black	43.1 (27.8-59.9)
Household income	
< \$50,000	45.5 (35.5-55.8)
\geq \$50,000	55.8 (46.3-64.8)
Education of BRFSS respondent	
\leq HS graduate	28.7 (17.6-43.0)
Some college	57.5 (46.2-68.1)
College graduate	54.7 (44.6-64.4)
^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.	

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Table 5. Prevalence of Experiencing Cost Barriers to Asthma Care in Past 12 Months, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 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	3.5 (1.9-6.6)	1.9 (0.7-5.4)	8.5 (5.0-14.1)	10.7 (6.8-16.3)
Age				
0-9 years	3.6 (1.4-8.8)	0.8 (0.1-4.2)	6.0 (2.1-16.1)	9.6 (4.6-19.1)
10-17 years	3.6 (1.4-8.8)	0 ^e	11.3 (6.3-19.4)	11.9 (6.9-20.0)
Sex				
Male	3.2 (1.2-8.3)	2.9 (0.8-9.5)	8.7 (4.0-17.9)	11.6 (6.2-20.8)
Female	4.0 (1.7-9.3)	0.7 (0.2-2.9)	8.3 (4.1-16.0)	9.6 (5.1-17.2)
Race				
White	1.4 (0.5-3.9)	0.4 (0.1-1.8)	5.1 (2.3-10.9)	6.3 (3.2-12.0)
Black	10.2 (4.4-21.8)	8.4 (2.5-24.7)	22.3 (10.4-41.7)	26.0 (13.4-44.4)
Household income				
< \$50,000	4.6 (1.9-10.9)	4.2 (1.4-12.4)	13.0 (7.2-22.4)	15.4 (8.9-25.1)
≥ \$50,000	2.1 (0.8-5.5)	0.4 (0.1-2.6)	5.2 (1.6-15.1)	7.7 (3.4-16.4)
Education of BRF^s respondent				
≤ HS graduate	2.9 (0.9-9.3)	4.8 (1.0-19.5)	14.2 (6.4-28.6)	15.4 (7.3-29.8)
Some college	2.3 (0.5-10.6)	1.1 (0.3-3.9)	9.4 (4.4-19.1)	9.9 (4.8-19.5)
College graduate	5.0 (2.2-11.2)	0.8 (0.1-5.3)	4.1 (0.8-18.0)	8.3 (3.4-19.0)
^a Responded “yes” to the question, “Was there a time in the past 12 months when {child’s name} needed to see {his/her} primary care doctor for asthma but could not because of the cost?” ^b Responded “yes” to the question, “Was there a time in the past 12 months when you were referred to a specialist for {his/her} asthma care but could not go because of the cost?” ^c Responded “yes” to the question, “Was there a time in the past 12 months when {he/she} needed medication for {his/her} asthma but you could not buy it because of the cost?” ^d Responded “yes” to at least one of the above 3 questions. ^e No positive responses in this cell.				

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Table 6. Prevalence of Indicators of Knowledge Related to Asthma Management, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 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 a Peak Flow Meter^c
Total	84.1 (78.1-88.7)	87.3 (80.3-92.1)	40.9 (33.9-48.2)
Age			
0-9 years	80.2 (69.9-87.6)	84.1 (71.3-91.8)	29.0 (19.2-41.3)
10-17 years	88.4 (82.7-92.4)	91.2 (86.0-94.5)	53.3 (44.8-61.5)
Sex			
Male	84.1 (75.0-90.3)	88.3 (75.9-94.7)	41.5 (31.6-52.1)
Female	84.0 (75.9-89.8)	86.0 (78.0-91.5)	39.7 (30.5-49.6)
Race			
White	83.5 (76.3-88.9)	86.4 (76.3-92.6)	38.5 (30.3-47.4)
Black	86.4 (74.7-93.2)	90.0 (79.9-95.3)	37.7 (23.8-54.1)
Household income			
< \$50,000	81.3 (71.6-88.3)	88.7 (82.0-93.1)	47.3 (37.1-57.8)
≥ \$50,000	83.7 (74.6-90.0)	90.0 (82.7-94.4)	32.9 (25.0-42.0)
Education of BRFs respondent			
≤ HS graduate	77.0 (59.6-88.4)	80.2 (57.3-92.4)	52.4 (35.4-68.8)
Some college	89.9 (83.1-94.1)	90.5 (83.9-94.5)	40.0 (29.6-51.4)
College graduate	83.4 (74.3-89.8)	89.0 (79.7-94.4)	34.4 (25.7-44.3)
^a Responded “yes” to the question, “Has a doctor or other health professional ever taught you or {child’s name)how 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 {his/her} daily medications?”			

