

**Estimates of Asthma-Related Health Conditions Among Michigan Children with
Current Asthma
Michigan Asthma Call-Back Survey
2005-2007 Combined**

Standard Tables

**Division of Genomics, Perinatal Health, and Chronic Disease Epidemiology
Bureau of Epidemiology
Michigan Department of Community Health**

*Prepared by: Ann Rafferty
July 8, 2009*

Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates

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 Long-Term Controller Medication Use in Past 3 Months.....	7
Table 5: Prevalence of Experiencing Cost Barriers to Asthma Care in Past 12 Months.....	8
Table 6: Prevalence of Indicators of Knowledge Related to Asthma Management.....	9
Table 7: Prevalence of Asthma Triggers in Home Environment.....	11
Table 8: Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment.....	13
Table 9: Prevalence of Ever Being Advised to Modify Child’s Environment to Improve Asthma.....	15
Table 10: Percent Distribution of Number of School Days Missed Due to Asthma.....	16
Table 11: Prevalence of School-Related Asthma Indicators.....	17

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

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 2005-2007 Michigan Asthma Call-Back Surveys combined. The total 3-year sample size of completed child interviews was 431, with 213 from 2005, 89 from 2006, and 129 from 2007. 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 estimates included in the tables that follow were restricted to children with current asthma (n=316).

**Table 1. Prevalence of Asthma Symptoms, Among Children Aged 0-17 Years with Current Asthma^a
Michigan Asthma Call-Back Survey, 2005-2007 Combined**

