



# Illinois Adult Asthma Call Back Survey 2016-2019

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July 2022

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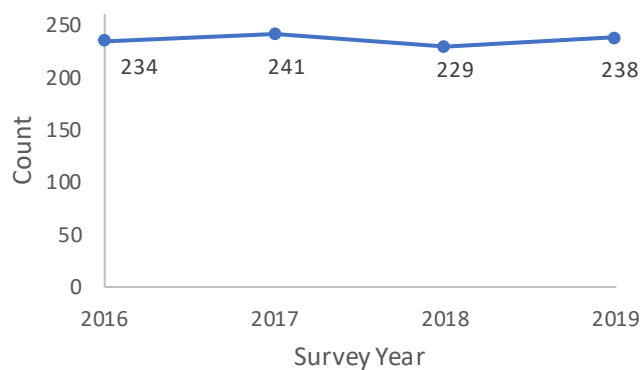
### Background

The Asthma Call-back Survey (ACBS) is an in-depth asthma survey developed as a follow up to the Behavioral Risk Factor Surveillance System Survey (BRFSS) for respondents who answered yes to the question: “Have you ever been told by a doctor or other health professional that you have asthma?” A positive response meets the definition of lifetime asthma. The adult ACBS asks more in-depth questions regarding asthma than what is available through the BRFSS. Analysis of the ACBS may guide interventions to reduce the health burden of asthma.

### Methodology

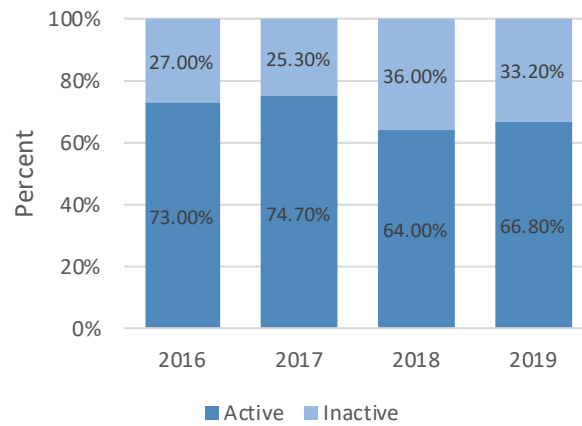
Data analysis was guided by the 2012 ACBS User’s Manual. The data for the adult ACBS was obtained for the years 2016 through 2019 and consists of 942 Illinois respondents across four years. Measures were assessed for all respondents and for current asthma. Current asthma is defined as an affirmative response to the question: “Do you still have asthma?” Measures were also assessed based on an asthma status variable for active or inactive asthma. Active asthma is based on a calculated variable where in the past year respondents have either seen a doctor for their asthma, taken asthma medication, or had symptoms of asthma.

Figure 1. Number of Responses to the Illinois Adult ACBS by Year, 2016-2019



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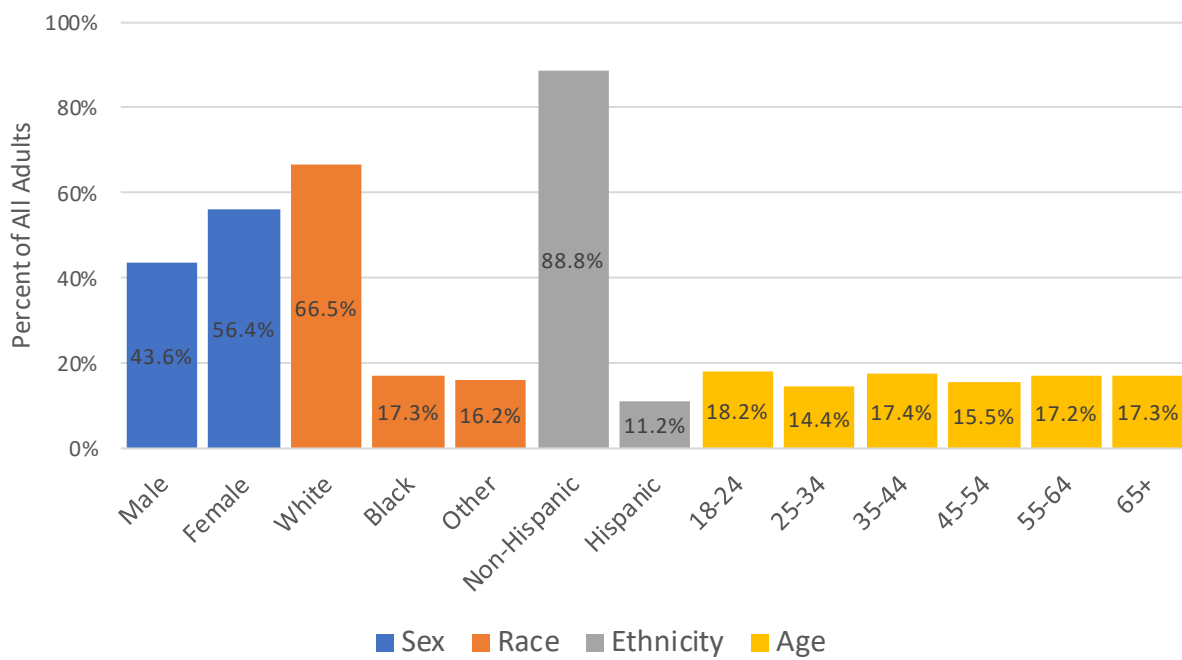
Figure 2. Distribution of Active Asthma Status for Illinois Adults by Year, 2016-2019



## Demographics

Adults with asthma are majority female (56.4%), White (66.5%), non-Hispanic (88.8%), and equally represented by age (18.2% ages 18-24, 14.4% ages 25-34, 17.4% ages 35-44, 15.5% ages 45-54, 17.3% ages 65+).

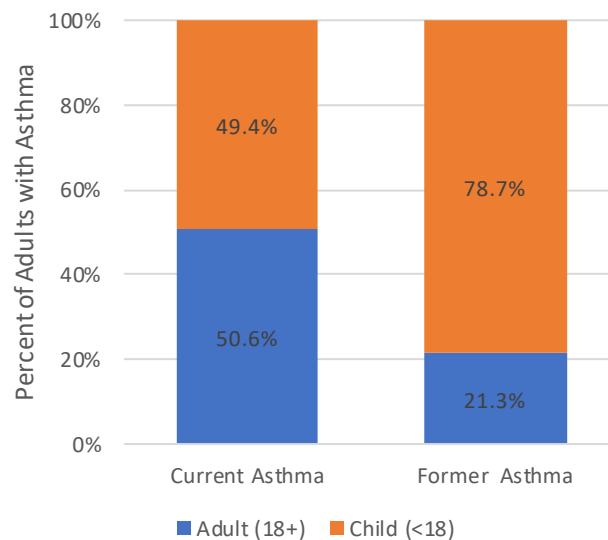
Figure 3. Select Demographics of Adults with Asthma, Illinois, 2016-2019



### History

Among all adult respondents with asthma, the mean age at diagnosis is 26 years old. Among adults with current asthma the mean age at diagnosis is 28.8 years old and for adults with former asthma the mean age at diagnosis is 19.1 years old. Roughly half (50.6%) of adults with current asthma report asthma onset in adulthood, while most adults with former asthma reported onset in childhood (78.7%). A significant association was found between age of onset (Child vs. Adult) and asthma status (P-Value < 0.05).

Figure 4. Age of Onset for Adults with Asthma by Current vs. Former Asthma Status



### Environmental Triggers

Environmental exposures in the home may exacerbate asthma symptoms. Modifications to a household living environment may help minimize asthma symptoms from household environmental exposures. Nine common environmental exposures and eight modification actions were assessed. The average number of exposures in the home for all adults is 2.5 and the average number of actions to reduce those exposures is 3.0. Among all adults and adults with active asthma, the most common exposures were gas used for cooking (76.0% Total; 74% Active), pets inside the home (52.7% Total; 52.7% Active), and carpeting (58.4% Total; 60.2% Active). The most common actions to reduce those exposures include regular use of the kitchen

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exhaust fan (60.4% Total; 60.4% Active) and use of the bathroom exhaust fan (65.1% Total; 66.4% Active). About one third of adults (32.3% Total; 36.8% Active) have received medical advice to change their environment.

