

# **Asthma Data Brief - Comparison of Hospital Healthcare Utilization across Selected Geographic Designations**

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Jewel Mullen, M.D., M.P.H., M.P.A.  
Commissioner

Prepared by:  
Justin Peng, MPH  
*Supervising Epidemiologist*

Ava Nepaul, MA, MPH, CPH  
*Epidemiologist*

Epidemiology Unit  
Community Health and Prevention Section  
Public Health Initiatives Branch

## Introduction

Connecticut is one of the wealthiest states in the nation, but the residents of its five largest cities – Bridgeport, Hartford, New Haven, Stamford, and Waterbury – live in some of the most severe and concentrated pockets of poverty in the United States. These residents also experience disproportionately higher rates of asthma hospitalization and emergency department (ED) visit rates and charges.

This asthma data brief describes the burden of asthma in Connecticut by providing information on asthma healthcare utilization in hospital settings. It provides statistical information on hospitalization rates, ED rates, and hospital healthcare charges by sex, age, and race/ethnicity. It also provides information on excess asthma hospital healthcare charges among minority populations (non-Hispanic blacks, Hispanics, and non-Hispanic others) if their hospitalization and ED visit rates were equivalent to that of the non-Hispanic white population. All statistics are provided by rural classification, county, and the five largest cities. The description of the key findings below focuses on the five largest cities in Connecticut.

## Key Findings

- Combined, the five largest cities in Connecticut make up 17.5% of the total state population; however, their residents accounted for:
  - 40.1% of all asthma hospitalizations in 2009 (an increase from 37.2% in 2005);
  - 39.8% of all asthma ED visits in 2009 (an increase from 36.8% in 2005); and
  - 41.1% of all asthma hospital healthcare charges in 2009 (an increase from 38.0% in 2005).
- Between 2005 – 2009, residents of the five largest cities were about three times more likely to be hospitalized (31.6 per 10,000 population vs. 10.1 per 10,000 population) or visit an ED (139.3 per 10,000 population vs. 50.2 per 10,000 population) for their asthma when compared to residents from the rest of Connecticut.
- There were clear differences in the rates of hospitalization and ED visits due to asthma by sex, age group, and race/ethnicity. These differences were still present after controlling for place of residence (i.e., one of the five largest cities or the rest of Connecticut). Children, adult women, Hispanics, and non-Hispanic blacks experienced higher rates of asthma morbidity in the five largest cities.

- In 2009, asthma hospital healthcare charges for residents of the five largest cities totaled \$46 million (\$32 million on hospitalization charges and \$14 million on ED visit charges).
- Among residents of the five largest cities, for every \$100 of asthma hospital healthcare charges, \$79 was charged to a public payer (Medicaid or Medicare). In comparison, for residents of the rest of the state, \$64 was charged to public funds for every \$100 of asthma hospital healthcare charges.
- If Connecticut minority populations (non-Hispanic blacks, Hispanics, and non-Hispanic others) in the five largest cities experienced the same asthma hospitalization and ED visit rates as their non-Hispanic white counterparts, approximately \$23 million or 50% of the asthma hospital healthcare charges could potentially be prevented<sup>1</sup>.

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<sup>1</sup> Potentially preventable hospital healthcare charges, excess charges, were calculated for events of hospitalization and ED visit as follows: 1) calculate age-adjusted rates by race/ethnicity; 2) calculate incidence rate ratios (IRR) with non-Hispanic Whites as the referent group; 3) calculate percent of excess events by race/ethnicity using the formula  $(IRR-1)/IRR$ ; 4) calculate excess charges for each race/ethnic group by multiplying the total charges by the percent of excess events; and 5) add together excess charges for events.

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**Table 1. Selected Economic and Demographic Characteristics of Connecticut and Its Five Largest Cities (ACS, 2005 - 2009)**

	Bridgeport	Hartford	New Haven	Stamford	Waterbury	Connecticut
Median household income* <sup>a</sup>						
	\$40,530	\$29,190	\$37,823	\$76,134	\$39,832	\$67,721
compared to state median	(\$27,191)	(\$38,531)	(\$29,898)	\$8,413	(\$27,889)	–
Households with income < \$25,000* <sup>b</sup>						
	32.5%	44.6%	35.6%	15.9%	32.3%	17.6%
Median earnings* <sup>c</sup>						
Less than high school graduate	\$22,801	\$16,885	\$21,099	\$18,715	\$23,070	\$23,235
Graduate or professional degree	\$61,914	\$55,972	\$48,328	\$82,504	\$55,147	\$72,705
Unemployment rate (≥ 16 years old) <sup>d</sup>						
Overall	11.7	16.8	10.1	7.9	11.3	6.9
White	10.0	10.4	6.1	6.1	8.9	5.7
Black or African American	14.3	19.0	14.9	13.6	16.8	12.9
Asian	8.8	3.7	3.6	5.9	11.1	5.3
Hispanic (of any race)	11.4	21.1	13.9	12.4	13.6	12.2
Population living below the poverty level (%) <sup>e</sup>						
Overall	20.0	31.6	24.4	10.2	20.3	8.7
Male	18.7	28.1	23.0	9.1	19.1	7.8
Female	21.3	34.8	25.7	11.2	21.4	9.7
< 18 years old	27.6	42.8	31.8	12.5	32.1	11.7
White	16.9	28.7	21.7	6.9	15.9	6.3
Black or African American	20.6	27.8	24.3	17.3	23.4	18.8
Asian	27.1	20.2	18.8	9.8	18.0	7.5
Hispanic (of any race)	24.8	40.7	35.4	18.4	37.3	24.2

**Table 1. Selected Economic and Demographic Characteristics of Connecticut and Its Five Largest Cities (ACS, 2005 - 2009) (Continued)**

	Bridgeport	Hartford	New Haven	Stamford	Waterbury	Connecticut
Worked full-time, year-round <sup>a*</sup>	2.6	3.9	2.6	2.4	29.6	1.1
Worked part-time or part-year <sup>a*</sup>	19.2	30.5	23.1	12.0	2.2	9.8
Did not work <sup>a*</sup>	35.2	47.9	45.2	19.9	17.9	16.8
Less than high school graduate <sup>b</sup>	26.7	40.0	34.1	21.4	31.5	20.2
Educational attainment, age 25 years or older <sup>f</sup>						
High school graduate or higher	73.0%	67.1%	80.6%	88.1%	79.4%	88.2%
Bachelor's degree or higher	14.4%	13.6%	32.2%	43.5%	16.2%	35.1%
Housing characteristics <sup>g</sup>						
Median value of owner-occupied, mortgaged units	\$245,100	\$186,500	\$228,400	\$584,700	\$164,800	\$305,400
compared to state median	(\$60,300)	(\$118,900)	(\$77,000)	\$279,300	(\$140,600)	—
Residential Segregation <sup>†</sup>						
<i>Dissimilarity index with non-Hispanic Whites<sup>h</sup></i>						
Black, non-Hispanic	0.45	0.60	0.56	0.54	0.38	0.66
Asian, non-Hispanic	0.42	0.42	0.40	0.33	0.26	0.35
Hispanic	0.44	0.44	0.58	0.51	0.42	0.57

\* Within the past 12 months

<sup>†</sup> Evenness, exposure, concentration, centralization, and clustering are aspects of racial and ethnic residential segregation. The dissimilarity index is a measure of evenness that ranges from 0 (complete integration) to 100 (complete segregation) and represents the percent of a minority group that would have to relocate in order to have the same distribution in a geographic designation as non-Hispanic Whites. The values presented in this table were calculated using census block groups for the cities and census tracts for the state.