	n^b	Had Asthma Symptoms on ≥,9 Days in Past Month^c	Difficulty Sleeping Due to Asthma Symptoms on ≥,2 Days in Past Month^d	Usual Activities Limited at Least a Little During Past 12 Months^e
Total	316	21.2 (16.1-27.5)	20.1 (15.0-26.2)	65.3 (57.5-72.3)
Age				
0-9 years	152	23.8 (15.6-34.5)	24.9 (16.9-35.2)	62.8 (49.8-74.1)
10-17 years	159	18.8 (12.8-26.7)	16.0 (10.3-24.1)	67.2 (57.9-75.3)
Sex				
Male	186	24.6 (17.9-32.9)	20.5 (14.2-28.6)	66.6 (57.3-74.8)
Female	130	17.0 (9.9-27.7)	19.5 (12.2-29.7)	63.6 (50.1-75.2)
Race				
White	229	21.9 (15.9-29.2)	20.3 (14.5-27.6)	67.1 (59.4-74.0)
Black	58	13.2 (5.9-26.8)	19.1 (9.7-34.2)	63.6 (45.2-78.8)
Household income				
< \$50,000	134	21.8 (14.7-31.1)	27.3 (18.7-38.1)	71.1 (60.8-79.5)
≥ \$50,000	155	21.9 (14.7-31.2)	17.2 (11.0-25.8)	64.7 (54.8-73.5)
Education of BRFS respondent				
≤ HS graduate	98	21.4 (12.5-34.1)	16.3 (8.5-28.9)	64.6 (46.8-79.1)
Some college	100	22.0 (14.0-32.7)	24.6 (15.8-36.3)	69.2 (56.5-79.4)
College graduate	118	20.5 (12.4-32.0)	19.2 (11.8-29.7)	62.4 (51.1-72.5)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^b Sample sizes (unweighted) for demographic subpopulations. Cell sample sizes for prevalence estimates will vary because of missing values. ^c 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?” ^d 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?” ^e 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, 2005-2007 (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^b				
Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	None	1-6 Days	7-13 Days	14 Days
Total	8.2 (4.8-13.5)	14.4 (10.1-20.1)	21.9 (16.7-28.2)	55.6 (48.0-62.9)
Age				
0-9 years	8.6 (3.8-18.3)	15.0 (9.1-24.0)	18.8 (12.3-27.5)	57.5 (46.1-68.2)
10-17 years	7.3 (3.5-14.6)	14.0 (8.4-22.3)	24.7 (17.3-33.9)	54.0 (43.9-63.8)
Sex				
Male	6.3 (3.4-11.3)	15.6 (10.3-22.9)	21.9 (15.2-30.4)	56.3 (46.9-65.4)
Female	10.5 (4.7-21.8)	12.9 (6.8-23.1)	22.0 (14.6-31.6)	54.6 (42.3-66.3)
Race				
White	9.9 (5.4-17.7)	15.3 (10.2-22.5)	22.3 (16.5-29.4)	52.4 (44.3-60.4)
Black	4.8 (1.7-12.5)	11.9 (5.1-25.3)	21.4 (10.2-39.6)	61.9 (43.5-77.5)
Household income				
< \$50,000	5.9 (2.7-12.2)	15.7 (9.6-24.6)	21.6 (14.8-30.4)	56.9 (46.5-66.7)
≥ \$50,000	10.6 (5.2-20.2)	13.6 (8.0-22.0)	23.6 (16.0-33.3)	52.3 (41.8-62.6)
Education of BRFS respondent				
≤ HS graduate	6.6 (2.6-15.5)	16.7 (8.5-30.3)	20.7 (12.3-32.7)	56.0 (41.0-70.0)
Some college	9.7 (5.0-17.9)	18.4 (10.6-30.1)	19.1 (11.7-29.6)	52.8 (39.7-65.5)
College graduate	8.1 (2.7-22.3)	8.9 (4.9-15.5)	25.4 (16.6-36.8)	57.6 (45.9-68.5)
^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?" ^b Respondent replied "yes" to both of the following questions: "Have you ever been told by a doctor or other health professional that {child's name} had asthma?" and "Does {child's name} still have asthma?"				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 3. Prevalence of Asthma-Related Health Care Utilization, Among Children Aged 0-17 Years with Current Asthma^a Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	≥ 2 ER/Urgent Care Visits for Asthma in Past 12 Months^b	≥ 1 Hospital Stays for Asthma in Past 12 Months^c	≥ 2 Routine Asthma Care Visits in Past 12 Months^d	Received Flu Vaccine in Past 12 Months^e
Total	9.5 (5.3-16.6)	3.0 (1.8-5.0)	40.4 (33.1-48.1)	35.0 (28.5-42.1)
Age				
0-9 years	13.1 (8.4-19.8)	5.5 (3.0-9.8)	46.1 (35.0-57.6)	44.4 (33.5-55.9)
10-17 years	6.2 (1.3-24.7)	0.4 (0.1-2.7)	35.4 (25.6-46.5)	26.6 (19.3-35.5)
Sex				
Male	13.9 (7.0-25.8)	3.6 (1.9-6.8)	47.2 (37.5-57.1)	33.4 (25.7-42.2)
Female	3.9 (2.0-7.6)	2.2 (0.9-5.3)	31.9 (22.4-43.2)	36.9 (26.4-48.7)
Race				
White	7.1 (4.3-11.4)	2.1 (1.0-4.7)	38.6 (31.1-46.7)	41.2 (33.6-49.3)
Black	20.9 (6.4-50.7)	5.5 (2.2-13.0)	52.3 (33.7-70.3)	21.5 (12.0-35.5)
Household income				
< \$50,000	8.7 (5.0-14.6)	2.7 (1.2-5.8)	46.5 (36.2-57.2)	28.8 (20.9-38.2)
≥ \$50,000	11.8 (4.9-25.6)	3.7 (1.9-7.3)	39.1 (29.1-50.1)	38.3 (29.0-48.7)
Education of BRFS respondent				
≤ HS graduate	5.0 (2.1-11.5)	1.3 (0.4-4.0)	41.7 (28.3-56.5)	34.0 (22.2-48.1)
Some college	15.8 (5.8-36.1)	3.1 (1.2-7.6)	48.5 (35.1-62.1)	27.9 (18.7-39.5)
College graduate	7.8 (4.3-13.7)	4.2 (2.0-8.8)	32.2 (23.2-42.7)	41.8 (31.2-53.1)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^b Reported ≥ 2 times to the following question, “During the past 12 months, how many times did {child’s name} visit an emergency room or urgent care center because of {his/her} asthma?” ^c Responded “yes” to the question, “During the past 12 months, that is since [1 year ago today], has {child’s name} had to stay overnight in a hospital because of {his/her} asthma? Do not include an overnight stay in the emergency room.” ^d Reported ≥ 2 times to the following question, “During the past 12 months, how many times did {child’s name} see a doctor or other health professional for a routine checkup for {his/her} asthma?” ^e 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?”				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 4. Prevalence of Long-Term Controller Medication Use in Past 3 Months, Among Children Aged 0-17 Years with Current Asthma^a	
Michigan Asthma Call-Back Survey, 2005-2007 Combined	
	Used \geq 1 Long-Term Controller Medication in Past 3 Months,^b % (95% confidence interval)
Total	44.7 (37.3-52.3)
Age	
0-9 years	47.0 (35.9-58.4)
10-17 years	42.8 (33.2-53.0)
Sex	
Male	46.3 (36.9-56.1)
Female	42.6 (31.3-54.7)
Race	
White	50.3 (42.4-58.3)
Black	26.6 (14.8-43.2)
Household income	
< \$50,000	37.4 (27.7-48.4)
\geq \$50,000	53.6 (43.0-63.9)
Education of BRFS respondent	
\leq HS graduate	34.5 (22.1-49.4)
Some college	44.3 (32.1-57.3)
College graduate	53.3 (42.2-64.2)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^b Respondent reported they had taken at least one of the following long-term controller medications in the past 3 months: Accolate, Advair, Aerobid, Aerolate, Azmacort, Beclomethasone dipropionate, Beclovent, Budesonide, Cholearyl, Cromolyn, Elixophyllin, Flovent, Flunisolide, Fluticasone, Intal, Montelukast, Nedocromil, Pulmicort, Quibron, QVAR, Singular, Slo-bid, Slo-phyllin, Theo-24, Theochron, Theodur, Theolair, Theophylline, Theo-X, Tilade, T-Phyl, Triamcinolone acetonide, Uni-Dur, Uniphyl, Vanceril, Zafirlukast, Zileuton, Zflo Filmstab.	

