

**Childhood and Adult Asthma Prevalence, and Hospitalization and Mortality Rates Due to Asthma
in Galveston County, Texas, 2003-2010**

Data Requested by

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Executive Summary

Asthma is a significant public health issue in the United States and Texas. The burden of asthma in Texas varies by demographic factors such as sex, race/ethnicity, and age; and geographic area such as Public Health Region (PHR) and county. This report focuses on the burden of asthma in Galveston County from 2003 to 2010, compared to PHR 6 and Texas. The appendix includes population demographics for Galveston County, 2006-2010; a list of counties in PHR 6, and a map of PHRs in Texas.

- According to the 2007-2010 Texas BRFSS, in Galveston County an estimated 10.0 percent of children currently had asthma and an estimated 17.0 percent had ever been diagnosed with asthma (lifetime asthma). These were not significantly different than estimates for PHR 6 or Texas.
- For years 2007-2010, an estimated 5.4 percent of adults in Galveston County currently had asthma and an estimated 10.8 percent had ever been diagnosed with asthma. These were not significantly different than estimates for PHR 6 or Texas.
- In Galveston County from 2006 to 2010, the overall age-adjusted hospitalization rate (AAHR) for asthma decreased each year, from 14.1 to 11.5 per 10,000 persons per year. In 2006, 2007, and 2008, the AAHR for asthma in Galveston County was significantly higher than the state rate.
- Each year from 2006 through 2010, the AAHR for asthma in Galveston County was significantly higher for females compared to males. The crude hospitalization rate for asthma for females was highest during 2006 at 16.5 per 10,000 persons and lowest during 2010 at 15.2 per 10,000 persons.
- Each year from 2006 through 2010, the AAHR for asthma in Galveston County was significantly higher for Black, non-Hispanics (NH) compared to White, NH and Hispanics. Among Black, NH, the crude hospitalization rate for asthma was highest in 2006 at 35.0 per 10,000 persons and lowest in 2010 at 26.6 per 10,000 persons.
- Each year from 2006 through 2010, the asthma hospitalization rate in Galveston County was significantly higher among 0-4 year olds compared to all other age groups in Galveston County and compared to 0-4 year olds in Texas. The hospitalization rate for 0-4 year olds was highest in 2006 at a rate of 48.9 per 10,000 persons and lowest in 2010 at 33.0 per 10,000 persons.
- From 2003 to 2010, the crude mortality rate for asthma in Galveston County was 1.0 per 100,000 persons over 8 years, and was not significantly higher than the asthma mortality rate in PHR 6 or Texas.

While not inclusive of all data sources or demographic populations, especially due to small sample sizes for prevalence data, this report does provide insight into specific populations in Galveston County which may be more heavily burdened by asthma.

Child and Adult Asthma Prevalence in Galveston County, Public Health Region 6, and Texas, 2007-2010

Table 1. Current and Lifetime Asthma among Children (0-17 years old) in Galveston County, Public Health Region 6, and Texas, 2007-2010

Geographic Location	Current Asthma					Lifetime Asthma				
	Sample Size	Prevalence (%)	Standard Error	95% Confidence Interval (CI)		Sample Size	Prevalence (%)	Standard Error	95% CI	
				Lower Limit	Upper Limit				Lower Limit	Upper Limit
Galveston County	66	10.0	4.2	1.7	18.2	67	17.0	5.1	7.0	27.1
Public Health Region 6	2,356	6.8	0.7	5.4	8.2	2,372	12.0	0.9	10.2	13.7
Texas	14,403	8.5	0.4	7.8	9.2	14,459	13.2	0.4	12.3	14.0

Data Source: Texas Behavioral Risk Factor Surveillance System, 2007-2010, Center for Health Statistics, Texas Department of State Health Services.

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

Current Asthma

Survey questions: “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.

Lifetime Asthma

Survey question: “Has a doctor, nurse or other health professional ever said that the child has asthma?”

Numerator: Respondents who answered “Yes” to the previous survey question.

Denominator: All respondents excluding refusals and unknowns.

Interpretation for Table 1:

- According to the 2007-2010 Texas BRFSS, in Galveston County an estimated 10.0 percent (95% CI: 1.7-18.2) of children currently had asthma and an estimated 17.0 percent (95% CI: 7.0-27.1) had ever been diagnosed with asthma (lifetime asthma), neither of which were significantly higher than the prevalence of asthma among children in PHR 6 or Texas.
- The prevalence of current asthma was 6.8 percent among children in PHR 6 and 8.5 percent among children in Texas.

Table 2. Current and Lifetime Asthma among Adults in Galveston County, Public Health Region 6, and Texas, 2007-2010

Geographic Location	Current Asthma					Lifetime Asthma				
	Sample Size	Prevalence (%)	Standard Error	95% CI		Sample Size	Prevalence (%)	Standard Error	95% CI	
				Lower Limit	Upper Limit				Lower Limit	Upper Limit
Galveston County	308	5.4	1.6	2.4	8.4	39	10.8	2.2	6.4	15.1
Public Health Region 6	8,002	6.0	0.3	5.3	6.7	8,035	11.4	0.5	10.4	12.4
Texas	57,265	7.3	0.2	7.0	7.7	57,507	12.5	0.3	12.0	13.0

Data Source: Texas Behavioral Risk Factor Surveillance System, 2007-2010, Center for Health Statistics, Texas Department of State Health Services.

