

Asthma Burden Among Adults and Children, Bexar County, Texas,
2011 and 2012

Data Requested by

Texas Commission on Environmental Quality

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Table 1. Current Asthma Prevalence Among Children (0-17 years) in Bexar County and Texas, 2012

Characteristics	Bexar County		Texas	
	Sample Size	Prevalence (95% CI)	Sample Size	Prevalence (95% CI)
Total	146	9.0 (3.8, 14.2)	2,465	7.8 (6.3, 9.2)
Gender				
Boy	77	--	1,263	8.0 (6.0, 10.0)
Girl	69	--	1,186	7.6 (5.5, 9.8)
Race/Ethnicity				
Non-Hispanic White	40	--	951	6.6 (4.6, 8.5)
Non-Hispanic Black	9	--	194	17.3 (10.3, 24.3)
Hispanic	88	--	1,202	6.8 (5.0, 8.7)
Other Non-Hispanic	6	--	86	--
Age Group (years)				
0-4	35	--	539	6.0 (3.2, 8.8)
5-9	34	--	563	9.2 (5.9, 12.5)
10-14	36	--	641	8.1 (5.2, 10.9)
15-17	22	--	463	9.5 (5.5, 13.4)

Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2012.

-- Estimate suppressed for small sample size (if numerator is < 5 or denominator is < 50) or is unreliable because the relative standard error is > 30%, calculated as standard error divided by the mean.

Note: Data for children are based on information provided by an adult respondent about a child living in the home.

Survey question for children: "Has a doctor, nurse or other health professional ever said that the child has asthma?" and "Does the child still have asthma?"

Numerator: Respondents who answered "Yes" to the previous survey questions.

Denominator: All respondents excluding refusals and unknowns.

Interpretations for Table 1:

- According to the Texas Behavioral Risk Factor Surveillance System (BRFSS), the prevalence of current asthma among children was 9.0 percent (95% Confidence Interval (CI): 3.8-14.2) in Bexar County and was 7.8 percent (95% CI: 6.3-9.2) in Texas in 2012. There was not a significant difference between Bexar County and Texas.
- Among children in Texas, there was not a significant difference in asthma prevalence between boys and girls.
- In Texas, asthma prevalence among children was significantly higher among non-Hispanic blacks compared to non-Hispanic whites and Hispanics, 17.3 percent (95% CI: 10.3-24.3) versus 6.6 percent (95% CI: 4.6-8.5) and 6.8 percent (95% CI: 5.0-8.7), respectively.
- There were no significant differences in asthma prevalence by age group among children in Texas.

Table 2. Current Asthma Prevalence Among Adults (18+ years) in Bexar County and Texas, 2012

Characteristics	Bexar County		Texas	
	Sample Size	Prevalence (95% CI)	Sample Size	Prevalence (95% CI)
Total	530	5.6 (3.1, 8.0)	9,073	6.8 (6.1, 7.6)
Gender				
Boy	220	--	3,695	5.1 (4.2, 6.0)
Girl	310	6.4 (3.1, 9.7)	5,378	8.5 (7.4, 9.7)
Race/Ethnicity				
Non-Hispanic White	261	5.2 (2.1, 8.3)	5,382	8.1 (7.0, 9.2)
Non-Hispanic Black	32	--	702	9.1 (6.8, 11.4)
Hispanic	209	--	2,572	4.6 (3.4, 5.8)
Other Non-Hispanic	17	--	278	5.7 (2.4, 9.0)
Age Group (years)				
18-29	59	--	1,089	6.2 (4.3, 8.1)
30-44	103	--	1,927	6.1 (4.7, 7.4)
45-64	191	--	3,293	7.8 (6.5, 9.1)
65+	171	--	2,688	7.4 (6.1, 8.7)

Data Source: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2012.

-- Estimate suppressed for small sample size (if numerator is < 5 or denominator is < 50) or is unreliable because the relative standard error is > 30%, calculated as standard error divided by the mean.

Note: Data for children are based on information provided by an adult respondent about a child living in the home.

Survey question for adults: "Have you ever been told by a doctor, nurse or other health professional that you had asthma?" and "Do you still have asthma?"