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Table 6 (continued). Prevalence of Receiving Education Related to Asthma Management, Among Children Aged 0-17 Years with Current Asthma			
Michigan Asthma Call-Back Survey, 2008-2010 Combined			
	Ever Received Asthma Action Plan^d	Ever Taken Asthma Management Class^e	Received ≥ 3 Types of Asthma Education^f
Total	45.7 (38.7-53.0)	12.7 (9.0-17.6)	53.8 (46.5-60.8)
Age			
0-9 years	42.3 (31.4-54.0)	10.7 (6.3-17.7)	47.5 (36.4-58.9)
10-17 years	49.7 (41.3-58.1)	14.6 (9.3-22.3)	60.1 (51.8-67.9)
Sex			
Male	47.4 (37.3-57.8)	13.0 (8.3-19.9)	54.5 (44.3-64.4)
Female	43.3 (33.8-53.2)	11.7 (6.7-19.6)	52.5 (42.6-62.1)
Race			
White	42.9 (34.6-51.6)	10.7 (7.0-16.0)	52.6 (44.2-60.9)
Black	52.1 (35.7-68.0)	19.3 (9.7-34.9)	52.8 (36.1-68.9)
Household income			
< \$50,000	41.9 (32.1-52.4)	10.2 (5.6-17.9)	57.2 (46.8-67.1)
≥ \$50,000	45.9 (36.6-55.4)	14.3 (9.0-22.0)	49.2 (39.8-58.5)
Education of BRFs respondent			
≤ HS graduate	45.3 (29.2-62.4)	8.5 (3.5-19.2)	55.2 (38.2-71.0)
Some college	44.1 (33.0-55.8)	20.0 (12.6-30.3)	55.1 (43.6-66.1)
College graduate	47.5 (37.6-57.7)	8.7 (4.8-15.5)	51.6 (41.6-61.5)
^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 or {child’s name} an asthma action plan?”			
^e Responded “yes” to the question, “Have you or {child’s name} ever taken a course or class on how to manage {his/her} asthma?”			
^f Responded “yes” to ≥ 3 of the 5 questions above (b-f).			