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 5. Prevalence of Experiencing Cost Barriers to Asthma Care in Past 12 Months, Among Children Aged 0-17 Years with Current Asthma^a				
Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	Cost Barrier to Primary Care Doctor^b	Cost Barrier to Asthma Specialist^c	Cost Barrier to Obtaining Medication^d	Cost Barrier to Primary Care, Specialist, or Medication^e
Total	3.4 (1.8-6.2)	1.8 (0.8-4.3)	5.6 (3.3-9.5)	8.3 (5.5-12.4)
Age				
0-9 years	4.1 (1.7-9.3)	3.6 (1.4-8.9)	6.4 (3.1-12.7)	8.8 (5.0-15.1)
10-17 years	2.7 (1.1-6.6)	0.4 (0.0-2.5)	4.9 (2.1-11.0)	7.6 (4.1-13.9)
Sex				
Male	4.7 (2.3-9.2)	2.8 (1.0-7.4)	7.6 (4.0-13.9)	10.7 (6.5-17.1)
Female	1.8 (0.5-6.4)	0.6 (0.1-2.4)	3.2 (1.2-8.3)	5.3 (2.5-10.9)
Race				
White	2.2 (0.8-6.1)	1.5 (0.4-5.9)	5.9 (3.1-11.0)	7.1 (4.1-12.0)
Black	6.4 (2.4-15.8)	3.2 (1.1-9.0)	7.7 (2.5-21.5)	14.1 (6.5-27.9)
Household income				
< \$50,000	6.5 (3.0-13.3)	3.5 (1.2-10.2)	10.3 (5.6-18.2)	14.5 (8.9-22.6)
≥ \$50,000	1.2 (0.3-4.3)	0.7 (0.2-3.1)	2.7 (0.8-9.0)	4.2 (1.7-10.0)
Education of BRFS respondent				
≤ HS graduate	4.6 (1.6-12.4)	3.0 (0.7-12.3)	6.7 (2.5-17.2)	9.1 (4.1-18.9)
Some college	1.3 (0.2-8.5)	0.4 (0.1-2.9)	7.8 (3.6-16.1)	9.1 (4.5-17.7)
College graduate	4.2 (1.9-9.1)	2.1 (0.8-5.7)	2.9 (0.9-8.4)	6.9 (3.6-13.0)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^b 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?” ^c Responded “yes” to the question, “Was there a time in the past 12 months when you were referred to a specialist for {child’s name} asthma care but could not go because of the cost?” ^d Responded “yes” to the question, “Was there a time in the past 12 months when {child’s name} needed medication for {his/her} asthma but you could not buy it because of the cost?” ^e Responded “yes” to at least one of the above 3 questions.				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 6. Prevalence of Indicators of Knowledge Related to Asthma Management, Among Children Aged 0-17 Years with Current Asthma^a			
Michigan Asthma Call-Back Survey, 2005-2007 Combined			
	Ever Taught to Recognize Early Signs of Asthma Episode^b	Ever Taught What To Do During Asthma Episode^c	Ever Taught How to Use a Peak Flow Meter^d
Total	86.1 (81.0-90.0)	90.7 (86.7-93.5)	43.0 (35.5-51.0)
Age			
0-9 years	88.4 (81.3-93.0)	92.8 (87.2-96.1)	38.1 (26.5-51.3)
10-17 years	84.3 (76.4-89.9)	88.9 (82.8-93.1)	47.1 (37.2-57.3)
Sex			
Male	85.3 (77.8-90.6)	92.6 (87.5-95.7)	40.6 (31.8-50.1)
Female	87.1 (79.3-92.2)	88.3 (81.2-92.9)	46.0 (34.1-58.5)
Race			
White	88.5 (83.7-92.0)	90.4 (85.7-93.6)	39.8 (32.4-47.6)
Black	76.8 (57.9-88.8)	86.7 (72.5-94.2)	47.9 (29.3-67.0)
Household income			
< \$50,000	80.1 (71.6-86.6)	85.6 (77.5-91.0)	51.1 (40.4-61.7)
≥ \$50,000	90.9 (82.9-95.4)	95.8 (91.2-98.0)	36.2 (27.2-46.3)
Education of BRFS respondent			
≤ HS graduate	90.1 (82.9-94.5)	89.5 (80.7-94.5)	45.4 (30.2-61.6)
Some college	85.5 (76.5-91.5)	89.8 (81.9-94.5)	46.1 (33.2-59.5)
College graduate	83.4 (72.6-90.5)	92.4 (85.8-96.1)	38.6 (28.4-49.9)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^b 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?” ^c Responded “yes” to the question, “.....what to do during an asthma episode or attack?” ^d Responded “yes” to the question, “.....how to use a peak flow meter to adjust your daily medications?”			