Numerator: Respondents who answered "Yes" to the previous survey questions.

Denominator: All respondents excluding refusals and unknowns.

Interpretations for Table 2:

- According to the Texas BRFSS, the prevalence of current asthma among adults was 5.6 percent (95% CI: 3.1-8.0) in Bexar County and 6.8 percent (95% CI: 6.1-7.6) in Texas in 2012. There was not a significant difference between Bexar County and Texas.
- Asthma prevalence for adults was significantly higher for females than males in Texas, 8.5 percent (95% CI: 7.4-9.7) versus 5.1 percent (95% CI: 4.2-6.0).
- Among adult Texans, asthma prevalence was significantly higher for non-Hispanic blacks than for Hispanics (4.6 percent; 95% CI: 3.4-5.8 versus 9.1 percent; 95% CI: 6.8-11.4).
- There were no significant differences in asthma prevalence by age group among adults in Texas.

Table 3. Crude and Age-Adjusted Asthma* Hospital Discharge Rates Per 10,000 for Children (0-17 years), Bexar County, Texas, 2011

Demographics	Discharges	Population	Crude Discharge Rate	Age-Adjusted Discharge Rate†	95% Confidence Interval	
					Lower	Upper
Overall Rate	966	438,724	22.0	21.3	20.0	22.7
Gender						
Boy	658	224,363	29.3	28.2	26.1	30.4
Girl	308	214,361	14.4	14.1	12.5	15.7
Race/Ethnicity						
Non-Hispanic White	188	100,152	18.8	18.3	15.7	20.9
Non-Hispanic Black	144	36,625	39.3	41.0	34.3	47.7
Hispanic	585	290,870	20.1	19.2	17.7	20.8
Other Non-Hispanic	49	11,077	44.2	44.2	31.6	56.7
Age (years)						
0-4	434	129,288	33.6	.	32.7	34.4
5-9	337	126,612	26.6	.	25.8	27.4
10-14	164	113,817	14.4	.	13.8	15.0
15-17	31	69,007	4.5	.	4.2	4.8

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

Population Data Source: Center for Health Statistics, Texas Department of State Health Services.

* Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.

† Discharge rates by age group cannot be age-adjusted.

'--' Value suppressed if number of admissions is less than 12.

Results do not include HIV and drug/alcohol use patients.

Table 4. Crude and Age-Adjusted Asthma* Hospital Discharge Rates Per 10,000 for Children (0-17 years), Texas, 2011

Demographics	Discharges	Population	Crude Discharge Rate	Age-Adjusted Discharge Rate†	95% Confidence Interval	
					Lower	Upper
Overall Rate	9,280	6,663,942	13.9	13.4	13.2	13.7
Gender						
Boy	5,957	3,400,887	17.5	16.9	16.5	17.3
Girl	3,322	3,263,055	10.2	9.8	9.5	10.2
Race/Ethnicity						
Non-Hispanic White	2,369	2,418,551	9.8	9.7	9.3	10.1
Non-Hispanic Black	2,559	805,252	31.8	32.1	30.9	33.4
Hispanic	3,646	3,188,151	11.4	10.7	10.3	11.0
Other Non-Hispanic	637	251,988	25.3	24.3	22.4	26.2
Age (years)						
0-4	4,171	2,008,007	20.8	.	20.6	20.9
5-9	3,421	1,894,786	18.1	.	17.9	18.2
10-14	1,385	1,705,351	8.1	.	8.0	8.2
15-17	303	1,055,798	2.9	.	2.8	2.9

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

Population Data Source: Center for Health Statistics, Texas Department of State Health Services.

* Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.

† Discharge rates by age group cannot be age-adjusted.

'--' Value suppressed if number of admissions is less than 12.

Results do not include HIV and drug/alcohol use patients.