<sup>a</sup> 2005-2009 American Community Survey. S1903: Median Income in the Past 12 Months.

<sup>b</sup> 2005-2009 American Community Survey. S1901: Income in the Past 12 Months (In 2009 Inflation-Adjusted Dollars).

<sup>c</sup> 2005-2009 American Community Survey. S2001: Earnings in the Past 12 Months.

<sup>d</sup> 2005-2009 American Community Survey. S2301: Employment Status

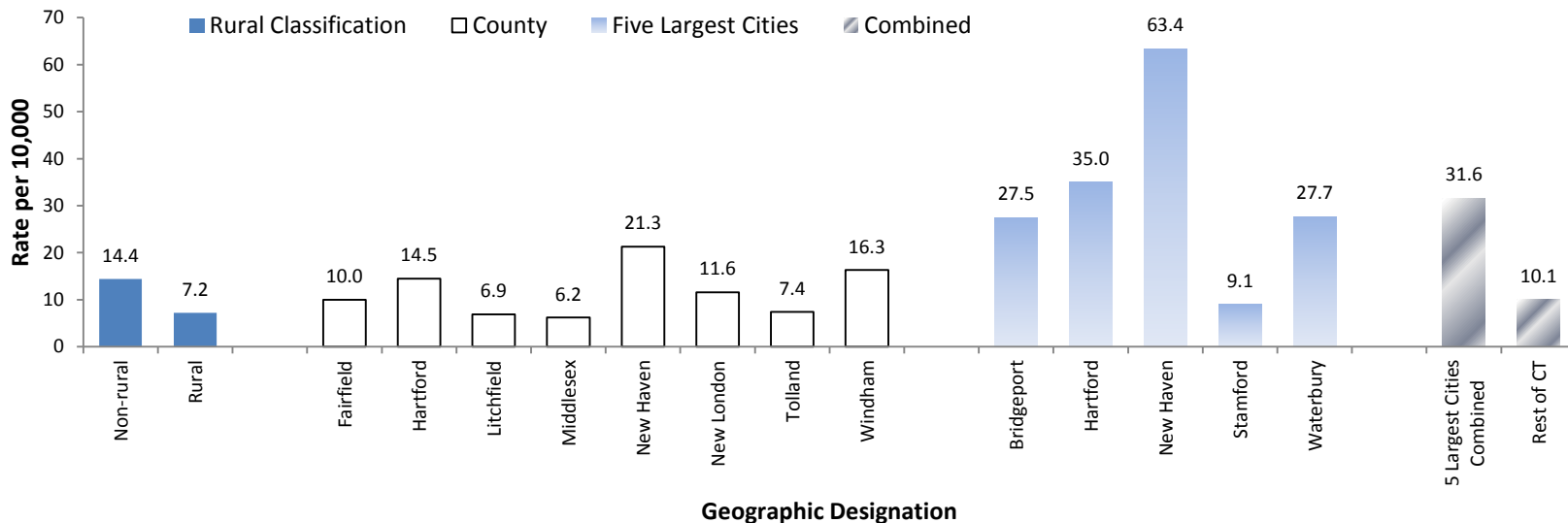
<sup>e</sup> 2005-2009 American Community Survey. S1701: Poverty Status in the Past 12 Months.

<sup>f</sup> 2005-2009 American Community Survey. S1501: Educational Attainment.

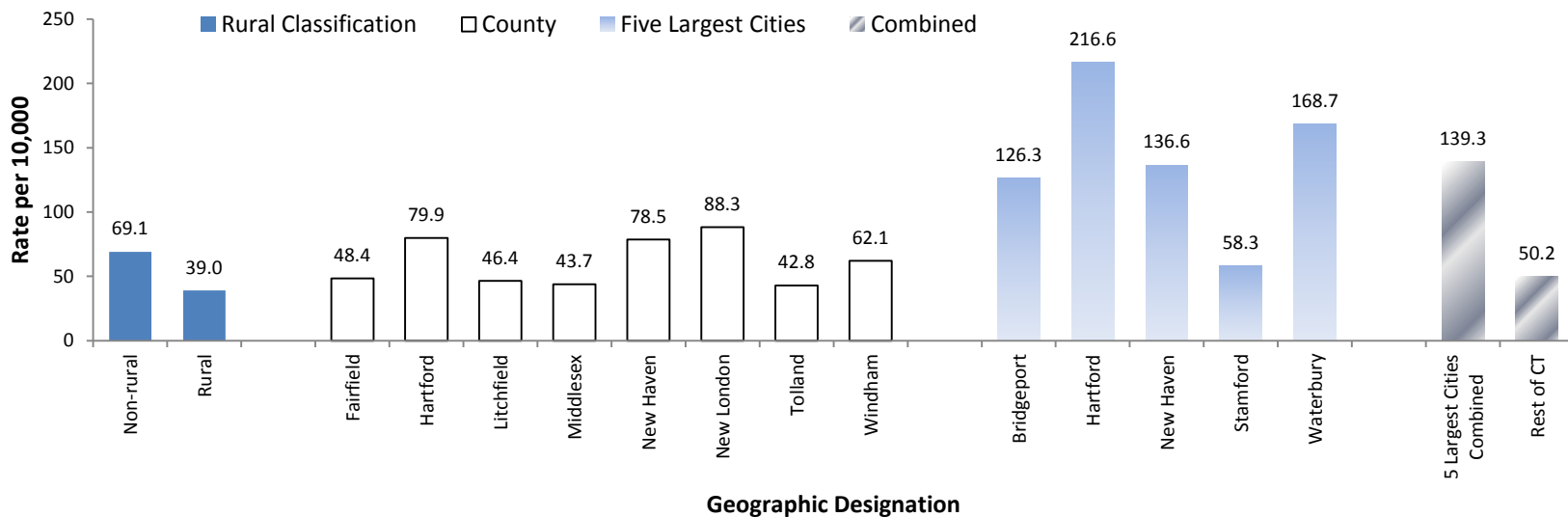
<sup>g</sup> 2005-2009 American Community Survey. S2506: Financial Characteristics for Housing Units with a Mortgage.