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Table 7. Prevalence of Asthma Triggers in Home Environment, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 Combined				
	Cigarettes Smoked in Home^a	Mold Seen/Smelled in Home^b	Saw Cockroaches in Home^c	Saw Mice/Rate in Home^d
Total	6.0 (3.9-9.0)	14.5 (9.2-22.1)	1.6 (0.8-3.3)	5.8 (3.4-9.7)
Age				
0-9 years	2.8 (1.2-6.3)	14.5 (6.8-28.1)	1.9 (0.7-4.9)	4.4 (2.1-9.1)
10-17 years	9.6 (5.8-15.3)	14.9 (9.1-23.6)	1.5 (0.6-3.5)	7.6 (3.7-15.0)
Sex				
Male	5.1 (2.9-8.8)	16.4 (8.6-28.9)	1.4 (0.6-3.4)	5.6 (2.9-10.6)
Female	7.1 (3.8-12.9)	12.3 (6.8-21.1)	2.0 (0.7-5.5)	6.1 (2.6-13.6)
Race				
White	5.6 (3.1-9.8)	14.6 (8.0-25.1)	1.3 (0.4-3.9)	6.5 (3.4-12.1)
Black	10.5 (5.3-19.7)	7.7 (3.5-16.4)	3.0 (1.2-7.1)	5.7 (2.2-14.3)
Household income				
< \$50,000	11.2 (6.9-17.7)	17.2 (9.9-28.2)	2.5 (1.0-6.2)	6.8 (3.0-14.7)
≥ \$50,000	2.0 (0.6-6.2)	9.4 (5.1-16.6)	0.6 (0.1-2.3)	6.0 (3.0-11.5)
Education of BRFs respondent				
≤ HS graduate	7.1 (3.6-13.8)	19.5 (7.0-43.5)	1.7 (0.5-5.3)	7.6 (2.5-20.9)
Some college	9.4 (5.1-16.6)	18.0 (10.0-30.4)	2.5 (0.8-7.1)	2.9 (1.0-8.1)
College graduate	2.2 (0.7-6.6)	8.2 (4.1-15.4)	0.9 (0.3-2.8)	7.3 (3.7-14.0)
^a Responded “yes” to the question, “In the past week, has anyone smoked inside {his/her} home?” ^b Responded “yes” to the question, “In the past 30 days, has anyone seen or smelled mold or a musty odor inside {his/her} home? Do not include mold on food.” ^c Responded “yes” to the question, “In the past 30 days, has anyone seen cockroaches inside {his/her} home?” ^d Responded “yes” to the question, “In the past 30 days, has anyone seen mice or rats inside {child’s name} home? Do not include mice or rats kept as pets.” ^e No positive responses in this cell.				

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Table 7 (continued). Prevalence of Asthma Triggers in Home Environment Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Surveys, 2008-2010 Combined					
	Inside Pets^f	Pets Allowed in Bedroom^g	Wood Burning Stove/Fireplace Used^h	Unvented Gas Logs, Stoves, or Fireplaces Usedⁱ	Gas Used for Cooking^j
Total	59.5 (52.1-66.4)	30.7 (25.0-37.1)	12.8 (9.1-17.8)	9.4 (5.5-15.7)	58.9 (52.0-65.4)
Age					
0-9 years	51.6 (40.4-62.7)	21.2 (14.1-30.7)	10.5 (5.7-18.6)	9.6 (4.4-19.8)	64.0 (53.2-73.5)
10-17 years	67.7 (59.3-75.1)	40.8 (32.9-49.1)	15.9 (10.7-22.9)	9.3 (4.5-18.0)	53.3 (44.9-61.4)
Sex					
Male	56.0 (45.4-66.1)	28.7 (21.1-37.7)	14.6 (9.1-22.6)	8.2 (3.5-17.9)	60.3 (50.4-69.4)
Female	63.5 (54.1-72.0)	33.4 (25.5-42.4)	10.8 (6.6-17.0)	11.0 (5.6-20.6)	57.6 (48.0-66.6)
Race					
White	68.9 (60.0-76.5)	40.9 (33.1-49.1)	13.9 (9.5-19.8)	5.4 (2.6-10.9)	58.0 (49.8-65.7)
Black	26.2 (14.3-42.9)	8.2 (3.7-17.4)	17.3 (7.6-34.7)	8.7 (3.8-18.8)	51.2 (34.9-67.3)
Household income					
< \$50,000	58.5 (47.9-68.3)	32.2 (23.7-42.1)	7.6 (3.9-14.2)	16.9 (9.0-29.4)	64.9 (55.1-73.7)
≥ \$50,000	66.5 (57.2-74.8)	34.8 (26.6-44.0)	19.5 (13.2-28.0)	4.9 (2.1-10.9)	52.6 (43.2-61.8)
Education of BRFSS respondent					
≤ HS graduate	52.2 (35.3-68.6)	27.9 (16.4-43.4)	4.8 (1.9-11.5)	13.2 (4.8-31.2)	66.7 (50.0-80.0)
Some college	62.0 (50.6-72.3)	31.9 (22.7-42.7)	10.0 (5.4-18.0)	11.4 (4.9-24.4)	63.0 (52.2-72.5)
College graduate	61.9 (51.7-71.1)	31.4 (23.4-40.7)	20.5 (13.3-30.3)	5.3 (2.4-11.4)	50.2 (40.2-60.2)
^f Responded “yes” to the question, “Does the {child’s name} home have pets, such as dogs, cats, hamsters, birds, or other feathered or furry pets that spend time indoors?” ^g Responded “yes” to the question, “Is the pet allowed in {his/her} bedroom?” (Among all respondents.) ^h Responded “yes” to the question, “Is a wood burning fireplace or wood burning stove used in {child’s name} home?” ⁱ Responded “yes” to the question, “Are unvented gas logs, unvented gas fireplaces, or unvented gas stoves used in {his/her} home?” ^j Responded “yes” to the question, “Is gas used for cooking in {his/her} home?”					