Current Asthma

Survey questions: “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.

Lifetime Asthma

Survey question: “Have you ever been told by a doctor, nurse, or other health professional that you had asthma?”

Numerator: Respondents who answered “Yes” to the previous survey question.

Denominator: All respondents excluding refusals and unknowns.

Interpretation for Table 2:

- According to the 2007-2010 Texas BRFSS, an estimated 5.4 percent (95% CI: 2.4-8.4) of adults in Galveston County currently had asthma and an estimated 10.8 (95% CI: 6.4-15.1) percent had ever been diagnosed with asthma (lifetime asthma), neither of which were significantly lower than the prevalence of asthma among adults in PHR 6 or Texas.
- The prevalence of current asthma among adults in PHR 6 (6.0 percent; 95% CI: 5.3-6.7) was significantly lower than among adults in Texas (7.3 percent; 95% CI: 7.0-7.7).

Crude and Age-Adjusted Hospitalization Rates for Asthma, Galveston County, Texas, 2006-2010

Table 3. Crude and Age-Adjusted Hospitalization Rates per 10,000 persons for Asthma, Galveston County and Texas, 2010

Demographics	Galveston County						Texas					
	Admissions	Population	Crude	AAHR	95% CI		Admissions	Population	Crude	AAHR	95% CI	
					Lower	Upper					Lower	Upper
Total	334	291,309	11.5	11.5	10.2	12.7	25,587	25,145,561	10.2	10.4	10.3	10.6
Sex												
Male	110	144,234	7.6	7.7	6.3	9.2	9,808	12,472,280	7.9	7.9	7.7	8.0
Female	224	147,075	15.2	14.9	13.0	16.9	15,750	12,673,281	12.4	12.7	12.5	12.9
Race/Ethnicity												
White, non-Hispanic	167	174,950	9.5	9.4	7.9	10.8	10,831	11,562,682	9.4	9.1	8.9	9.2
Black, non-Hispanic	108	40,594	26.6	26.5	21.5	31.5	5,815	3,003,149	19.4	20.4	19.9	21.0
Hispanic	49	65,270	7.5	6.9	4.9	9.0	7,464	9,460,921	7.9	8.6	8.4	8.9
Other, non-Hispanic	12	10,495	11.4	12.5	5.3	19.8	1,304	1,118,809	11.7	13.6	12.8	14.3
Age Group (years)												
0-4	66	19,979	33.0	-	32.5	33.6	4,326	1,928,473	22.4	-	22.4	22.5
5-9	31	20,559	15.1	-	14.7	15.5	3,182	1,928,234	16.5	-	16.5	16.5
10-14	15	20,821	7.2	-	6.9	7.5	1,419	1,881,883	7.5	-	7.5	7.6
15-34	33	76,071	4.3	-	3.9	4.7	2,264	7,313,676	3.1	-	3.1	3.1
35-64	135	121,075	11.2	-	10.4	11.9	8,614	9,491,409	9.1	-	9.0	9.1
65+	54	32,804	16.5	-	15.9	17.0	5,782	2,601,886	22.2	-	22.1	22.3

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2010, Center for Health Statistics, Texas Department of State Health Services.

Population Data Source: 2010 Census data, Center for Health Statistics, Texas Department of State Health Services.

AAHR = Age-Adjusted Hospitalization Rate.

'-' Indicates hospitalization rates by age group cannot be age-adjusted.

Notes: Total hospitalization rates, and rates by sex and race/ethnicity are age-adjusted to the 2000 U.S. Census population.

Numerator = Number of hospital admissions with a principal diagnosis of asthma (ICD-9: 493.0-493.9).

Denominator = 2010 Population of Galveston County or Texas.

Interpretation for Table 3:

- In 2010, the AAHR for asthma in Galveston County was 11.5 per 10,000 persons which was not significantly higher than the state rate of 10.4 per 10,000 persons. The crude asthma hospitalization rate was 11.5 per 10,000 person in Galveston County and 10.2 per 10,000 persons in Texas.
- In Galveston County, females had a significantly higher AAHR for asthma (14.9 per 10,000 persons; 95% CI: 13.0-16.9) compared to males (7.7 per 10,000 persons; 95% CI: 6.3-9.2), and compared to the state rate for females (12.7 per 10,000 persons; 95% CI: 12.5-12.9).
- In Galveston County, black, non-Hispanic (NH) had the highest AAHR for asthma at 26.5 per 10,000 persons (95% CI: 21.5-31.5) compared to white, NH (9.4 per 10,000 persons; 95% CI: 7.9-10.8), Hispanic (6.9 per 10,000 persons; 95% CI: 4.9-9.0), and other, NH (12.5 per 10,000 persons; 95% CI: 5.3-19.8), and compared to black, NH in Texas (20.4 per 10,000 persons; 95% CI: 19.9-21.0).
- In Galveston County, children aged 0-4 years had the highest asthma hospitalization rate at 33.0 per 10,000 persons (95% CI: 32.5-33.6) compared to all other age groups, and which was at least double the rate for all other age groups.
- The asthma hospitalization rate for children aged 0-4 years in Galveston County was significantly higher than the state rate for children of the same age (22.4 per 10,000 persons; 95% CI: 22.4-22.5).
- In Galveston County, adults age 65 years and over had the second highest asthma hospitalization rate at 16.5 per 10,000 persons (95% CI: 15.9-17.0) compared to other age groups, but was significantly lower than the state rate for adults of the same age group (22.2 per 10,000 persons; 95% CI: 22.1-22.3).