Figure 5. Environmental Exposures within the Home

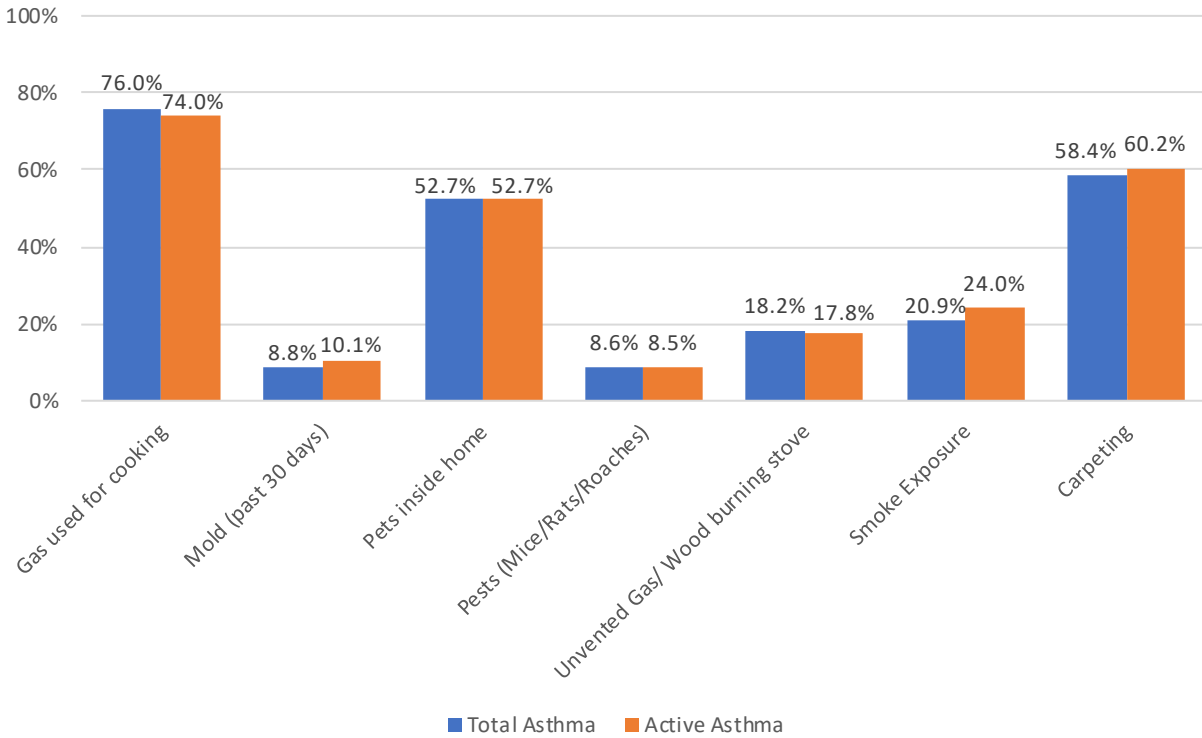
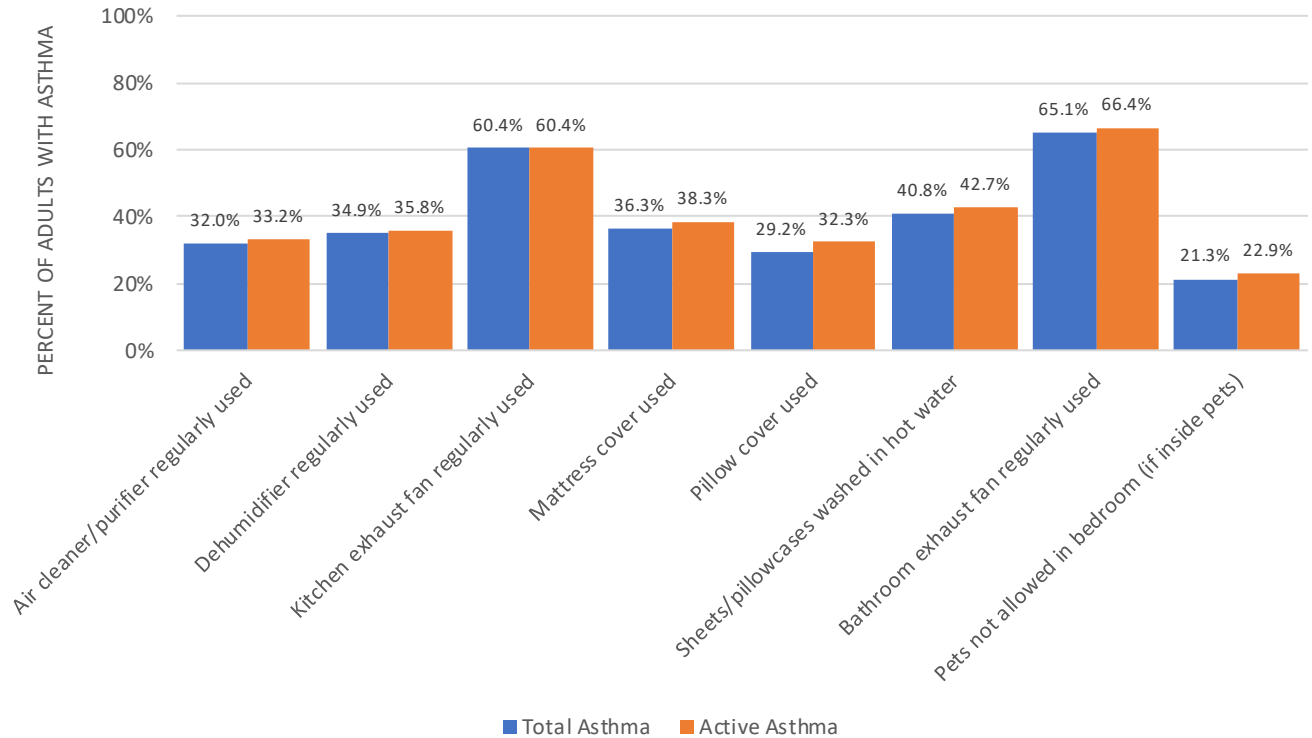


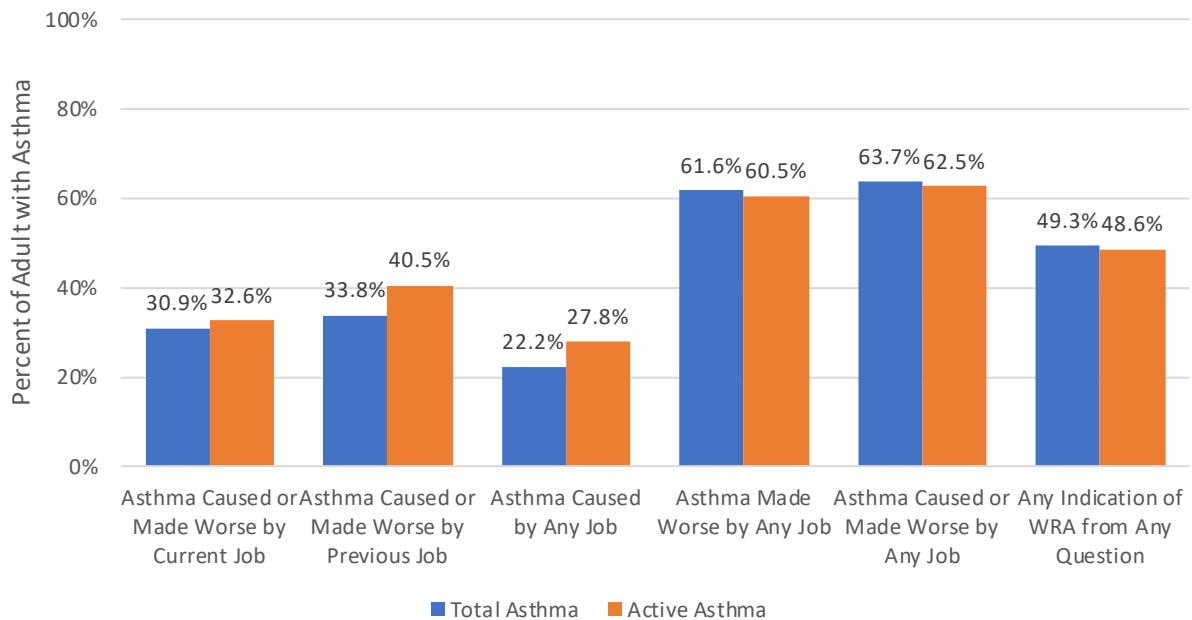
Figure 6. Actions Taken to Reduce Environmental Exposures



## Work

Work-related asthma (WRA) is asthma triggered by an exposure at work. Worsening asthma or new onset asthma in a worker should raise concerns about environmental exposures. Among adults with asthma who have ever worked, the majority (63.7% Total; 62.5% Active) report their asthma has been caused or made worse by any job. Among adults with asthma who have ever worked, half (49.3% Total; 48.6% Active) report any indication of work-related asthma. A significant association was found between asthma status and any indication of work-related asthma (P-Value < 0.05).