Table 8. Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Children Aged 0-17 Years with Current Asthma				
Michigan Asthma Call-Back Survey, 2008-2010 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	53.5 (46.3-60.7)	54.8 (47.5-61.9)	44.9 (37.7-52.2)	32.8 (26.8-39.4)
Age				
0-9 years	50.1 (38.8-61.3)	46.7 (35.7-58.1)	45.2 (34.2-56.8)	31.3 (22.6-41.5)
10-17 years	56.5 (47.9-64.7)	63.9 (55.5-71.5)	44.9 (36.6-53.5)	35.1 (27.5-43.5)
Sex				
Male	52.5 (42.2-62.5)	49.4 (39.3-59.6)	45.4 (35.4-55.8)	30.8 (23.0-39.9)
Female	54.6 (44.5-64.3)	61.2 (51.5-70.2)	44.5 (34.8-54.5)	35.6 (27.0-45.2)
Race				
White	49.9 (41.5-58.4)	60.8 (52.0-68.9)	46.9 (38.4-55.6)	36.0 (28.8-44.0)
Black	56.2 (39.3-71.7)	31.8 (19.0-48.2)	35.3 (21.8-51.7)	24.9 (13.9-40.6)
Household income				
< \$50,000	51.4 (41.0-61.6)	50.5 (40.2-60.8)	36.3 (26.9-46.8)	28.5 (20.4-38.3)
≥ \$50,000	59.7 (50.3-68.4)	60.6 (50.9-69.6)	48.0 (38.7-57.5)	37.5 (29.0-46.9)
Education of BRFS respondent				
≤ HS graduate	44.9 (29.4-61.6)	42.2 (27.2-58.9)	41.0 (24.7-59.6)	31.8 (19.5-47.2)
Some college	52.1 (40.8-63.3)	61.1 (49.8-71.3)	45.7 (34.5-57.4)	32.5 (23.2-43.4)
College graduate	60.5 (50.5-69.6)	57.1 (46.9-66.8)	46.5 (36.7-56.6)	33.7 (25.0-43.7)
^a Responded “yes” to the question, “Is an exhaust fan that vents to the outside used regularly when cooking in the kitchen in {his/her} home?” ^b Responded “yes” to the question, “In {child’s name} bathroom, does {he/she} regularly use an exhaust fan that vents to the outside?” ^c Responded “hot” to the question, “Are {his/her} 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 {child’s name} home?”				