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 6 (continued). Prevalence of Receiving Education Related to Asthma Management, Among Children Aged 0-17 Years with Current Asthma^a			
Michigan Asthma Call-Back Survey, 2005-2007 Combined			
	Ever Received Asthma Action Plan^c	Ever Taken Asthma Management Class^f	Received ≥ 3 Types of Asthma Education^g
Total	40.2 (33.6-47.3)	7.0 (4.5-10.7)	52.3 (44.5-60.0)
Age			
0-9 years	47.5 (37.5-57.8)	7.4 (3.8-13.9)	54.2 (42.6-65.3)
10-17 years	34.0 (25.7-43.4)	6.6 (3.6-11.6)	50.4 (40.1-60.6)
Sex			
Male	42.3 (33.2-51.9)	6.0 (3.4-10.3)	49.9 (40.3-59.5)
Female	37.5 (27.9-48.2)	8.3 (4.3-15.5)	55.3 (43.4-66.7)
Race			
White	39.7 (32.4-47.6)	9.0 (5.6-14.2)	53.3 (45.2-61.2)
Black	39.2 (23.6-57.3)	4.4 (1.6-11.6)	37.0 (22.1-54.7)
Household income			
< \$50,000	44.3 (34.0-55.2)	12.1 (6.9-20.4)	53.8 (43.1-64.1)
≥ \$50,000	37.3 (28.6-47.1)	3.8 (1.9-7.5)	50.6 (40.1-61.0)
Education of BRFS respondent			
≤ HS graduate	45.6 (33.4-58.4)	5.0 (2.1-11.4)	58.4 (43.8-71.7)
Some college	33.8 (23.3-46.2)	9.3 (4.4-18.6)	49.1 (36.0-62.5)
College graduate	41.7 (31.2-53.0)	6.8 (3.5-12.6)	50.0 (38.9-61.0)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^c 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?” ^f Responded “yes” to the question, “Have you or {child’s name} ever taken a course or class on how to manage {his/her} asthma?” ^g Responded “yes” to ≥ 3 of the 5 questions above (b-f).			