<sup>h</sup> Source: William H. Frey, Brookings Institution and University of Michigan Social Science Data Analysis Network's analysis of 2010 Census Data. CT-specific data furnished upon request by J.P. De Witt, July 2013.

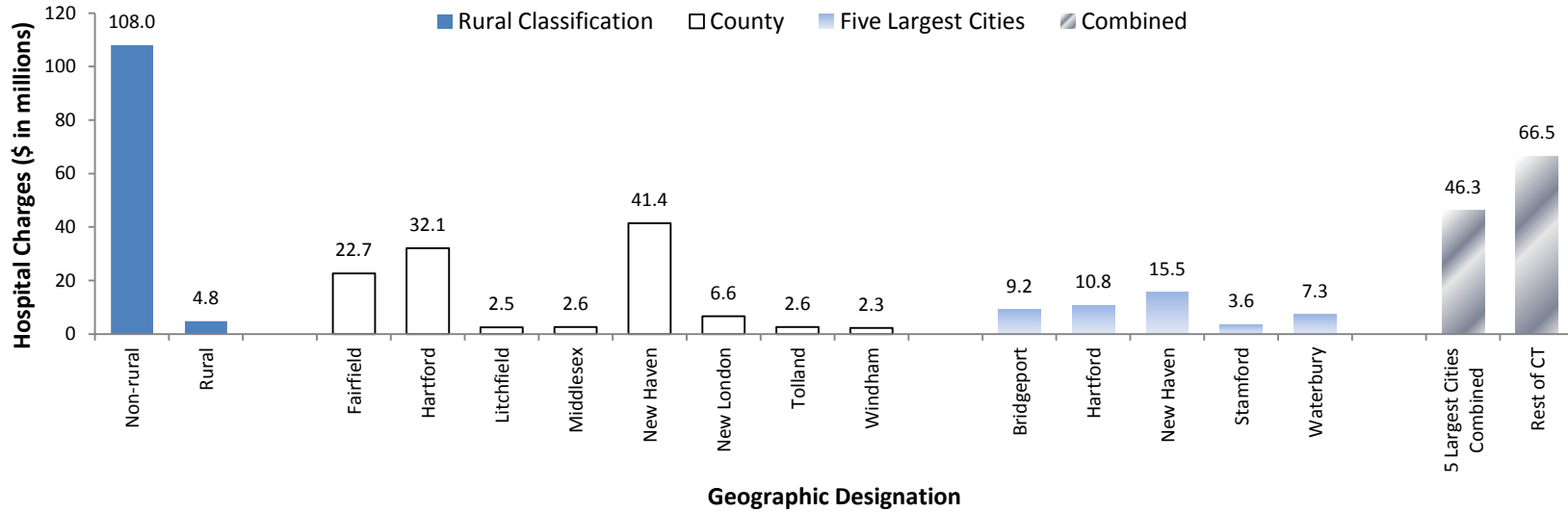
**Figure 1. Asthma Hospitalization Rates by Geographic Designation, Connecticut, 2005-2009**



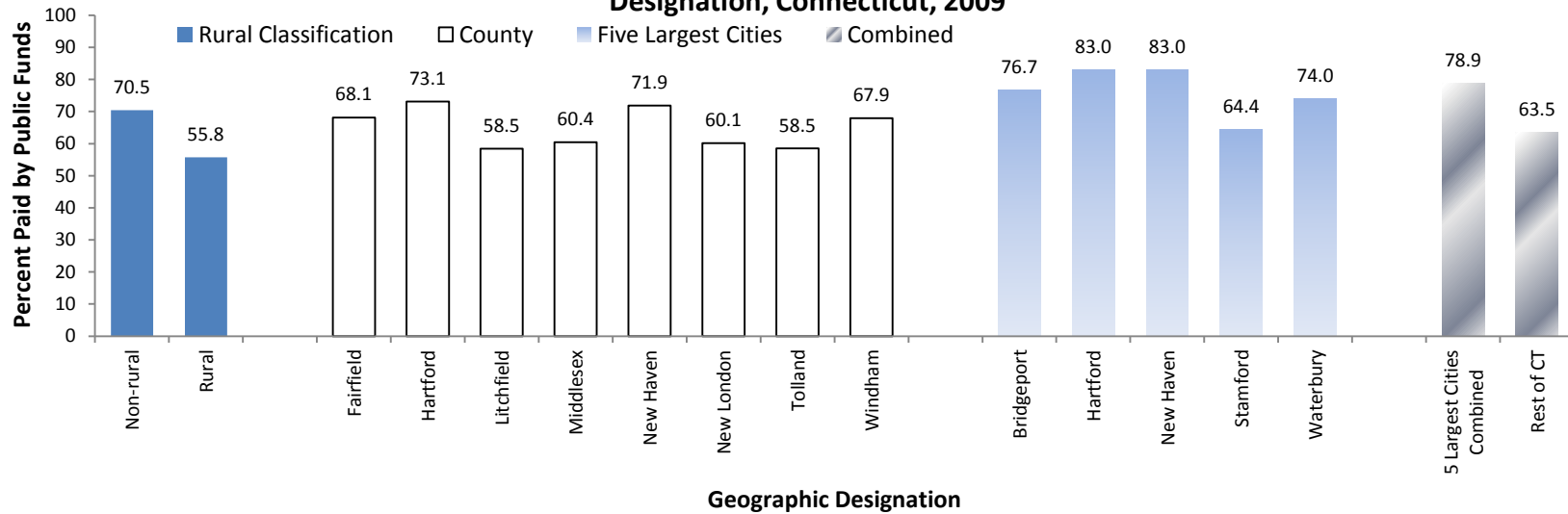
**Figure 2. Asthma ED Visit Rates by Geographic Designation, Connecticut, 2005-2009**