Michigan Asthma Call-Back Survey, 2008-2010 (combined) Child Estimates

Table 8 (continued). Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Children Aged 0-17 Years with Current Asthma				
Michigan Asthma Call-Back Survey, 2008-2010 Combined				
	Dehumidifier Used Regularly in Home^e	No Carpeting in Child's Bedroom^f	Child Uses Mattress Cover^g	Child Uses Pillow Cover^h
Total	42.0 (35.3-48.9)	29.7 (23.6-36.6)	34.9 (28.8-41.5)	34.1 (28.0-40.7)
Age				
0-9 years	39.9 (29.9-50.8)	30.2 (21.1-41.2)	30.8 (22.4-40.7)	29.4 (21.2-39.2)
10-17 years	44.4 (36.4-52.8)	28.9 (21.7-37.3)	39.4 (31.6-47.9)	39.3 (31.3-47.8)
Sex				
Male	44.3 (34.8-54.3)	28.5 (20.3-38.4)	33.5 (25.5-42.6)	33.4 (25.4-42.5)
Female	38.6 (29.7-48.3)	31.5 (23.1-41.3)	36.1 (27.5-45.8)	34.4 (25.7-44.2)
Race				
White	46.2 (38.1-54.6)	23.6 (18.0-30.3)	33.4 (26.6-41.0)	32.7 (25.9-40.2)
Black	35.3 (21.3-52.4)	41.2 (25.9-58.3)	39.4 (25.1-55.8)	34.7 (21.3-51.1)
Household income				
< \$50,000	28.9 (20.9-38.5)	35.8 (26.2-46.7)	25.5 (18.0-34.7)	23.9 (16.7-33.1)
≥ \$50,000	55.4 (46.0-64.4)	23.9 (17.1-32.4)	44.9 (35.8-54.2)	44.5 (35.4-54.0)
Education of BRF^s respondent				
≤ HS graduate	23.3 (14.4-35.4)	26.8 (14.6-44.0)	15.5 (9.0-25.5)	18.8 (11.1-30.0)
Some college	39.2 (29.0-50.5)	39.8 (29.1-51.6)	35.1 (25.2-46.3)	35.1 (25.1-46.6)
College graduate	56.4 (46.5-65.9)	22.4 (15.7-31.0)	47.2 (37.3-57.3)	43.0 (33.5-53.0)
^e Responded "yes" to the question, "Is a dehumidifier regularly used to reduce moisture inside {his/her} home?" ^f Responded "no" to the question, "Does {child's name} have carpeting or rugs in {his/her} bedroom? This does not include throw rugs small enough to be laundered." ^g Responded "yes" to the question, "Does {he/she} use a mattress cover that is made especially for controlling dust mites?" ^h Responded "yes" to the question, "Does {child's name} use a pillow cover that is made especially for controlling dust mites?"				

Michigan Asthma Call-Back Survey, 2008-2010 (combined) Child Estimates

Table 9. Prevalence of Ever Being Advised to Modify Child’s Environment to Improve Asthma, Among Children Aged 0-17 Years with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 Combined	
	Ever Advised to Modify Environment to Improve Asthma^a
Total	44.6 (37.9-51.5)
Age	
0-9 years	38.1 (28.5-48.8)
10-17 years	50.7 (42.5-59.0)
Sex	
Male	44.7 (35.1-54.7)
Female	44.1 (34.9-53.7)
Race	
White	43.4 (35.6-51.6)
Black	37.1 (24.1-52.2)
Household income	
< \$50,000	46.4 (36.4-56.7)
≥ \$50,000	46.4 (37.4-55.6)
Education of BRFS respondent	
≤ HS graduate	23.2 (14.3-35.4)
Some college	55.2 (43.8-66.1)
College graduate	48.6 (38.8-58.6)
^a Reported “yes” to the question, “Has a health professional ever advised you to change things in {his/her} home, school, or work to improve his/her asthma?”	