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 7. Prevalence of Asthma Triggers in Home Environment, Among Children Aged 0-17 Years with Current Asthma^a Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	Cigarettes Smoked in Home^b	Mold Seen/Smelled in Home^c	Saw Cockroaches in Home^d	Saw Mice/Rats in Home^e
Total	20.4 (13.7-29.4)	11.2 (7.5-16.2)	0.0	4.5 (2.6-7.6)
Age				
0-9 years	19.7 (9.9-35.3)	8.9 (5.1-14.9)		4.8 (2.3-9.9)
10-17 years	20.8 (12.4-32.6)	13.2 (7.7-21.6)		4.2 (1.8-9.2)
Sex				
Male	17.4 (9.8-29.1)	12.3 (7.4-19.6)		5.3 (2.7-10.2)
Female	24.2 (13.7-39.1)	9.8 (5.2-17.8)		3.4 (1.4-8.4)
Race				
White	12.1 (8.2-17.5)	10.7 (7.0-16.2)		4.3 (2.4-7.6)
Black	39.3 (21.5-60.6)	15.6 (5.8-35.7)		4.6 (0.9-20.3)
Household income				
< \$50,000	25.7 (18.2-34.9)	13.9 (8.5-21.7)		3.1 (1.1-8.1)
≥ \$50,000	12.7 (5.5-26.5)	10.6 (5.6-19.1)		4.9 (2.3-10.3)
Education of BRFS respondent				
≤ HS graduate	31.6 (17.3-50.6)	9.7 (4.4-19.8)		7.8 (3.4-17.1)
Some college	29.3 (17.0-45.6)	9.4 (4.7-18.0)		1.9 (0.7-4.5)
College graduate	3.6 (1.7-7.5)	13.9 (7.6-24.0)		3.9 (1.6-9.4)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^b Responded “yes” to the question, “In the past week, has anyone smoked inside {child’s name} home?” ^c Responded “yes” to the question, “In the past 30 days, has anyone seen or smelled mold or a musty odor inside {child’s name} home?” ^d Responded “yes” to the question, “In the past 30 days, has anyone seen cockroaches inside {child’s name} home?” No respondents reported “yes.” ^e 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.”				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 7 (continued). Prevalence of Asthma Triggers in Home Environment Among Children Aged 0-17 Years with Current Asthma^a Michigan Asthma Call-Back Surveys, 2005-2007 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	60.6 (52.7-68.0)	37.4 (30.5-45.0)	13.3 (9.4-18.4)	8.3 (5.2-13.0)	45.0 (37.7-52.6)
Age					
0-9 years	47.8 (36.8-59.0)	27.5 (19.6-37.2)	12.9 (7.5-21.3)	6.9 (3.5-13.0)	44.9 (34.4-55.9)
10-17 years	71.1 (61.5-79.2)	45.4 (35.3-55.9)	13.7 (8.6-21.0)	9.5 (5.0-17.3)	45.2 (35.2-55.6)
Sex					
Male	59.0 (49.5-68.0)	33.9 (24.8-44.4)	12.0 (7.7-18.2)	8.8 (4.6-16.3)	45.4 (35.9-55.3)
Female	62.5 (48.7-74.6)	41.8 (31.0-53.4)	14.9 (8.7-24.3)	7.6 (3.9-14.4)	44.6 (33.7-56.1)
Race					
White	75.2 (67.2-81.8)	43.6 (35.8-51.6)	16.6 (11.8-23.0)	8.6 (5.2-14.0)	46.4 (38.6-54.3)
Black	34.2 (16.8-57.2)	29.9 (13.2-54.6)	1.1 (0.1-7.6)	12.5 (4.2-31.8)	51.6 (32.7-70.0)
Household income					
< \$50,000	56.8 (45.9-67.1)	34.7 (25.4-45.3)	7.8 (4.0-14.9)	3.7 (1.7-7.9)	47.3 (37.0-57.9)
≥ \$50,000	68.5 (58.2-77.3)	42.2 (32.0-53.2)	17.2 (11.4-25.1)	12.3 (7.0-20.8)	45.3 (35.0-56.0)
Education of BRFS respondent					
≤ HS graduate	53.7 (38.1-68.6)	35.2 (23.1-49.4)	9.4 (3.9-20.9)	5.2 (2.5-10.6)	48.4 (33.9-63.2)
Some college	74.1 (61.7-83.5)	50.0 (36.8-63.1)	9.0 (4.4-17.6)	4.3 (1.1-15.2)	48.1 (34.9-61.6)
College graduate	54.6 (43.1-65.5)	28.4 (20.1-38.5)	20.1 (13.0-29.6)	14.2 (7.8-24.6)	39.6 (29.6-50.7)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^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 {child’s name} 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 {child’s name} home?” ^j Responded “yes” to the question, “Is gas used for cooking in {child’s name} home?”					