**Figure 3. Asthma Hospital Healthcare Charges by Geographic Designation, Connecticut, 2009**

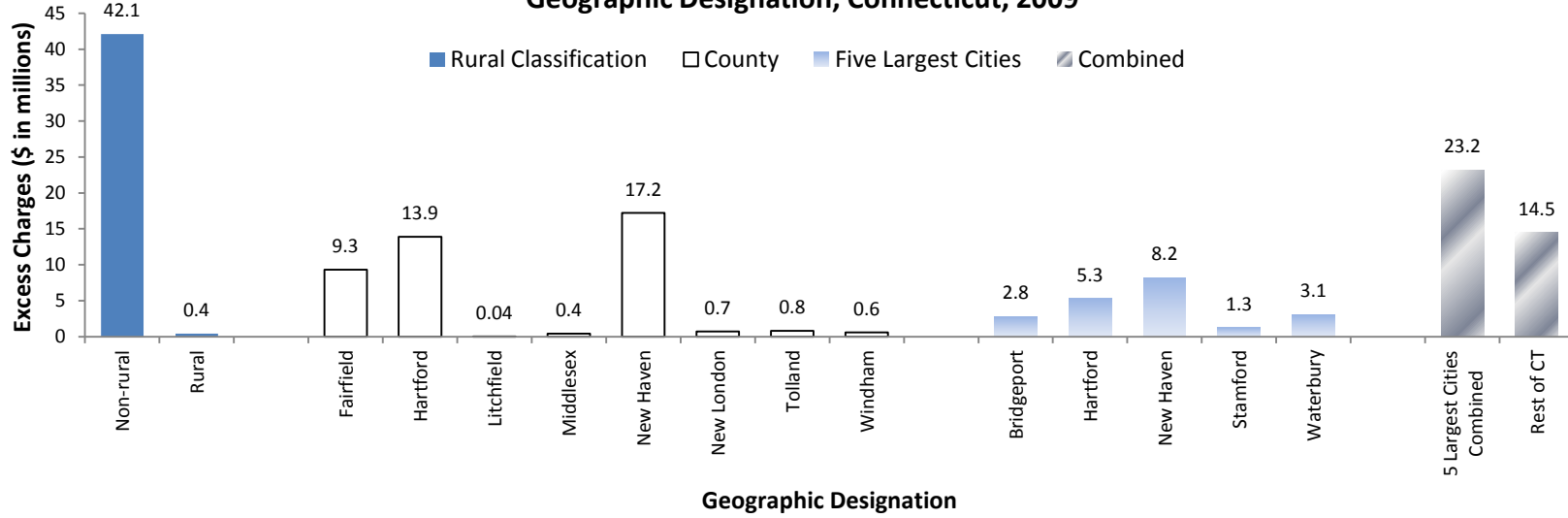


**Figure 4. Percent of Asthma Hospital Healthcare Charges Paid by Public Funds by Geographic Designation, Connecticut, 2009**

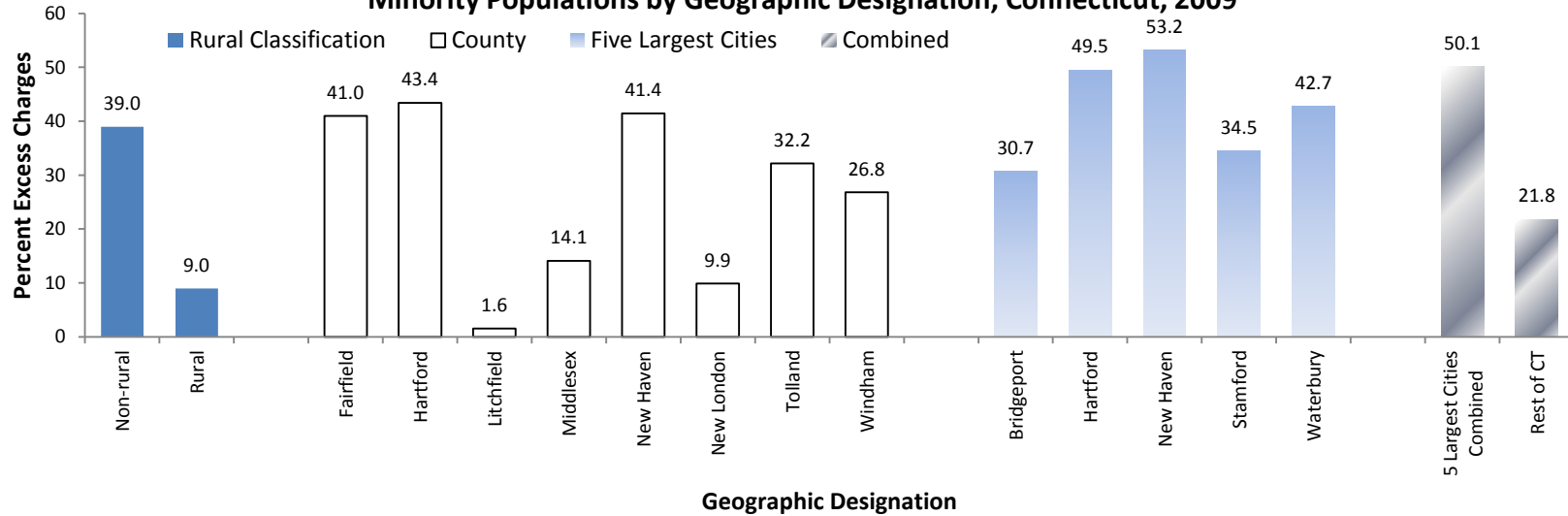




**Figure 5. Excess Asthma Hospital Healthcare Charges Due to Disparity among Minority Populations by Geographic Designation, Connecticut, 2009**



**Figure 6. Percent of Total Asthma Hospital Healthcare Charges in Excess Due to Disparity among Minority Populations by Geographic Designation, Connecticut, 2009**