Table 4. Crude and Age-Adjusted Hospitalization Rates per 10,000 persons for Asthma, Galveston County and Texas, 2009

Demographics	Galveston County						Texas					
	Admissions	Population Size	Crude Rate	AAHR	95% CI		Admissions	Population Size	Crude Rate	AAHR	95% CI	
					Lower Limit	Upper Limit					Lower Limit	Upper Limit
Total	367	287,964	12.7	12.8	11.5	14.1	28,044	24,782,302	11.3	11.6	11.5	11.8
Sex												
Male	141	141,751	9.9	10.0	8.3	11.7	11,416	12,431,061	9.2	9.2	9.1	9.4
Female	226	146,213	15.5	15.2	13.2	17.2	16,607	12,351,241	13.4	13.7	13.5	13.9
Race/Ethnicity												
White, non-Hispanic	178	166,350	10.7	10.6	9.0	12.1	12,400	11,362,445	10.9	10.8	10.6	10.9
Black, non-Hispanic	121	42,737	28.3	28.6	23.4	33.7	6,369	2,862,310	22.3	23.2	22.7	23.8
Hispanic	48	67,313	7.1	7.3	5.0	9.6	7,582	9,461,097	8.0	8.6	8.4	8.9
Other, non-Hispanic	21	11,564	18.2	20.3	11.6	29.1	1,457	1,096,450	13.3	15.0	14.2	15.8
Age Group (years)												
0-4	88	20,479	43.0	-	42.4	43.6	5,430	1,948,201	27.9	-	27.8	27.9
5-9	39	19,313	20.2	-	19.7	20.7	3,935	1,794,787	21.9	-	21.9	22.0
10-14	*	18,480	*	-	*	*	1,638	1,706,081	9.6	-	9.6	9.6
15-34	28	79,826	3.5	-	3.2	3.9	2,609	7,506,007	3.5	-	3.4	3.5
35-64	132	116,589	11.3	-	10.6	12.1	9,029	9,353,437	9.7	-	9.6	9.7
65+	72	33,277	21.6	-	21.0	22.3	5,403	2,473,789	21.8	-	21.8	21.9

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2009.

Population Data Source: 2009 population estimate data, Center for Health Statistics, Texas Department of State Health Services.

AAHR = Age-Adjusted Hospitalization Rate.

'-' Indicates hospitalization rates by age group cannot be age-adjusted.

'**' Indicates fewer than 12 asthma hospitalizations. Sample size is too small to be statistically valid.

Notes: Total hospitalization rates, and rates by sex and race/ethnicity are age-adjusted to the 2000 U.S. Census population.

Numerator = Number of hospital admissions with a principal diagnosis of asthma (ICD-9: 493.0-493.9).

Denominator = 2009 population estimate of Galveston County or Texas.

Interpretation for Table 4:

- In 2009, the AAHR due to asthma in Galveston County was 12.8 per 10,000 persons which was not significantly higher than the state rate of 11.6 per 10,000 persons. The crude asthma hospitalization rate was 12.7 per 10,000 persons in Galveston County and 11.3 per 10,000 persons in Texas.
- In Galveston County, females had a significantly higher AAHR for asthma (15.5 per 10,000 persons; 95% CI: 13.2-17.2) compared to males (10.0 per 10,000 persons; 95% CI: 8.3-11.7).
- In Galveston County, black, NH had a significantly higher AAHR for asthma at 28.6 per 10,000 persons (95% CI: 23.4-33.7) compared to white, NH (10.6 per 10,000 persons; 95% CI: 9.0-12.1), and Hispanic (7.3 per 10,000 persons; 95% CI: 5.0-9.6).
- In Galveston County, children aged 0-4 years had the highest asthma hospitalization rate at 43.0 per 10,000 persons (95% CI: 43.4-43.6) compared to all other age groups, and which was at least double the rate for all other age groups.
- The asthma hospitalization rate for children aged 0-4 years in Galveston County was significantly higher than the state rate for children of the same age (27.9 per 10,000 persons; 95% CI: 27.8-27.9).
- In Galveston County, adults age 65 years and over had the second highest asthma hospitalization rate at 21.6 per 10,000 persons (95% CI: 21.-22.3) compared to other age groups.