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 8. Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Children Aged 0-17 Years with Current Asthma^a				
Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	Kitchen Fan Used When Cooking^b	Bathroom Exhaust Fan Used^c	Sheets Washed in Hot Water^d	Air Cleaner Used in Home^e
Total	50.8 (43.1-58.4)	51.0 (43.2-58.7)	46.7 (39.1-54.4)	31.9 (25.9-38.7)
Age				
0-9 years	50.3 (38.6-62.0)	50.1 (38.5-61.7)	40.4 (30.1-51.6)	28.5 (20.4-38.2)
10-17 years	50.7 (40.6-60.7)	51.8 (41.4-62.1)	52.1 (41.9-62.1)	34.4 (26.0-43.8)
Sex				
Male	55.6 (45.7-65.1)	50.2 (40.4-60.0)	48.4 (38.7-58.2)	34.6 (26.3-43.8)
Female	44.8 (33.5-56.6)	51.9 (39.7-63.9)	44.5 (32.9-56.7)	28.7 (20.2-38.9)
Race				
White	52.7 (44.6-60.7)	54.4 (46.2-62.4)	49.4 (41.4-57.4)	34.3 (27.5-41.7)
Black	45.7 (28.4-64.1)	22.6 (12.0-38.5)	46.5 (26.6-67.5)	28.1 (15.3-45.7)
Household income				
< \$50,000	54.6 (44.0-64.8)	45.7 (35.4-56.5)	46.9 (36.7-57.5)	28.8 (20.5-38.9)
≥ \$50,000	51.3 (40.7-61.7)	51.7 (40.9-62.3)	52.0 (41.4-62.4)	38.0 (29.1-47.8)
Education of BRFS respondent				
≤ HS graduate	50.8 (35.5-66.0)	52.8 (37.5-67.6)	32.9 (21.2-47.1)	21.2 (13.3-32.1)
Some college	50.3 (36.8-63.7)	51.7 (37.9-65.2)	55.8 (42.8-68.0)	32.0 (22.0-44.1)
College graduate	51.2 (40.1-62.2)	48.9 (37.9-60.0)	50.0 (38.7-61.2)	40.6 (30.2-52.0)
^a Respondent replied “yes” to both of the following questions: “Have you ever been told by a doctor or other health professional that {child’s name} had asthma?” and “Does {child’s name} still have asthma?” ^b Responded “yes” to the question, “Is an exhaust fan that vents to the outside used regularly when cooking in the kitchen in {child’s name} home?” ^c Responded “yes” to the question, “In {child’s name} bathroom, does {child’s name} regularly use an exhaust fan that vents to the outside?” ^d Responded “hot” to the question, “Are {child’s name} sheets and pillowcases washed in cold, warm, or hot water?” ^e 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?”				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 8 (continued). Prevalence of Asthma Trigger Avoidance Behaviors in Home Environment, Among Children Aged 0-17 Years with Current Asthma^a				
Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	Dehumidifier Used Regularly in Home^f	No Carpeting in Child's Bedroom^g	Child Uses Mattress Cover^h	Child Uses Pillow Coverⁱ
Total	44.5 (37.1-52.1)	26.8 (21.0-33.4)	31.6 (25.5-38.4)	34.5 (28.0-41.5)
Age				
0-9 years	43.2 (32.4-54.7)	26.6 (18.9-36.1)	31.2 (22.6-41.3)	34.3 (24.8-45.3)
10-17 years	45.4 (35.6-55.6)	27.2 (19.2-36.9)	32.1 (23.9-41.7)	34.8 (26.3-44.4)
Sex				
Male	43.7 (34.6-53.3)	28.6 (20.9-37.8)	29.6 (22.5-37.8)	34.3 (26.2-43.3)
Female	45.5 (33.9-57.6)	24.5 (16.6-34.5)	34.2 (24.2-45.8)	34.7 (24.8-46.2)
Race				
White	51.9 (43.9-59.8)	28.4 (21.9-36.1)	40.8 (33.3-48.9)	43.3 (35.6-51.4)
Black	31.9 (17.7-50.4)	32.8 (18.7-50.9)	16.4 (8.1-30.4)	20.8 (10.7-36.7)
Household income				
< \$50,000	36.4 (26.9-47.1)	26.3 (18.0-36.6)	26.5 (18.7-36.2)	34.2 (25.0-44.9)
≥ \$50,000	52.4 (41.7-62.8)	29.1 (20.9-38.9)	38.6 (29.4-48.7)	39.6 (30.4-49.7)
Education of BRFS respondent				
≤ HS graduate	43.0 (29.2-57.9)	24.9 (14.9-38.7)	30.2 (19.2-44.2)	37.9 (25.2-52.4)
Some college	29.7 (19.9-41.9)	31.8 (21.5-44.2)	28.3 (19.2-39.6)	31.9 (21.5-44.4)
College graduate	58.6 (47.5-68.8)	23.9 (15.9-34.4)	35.6 (26.1-46.4)	33.9 (24.7-44.6)
^a Respondent replied "yes" to both of the following questions: "Have you ever been told by a doctor or other health professional that {child's name} had asthma?" and "Does {child's name} still have asthma?" ^f Responded "yes" to the question, "Is a dehumidifier regularly used to reduce moisture inside {child's name} home?" ^g 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." ^h Responded "yes" to the question, "Does {child's name} use a mattress cover that is made especially for controlling dust mites?" ⁱ Responded "yes" to the question, "Does {child's name} use a pillow cover that is made especially for controlling dust mites?"				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (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^a Michigan Asthma Call-Back Survey, 2005-2007 Combined	
	Ever Advised to Modify Environment to Improve Asthma^b
Total	50.2 (42.5-57.9)
Age	
0-9 years	49.9 (38.2-61.6)
10-17 years	50.3 (40.1-60.4)
Sex	
Male	50.9 (41.1-60.6)
Female	49.4 (37.2-61.6)
Race	
White	52.6 (44.6-60.5)
Black	50.3 (31.6-69.0)
Household income	
< \$50,000	53.4 (42.8-63.6)
≥ \$50,000	52.9 (42.5-63.1)
Education of BRFS respondent	
≤ HS graduate	38.8 (25.8-53.6)
Some college	56.0 (42.9-68.2)
College graduate	54.6 (43.2-65.6)
^a Respondent replied "yes" to both of the following questions: "Have you ever been told by a doctor or other health professional that {child's name} had asthma?" and "Does {child's name} still have asthma?" ^b Reported "yes" to the question, "Has a health professional ever advised you to change things in {child's name} home, school, or work to improve his/her asthma?"	