Figure 7. Work Related Asthma by Selected Groupings



## Symptoms

The identification of asthma symptoms is crucial for asthma management. An increase of symptoms can be a warning that further health care treatment is needed. The asthma control scale is two levels (Well Controlled vs. Uncontrolled) measured by the number of days within the past 30 days in which symptoms have been experienced and the duration the symptoms were experienced. Among all adults and adults with active asthma, a majority report (66.7% Total, 52.2% Active) having well controlled asthma. Among all adults and adults with active asthma, a majority report (75.4% Total; 64.7% Active) well controlled daytime symptoms. Among all adults and adults with active asthma, a majority report (83.3% Total; 75.9% Active) having well controlled nighttime symptoms. A significant association was found between level of control (Well Controlled vs. Uncontrolled) and asthma status (P-Value 0.05).



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Figure 8. Prevalence of Adults with Well Controlled vs. Uncontrolled Asthma

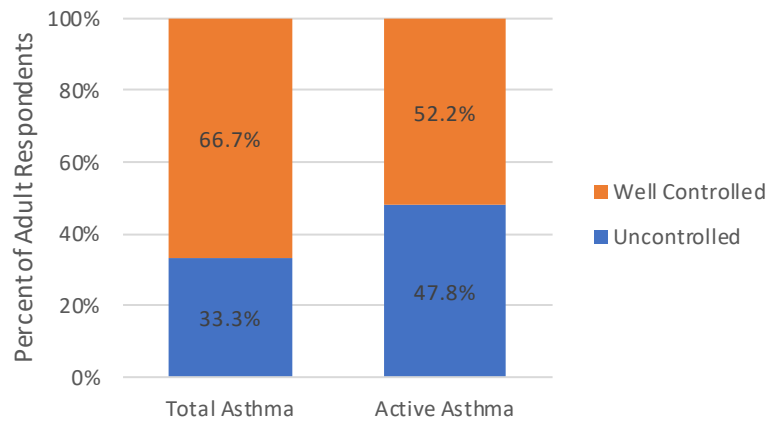


Figure 9. Prevalence of Asthma Symptoms Throughout the Day

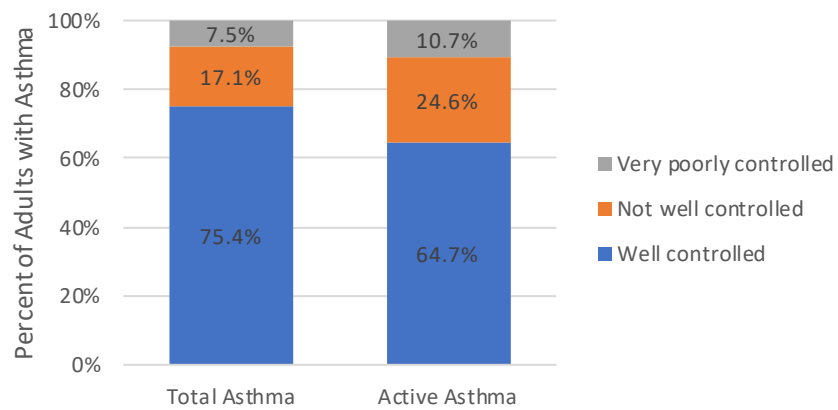
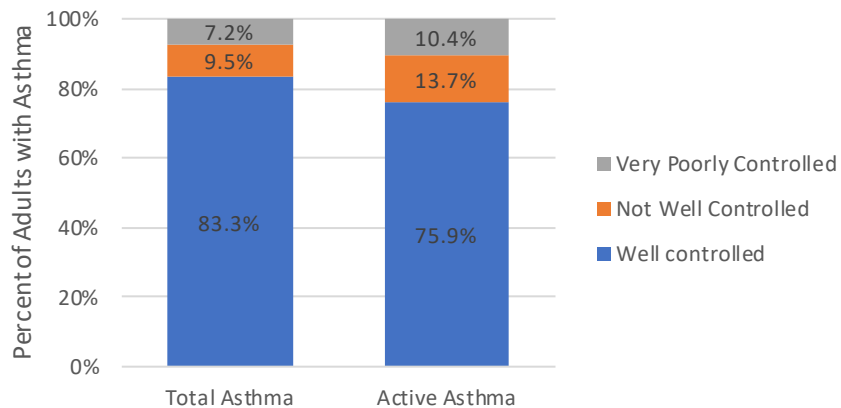


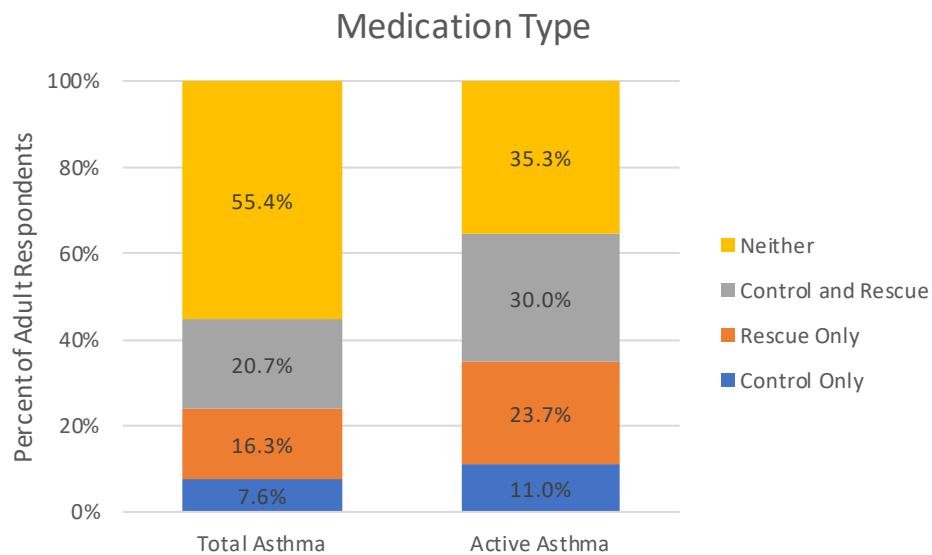
Figure 10. Prevalence of Asthma Symptoms Interrupting Sleep



## Medication Type and Use

People with asthma may consume asthma medication through four main delivery methods -- inhaler, pill, syrup, or nebulizer. More than half of respondents (55.4%) reported not being on either a controller or rescue medication. Medication use among adults with active asthma looks significantly different. The majority are on medication (64.7%). Among adults with an asthma exacerbation in the past 12 months, a majority report (73.5%) using a rescue, control, or both (See Appendix Table 11). Among adults with uncontrolled asthma, a majority reported (82.4%) use of an inhaler (See Appendix Table 11).

Figure 11. Distribution of Medication Use by Asthma Status



## Health Care

Among adults with active asthma, the majority report having at least one routine doctor visit in the past year (57.1%), no urgent doctor visits (76.8%), no emergency department visits (86.4%), and no hospital stays (96.3%) within the past year.