Michigan Asthma Call-Back Survey, 2008-2010 (combined) Child Estimates

Table 10. Percent Distribution of Number School Days Missed Due to Asthma,^a Among Children in Grades K-12 with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 Combined				
	n^b	None	1-5 Days	≥6 Days
Total	283	54.5 (46.5-62.3)	29.0 (21.6-37.7)	16.5 (11.6-23.0)
Age				
0-9 years	87	47.7 (33.9-61.8)	33.7 (20.4-50.3)	18.6 (10.2-31.5)
10-17 years	189	59.3 (50.7-67.4)	26.3 (19.2-34.8)	14.4 (9.4-21.6)
Sex				
Male	151	49.8 (38.6-61.1)	34.1 (23.1-47.1)	16.1 (9.9-25.1)
Female	131	60.6 (49.8-70.5)	23.1 (15.3-33.4)	16.3 (9.5-26.4)
Race				
White	201	58.7 (48.8-67.9)	26.5 (18.1-36.9)	14.8 (9.3-22.8)
Black	53	47.7 (29.5-66.5)	37.0 (19.9-58.2)	15.3 (6.9-30.6)
Household income				
< \$50,000	122	47.8 (36.8-59.0)	32.1 (22.0-44.4)	20.1 (12.4-30.8)
≥ \$50,000	147	63.1 (52.6-72.5)	22.7 (15.1-32.8)	14.1 (8.2-23.2)
Education of BRFS respondent				
≤ HS graduate	66	52.2 (32.1-71.6)	35.1 (16.4-59.8)	12.7 (6.7-22.8)
Some college	101	45.8 (34.6-57.4)	31.6 (21.7-43.4)	22.7 (13.3-35.8)
College graduate	116	63.7 (51.9-73.9)	23.3 (14.5-35.1)	13.1 (7.1-22.7)
^a 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?"				
^b Sample size (unweighted) for demographic subgroups.				

Michigan Asthma Call-Back Survey, 2008-2010 (combined) Child Estimates

Table 11. Prevalence of School-Related Asthma Indicators, Among Children in Grades K-12 with Current Asthma Michigan Asthma Call-Back Survey, 2008-2010 Combined				
	Asthma Action Plan on File at School^a	School Allows Asthma Medications^b	Pets in Child's Classroom^c	Mold Problems in Child's School^d
Total	31.5 (24.6-39.3)	50.9 (43.3-58.5)	3.0 (1.6-5.7)	1.2 (0.4-3.4)
Age				
0-9 years	28.2 (17.1-42.7)	34.3 (22.5-48.4)	3.2 (1.2-8.1)	0 ^e
10-17 years	33.5 (25.7-42.3)	62.2 (53.3-70.3)	2.9 (1.2-6.9)	1.4 (0.4-4.5)
Sex				
Male	36.2 (26.2-47.6)	47.4 (37.2-57.9)	2.6 (1.0-6.5)	0.7 (0.1-4.6)
Female	25.2 (17.0-35.6)	54.5 (43.3-65.3)	3.5 (1.5-8.3)	1.0 (0.2-4.0)
Race				
White	28.1 (21.0-36.5)	46.5 (38.2-54.9)	3.2 (1.5-6.7)	1.1 (0.3-3.9)
Black	43.3 (24.8-63.9)	63.6 (41.5-81.2)	5.5 (1.6-17.0)	0.3 (0.1-2.0)
Household income				
< \$50,000	30.0 (20.4-41.6)	55.4 (43.4-66.7)	4.1 (1.7-9.6)	2.1 (0.7-6.7)
≥ \$50,000	35.0 (25.6-45.8)	48.6 (38.3-59.0)	2.5 (1.0-6.0)	0.8 (0.1-5.3)
Education of BRFs respondent				
≤ HS graduate	33.8 (18.5-53.5)	58.6 (40.5-74.6)	3.5 (0.9-12.2)	1.6 (0.2-11.1)
Some college	33.0 (22.7-45.3)	50.1 (37.8-62.4)	1.2 (0.3-5.4)	0.4 (0.1-1.8)
College graduate	28.8 (19.2-40.8)	47.8 (36.5-59.4)	4.4 (1.9-10.0)	1.8 (0.4-7.0)
^a Responded "yes" to the question, "Does {child's name} have a written asthma action plan or asthma management plan on file at school?" ^b Responded "yes" to the question, "Does the school {he/she} goes to allow children with asthma to carry their medication with them while at school?" ^c Responded "yes" to the question, "Are there any pets such as dogs, cats, hamsters, birds or other feathered or furry pets in {his/her} classroom?" ^d Responded "yes" to the question, "Are you aware of any mold problems in {child's name} school?" ^e No positive responses in this cell.				