**Table 2. Asthma Hospitalizations (Primary Diagnosis) by Geographic Designation, Connecticut, 2005-2009**

	Rural Classification				County																
	Non-rural		Rural		Fairfield		Hartford		Litchfield		Middlesex		New Haven		New London		Tolland		Windham		
	No. <sup>1</sup>	IR <sup>2</sup>	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	
<b>Asthma hospitalization rates per 10,000</b>																					
2005-2009	22,808	14.4	1,235	7.2	4,548	10.0	6,478	14.5	649	6.9	501	6.2	8,844	21.3	1,571	11.6	508	7.4	944	16.3	
<b>Asthma hospitalization rates per 10,000 by year</b>																					
2005	4,271	13.5	233	6.6	872	9.6	1,256	14.3	117	6.4	79	4.9	1,574	19.0	317	11.8	114	8.4	175	15.1	
2006	4,617	14.7	243	7.3	918	10.2	1,277	14.6	128	7.0	104	6.5	1,834	22.1	309	11.5	90	6.7	200	17.7	
2007	4,484	14.1	251	7.5	819	8.9	1,255	14.0	124	6.5	96	5.9	1,823	22.0	318	11.8	94	6.9	206	17.8	
2008	4,551	14.2	248	7.0	978	10.8	1,299	14.2	116	5.9	116	7.4	1,705	20.4	291	10.7	97	6.7	197	16.7	
2009	4,885	15.4	260	7.6	961	10.6	1,391	15.5	164	8.9	106	6.5	1,908	22.9	336	12.5	113	8.2	166	14.3	
<b>Asthma hospitalization rates per 10,000 by sex (2005-2009)</b>																					
Female	13,951	16.5	808	9.0	2,728	11.4	4,122	17.3	418	8.3	319	7.4	5,239	23.7	1,034	14.4	320	9.0	579	18.9	
Male	8,853	11.9	427	5.4	1,819	8.4	2,356	11.4	231	5.4	182	5.0	3,602	18.3	537	8.6	188	5.9	365	13.4	
<b>Asthma hospitalization rates per 10,000 by age group (2005-2009)</b>																					
0-4	3,481	35.7	162	18.8	702	23.4	796	30.0	107	22.1	71	16.1	1,585	61.7	195	25.1	52	14.3	135	40.2	
5-9	1,894	19.0	88	8.4	359	11.7	494	18.1	54	9.4	40	8.0	873	33.6	85	11.4	29	6.7	48	13.0	
10-14	1,051	9.7	44	3.8	218	6.7	237	7.9	20	3.1	24	4.8	516	18.3	42	4.6	11	2.4	27	7.2	
15-24	1,341	6.1	58	2.8	207	3.6	318	5.5	38	3.4	24	2.4	668	11.4	77	4.0	27	1.7	40	4.7	
25-34	1,534	8.2	56	3.7	355	7.2	432	8.2	39	4.6	49	5.7	537	10.0	89	5.8	33	5.4	56	7.5	
35-44	2,764	11.8	141	5.4	466	6.7	790	12.5	72	5.0	62	4.8	1,087	17.9	226	11.5	40	3.6	162	18.6	
45-54	3,575	14.6	206	6.8	601	8.5	1,032	15.2	106	6.3	78	5.7	1,391	22.0	291	13.7	83	6.9	199	21.5	
55-64	2,462	13.9	183	8.4	501	10.2	754	15.1	78	6.3	54	5.2	885	18.8	202	13.1	74	9.1	97	14.9	
65+	4,706	22.0	297	12.8	1,139	19.5	1,625	26.2	135	9.6	99	8.5	1,302	22.4	364	20.4	159	19.1	180	25.5	
<b>Asthma hospitalization rates per 10,000 by race/ethnicity (2005-2009)</b>																					
White, Non-Hispanic	10,144	8.9	1,115	7.0	2,102	6.7	2,703	8.6	588	7.0	395	5.7	3,341	11.8	1,139	10.5	382	6.3	609	12.2	
Black, Non-Hispanic	5,730	36.3	22	15.9	1,117	25.5	1,255	24.1	17	17.0	56	16.5	3,071	63.0	186	30.4	17	12.0	33	53.2	
Hispanic	5,970	33.2	55	25.7	1,031	17.6	2,182	41.6	18	5.2	34	10.1	2,211	43.4	187	21.4	75	76.4	287	76.2	
Other, Non-Hispanic	959	11.0	43	8.5	297	12.2	337	13.8	26	8.0	16	3.5	218	8.7	59	6.4	34	18.8	15	6.6	
<b>Relative risk and excess (fewer) asthma hospitalizations by race/ethnicity (2005-2009)</b>																					
	<b>IRR<sup>3</sup></b>	<b>Excess<sup>4</sup></b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	
White, Non-Hispanic	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	
Black, Non-Hispanic	4.1	4,325	2.3	12	3.8	824	2.8	807	2.4	10	2.9	37	5.3	2,496	2.9	122	1.9	8	4.4	25	
Hispanic	3.7	4,370	3.7	40	2.6	639	4.8	1,731	0.7	(6)	1.8	15	3.7	1,610	2.0	95	12.1	69	6.2	241	
Other, Non-Hispanic	1.2	183	1.2	8	1.8	134	1.6	127	1.1	3	0.6	(10)	0.7	(78)	0.6	(38)	3.0	23	0.5	(13)	

<sup>1</sup>Number of new asthma hospitalizations; numbers may not sum to total due to missing data.

<sup>2</sup>IR=incidence rate. Age-adjusted rate of new asthma hospitalization per 10,000 population. For breakdown by age group it is age-specific rate.

<sup>3</sup>IRR=incidence rate ratio. Risk of asthma hospitalization as compared to referent group († is the referent group).

<sup>4</sup>"Excess (fewer) events" are the hospitalizations that would not have occurred if the hospitalization rates for the minority group was the same as the referent group.

Note: Rates based on fewer than 20 hospitalizations may be unstable and should be interpreted with caution.

**Table 2. Asthma Hospitalizations (Primary Diagnosis) by Geographic Designation, Connecticut, 2005-2009 (Continued)**

	Five Largest Cities										Five Largest Cities Combined			
	Bridgeport		Hartford		New Haven		Stamford		Waterbury		5 Largest Cities Combined		Rest of CT	
	No. <sup>1</sup>	IR <sup>2</sup>	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR
<b>Asthma hospitalization rates per 10,000</b>														
2005-2009	1,820	27.5	1,994	35.0	3,428	63.4	530	9.1	1,499	27.7	9,271	31.6	14,772	10.1
<b>Asthma hospitalization rates per 10,000 by year</b>														
2005	321	24.4	381	33.1	577	53.6	101	8.7	295	27.6	1,675	28.7	2,829	9.7
2006	362	27.0	427	36.7	672	62.8	120	10.6	315	29.4	1,896	32.3	2,964	10.2
2007	323	24.5	370	32.8	719	66.1	100	8.4	289	26.4	1,801	30.7	2,934	10.0
2008	401	30.3	372	33.0	657	60.0	94	8.1	313	28.5	1,837	31.3	2,962	10.0
2009	413	31.3	444	39.6	803	74.6	115	9.8	287	26.7	2,062	35.3	3,083	10.5
<b>Asthma hospitalization rates per 10,000 by sex (2005-2009)</b>														
Female	1,116	32.2	1,258	43.1	1,947	68.6	298	9.4	983	34.5	5,602	36.6	9,157	11.6
Male	704	22.1	736	25.9	1,478	55.7	232	8.6	516	19.6	3,666	25.5	5,614	8.3
<b>Asthma hospitalization rates per 10,000 by age group (2005-2009)</b>														
0-4	253	48.5	308	64.8	634	159.3	120	28.6	225	51.8	1,540	68.5	2,103	25.1
5-9	161	32.7	193	42.1	376	99.4	29	8.7	124	32.2	883	43.1	1,099	12.2
10-14	92	19.1	84	18.7	229	59.8	20	5.6	78	20.0	503	24.4	592	6.0
15-24	93	8.1	98	8.3	311	22.5	18	2.7	91	12.4	611	12.0	788	4.2
25-34	231	23.3	123	12.6	208	17.6	18	1.8	103	13.3	683	13.8	907	5.9
35-44	211	21.3	249	30.2	497	62.5	47	5.0	172	23.5	1,176	27.4	1,729	8.0
45-54	265	30.1	362	52.0	576	89.7	47	5.3	259	37.1	1,509	39.7	2,272	9.6
55-64	202	32.7	240	42.8	280	58.6	60	9.9	200	40.0	982	35.6	1,663	9.7
65+	312	43.9	337	58.8	317	58.1	171	24.4	247	35.2	1,384	42.8	3,619	17.6
<b>Asthma hospitalization rates per 10,000 by race/ethnicity (2005-2009)</b>														
White, Non-Hispanic	350	21.7	159	21.0	396	28.2	238	7.0	462	19.0	1,605	16.2	9,654	8.1
Black, Non-Hispanic	661	30.3	680	32.3	1,969	98.8	152	20.6	294	31.4	3,756	46.6	1,996	25.7
Hispanic	770	35.3	1,091	48.2	1,024	77.4	89	10.8	697	55.1	3,671	44.7	2,354	23.6
Other, Non-Hispanic	39	10.3	64	21.9	36	11.3	51	13.1	46	16.5	236	13.8	766	10.3
<b>Relative risk and excess (fewer) asthma hospitalizations by race/ethnicity (2005-2009)</b>														
	<b>IRR<sup>3</sup></b>	<b>Excess<sup>4</sup></b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>
White, Non-Hispanic	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0
Black, Non-Hispanic	1.4	188	1.5	238	3.5	1,407	2.9	100	1.7	116	2.9	2,450	3.2	1,367
Hispanic	1.6	297	2.3	616	2.7	651	1.5	31	2.9	457	2.8	2,341	2.9	1,546
Other, Non-Hispanic	0.5	(43)	1.0	3	0.4	(54)	1.9	24	0.9	(7)	0.9	(41)	1.3	164