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Figure 12. Prevalence of Routine Doctor Visits Among Adults with Active Asthma

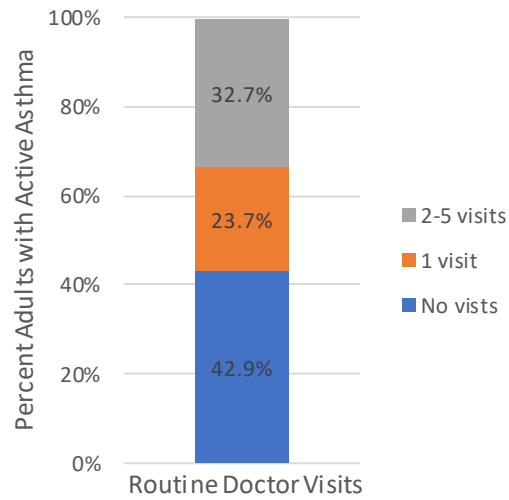
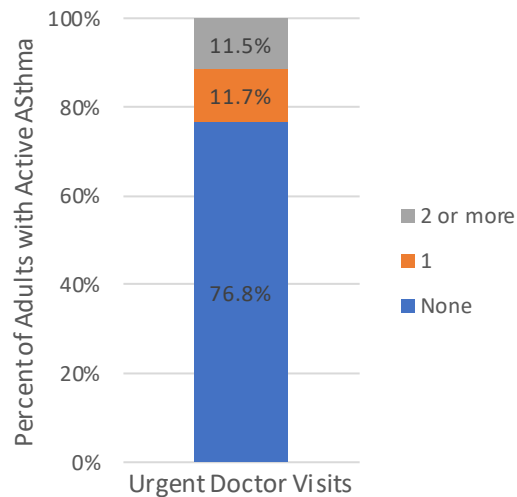


Figure 13. Prevalence of Urgent Doctor Visits Among Adults with Active Asthma



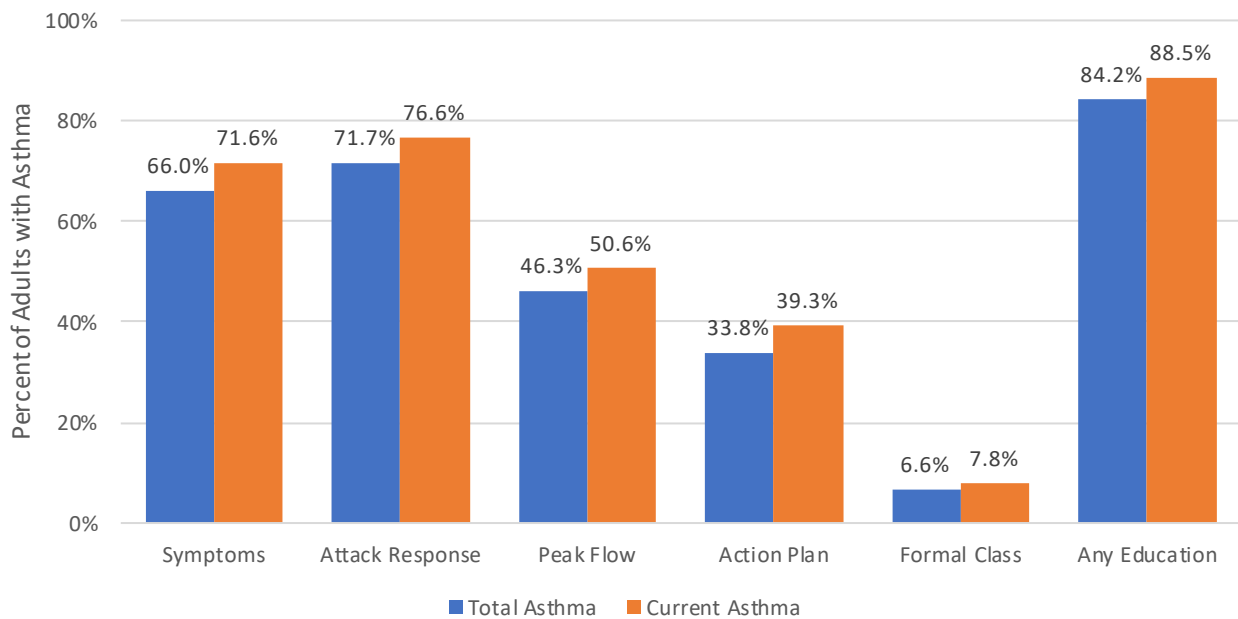
## Education

Providing asthma education is an important step for people with asthma to be able to manage their condition. Education may be delivered in a routine doctor visit or through formal classes. The ACBS assessed the delivery of education on symptom monitoring, attack response, using a peak flow meter, having an asthma action plan, and if education was delivered through a formal

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class. A significant association ( $p$ -value  $< 0.05$ ) was found between the five individual component indicators and asthma status. Among all adults and adults with current asthma, a majority report (84.2% Total; 88.5% Current) having received any asthma education. Among all adults and adults with current asthma, a majority have education on symptoms (66.0% Total; 71.6% Current) and attack response (71.7% Total; 76.6% Current) with roughly half reporting no education on peak flow meter (53.7% Total; 49.4% Current) and a majority reporting no education on action plans (66.2% Total; 60.7% Current), nor having a formal class (93.4% Total; 92.2% Current). A significant association was found between having any asthma related education and asthma status ( $P$ - Value  $< 0.05$ ).

Figure 14. Percent of Adults with Asthma Related Education



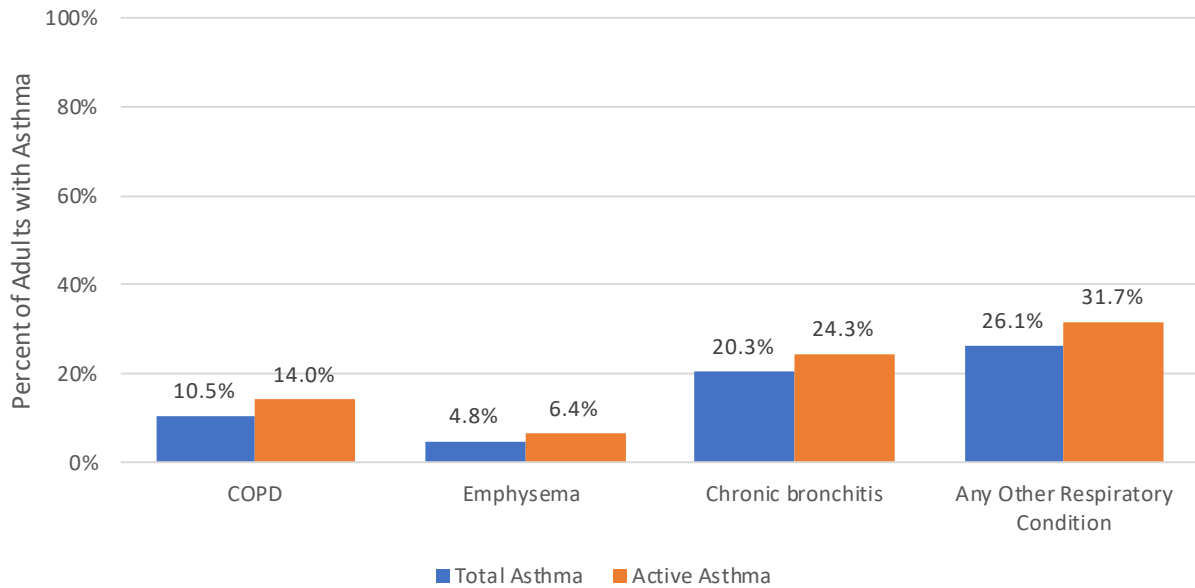
## Comorbidities

About a quarter (26.1%) of respondents had at least one other respiratory condition (chronic obstructive pulmonary disease [COPD], emphysema, or chronic bronchitis). Significantly more adults with active asthma reported higher prevalence of chronic conditions compared to all

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respondents. Among adults with active asthma, 14.0% report COPD, 6.4% report emphysema, and 24.3% report chronic bronchitis. A significant association was found between asthma status and having any other additional respiratory condition (P-Value < 0.05).