Table 5. Crude and Age-Adjusted Hospitalization Rates per 10,000 persons for Asthma, Galveston County and Texas, 2008

Demographics	Galveston County						Texas					
	Admissions	Population Size	Crude Rate	AAHR	95% CI		Admissions	Population Size	Crude Rate	AAHR	95% CI	
					Lower Limit	Upper Limit					Lower Limit	Upper Limit
Total	370	288,154	12.8	13.0	11.7	14.3	26,062	24,326,974	10.7	11.1	11.0	11.3
Sex												
Male	134	141,774	9.5	9.7	8.0	11.3	10,238	12,189,967	8.4	8.6	8.4	8.7
Female	236	146,380	16.1	15.9	13.9	17.9	15,822	12,137,007	13.0	13.4	13.2	13.6
Race/Ethnicity												
White, non-Hispanic	189	168,459	11.2	10.8	9.3	12.4	11,774	11,342,864	10.4	10.1	10.0	10.3
Black, non-Hispanic	118	43,065	27.4	28.2	23.1	33.4	5,847	2,823,460	20.7	22.0	21.4	22.5
Hispanic	52	65,522	7.9	8.4	5.9	11.0	6,924	9,116,768	7.6	8.6	8.3	8.8
Other, non-Hispanic	17	11,108	15.3	16.6	8.6	24.6	1,358	1,043,882	13.0	14.9	14.1	15.8
Age Group (years)												
0-4	69	20,581	33.5	-	33.0	34.1	5,024	1,927,981	26.1	-	26.0	26.1
5-9	30	19,150	15.7	-	15.3	16.1	3,064	1,746,831	17.5	-	17.5	17.6
10-14	*	18,952	*	-	*	*	1,427	1,709,339	8.3	-	8.3	8.4
15-34	29	79,272	3.7	-	3.3	4.0	2,253	7,367,118	3.1	-	3.0	3.1
35-64	134	117,373	11.4	-	10.7	12.2	8,556	9,170,535	9.3	-	9.3	9.4
65+	100	32,826	30.5	-	29.7	31.2	5,738	2,405,170	23.9	-	23.8	23.9

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2008.

Population Data Source: 2008 population estimate data, Center for Health Statistics, Texas Department of State Health Services.

AAHR = Age-Adjusted Hospitalization Rate.

'-' Indicates hospitalization rates by age group cannot be age-adjusted.

'*' Indicates fewer than 12 asthma hospitalizations. Sample size is too small to be statistically valid.

Notes: Total hospitalization rates, and rates by sex and race/ethnicity are age-adjusted to the 2000 U.S. Census population.

Numerator = Number of hospital admissions with a principal diagnosis of asthma (ICD-9: 493.0-493.9).

Denominator = 2008 population estimate of Galveston County or Texas.

Interpretation for Table 5:

- In 2008, the AAHR due to asthma in Galveston County was 13.0 per 10,000 persons (95% CI: 11.7-14.3) and was significantly higher than the state rate of 11.1 per 10,000 persons (95% CI: 11.0-11.3). The crude asthma hospitalization rate was 12.8 per 10,000 persons in Galveston County and 10.7 per 10,000 persons in Texas.
- In Galveston County, females had a significantly higher AAHR for asthma (15.9 per 10,000 persons; 95% CI: 13.9-17.9) compared to males (9.7 per 10,000 persons; 95% CI: 8.0-11.3).
- In Galveston County, black, NH had a significantly higher AAHR for asthma at 28.2 per 10,000 persons (95% CI: 23.1-33.4) compared to white, NH (10.8 per 10,000 persons; 95% CI: 9.3-12.4), and Hispanic (8.4 per 10,000 persons; 95% CI: 5.9-11.0).
- Among black, NH, the AAHR for asthma was significantly higher in Galveston County (28.2 per 10,000 persons; 95% CI: 23.1-33.4) compared to the state (22.0 per 10,000 persons; 95% CI: 21.4-22.5).
- In Galveston County, children aged 0-4 years had the highest asthma hospitalization rate at 33.5 per 10,000 persons (95% CI: 33.0-34.1) compared to all other age groups.
- The asthma hospitalization rate for children aged 0-4 years in Galveston County was significantly higher than the state rate for children of the same age (26.1 per 10,000 persons; 95% CI: 26.0-26.1).
- In Galveston County, adults age 65 years and over had the second highest asthma hospitalization rate (30.5 per 10,000 persons; 95% CI: 29.7-31.2) compared to other age groups, and was also significantly higher than the state rate for adults of the same age group (23.9 per 10,000 persons; 95% CI: 23.8-23.9).