<sup>1</sup>Number of new asthma hospitalizations; numbers may not sum to total due to missing data.

<sup>2</sup>IR=incidence rate. Age-adjusted rate of new asthma hospitalization per 10,000 population. For breakdown by age group it is age-specific rate.

<sup>3</sup>IRR=incidence rate ratio. Risk of asthma hospitalization as compared to referent group († is the referent group).

<sup>4</sup>Excess (fewer) events" are the hospitalizations that would not have occurred if the hospitalization rates for the minority group was the same as the referent group.

Note: Rates based on fewer than 20 hospitalizations may be unstable and should be interpreted with caution.

**Table 3. Asthma Emergency Department Visits (Primary Diagnosis) by Geographic Designation, Connecticut, 2005-2009**

	Rural Classification				County																
	Non-rural		Rural		Fairfield		Hartford		Litchfield		Middlesex		New Haven		New London		Tolland		Windham		
	No. <sup>1</sup>	IR <sup>2</sup>	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	
<b>Asthma emergency department (ED) visit rates per 10,000</b>																					
2005-2009	104,512	69.1	5,957	39.0	20,819	48.4	33,088	79.9	3,929	46.4	3,364	43.7	31,538	78.5	11,315	88.3	2,914	42.8	3,502	62.1	
<b>Asthma ED visit rates per 10,000 by year</b>																					
2005	20,281	67.1	1,249	40.4	4,011	46.6	6,397	77.3	817	47.5	825	52.5	5,885	73.3	2,348	91.7	598	44.1	649	57.7	
2006	20,442	67.6	1,181	38.9	4,172	48.5	6,334	76.3	798	47.8	741	48.6	6,257	77.9	2,123	83.1	568	40.4	630	55.7	
2007	19,898	65.8	1,124	37.0	4,087	47.6	5,979	72.2	687	40.7	679	44.0	6,103	75.9	2,187	85.4	556	41.4	744	66.3	
2008	20,914	69.1	1,157	37.6	4,136	48.1	6,850	82.6	849	49.5	540	35.5	6,507	80.7	1,912	74.8	573	41.6	704	62.2	
2009	22,977	76.0	1,246	41.4	4,413	51.3	7,528	90.9	778	46.4	579	38.1	6,786	84.8	2,745	106.7	619	46.5	775	68.7	
<b>Asthma ED visit rates per 10,000 by sex (2005-2009)</b>																					
Female	58,393	76.0	3,492	46.5	11,271	52.3	18,507	87.7	2,212	51.7	1,984	50.5	17,326	84.5	6,768	104.0	1,754	53.0	2,063	72.9	
Male	45,956	61.5	2,454	31.9	9,523	44.1	14,579	71.3	1,679	40.2	1,379	37.0	14,128	71.5	4,525	72.3	1,159	33.9	1,438	51.6	
<b>Asthma ED visit rates per 10,000 by age group (2005-2009)</b>																					
0-4	13,005	133.2	529	61.3	2,536	84.6	4,519	170.1	300	62.0	328	74.3	4,288	167.0	856	110.0	301	82.8	406	120.8	
5-9	9,828	98.4	441	42.0	2,248	73.0	2,986	109.3	272	47.4	262	52.2	3,193	122.7	803	107.4	238	55.2	267	72.1	
10-14	7,596	70.3	428	37.3	1,670	51.2	2,107	70.5	292	45.8	233	46.3	2,642	93.9	636	70.2	206	44.2	238	63.3	
15-24	17,798	81.4	1,150	56.3	3,352	59.1	5,463	93.9	794	70.2	522	51.3	5,473	93.0	2,091	109.1	584	36.4	669	79.2	
25-34	16,444	88.1	902	59.0	3,125	63.4	5,258	99.9	617	72.9	488	56.4	4,934	91.6	1,903	124.4	434	70.4	587	78.4	
35-44	17,048	73.0	948	36.6	3,189	46.0	5,436	86.2	621	43.3	577	45.0	4,961	81.8	2,100	106.7	508	46.3	604	69.4	
45-54	13,033	53.4	789	26.0	2,559	36.4	4,144	61.2	536	32.1	477	34.7	3,626	57.3	1,707	80.1	368	30.6	405	43.7	
55-64	5,461	30.9	422	19.3	1,139	23.2	1,735	34.8	284	22.9	241	23.1	1,458	31.0	674	43.6	165	20.3	187	28.8	
65+	4,299	20.1	348	15.0	1,001	17.2	1,440	23.2	213	15.2	236	20.2	963	16.5	545	30.5	110	13.2	139	19.7	
<b>Asthma ED visit rates per 10,000 by race/ethnicity (2005-2009)</b>																					
White, Non-Hispanic	33,894	34.4	4,169	29.3	5,115	19.3	7,773	29.9	3,272	43.2	2,328	35.5	9,067	36.3	7,539	77.4	2,007	34.0	962	20.4	
Black, Non-Hispanic	20,493	123.2	145	94.9	5,927	130.7	5,186	92.8	179	165.5	483	131.2	7,082	137.8	1,508	209.2	177	85.1	96	100.8	
Hispanic	32,634	135.5	319	62.1	6,344	82.1	13,778	197.1	210	45.9	299	69.4	9,327	136.6	1,693	143.2	360	107.5	942	179.1	
Other, Non-Hispanic	3,625	33.4	156	28.9	1,168	36.1	1,181	40.6	117	36.5	70	18.1	607	21.7	481	41.1	129	41.9	28	13.6	
<b>Relative risk and excess (fewer) asthma ED visits by race/ethnicity (2005-2009)</b>																					
	<b>IRR<sup>3</sup></b>	<b>Excess<sup>4</sup></b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	
White, Non-Hispanic	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	
Black, Non-Hispanic	3.6	14,771	3.2	100	6.8	5,052	3.1	3,515	3.8	132	3.7	352	3.8	5,216	2.7	950	2.5	106	4.9	77	
Hispanic	3.9	24,349	2.1	168	4.3	4,853	6.6	11,688	1.1	12	2.0	146	3.8	6,848	1.9	778	3.2	246	8.8	835	
Other, Non-Hispanic	1.0	(109)	1.0	(2)	1.9	544	1.4	311	0.8	(21)	0.5	(67)	0.6	(408)	0.5	(425)	1.2	24	0.7	(14)	

<sup>1</sup>Number of new asthma ED visits; numbers may not sum to total due to missing data.