Figure 15. Prevalence of Respiratory Conditions Among Adults with Asthma

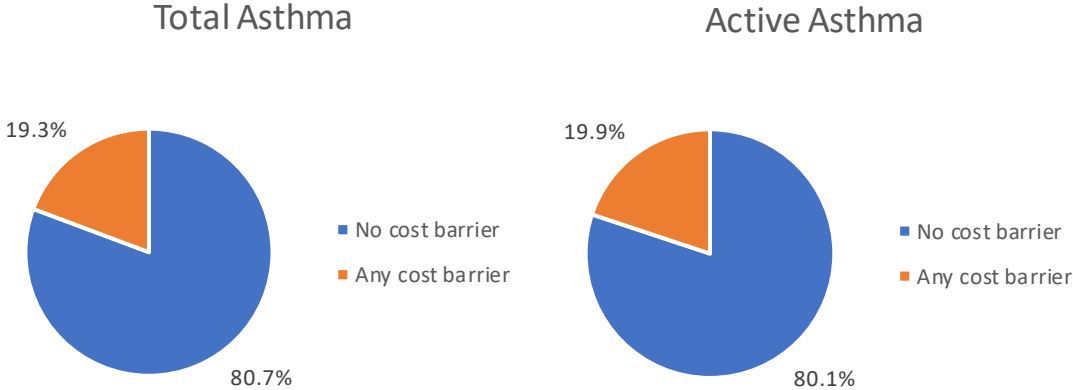


## Cost Barriers

Respondents were asked about cost as a barrier to accessing primary care, specialist care, and medications in the past year. Among all adults and adults with active asthma, a majority report (80.7% Total; 80.1% Active) no cost barrier for access to primary care, specialist care, or medication. A significant association was found between asthma status and having any cost barrier (P-Value < 0.05).

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Figure 16. Prevalence of Cost Barriers among Adults with Asthma



Appendix

Table 1. Demographics				
	Unweighted Count	Weighted count	%	(95% CI)
<b>Asthma Status</b>				
Current	649	805,333	66.2	(61.6-70.8)
Former	281	411,084	33.8	(29.2-38.4)
<b>Age (Years)</b>				
18-24	72	223,532	18.2	(13.4-23.0)
25-34	86	177,581	14.4	(11.3-17.6)
35-44	109	214,053	17.4	(14.0-20.8)
45-54	154	189,988	15.5	(12.7-18.2)
55-64	209	211,612	17.2	(14.5-19.9)
65+	312	212,948	17.3	(15.0-19.6)
<b>Gender</b>				
Male	266	403,865	43.6	(38.4-48.7)
Female	447	523,037	56.4	(51.3-61.6)
<b>Race</b>				
White	662	811,925	66.5	(62.0-70.9)
Black	144	211,376	17.3	(13.2-21.5)
Asian	84	136,741	11.2	(8.4-14.0)
Other	22	*	*	*
Multi	22	*	*	*
<b>Ethnicity</b>				
Hispanic	84	136,741	11.2	(8.4-14.0)
Non-Hispanic	853	1,087,869	88.8	(86.-91.6)
<b>Education</b>				
Less than high school	64	133,768	10.9	(6.8-15.0)
High school	203	318,121	25.9	(22.0-29.9)
Some college	260	380,746	31.0	(26.9-35.1)
College grad	413	394,960	32.2	(28.5-35.9)
(*) Indicates cell counts below 50.				

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Table 2. Demographics by Asthma Status								
	Current Asthma (1)				Former asthma (2)			
Hispanic	Count	Weighted count	%	Confidence Interval	Count	Weighted count	%	Confidence Interval
Yes (1)	47	*	*	*	36	*	*	*
No (2)	598	728,608	67.8	(62.9-72.7)	244	346,362	32.2	(27.3-37.1)
<b>Sex</b>								
Male (1)	162	227,060	56.2	(48.4-64.0)	104	176,805	43.8	(36.0-51.6)
Female (2)	332	384,125	74.4	(66.7-82.1)	109	132,372	25.6	(17.9-33.3)
<b>Home</b>								
Own (1)	302	372,602	64.1	(56.6-71.7)	127	208,362	35.9	(28.3-43.4)
Rent (2)	147	170,216	67.0	(59.1, 75.0)	65	83,673	33.0	(25.0-40.9)
Other (3)	35	*	*	*	16	*	*	*
<b>Veteran</b>								
Yes (1)	51	49,210	66.5	(52.3-80.8)	21	*	*	*
No (2)	598	756,123	66.2	(61.4, 71.0)	260	386,322	33.8	(29.0-38.6)
<b>Marital</b>								
Married	290	338,228	69.9	(64.5-75.3)	121	145,562	30.1	(24.7-35.5)
Divorced	102	94,844	72.2	(62.4-82.1)	34	*	*	*
Widowed	92	73,920	84.0	(76.4-91.6)	25	*	*	*
Separated	15	*	*	*	12	*	*	*
Never married	133	238,414	57.3	(47.2-67.4)	74	177,807	42.7	(32.7-52.8)
Unmarried couple	16	*	*	*	15	*	*	*
<b>Education</b>								
Less than high school	47	*	*	*	17	*	*	*
High school grad	152	217,324	68.8	(60.1-77.4)	49	*	*	*
Some college	177	236,688	63.0	(55.1-71.0)	79	138,801	40.0	(29.0-44.9)
College grad/technical school	271	262,386	67.5	(61.7-73.2)	136	126,546	32.5	(26.8-38.3)
<b>Income (\$)</b>								
<15,000	81	114,468	75.8	(65.4-86.3)	24	*	*	*
15,000 - 25,000	113	125,504	61.8	(50.4-73.2)	45	*	*	*
25,000 - 35,000	56	63,042	72.3	(59.9-84.6)	21	*	*	*
35,000 - 50,000	72	85,146	68.9	(56.8-80.9)	30	*	*	*
50,000+	285	353,348	61.6	(54.4-68.8)	154	219,971	38.4	(31.2-45.6)



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Age								
18-24	37	*	*	*	33	*	*	*
25-34	46	*	*	*	39	*	*	*
35-44	68	137,154	64.7	(54.5-75.0)	40	*	*	*
45-54	110	134,327	71.1	(62.3-79.9)	43	*	*	*
55-64	157	160,414	76.1	(69.4-82.7)	50	50,427	23.9	(17.3-30.6)
65+	231	166,562	79.2	(74.2-84.2)	76	43,731	20.8	(15.8-25.8)
Race								
White (NH)	463	547,380	68.0	(63.2-72.9)	194	257,210	32.0	(27.1-36.8)
Black (NH)	103	134,476	65.3	(49.2-81.4)	36	*	*	*
Hispanic	47	*	*	*	36	*	*	*
Other (NH)	14	*	*	*	8	*	*	*
Multi (NH)	16	*	*	*	5	*	*	*

(\*) Indicates cell counts below 50.

	Asthma Status		
	Total	Current	Former
Sample Size (column)	930	649	281
Mean Age at Diagnosis	26	28.8	19.1
Indicator	% (95% CI)	% (95% CI)	% (95% CI)
<b>Age at Onset</b>			
Adult (18+)	40.8 (36.8-44.9)	50.6 (45.6-55.6)	21.3 (15.9-26.8)
Child (<18)	59.2 (55.1-63.2)	49.4 (44.4-54.4)	78.7 (73.2-84.1)
<b>Years since Diagnosis</b>			
0-5 years**	36.2 (31.6-40.8)	37.7 (32.8-42.6)	34.4 (24.5-44.3)
6-9 years	6.2 (4.0-8.3)	*	*
10-29 years	33.3 (29.2-37.3)	29.3 (24.7-33.8)	39.7 (31.3-48.1)
30-49 years	18.1 (15.1-21.1)	19.1 (15.4-22.7)	16.7 (11.5-21.9)
50+ years	6.2 (4.8-7.7)	6.6 (4.8-8.4)	*
<b>Time since Diagnosis</b>			
Within 12 months	*	*	*
1-5 years ago	7.8 (5.4-10.2)	9.6 (6.5-12.8)	*
More than 5 years ago	90.4 (87.8-93.1)	87.8 (84.2-91.3)	95.4 (91.7-99)
<b>Last Doctor Visit</b>			
Within the past year	51.3 (46.9-55.8)	71.4 (67.1-75.8)	*
1 year to < 3 years ago	12.2 (9.7-14.7)	14.0 (10.8-17.2)	*
3 to 5 years ago	7.5 (5.2-9.8)	*	*
More than 5 years ago	28.1 (23.6-32.7)	*	67.6 (60.1-75.1)
Never	*	*	*
<b>Last used Medication</b>			