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (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^b				
Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	n^c	None	1-5 Days	≥6 Days
Total	250	56.0 (47.9-63.9)	27.7 (21.4-34.9)	16.3 (10.1-25.1)
Age				
0-9 years	90	46.3 (34.1-58.9)	36.3 (25.9-48.3)	17.4 (10.1-28.3)
10-17 years	158	61.3 (50.2-71.3)	23.1 (15.8-32.4)	15.6 (7.8-28.9)
Sex				
Male	139	55.1 (43.8-66.0)	31.9 (22.9-42.5)	13.0 (5.3-28.5)
Female	111	57.3 (45.9-67.9)	22.0 (14.4-32.1)	20.7 (12.9-31.4)
Race				
White	185	57.0 (48.1-65.4)	34.0 (26.3-42.7)	9.0 (5.3-14.9)
Black	45	-- ^d	-- ^d	-- ^d
Household income				
< \$50,000	102	50.2 (38.3-62.1)	30.0 (20.2-42.1)	19.7 (12.0-30.7)
≥ \$50,000	127	59.0 (47.0-70.1)	25.7 (17.8-35.8)	15.2 (6.8-30.6)
Education of BRFS respondent				
≤ HS graduate	76	52.5 (38.1-66.5)	32.8 (20.6-47.9)	14.7 (7.2-27.5)
Some college	84	46.0 (31.7-60.9)	29.4 (18.7-43.0)	24.7 (11.6-45.0)
College graduate	90	68.1 (56.6-77.8)	22.2 (14.4-32.8)	9.6 (4.7-18.6)
^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 Respondent replied "yes" to both of the following questions: "Have you ever been told by a doctor or other health professional that {child's name} had asthma?" and "Does {child's name} still have asthma?"				
^c Subgroup sample sizes.				
^d Cell sample size < 50.				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*