Interpretations for Table 3 and 4:

- According to 2011 Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data, the age-adjusted discharge rate for children was 21.3 per 10,000 (95% CI: 20.0-22.7) in Bexar County and 13.4 per 10,000 (95% CI: 13.2-13.7) in Texas. The asthma discharge rate was significantly higher among children in Bexar County than in Texas.
- The age-adjusted asthma discharge rate was significantly higher among boys than girls in Bexar County (28.2 per 10,000 versus 14.1 per 10,000) and in Texas (16.9 per 10,000 versus 9.8 per 10,000).
- In Bexar County the age-adjusted asthma discharge rate was significantly higher among non-Hispanic black and other non-Hispanic children (41.0 per 10,000; 95% CI: 34.3-47.7 and 44.2 per 10,000; 95%CI: 31.6-56.7, respectively) compared to non-Hispanic white and Hispanic children (18.3 per 10,000; 95% CI: 15.7-20.9 and 19.2 per 10,000; 95% CI: 17.7-20.8).
- In Texas, the age-adjusted asthma discharge rate was significantly higher among non-Hispanic black children (32.1 per 10,000; 95% CI: 30.9-33.4) compared to non-Hispanic white (9.7 per 10,000; 95% CI: 9.3-10.1), Hispanic (10.7 per 10,000; 95% CI: 10.3-11.0), and other non-Hispanic children (24.3 per 10,000; 95% CI: 22.4-26.2).
- The asthma discharge rate was significantly higher among children age 0-4 years in both Bexar County (33.6 per 10,000; 95% CI: 32.7-34.4) and in Texas (20.8 per 10,000; 95% CI: 20.6-20.9) compare to all other age groups.
- Among children age 0-4 years, the asthma discharge rate was significantly higher in Bexar County than in Texas.
- The asthma discharge rate among children was lowest among those age 15-17 years in both Bexar County (4.5 per 10,000; 95% CI: 4.2-4.8) and Texas (2.9 per 10,000; 95% CI: 2.8-2.9).

Table 5. Crude and Age-Adjusted Asthma* Hospital Discharge Rates Per 10,000 for Adults (18+ years), Bexar County, Texas, 2011

Demographics	Discharges	Population	Crude Discharge Rate	Age-Adjusted Discharge Rate†	95% Confidence Interval	
					Lower	Upper
Overall Rate	1,038	1,221,965	8.5	9.1	8.5	9.7
Gender						
Male	251	590,185	4.3	4.8	4.2	5.4
Female	787	631,780	12.5	12.8	11.9	13.7
Race/Ethnicity						
Non-Hispanic White	346	373,362	9.3	8.5	7.6	9.4
Non-Hispanic Black	139	99,901	13.9	15.2	12.6	17.8
Hispanic	499	695,658	7.2	8.8	8.0	9.6
Other Non-Hispanic	52	53,044	9.8	12.0	8.6	15.4
Age (years)						
18-24	30	176,590	1.7	.	1.6	1.8
25-34	83	265,362	3.1	.	3.0	3.3
35-44	150	224,452	6.7	.	6.4	6.9
45-64	397	384,726	10.3	.	10	10.6
65+	378	170,835	22.1	.	21.7	22.5

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

Population Data Source: Center for Health Statistics, Texas Department of State Health Services.

* Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.

† Discharge rates by age group cannot be age-adjusted.

'--' Value suppressed if number of admissions is less than 12.

Results do not include HIV and drug/alcohol use patients.

Table 6. Crude and Age-Adjusted Asthma* Hospital Discharge Rates Per 10,000 for Adults (18+ years), Texas, 2011

Demographics	Discharges	Population	Crude Discharge Rate	Age-Adjusted Discharge Rate†	95% Confidence Interval	
					Lower	Upper
Overall Rate	15,125	19,220,057	7.9	8.4	8.3	8.5
Gender						
Male	3,722	9,613,350	3.9	4.4	4.2	4.5
Female	11,403	9,606,707	11.9	12.1	11.9	12.3
Race/Ethnicity						
Non-Hispanic White	7,769	9,049,665	8.6	7.9	7.8	8.1
Non-Hispanic Black	3,239	2,173,561	14.9	16.4	15.8	16.9
Hispanic	3,127	7,031,523	4.4	6.5	6.3	6.8
Other Non-Hispanic	755	965,308	7.8	9.2	8.5	9.9
Age (years)						
18-24	554	2,673,386	2.1	.	2.1	2.1
25-34	1,182	3,988,349	3.0	.	2.9	3.0
35-44	1,784	3,791,888	4.7	.	4.7	4.8
45-64	6,276	6,185,264	10.1	.	10.1	10.2
65+	5,329	2,581,170	20.6	.	20.6	20.7

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2011.