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Less than 1 day ago	28.4 (24.7-32.1)	42.7 (37.8-47.6)	*
1-6 days ago	8.1 (5.7-10.5)	12.2 (8.7-15.7)	*
1 week to < 3 months ago	11.5 (8.8-14.2)	16.9 (12.9-20.8)	*
3 months to < 1 year ago	8.2 (6.0-10.5)	11.2 (7.9-14.4)	*
1 year to < 3 years ago	11.2 (7.3-15.1)	*	*
3 to 5 years ago	*	*	*
More than 5 years ago	26.3 (22.5-30.2)	*	66.7 (57.2-76.3)
Never	*	*	*
<b>Last had Symptoms</b>			
Less than 1 day ago	28.4 (24.7-32.1)	28.0 (23.5-32.6)	*
1-6 days ago	8.1 (5.7-10.5)	14.8 (11.2-18.5)	*
1 week to < 3 months ago	11.5 (8.8-14.2)	27.7 (23.1-32.4)	*
3 months to < 1 year ago	8.2 (6.0-10.5)	15.1 (11.6-18.5)	*
1 year to < 3 years ago	11.2 (7.3-15.1)	*	*
3 to 5 years ago	*	*	*
More than 5 years ago	26.4 (22.5-30.2)	*	61.7 (52.1-71.2)
Never	*	*	*
<b>Active Asthma Status</b>			
Active asthma	69.6 (65.1-74.1)	94.2 (92.0-96.4)	22.7 (16.0-29.4)
Inactive asthma	40.4 (25.9-34.9)	*	77.3 (70.6-84.0)
(*) Indicates cell counts below 50.			

Table 4. Symptoms			
	Asthma Status		
	Total	Current	Active
Sample Size (column)	942	649	688
Indicator	% (95% CI)	% (95% CI)	% (95% CI)
Symptom Days (past month)			
No days	*	*	*
1-15 days	29.0 (25.0-32.9)	41.7 (36.7-46.6)	41.6 (36.7-46.5)
16-29 days	5.5 (3.2-7.6)	*	*
Every day	11.1 (8.6-13.5)	16.4 (12.8-20.0)	15.9 (12.5-19.3)
Not Asked**	51.1 (46.6-55.6)	29.3 (24.9-33.8)	29.7 (25.4-34.0)
Duration of Symptoms			
Yes, every day continuous	7.5 (5.2-9.7)	10.9 (7.6-14.2)	10.7 (7.6-13.8)
No, every day but not continuous	3.5 (2.4-4.6)	5.3 (3.6-6.9)	5.0 (3.4-6.6)
Not asked**	89.1 (86.6-91.5)	83.8 (80.3-87.4)	84.3 (80.9-87.7)

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<b>Disturbed Sleep (past month)</b>			
No days	24.0 (20.4-27.6)	33.4 (28.7-38.0)	34.4 (30.0-39.1)
1-5 days	12.0 (9.1-14.8)	18.0 (13.9-22.2)	17.2 (13.3-21.2)
6 or more	5.8 (3.9-7.7)	8.9 (6.0-11.7)	8.3 (5.7-11.0)
Every day	*	*	*
Not asked**	54.5 (50.1-58.9)	34.2 (29.5-38.9)	34.6 (30.1-39.2)
<b>Symptom-free Days (two weeks)</b>			
None	13.1 (10.2-15.9)	19.6 (15.5-23.7)	18.8 (14.9-22.6)
1-4 days	8.1 (5.9-10.3)	12.2 (8.9-15.4)	11.6 (8.6-15.9)
5-9 days	8.5 (5.9-11.1)	11.7 (8.4-14.9)	12.3 (8.7-15.9)
10-13 days	11.9 (9.1-14.8)	16.6 (12.6-20.5)	17.2 (13.3-21.1)
14 days***	58.4 (54.0-62.7)	40.0 (35.1-44.9)	40.1 (35.4-44.9)
<b>Asthma Exacerbations (past year)</b>			
Yes	36.0 (31.9-40.2)	52.8 (47.9-57.8)	51.7 (46.8-56.6)
No	25.1 (21.4-28.8)	32.9 (28.2-37.6)	36.1 (31.3-40.8)
Not asked**	38.9 (34.4-43.4)	14.3 (10.9-17.6)	12.2 (9.2-15.1)
<b>Number of Exacerbations (past 3 months)</b>			
None	7.4 (5.4-9.4)	10.6 (7.7-13.6)	10.7 (7.9-13.5)
1 attack	8.6 (6.3-11.0)	12.4 (9.1-15.8)	12.4 (9.2-15.7)
2-9 attacks	12.9 (10.0-15.8)	19.1 (15.0-23.2)	18.6 (14.6-22.5)
10 or more attacks	6.6 (4.4-8.7)	10.1 (6.9-13.3)	9.5 (6.5-12.5)
Not asked**	64.4 (60.3-68.6)	47.7 (42.7-52.7)	48.8 (43.9-53.7)
<b>Duration of Recent Exacerbations</b>			
1-9 minutes	6.8 (4.5-9.2)	9.8 (6.4-13.3)	9.8 (6.5-13.2)
10 or more minutes	10.2 (7.7-12.7)	15.4 (11.7-19.1)	14.6 (11.1-18.1)
1-23 hours	8.2 (6.0-10.4)	11.6 (8.5-14.7)	11.8 (8.7-14.9)
1-4 days	6.4 (4.3-8.4)	9.7 (6.7-12.7)	9.2 (6.3-12.0)
5 or more days	*	*	*
Not asked**	64.5 (60.3-68.6)	47.7 (42.7-52.7)	48.9 (43.9-53.8)
<b>Compared to Previous Exacerbations</b>			
Shorter	7.1 (5.2-9.1)	10.0 (7.2-12.9)	10.2 (7.4-12.9)
Longer	*	*	*
About the same	24.9 (21.1-28.7)	37.1 (32.1-42.1)	35.8 (30.9-40.6)
No previous attacks	*	*	*
Not asked**	64.2 (60.0-68.3)	47.4 (42.4-52.4)	48.5 (43.6-53.4)
<b>Daytime Symptoms</b>			

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Well controlled	75.4 (71.7-79.1)	64.9 (60.1-69.7)	64.7 (59.9-69.5)
Not well controlled	17.1 (13.9-20.4)	24.2 (20.0-28.5)	24.6 (20.3-29.0)
Very poorly controlled	7.5 (5.2-9.7)	10.9 (7.6-14.2)	10.7 (7.6-13.8)
<b>Nighttime Awakening</b>			
Well controlled	83.3 (80.1-86.5)	74.8 (70.3-79.4)	75.9 (71.6-80.3)
Not well controlled	9.5 (6.9-12.1)	14.4 (10.6-18.1)	13.7 (10.1-17.2)
Very poorly controlled	7.2 (5.1-9.3)	10.8 (7.7-14.0)	10.4 (7.4-13.4)
<b>SABA Use</b>			
Well controlled	86.8 (83.7-89.9)	79.9 (75.5-84.3)	81.0 (76.8-85.2)
Not well controlled	7.8 (5.2-10.4)	11.9 (8.0-15.7)	11.2 (7.5-14.9)
Very poorly controlled	5.4 (3.6-7.2)	8.2 (5.5-11.0)	7.8 (5.2-10.3)
<b>Control Scale (3 levels)</b>			
Well controlled	66.7 (62.6-70.9)	51.7 (46.7-56.7)	52.2 (47.2-57.1)
Not well controlled	18.6 (15.1-22.2)	26.4 (21.8-31.0)	26.8 (22.2-31.4)
Very poorly controlled	14.7 (11.7-17.6)	21.9 (17.7-26.1)	21.1 (17.1-25.1)
<b>Control Scale (2 levels)</b>			
Uncontrolled	33.3 (29.1-37.4)	48.3 (43.3-53.3)	47.8 (42.9-52.8)
Well controlled	66.7 (62.6-70.9)	51.7 (46.7-56.7)	52.2 (47.2-57.1)
(*) indicates cell counts below 50.			
(**) "Not asked" includes all skip codes and can be interpreted as "none" or "no."			
(***) 14-symptom free days includes all skip patterns that indicate no symptoms.			
Note: The survey uses "asthma attack" in their language; this report uses Exacerbation.			