Table 6. Crude and Age-Adjusted Hospitalization Rates per 10,000 persons for Asthma, Galveston County and Texas, 2007

Demographics	Galveston County						Texas					
	Admissions	Population	Crude	AAHR	95% CI		Admissions	Population	Crude	AAHR	95% CI	
					Lower	Upper					Lower	Upper
Total	383	285,393	13.4	13.5	12.2	14.9	26,764	23,904,380	11.2	11.5	11.4	11.7
Sex												
Male	152	140,350	10.8	11.0	9.3	12.8	10,899	11,964,630	9.1	9.1	8.9	9.3
Female	231	145,043	15.9	15.7	13.6	17.7	15,863	11,939,750	13.3	13.6	13.4	13.8
Race/Ethnicity												
White, non-Hispanic	178	169,005	10.5	10.3	8.8	11.9	11,487	11,337,714	10.1	10.0	9.8	10.2
Black, non-Hispanic	137	42,838	32.0	32.3	26.9	37.8	6,108	2,782,876	21.9	23.0	22.4	23.6
Hispanic	52	63,009	8.3	9.1	6.4	11.9	7,682	8,791,986	8.7	9.5	9.2	9.7
Other, non-Hispanic	13	10,541	12.3	13.6	6.1	21.0	1,373	991,804	13.8	15.7	14.8	16.6
Age Group (years)												
0-4	77	20,453	37.6	-	37.1	38.2	5,735	1,906,500	30.1	-	30.0	30.1
5-9	35	18,897	18.5	-	18.1	19.0	3,426	1,704,137	20.1	-	20.1	20.2
10-14	12	19,299	6.2	-	6.0	6.5	1,522	1,721,492	8.8	-	8.8	8.9
15-34	30	77,837	3.9	-	3.5	4.2	2,416	7,233,375	3.3	-	3.3	3.4
35-64	149	116,791	12.8	-	12.0	13.5	8,437	8,991,880	9.4	-	9.3	9.5
65+	80	32,116	24.9	-	24.2	25.6	5,228	2,346,996	22.3	-	22.2	22.4

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2007.

Population Data Source: 2007 population estimate data, Center for Health Statistics, Texas Department of State Health Services.

AAHR = Age-Adjusted Hospitalization Rate.

'-' Indicates hospitalization rates by age group cannot be age-adjusted.

Note: Total hospitalization rates, and rates by sex and race/ethnicity are age-adjusted to the 2000 U.S. Census population.

Numerator = Number of hospital admissions with a principal diagnosis of asthma (ICD-9: 493.0-493.9).

Denominator = 2007 population estimate of Galveston County or Texas.

Interpretation for Table 6:

- In 2007, the AAHR due to asthma in Galveston County was 13.5 per 10,000 persons (95% CI: 12.2-14.9) and was significantly higher than the state rate of 11.5 per 10,000 persons (95% CI: 11.4-11.7). The crude asthma hospitalization rate was 13.4 per 10,000 persons in Galveston County and 11.2 per 10,000 persons in Texas.
- In Galveston County, females had a significantly higher AAHR for asthma (15.7 per 10,000 persons; 95% CI: 13.6-17.7) compared to males (11.0 per 10,000 persons; 95% CI: 9.3-12.8).
- In Galveston County, black, NH had a significantly higher AAHR for asthma at 32.3 per 10,000 persons (95% CI: 26.9-37.8) compared to white, NH (10.3 per 10,000 persons; 95% CI: 8.8-11.9), Hispanic (9.1 per 10,000 persons; 95% CI: 6.4-11.9), and other, NH (13.6 per 10,000; 95% CI: 6.1-21.0).
- Among black NH, the AAHR for asthma was significantly higher in Galveston County (32.3 per 10,000 persons; 95% CI: 26.9-37.84) compared to the state (23.0 per 10,000 persons; 95% CI: 22.4-23.6).
- In Galveston County, children aged 0-4 years had the highest asthma hospitalization rate at 37.6 per 10,000 persons (95% CI: 37.1-38.2) compared to all other age groups.
- The asthma hospitalization rate for children aged 0-4 years in Galveston County was significantly higher than the state rate for children of the same age (30.1 per 10,000 persons; 95% CI: 30.0-30.1).
- In Galveston County, adults age 65 years and over had the second highest asthma hospitalization rate at 24.9 per 10,000 persons (95% CI: 24.2-25.6) compared to other age groups, and was also significantly higher than the state rate for adults of the same age group (22.3 per 10,000 persons; 95% CI: 22.2-22.4).

Table 7. Crude and Age-Adjusted Hospitalization Rates per 10,000 persons for Asthma, Galveston County and Texas, 2006