Population Data Source: Center for Health Statistics, Texas Department of State Health Services.

* Hospital records listing ICD-9 codes 493.0 - 493.9 as the principal diagnosis.

† Discharge rates by age group cannot be age-adjusted.

'-' Value suppressed if number of admissions is less than 12.

Results do not include HIV and drug/alcohol use patients.

Interpretations for Table 5 and 6:

- According to 2011 THCIC Inpatient Hospital Discharge Public Use Data, the age-adjusted discharge rate for adults was 9.1 per 10,000 (95% CI: 8.5-9.7) in Bexar County and 8.4 per 10,000 (95% CI: 8.3-8.5) in Texas. The asthma discharge rate was higher among adults in Bexar County than in Texas.
- The age-adjusted asthma discharge rate was significantly higher among females than males in Bexar County (12.8 per 10,000 versus 4.8 per 10,000) and in Texas (12.1 per 10,000 versus 4.4 per 10,000).
- In Bexar County the age-adjusted asthma discharge rate was significantly higher among non-Hispanic black and other non-Hispanic adults (15.2 per 10,000; 95% CI: 12.6-17.8 and 12.0 per 10,000; 95% CI: 8.6-15.4, respectively) compared to non-Hispanic white and Hispanic adults (8.5 per 10,000; 95% CI: 7.6-9.4 and 8.8 per 10,000; 95% CI: 8.0-9.6).
- In Texas, the age-adjusted asthma discharge rate was significantly higher among non-Hispanic black adults (16.4 per 10,000; 95% CI: 15.8-16.9) compared to non-Hispanic white (7.9 per 10,000; 95% CI: 7.8-8.1), Hispanic (6.5 per 10,000; 95% CI: 6.3-6.8), and other non-Hispanic adults (9.2 per 10,000; 95% CI: 8.5-9.9).

- The asthma discharge rate was significantly higher among adults age 65 years and older in both Bexar County (22.1 per 10,000; 95% CI: 21.7-22.5) and in Texas (20.6 per 10,000; 95% CI: 20.6-20.7) compare to all other age groups.
- The asthma discharge rate among adults was lowest among those age 18-24 years in both Bexar County (1.7 per 10,000; 95% CI: 1.6-1.8) and Texas (2.1 per 10,000; 95% CI: 2.1-2.1).

Limitations of the data used in this report:

BRFSS Prevalence Data

- Prevalence estimates from BRFSS may underestimate the true prevalence of asthma among children and adults because the survey does not identify undiagnosed cases of asthma.
- For Bexar County, prevalence estimates could not be reported by demographic variables for children and by most demographic variables for adults due to small sample size (numerator less than 5 or denominator less than 50) or large relative standard error (greater than 30%).
- Due to the improvements in BRFSS sampling methodology and a change in weighting procedures used for the survey data, 2011 BRFSS data cannot be compared to survey data from previous years, such as combined 2007-2010 BRFSS, in order to assess trends. Shifts in prevalence estimates for 2011 might not represent trends in prevalence in the population but instead merely reflect improved methods of measuring disease and risk factors.

Hospitalization Data

- Hospitalization data are based on inpatient hospitalization and do not include emergency department (ED) visits which did not result in hospital admission. By not including these ED asthma visits, the burden of serious asthma episodes is not fully captured.
- The Texas Hospital Inpatient Discharge Public Use Data represent the number of inpatient hospitalizations. Since the data have been de-identified and an individual can be hospitalized more than once for the same condition during the data collection period, multiple hospitalizations for the same individual and the same diagnosis cannot be distinguished.
- Texas Hospital Inpatient Discharge Public Use Data is not a complete source of information on asthma-related discharges because some hospitals in Texas are exempt from reporting requirements. This may result in an underestimation of the number of related discharges.
- Incidence rates and patterns of newly diagnosed asthma cases are not captured by the data in this report. Using hospitalization data, we cannot determine if a hospitalization serves as an initial diagnosis of asthma.
- The Texas Hospital Inpatient Discharge Public Use Data results do not include HIV and drug/alcohol use patients.