Table 5. Asthma Education			
	Asthma Status		
	Total	Current	Former
<b>Sample Size (column)</b>	<b>642</b>	<b>649</b>	<b>281</b>
<b>Indicator*</b>	<b>% (95% CI)</b>	<b>% (95% CI)</b>	<b>% (95% CI)</b>
<b>Individual Indicators</b>			
<b>Symptoms</b>			
Yes	66.0 (61.5-70.5)	71.6 (67.3-75.9)	55.8 (46.4-65.2)
No	34.0 (29.5-38.5)	28.4 (24.1-32.7)	44.2 (34.8-53.6)
<b>Attack Response</b>			
Yes	71.7 (67.3-76.3)	76.6 (72.3-80.9)	62.6 (52.8-72.4)
No	28.2 (23.7-32.7)	23.4 (19.1-27.7)	37.4 (27.6-47.2)
<b>Peak Flow</b>			
Yes	46.3 (41.8-50.7)	50.6 (45.6-55.7)	37.2 (29.0-45.4)
No	53.7 (49.3-58.2)	49.4 (44.3-54.4)	62.8 (54.6-71.0)
<b>Action Plan</b>			
Yes	33.8 (29.7-37.9)	39.3 (34.4-44.3)	23.8 (17.1-30.4)

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No	66.2 (62.1-70.3)	60.7 (55.7-65.6)	76.2 (69.6-82.9)
<b>Class</b>			
Yes	6.6 (4.6-8.6)	7.8 (5.3-10.3)	*
No	93.4 (91.4-95.4)	92.2 (89.7-94.8)	95.5 (92.3-98.7)
<b>Component Indicators</b>			
None	16.2 (12.0-20.4)	11.7 (8.4-15.0)	25.5 (15.4-35.7)
1 of 5	13.8 (10.9-16.7)	12.4 (9.4-15.4)	*
2 of 5	27.2 (23.3-31.1)	27.6 (23.1-32.1)	27.2 (19.4-35.0)
3 of 5	18.6 (15.3-21.9)	19.8 (15.8-23.9)	*
4 of 5	21.0 (17.6-23.4)	24.1 (19.8-28.4)	*
5 of 5	*	*	*
<b>Any 3 or more of 5</b>			
Less than 3	57.2 (52.8-61.6)	51.7 (46.6-56.7)	68.2 (60.6-75.8)
3 or more	42.8 (38.4-47.2)	48.3 (43.3-53.4)	31.8 (24.2-39.4)
<b>Any of 5</b>			
No asthma education	15.8 (11.7-20.0)	11.5 (8.3-14.8)	24.4 (14.6-34.2)
Any asthma education	84.2 (80.1-88.3)	88.5 (85.2-91.7)	75.6 (65.8-85.4)
(*) indicates cell counts below 50			

Table 6. Home Environment			
	Total	Active	Inactive
Sample Size (column)	942	688	254
Indicator	Weighted % or Mean (95%CI)	Weighted % or Mean (95%CI)	Weighted % or Mean (95% CI)
<b>Environmental Exposures (% yes)</b>			
Gas used for cooking	76.0 (72.4-79.6)	74.0 (69.7-78.3)	80.5 (74.2-86.9)
Mold (past 30 days)	8.8 (6.3-11.3)	10.1 (6.8-13.3)	*
Pets inside home	52.7 (48.2-57.1)	52.7 (47.9-57.5)	52.7 (43.1-62.3)
Cockroaches (past 30 days)	*	*	*
Mice or rats (past 30 days)	8.6 (6.4-10.8)	8.5 (6.1-10.9)	*
Pests (roaches/mice/rats)	11.1 (8.5-13.7)	11.0 (8.0-14.0)	*
Wood burning fireplace/Stove	11.1 (8.5-13.8)	10.6 (7.5-13.6)	*
Unvented gas fireplace/Unvented gas stove	8.4 (6.0-10.8)	8.8 (5.9-11.8)	*
Stove/Fireplace	18.2 (14.9-21.5)	17.8 (13.9-21.7)	19.0 (12.6-25.4)
Smoking inside home (past week)	15.2 (12.0-18.4)	18.2 (14.0-22.3)	*
Adult respondent is current smoker	14.3 (11.4-17.1)	16.3 (12.7-20.0)	*
Smoke exposure	20.9 (17.4-24.5)	24.0 (19.5-28.5)	*
Carpeting or rugs in bedroom	58.4 (54.3-62.8)	60.2 (55.5-65.0)	54.7 (45.4-63.9)

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Average number of exposures (mean)	2.5	2.5	2.4
<b>Actions Taken to Reduce Environmental Exposures (% yes)</b>			
Air cleaner/Purifier regularly used	32.0 (27.8-36.1)	33.2 (28.4-37.9)	29.2 (21.1-37.4)
Dehumidifier regularly used	34.9 (30.7-39.1)	35.8 (31.0-40.6)	32.9 (24.6-41.3)
Kitchen exhaust fan regularly used	60.4 (56.1-64.7)	60.4 (55.6-65.2)	60.3 (51.7-68.9)
Mattress cover used	36.3 (32.1-40.4)	38.3 (33.6-43.0)	31.7 (23.5-39.9)
Pillow cover used	29.2 (25.4-33.1)	32.3 (27.8-36.9)	22.1 (15.0-29.1)
Sheets/Pillowcases washed in hot water	40.8 (36.4-45.1)	42.7 (37.8-47.6)	36.4 (27.8-45.0)
Bathroom exhaust fan regularly used	65.1 (60.9-69.2)	66.4 (61.8-71.0)	62.0 (53.4-70.7)
Pets not allowed in bedroom (if inside pets) <sup>3</sup>	21.3 (16.4-26.2)	22.9 (17.2-28.5)	*
Average number of actions to reduce exposure (mean)	3.0	3.1	2.7
<b>Medical Advice to Change Environment (% yes)</b>			
Change home/School/Work environment	32.3 (28.2-36.3)	36.8 (32.0-41.6)	21.8 (15.2-28.3)
(*) indicates cell counts below 50			

Table 7. Complimentary Alternative Medicine (CAM)			
	Asthma Status		
	Total	Current	Former
Sample Size (column)	942	649	281
Indicator (% yes)	% (95% CI)	% (95% CI)	% (95% CI)
<b><i>CAM Self-care</i></b>			
Herbs	*	*	*
Vitamins	9.9 (6.9-12.8)	9.9 (6.8-13.0)	*
Yoga	*	*	*
Breathing techniques	37.6 (32.9-42.3)	39.7 (34.7-44.7)	*
Aromatherapy	*	*	*
Homeopathy	*	*	*
<b>CAM Practitioner Care</b>			
Acupuncture	*	*	*
Acupressure	*	*	*
Reflexology	*	*	*
Naturopathy	*	*	*
CAM Other type	12.0 (8.9-15.1)	11.7 (8.5-15.0)	*

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CAM Scales			
Any CAM	47.8 (43.0-52.5)	49.2 (44.2-54.2)	*
CAM for self-care	43.0 (38.2-47.7)	44.9 (39.9-50.0)	*
CAM by practitioner care	*	*	*
(*) indicates cell counts below 50			

Table 8. Comorbidities			
	Asthma Status		
	Total	Active Asthma	Inactive Asthma
Sample Size (column)	942	688	254
INDICATOR	Weighted % or mean (95%CI)	Weighted % or mean (95%CI)	Weighted % or mean (95%CI)
<b>Respiratory Conditions (% yes)</b>			
Chronic obstructive pulmonary disease	10.5 (8.4-12.6)	14.0 (11.1-16.8)	*
Emphysema	4.8 (3.1-6.6)	6.4 (3.9-8.8)	*
Chronic bronchitis	20.3 (17.1-23.6)	24.3 (20.3-28.4)	*
<b>Scales</b>			
No other respiratory conditions (% none)	73.9 (70.3-77.5)	68.3 (63.9-72.8)	86.8 (81.6-91.9)
Any respiratory conditions (% any)	26.1 (22.5-29.7)	31.7 (27.2-36.1)	*
1 condition	18.2 (15.0-21.4)	21.2 (17.2-25.2)	*
2 conditions	5.8 (4.2-7.5)	7.5 (5.3-9.8)	*
3 conditions	*	*	*
Conditions score (mean)	0.4	0.5	0.2
<b>Other Conditions (% yes)</b>			
Depression	36.3 (32.0-40.5)	35.7 (30.9-40.5)	37.5 (29.0-46.1)
(*) indicates cell counts below 50.			
NOTE: the subcategories of “any respiratory conditions” should sum to the percent for “any conditions” e.g., the denominator for each subcategory is the same as the denominator for the “any conditions” or “no other conditions” (all adults, ever asthma). It should not be “of those with any condition what % have 1, 2 or 3 conditions.”			