Demographics	Galveston County						Texas					
	Admissions	Population	Crude	AAHR	95% CI		Admissions	Population	Crude	AAHR	95% CI	
					Lower	Upper					Lower	Upper
Total	393	282,126	13.9	14.1	12.7	15.5	26,729	23,507,783	11.4	11.7	11.6	11.8
Sex												
Male	157	138,709	11.3	11.4	9.6	13.2	11,127	11,753,216	9.5	9.5	9.3	9.6
Female	236	143,417	16.5	16.4	14.3	18.4	15,596	11,754,567	13.3	13.6	13.4	13.8
Race/Ethnicity												
White, non-Hispanic	164	169,016	9.7	9.8	8.2	11.3	11,272	11,327,372	10.0	9.9	9.7	10.1
Black, non-Hispanic	149	42,551	35.0	34.9	29.2	40.5	6,352	2,749,183	23.1	24.1	23.5	24.7
Hispanic	68	60,562	11.2	12.8	9.4	16.3	7,491	8,487,104	8.8	9.4	9.2	9.7
Other, non-Hispanic	20	9,997	20.0	22.0	12.2	31.9	1,496	944,124	15.8	18.3	17.3	19.3
Age Group (years)												
0-4	99	20,253	48.9	-	48.2	49.5	5,824	1,881,855	30.9	-	30.9	31.0
5-9	47	18,563	25.3	-	24.8	25.8	3,934	1,669,732	23.6	-	23.5	23.6
10-14	13	19,800	6.6	-	6.3	6.8	1,550	1,735,753	8.9	-	8.9	9.0
15-34	21	76,335	2.8	-	2.4	3.1	2,393	7,116,084	3.4	-	3.3	3.4
35-64	132	115,774	11.4	-	10.7	12.1	7,884	8,804,963	9.0	-	8.9	9.0
65+	81	31,401	25.8	-	25.1	26.5	5,144	2,299,396	22.4	-	22.3	22.4

Data Source: Texas Health Care Information Collection (THCIC), Inpatient Hospital Discharge Public Use Data File, 2006.

Population Data Source: 2006 population estimate data, Center for Health Statistics, Texas Department of State Health Services.

AAHR = Age-Adjusted Hospitalization Rate.

'-' Indicates hospitalization rates by age group cannot be age-adjusted.

Note: Total hospitalization rates, and rates by sex and race/ethnicity are age-adjusted to the 2000 U.S. Census population.

Numerator = Number of hospital admissions with a principal diagnosis of asthma (ICD-9: 493.0-493.9).

Denominator = 2006 population estimate of Galveston County or Texas.

Interpretation for Table 7:

- In 2006, the AAHR due to asthma in Galveston County was 14.1 per 10,000 persons (95% CI: 12.7-15.5) and was significantly higher than the state rate of 11.7 per 10,000 persons (95% CI: 11.6-11.8). The crude asthma hospitalization rate was 13.9 per 10,000 persons in Galveston County and 11.4 per 10,000 persons in Texas.
- In Galveston County, females had a significantly higher AAHR for asthma (16.4 per 10,000 persons; 95% CI: 14.3-18.4) compared to males (11.4 per 10,000 persons; 95% CI: 9.6-13.2).
- In Galveston County, black, NH had a significantly higher AAHR for asthma at 34.9 per 10,000 persons (95% CI: 29.2-40.5) compared to white, NH (9.8 per 10,000 persons; 95% CI: 8.2-11.3), and Hispanic (12.8 per 10,000 persons; 95% CI: 9.4-16.3).
- Among black NH, the AAHR for asthma was significantly higher in Galveston County (34.9 per 10,000 persons; 95% CI: 29.2-40.5) compared to the state (23.5 per 10,000 persons; 95% CI: 23.5-24.7).
- In Galveston County, children aged 0-4 years had the highest asthma hospitalization rate at 48.9 per 10,000 persons (95% CI: 48.2-49.5) compared to all other age groups.
- The asthma hospitalization rate for children aged 0-4 years in Galveston County was significantly higher than the state rate for children of the same age (30.9 per 10,000 persons; 95% CI: 30.9-30.1).
- In Galveston County, adults age 65 years and over had the second highest asthma hospitalization rate at 25.8 per 10,000 persons (95% CI: 25.1-26.5) compared to other age groups, and was also significantly higher than the state rate for adults of the same age group (22.4 per 10,000 persons; 95% CI: 22.3-22.4).

Table 8. Crude and Age-Adjusted Mortality Rates per 100,000 persons for Asthma[†], Galveston County, Public

Geographic Location	Number of Deaths	Crude Mortality Rate	95% CI for Crude Rate		AAMR*	95% CI for Age-Adjusted Rate	
			Lower Limit	Upper Limit		Lower Limit	Upper Limit
Galveston County	23	1.0	0.6	1.4	1.1	0.7	1.6
PHR 6	336	0.7	0.7	0.8	0.9	0.8	1.0
Texas	1,765	0.9	0.9	1.0	1.1	1.0	1.1

Data source: Vital Statistics Unit, Center for Health Statistics, 2010, Texas Department of State Health Services.

[†] The coding system used for establishing cause of death is the ICD-10. The ICD-10 codes for asthma as defined by Vital Statistics are J45-J46 (<http://soupin.tdh.state.tx.us/icd10.htm>).

AAMR = Age-Adjusted Mortality Rate.

PHR 6 = Public Health Region 6.

Note: Age-adjusted mortality rates are adjusted to the 2000 U.S. Census population.

Interpretation for Table 8:

- According to the 2003-2010 Texas Vital Statistics Unit, there were 23 asthma deaths in Galveston County. The crude mortality rate was 1.0 per 100,000 persons over 8 years and the age-adjusted mortality rate (AAMR) was 1.1 per 100,000 persons over 8 years, neither of which were significantly higher than the rate in PHR 6 or the state.
- From 2003-2010, there were 336 asthma deaths in PHR 6 with a crude mortality rate of 0.9 per 100,000 persons over 8 years, and 1,765 deaths in Texas with a crude mortality rate of 0.9 per 100,000.