<sup>2</sup>IR=incidence rate. Age-adjusted rate of new asthma ED visits per 10,000 population. For breakdown by age group it is age-specific rate.

<sup>3</sup>IRR=incidence rate ratio. Risk of asthma ED visits as compared to referent group († is the referent group).

<sup>4</sup>Excess (fewer) events" are the ED visits that would not have occurred if the ED visit rates for the minority group was the same as the referent group.

Note: Rates based on fewer than 20 ED visits may be unstable and should be interpreted with caution.

**Table 3. Asthma Emergency Department Visits (Primary Diagnosis) by Geographic Designation, Connecticut, 2005-2009 (Continued)**

	Five Largest Cities										Five Largest Cities Combined			
	Bridgeport		Hartford		New Haven		Stamford		Waterbury		5 Largest Cities Combined		Rest of CT	
	No. <sup>1</sup>	IR <sup>2</sup>	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR	No.	IR
<b>Asthma emergency department (ED) visit rates per 10,000</b>														
2005-2009	8,782	126.3	13,470	216.6	8,303	136.6	3,281	58.3	8,969	168.7	42,805	139.3	67,664	50.2
<b>Asthma ED visit rates per 10,000 by year</b>														
2005	1,821	131.9	2,296	183.9	1,615	132.1	535	47.4	1,660	156.6	7,927	129.2	13,603	50.4
2006	1,719	123.9	2,504	202.9	1,626	135.3	652	58.8	1,692	158.9	8,193	133.4	13,430	49.8
2007	1,672	120.0	2,548	204.9	1,615	132.4	686	60.8	1,650	155.4	8,171	132.9	12,851	47.6
2008	1,757	126.1	2,950	237.8	1,695	139.6	666	58.8	1,813	170.5	8,881	144.7	13,190	48.8
2009	1,813	129.6	3,172	253.4	1,752	143.7	742	65.7	2,154	202.2	9,633	156.4	14,590	54.2
<b>Asthma ED visit rates per 10,000 by sex (2005-2009)</b>														
Female	4,750	135.2	7,461	237.2	4,364	139.4	1,748	61.6	4,948	181.0	23,271	149.2	38,614	56.5
Male	4,030	115.1	6,008	191.5	3,928	132.3	1,532	55.2	4,019	153.7	19,517	127.3	28,893	43.4
<b>Asthma ED visit rates per 10,000 by age group (2005-2009)</b>														
0-4	1,139	218.3	2,170	456.7	1,306	328.1	338	80.5	1,209	278.3	6,162	274.0	7,372	88.0
5-9	883	179.2	1,292	281.8	850	224.8	366	109.3	983	255.4	4,374	213.5	5,895	65.6
10-14	608	125.9	740	164.4	697	182.0	296	83.6	800	204.7	3,141	152.4	4,883	49.3
15-24	1,413	123.4	2,070	175.3	1,568	113.5	516	77.3	1,372	187.5	6,939	135.9	12,009	63.9
25-34	1,502	151.4	2,026	207.3	1,342	113.8	487	47.7	1,419	183.9	6,776	137.1	10,570	69.3
35-44	1,354	136.7	2,107	255.6	1,169	147.0	488	51.5	1,499	204.5	6,617	154.2	11,379	52.5
45-54	1,120	127.1	1,707	245.2	983	153.1	366	41.2	976	140.0	5,152	135.4	8,670	36.7
55-64	429	69.5	715	127.4	254	53.1	201	33.3	458	91.5	2,057	74.5	3,826	22.3
65+	334	47.0	643	112.2	134	24.6	223	31.8	253	36.1	1,587	49.1	3,060	14.9
<b>Asthma ED visit rates per 10,000 by race/ethnicity (2005-2009)</b>														
White, Non-Hispanic	897	72.3	453	45.6	557	42.6	899	31.1	1,953	97.2	4,759	54.1	33,304	32.3
Black, Non-Hispanic	3,421	149.6	2,850	130.4	3,255	152.3	1,168	152.4	2,049	203.5	12,743	151.4	7,895	95.0
Hispanic	4,224	156.5	7,671	272.7	2,087	107.7	908	71.5	4,652	269.3	19,542	184.5	13,411	95.1
Other, Non-Hispanic	202	42.6	53	14.6	66	16.1	303	58.3	238	69.1	862	40.2	2,919	32.1
<b>Relative risk and excess (fewer) asthma ED visits by race/ethnicity (2005-2009)</b>														
	<b>IRR<sup>3</sup></b>	<b>Excess<sup>4</sup></b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>	<b>IRR</b>	<b>Excess</b>
White, Non-Hispanic	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0	1.0 <sup>†</sup>	0
Black, Non-Hispanic	2.1	1,768	2.9	1,853	3.6	2,345	4.9	930	2.1	1,070	2.8	8,190	2.9	5,211
Hispanic	2.2	2,273	6.0	6,388	2.5	1,262	2.3	513	2.8	2,973	3.4	13,812	2.9	8,856
Other, Non-Hispanic	0.6	(141)	0.3	(113)	0.4	(109)	1.9	141	0.7	(97)	0.7	(298)	1.0	(18)

<sup>1</sup>Number of new asthma ED visits; numbers may not sum to total due to missing data.

<sup>2</sup>IR=incidence rate. Age-adjusted rate of new asthma ED visits per 10,000 population. For breakdown by age group it is age-specific rate.

<sup>3</sup>IRR=incidence rate ratio. Risk of asthma ED visits as compared to referent group († is the referent group).

<sup>4</sup>"Excess (fewer) events" are the ED visits that would not have occurred if the ED visit rates for the minority group was the same as the referent group.

Note: Rates based on fewer than 20 ED visits may be unstable and should be interpreted with caution.