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Table 9. Cost Barriers			
	Asthma Status		
	Total	Active	Inactive
Sample Size (column)	942	688	254
INDICATOR	Weighted % or mean (95%CI)	Weighted % or mean (95%CI)	Weighted % or mean (95%CI)
<b>Cost Barriers (% yes)</b>			
Cost barriers for primary care	9.1 (6.2-12.0)	9.2 (6.2-12.2)	*
Cost barriers for specialist care	*	*	*
Cost barriers for medications	14.0 (10.8-17.3)	14.7 (11.3-18.1)	*
<b>Integrated Cost Barriers</b>			
No cost barriers (% none)	80.7 (76.9-84.6)	80.1 (76.2-84.1)	*
Any cost barriers (% any)	19.3 (15.4-23.1)	19.9 (15.9-23.8)	*
1 barrier	11.6 (8.5-14.7)	12.2 (8.9-15.5)	*
2 barriers	*	*	*
3 barriers	*	*	*
Cost barrier score (mean)	0.3	0.3	0.1
(*) indicates cell counts below 50.			

Table 10. Health Care		
	Asthma Status	
	Active	Current
Sample Size (column)	688	649
Indicator	% (95% CI)	% (95% CI)
<b>Insurance Status</b>		
Current: full year	88.3 (84.6-92.0)	89.1 (85.8-92.3)
Current: partial year	*	*
No current insurance	*	*
<b>Routine Doctor Visits, Past Year</b>		
None	42.9 (37.9-47.9)	41.7 (36.6-46.7)
One	23.7 (19.2-28.1)	23.9 (19.4-28.5)
2-5 visits	32.7 (27.9-37.5)	33.7 (28.7-38.6)
6 or more visits	*	*
<b>Urgent Doctor Visits, Past year</b>		
None	76.8 (72.7-81.0)	76.0 (71.7-80.3)
One	11.7 (8.3-15.0)	12.1 (8.6-15.6)
2 or more	11.5 (8.6-14.5)	11.9 (8.8-15.0)



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ED Visits, Past Year		
None	86.4 (83.0-89.7)	85.6 (82.1-89.2)
One	*	*
2 or more	*	*
Hospital Stays, Past Year		
None	96.3 (94.8-97.9)	96.1 (94.5-97.7)
One	*	*
2 or more	*	*
Missed Work Days, Past Year		
Adults Only		
No days	67.8 (63.1-72.6)	66.6 (61.7-71.6)
1-7 days	17.7 (13.9-21.6)	18.0 (14.0-22.0)
8 – 30 days	8.7 (5.6-11.8)	9.7 (6.4-13.0)
31 or more days	*	*
(*) indicates cell counts below 50.		

Table 11. Medication			
	Asthma Status		
	Total	Active	Current
Sample Size (column)	942	688	649
	Weighted % or mean (95%CI)	Weighted % or mean (95%CI)	Weighted % or mean (95%CI)
Medication Types			
Using Control (% yes)	28.5 (24.7-32.3)	41.3 (36.4-46.2)	43.4 (38.3-48.5)
Using inhaled corticosteroids and not using other control medications (% yes)	*	*	*
Using Rescue (% yes)	38.0 (33.7-42.2)	54.6 (49.7-59.5)	57.0 (52.1-61.9)
Using Prescription Medications by Type (% in each category)			
1	7.6 (5.6-9.6)	11.0 (8.2-13.8)	11.5 (8.6-14.5)
2	16.3 (13.1-19.6)	23.7 (19.3-28.1)	24.5 (19.9-29.1)
3	20.7 (17.2-24.1)	30.0 (25.4-34.6)	31.6 (26.8-36.4)
4	55.4 (51.0-59.8)	35.3 (30.5-40.1)	32.4 (27.7-37.1)
Appropriate Use of Medications			
Of those taking inhaled corticosteroid medications, medications are used daily (% yes)	84.7 (78.9-90.5)	84.7 (78.9-90.5)	84.6 (78.7-90.4)

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Prescription Medication by Control Scale			
	Total	Uncontrolled	Well Controlled
Inhaler (% Yes)	44.1 (39.7-48.4)	82.4 (76.3-88.5)	24.9 (20.6-29.2)
Nebulizer (% Yes)	8.5 (6.1-10.8)	22.1 (15.7-28.4)	*
(*) indicates cell counts below 50			
Prescription Medication by Control Scale			
	Total	Uncontrolled	Well Controlled
Inhaler (% Yes)	44.1 (39.7-48.4)	82.4 (76.3-88.5)	24.9 (20.6-29.2)
Nebulizer (% Yes)	8.5 (6.1-10.8)	22.1 (15.7-28.4)	*
Asthma Exacerbations by Medication Type			
Asthma Exacerbation in the past 12 months		Exacerbation	No Exacerbation
Control		*	7.3 (5.2-9.4)
Rescue		26.1 (19.9-32.3)	11.0 (7.5-14.5)
Rescue and control		39.2 (32.3-46.2)	10.7 (7.5-13.9)
Neither		26.5 (20.2-32.7)	71.0 (66.1-75.9)
Medication Type by Selected Groupings			
Rescue/Control/Both		73.5 (67.3-79.8)	29.0 (67.3-79.8)
Neither		26.5 (20.2-32.7)	71.0 (66.1-75.9)
(*) indicates cell counts below 50.			

Table 12. Proportion of Asthma Attributable to Work			
	Asthma Status		
	Total	Active	Inactive
Sample Size (column)	942	688	254
Indicator*	Weighted % (95% CI)	Weighted % (95% CI)	Weighted % (95% CI)
Type of Work-Related Asthma Reported			
Asthma made worse by current job	29.6 (22.9-36.4)	31.3 (24.3-38.4)	*
Asthma caused by current job	*	*	*
Asthma made worse by previous job	31.8 (27.8-35.9)	38.2 (33.4-43.1)	17.9 (11.9-23.9)
Asthma caused by previous job	12.9 (10.2-15.6)	16.0 (12.4-19.6)	*
Interaction with a Health Professional Regarding Work-Related Asthma			
Discussed with a health professional whether asthma may be work-related	14.8 (11.9-17.7)	19.7 (15.9-23.6)	*

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Told by a health professional that asthma was work-related	10.9 (8.2-13.6)	14.4 (10.7-18.0)	*
Told to a health professional that asthma was work-related	11.0 (8.6-13.4)	14.0 (10.7-17.2)	*
Any Indication of WRA from Any Question	49.3 (42.9-55.6)	48.6 (41.8-55.3)	*
<b>Work-Related Asthma by Selected Groupings</b>			
Asthma caused or made worse by current job	30.9 (24.1-37.7)	32.6 (25.5-39.7)	*
Asthma caused or made worse by previous job	33.8 (29.7-38.0)	40.5 (35.5-45.4)	19.4 (13.2-25.7)
Asthma caused by any job	22.2 (18.2-26.1)	27.8 (22.5-33.0)	*
Asthma made worse by any job	61.6 (56.4-66.9)	60.5 (54.8-66.1)	69.7 (56.6-82.9)
Asthma caused or made worse by any job	63.7 (58.6-68.8)	62.5 (56.9-68.0)	71.6 (59.1-84.1)
Lost or quit job because of work-related asthma**	18.4 (13.0-23.8)	*	*
(*) indicates cell counts below 50.			
Note: the measure being calculated corresponds to the burden of work-related asthma in the adult population with asthma who has ever worked.			