Limitations of the data used in this report:

- Child and adult asthma prevalence estimates for Galveston County by sex, race/ethnicity, and age-group were not available due to small sample size.
- 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.
- Population estimates are used for all years in which Census data, which are collected every 10 years (ex: 2000 and 2010), are not available. Population estimates are difficult to determine and may be inaccurate.
- In Galveston County, asthma hospitalization rates from 2008 and 2009 for children ages 10-14 years were not available due to low number of asthma hospitalizations for this age group.
- The Texas Hospital Inpatient Discharge Public Use Data results do not include HIV and drug/alcohol use patients.
- 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 asthma 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 and rate of related discharges.
- Mortality rates could not be analyzed by sex, race/ethnicity, or age-group due to low number of asthma deaths in Galveston County from 2003 to 2010.
- Asthma mortality rates may be inaccurate due to coding errors. The coding of asthma and other respiratory deaths in the elderly is problematic due to difficulties in diagnosis and the presence of other co-morbid conditions that can lead to coding inaccuracies.
- 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.

Appendix

Population Demographics for Galveston County, Texas, 2006-2010

Table 1A. Population demographics by age-group, sex, and race/ethnicity for Galveston County, Texas, 2006

Age Group (years)	Total	Percent (%)	Sex		Race/Ethnicity			
			Male	Female	White	Black	Hispanic	Other
0-4	20,253	7.2	10,328	9,925	10,180	3,530	5,845	698
5-9	18,563	6.6	9,462	9,101	9,559	3,209	5,227	568
10-14	19,800	7.0	10,070	9,730	10,119	3,540	5,434	707
15-17	13,041	4.6	6,664	6,377	7,165	2,267	3,174	435
18-29	45,740	16.2	23,081	22,659	23,603	7,776	12,939	1,422
30-44	57,879	20.5	28,126	29,753	33,467	7,527	14,125	2,760
45-64	75,449	26.7	37,497	37,952	52,342	10,072	10,473	2,562
65+	31,401	11.1	13,481	17,920	22,581	4,630	3,345	845
Total	282,126	100	138,709	143,417	169,016	42,551	60,562	9,997

Data source: 2006 population estimate data, Texas Center for Health Statistics (CHS), Texas Department of State Health Services.

Table 2A. Population demographics by age-group, sex, and race/ethnicity for Galveston County, Texas, 2007

Age Group (years)	Total	Percent (%)	Sex		Race/Ethnicity			
			Male	Female	White	Black	Hispanic	Other
0-4	20,453	7.2	10,421	10,032	10,128	3,545	6,058	722
5-9	18,897	6.6	9,637	9,260	9,661	3,295	5,348	593
10-14	19,299	6.8	9,785	9,514	9,686	3,397	5,488	728
15-17	13,103	4.6	6,686	6,417	7,040	2,288	3,352	423
18-29	46,999	16.5	23,784	23,215	24,065	7,964	13,480	1,490
30-44	57,239	20.1	27,816	29,423	32,283	7,331	14,735	2,890
45-64	77,287	27.1	38,371	38,916	53,117	10,327	11,088	2,755
65+	32,116	11.3	13,850	18,266	23,025	4,691	3,460	940
Total	285,393	100	140,350	145,043	169,005	42,838	63,009	10,541

Data source: 2007 population estimate data, Texas Center for Health Statistics (CHS), Texas Department of State Health Services.

Table 3A. Population demographics by age-group, sex, and race/ethnicity for Galveston County, Texas, 2008

Age Group (years)	Total	Percent (%)	Sex		Race/Ethnicity			
			Male	Female	White	Black	Hispanic	Other
0-4	20,581	7.1	10,494	10,087	9,999	3,551	6,285	746
5-9	19,150	6.6	9,758	9,392	9,682	3,343	5,506	619
10-14	18,952	6.6	9,625	9,327	9,440	3,242	5,529	741
15-17	12,963	4.5	6,597	6,366	6,695	2,332	3,504	432
18-29	48,426	16.8	24,566	23,860	24,589	8,165	14,123	1,549
30-44	56,534	19.6	27,430	29,104	31,134	7,161	15,261	2,978
45-64	78,722	27.3	39,069	39,653	53,475	10,535	11,716	2,996
65+	32,826	11.4	14,235	18,591	23,445	4,736	3,598	1,047
Total	288,154	100	141,774	146,380	168,459	43,065	65,522	11,108

Data source: 2008 population estimate data, Texas Center for Health Statistics (CHS), Texas Department of State Health Services.