*Michigan Asthma Call-Back Survey, 2005-2007 (combined)
Child Estimates*

Table 11. Prevalence of School-Related Asthma Indicators, Among Children in Grades K-12 with Current Asthma^a				
Michigan Asthma Call-Back Survey, 2005-2007 Combined				
	Asthma Action Plan on File at School^b	School Allows Asthma Medications^c	Pets in Child's Classroom^d	Mold Problems in Child's School^e
Total	32.6 (25.7-40.4)	56.6 (48.5-64.4)	6.6 (3.8-11.1)	3.5 (1.6-7.3)
Age				
0-9 years	42.6 (30.5-55.6)	36.9 (25.3-50.2)	10.4 (5.3-19.2)	2.7 (1.0-7.2)
10-17 years	27.3 (19.6-36.7)	66.8 (56.7-75.5)	4.7 (1.9-11.1)	3.9 (1.5-10.0)
Sex				
Male	34.8 (25.2-45.9)	57.3 (46.0-67.9)	4.7 (2.2-10.0)	1.7 (0.6-4.5)
Female	29.9 (20.4-41.4)	55.9 (44.3-66.9)	8.7 (4.1-17.5)	5.7 (2.1-14.4)
Race				
White	35.3 (27.1-44.3)	53.0 (43.6-62.3)	7.5 (4.0-13.5)	4.8 (2.1-10.3)
Black	-- ^f	-- ^f	-- ^f	-- ^f
Household income				
< \$50,000	34.3 (23.4-47.1)	51.0 (38.2-63.6)	6.7 (3.0-14.3)	0.0 ^g
≥ \$50,000	31.9 (22.7-42.8)	62.0 (51.3-71.7)	6.0 (2.6-13.3)	6.3 (2.9-13.1)
Education of BRFS respondent				
≤ HS graduate	38.1 (25.3-52.8)	51.8 (36.7-66.6)	1.7 (0.4-7.2)	0.0 ^g
Some college	30.1 (18.8-44.5)	57.7 (43.7-70.5)	12.2 (6.3-22.5)	1.2 (0.3-4.9)
College graduate	31.1 (21.0-43.3)	59.6 (46.6-71.4)	4.8 (1.4-15.9)	8.5 (3.6-18.5)
^a Respondent replied "yes" to both of the following questions: "Have you ever been told by a doctor or other health professional that {child's name} had asthma?" and "Does {child's name} still have asthma?" ^b Responded "yes" to the question, "Does {child's name} have a written asthma action plan or asthma management plan on file at school?" ^c Responded "yes" to the question, "Does the school {child's name} goes to allow children with asthma to carry their medication with them while at school?" ^d Responded "yes" to the question, "Are there any pets such as dogs, cats, hamsters, birds or other feathered or furry pets in {child's name} classroom?" ^e Responded "yes" to the question, "Are you aware of any mold problems in {child's name} school?" ^f Cell sample size < 50. ^g No positive responses in this cell.				

*If you have any questions about these estimates, please contact Betsy Wasilevich, MDCH
517-335-8164 or wasileviche@michigan.gov*