Table 4A. Population demographics by age-group, sex, and race/ethnicity for Galveston County, Texas, 2009

Age Group (years)	Total	Percent (%)	Sex		Race/Ethnicity			
			Male	Female	White	Black	Hispanic	Other
0-4	20,479	7.1	10,431	10,048	9,806	3,491	6,437	745
5-9	19,313	6.7	9,830	9,483	9,651	3,392	5,627	643
10-14	18,480	6.4	9,378	9,102	9,110	3,116	5,525	729
15-17	12,592	4.4	6,437	6,155	6,285	2,260	3,588	459
18-29	49,061	17	24,973	24,088	24,668	8,178	14,606	1,609
30-44	55,653	19.3	26,979	28,674	29,967	6,969	15,675	3,042
45-64	79,109	27.5	39,235	39,874	53,101	10,614	12,203	3,191
65+	33,277	11.6	14,488	18,789	23,762	4,717	3,652	1,146
Total	287,964	100	141,751	146,213	166,350	42,737	67,313	11,564

Data source: 2009 population estimate data, Texas Center for Health Statistics (CHS), Texas Department of State Health Services.

Table 5A. Population demographics by age-group, sex, and race/ethnicity for Galveston County, Texas, 2010

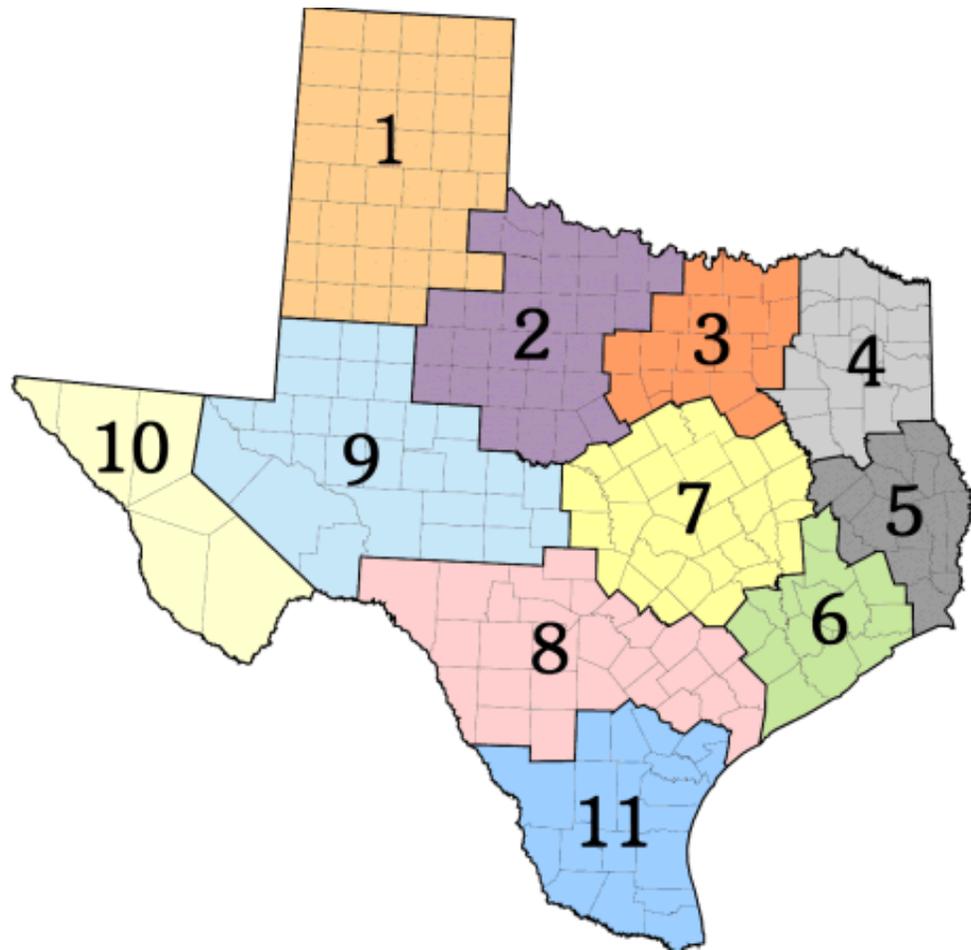
Age Group (years)	Total	Percent (%)	Sex		Race/Ethnicity			
			Male	Female	White	Black	Hispanic	Other
0-4	19,979	6.9	10,201	9,778	9,607	3,133	6,550	689
5-9	20,559	7.1	10,488	10,071	10,300	3,120	6,391	748
10-14	20,821	7.1	10,693	10,128	10,840	3,164	6,060	757
15-17	12,808	4.4	6,539	6,269	6,717	2,030	3,620	441
18-29	44,361	15.2	22,506	21,855	24,006	6,576	12,136	1,643
30-44	58,108	19.9	28,551	29,557	33,519	7,477	14,479	2,633
45-64	81,869	28.1	40,662	41,207	56,049	10,755	12,295	2,770
65+	32,804	11.3	14,594	18,210	23,912	4,339	3,739	814
Total	291,309	100	144,234	147,075	174,950	40,594	65,270	10,495

Data source: 2010 Texas Census data, Texas Center for Health Statistics (CHS), Texas Department of State Health Services.

Table 6A. List of counties serviced by Public Health Region 6

Public Health Region 6	Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller, Wharton
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Figure 1A. Map of Public Health Regions, Texas



http://www.hhs.state.tx.us/aboutHHS/HHS_Regions.shtml#01