**Table 4. Asthma Hospital Healthcare Charges by Geographic Designation, Connecticut, 2005-2009**

	Rural Classification						County								
	Non-rural			Rural			Fairfield			Hartford			Litchfield		
	No. <sup>1</sup>	Charges <sup>2</sup>	% <sup>3</sup>	No.	Charges	%	No.	Charges	%	No.	Charges	%	No.	Charges	%
<b>Total asthma hospital healthcare (hospitalization and ED visit) charges by year</b>															
2005	24,552	\$89,542,513		1,482	\$4,657,295		4,883	\$19,247,157		7,653	\$28,223,354		934	\$2,187,658	
2006	25,020	\$99,152,981		1,420	\$4,515,955		5,085	\$19,353,497		7,611	\$28,736,674		923	\$2,226,015	
2007	24,331	\$98,511,798		1,372	\$4,733,216		4,899	\$18,906,165		7,232	\$30,941,794		797	\$2,412,283	
2008	25,435	\$102,102,617		1,403	\$4,493,270		5,109	\$22,970,930		8,149	\$31,590,873		956	\$2,154,601	
2009	27,815	\$108,041,858		1,504	\$4,794,859		5,365	\$22,721,445		8,919	\$32,081,272		930	\$2,517,467	
<b>Total asthma hospital healthcare charges by hospitalization and ED visits (2009)</b>															
ED Visits	22,930	\$31,280,346	29.0%	1,244	\$1,299,176	27.1%	4,404	\$6,480,075	28.5%	7,528	\$10,087,543	31.4%	766	\$714,618	28.4%
Hospitalization	4,885	\$76,761,512	71.0%	260	\$3,495,683	72.9%	961	\$16,241,370	71.5%	1,391	\$21,993,729	68.6%	164	\$1,802,849	71.6%
<b>Total asthma hospital healthcare charges by adults and children (2009)</b>															
0-17 years	9,620	\$25,531,150	23.6%	429	\$893,372	18.6%	1,877	\$5,089,364	22.4%	3,074	\$6,763,335	21.1%	261	\$426,804	17.0%
18+ years	18,195	\$82,510,708	76.4%	1,075	\$3,901,487	81.4%	3,488	\$17,632,080	77.6%	5,845	\$25,317,937	78.9%	669	\$2,090,663	83.0%
<b>Total asthma hospital healthcare charges by sex (2009)</b>															
Female	15,743	\$68,543,422	63.4%	899	\$3,347,190	69.8%	2,908	\$14,099,941	62.1%	5,028	\$20,654,954	64.4%	542	\$1,658,927	65.9%
Male	12,072	\$39,498,437	36.6%	605	\$1,447,670	30.2%	2,457	\$8,621,503	37.9%	3,891	\$11,426,318	35.6%	388	\$858,539	34.1%
<b>Total asthma hospital healthcare charges by age group (2009)</b>															
0-4	3,732	\$10,672,945	9.9%	137	\$264,542	5.5%	658	\$1,943,988	8.6%	1,311	\$2,913,355	9.1%	84	\$160,409	6.4%
5-9	2,833	\$7,438,785	6.9%	125	\$268,109	5.6%	593	\$1,624,385	7.1%	835	\$1,751,751	5.5%	74	\$117,632	4.7%
10-14	1,982	\$4,740,194	4.4%	109	\$237,246	4.9%	397	\$979,333	4.3%	625	\$1,328,687	4.1%	66	\$111,472	4.4%
15-24	4,158	\$8,388,542	7.8%	261	\$433,392	9.0%	793	\$1,643,590	7.2%	1,294	\$2,400,249	7.5%	165	\$250,021	9.9%
25-34	3,999	\$10,130,226	9.4%	216	\$372,440	7.8%	789	\$2,208,533	9.7%	1,300	\$2,707,251	8.4%	139	\$246,773	9.8%
35-44	3,864	\$13,061,813	12.1%	212	\$512,493	10.7%	706	\$2,335,167	10.3%	1,189	\$4,123,102	12.9%	138	\$299,025	11.9%
45-54	3,652	\$18,202,050	16.8%	225	\$1,047,015	21.8%	664	\$3,221,971	14.2%	1,174	\$5,212,297	16.2%	124	\$574,240	22.8%
55-64	1,748	\$11,967,842	11.1%	101	\$506,685	10.6%	387	\$2,592,387	11.4%	495	\$3,322,524	10.4%	76	\$302,884	12.0%
65+	1,847	\$23,439,462	21.7%	118	\$1,152,937	24.0%	378	\$6,172,090	27.2%	696	\$8,322,055	25.9%	64	\$455,012	18.1%
<b>Total asthma hospital healthcare charges by race/ethnicity (2009)</b>															
White, Non-Hispanic	9,125	\$44,426,736	42.7%	1,076	\$3,769,554	81.6%	1,511	\$8,850,754	39.8%	2,045	\$11,815,796	38.7%	778	\$2,189,579	87.7%
Black, Non-Hispanic	5,653	\$25,680,388	24.7%	34	\$83,262	1.8%	1,526	\$6,197,455	27.9%	1,390	\$5,386,770	17.7%	40	\$108,591	4.4%
Hispanic	9,199	\$30,515,631	29.3%	118	\$558,504	12.1%	1,618	\$5,805,704	26.1%	3,990	\$12,427,313	40.7%	67	\$134,922	5.4%
Other, Non-Hispanic	941	\$3,505,128	3.4%	51	\$208,690	4.5%	357	\$1,376,508	6.2%	204	\$884,138	2.9%	25	\$62,586	2.5%
<b>Total asthma hospital healthcare charges by source of payment (2009)</b>															
Public	17,208	\$76,121,542	70.5%	664	\$2,674,531	55.8%	2,906	\$15,478,738	68.1%	5,984	\$23,448,693	73.1%	455	\$1,471,679	58.5%
Private	7,630	\$25,921,632	24.0%	681	\$1,837,386	38.3%	1,650	\$5,595,703	24.6%	2,074	\$7,223,130	22.5%	372	\$864,256	34.3%
Self/Uninsured	2,900	\$5,864,691	5.4%	118	\$183,603	3.8%	798	\$1,627,300	7.2%	853	\$1,403,179	4.4%	86	\$164,396	6.5%
Other	70	\$128,613	0.1%	41	\$99,340	2.1%	11	\$19,704	0.1%	a	a	a	17	\$17,136	0.7%

<sup>1</sup>Number of hospitalizations and/or ED visits; numbers may not sum to total due to missing data.

<sup>2</sup>Total asthma hospital healthcare (hospitalization and ED visit) charges. Charges for 2005-2008 are inflation-adjusted to 2009 dollars.

<sup>3</sup>Percentages may not sum to 100% due to rounding.

a: In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6.

**Table 4. Asthma Hospital Healthcare Charges by Geographic Designation, Connecticut, 2005-2009 (Continued)**

	Middlesex			New Haven			New London			Tolland			Windham		
	No. <sup>1</sup>	Charges <sup>2</sup>	% <sup>3</sup>	No.	Charges	%	No.	Charges	%	No.	Charges	%	No.	Charges	%
<b>Total asthma hospital healthcare (hospitalization and ED visit) charges by year</b>															
2005	904	\$1,829,774		7,459	\$30,534,113		2,665	\$6,019,317		712	\$3,348,457		824	\$2,809,980	
2006	844	\$2,090,605		8,065	\$39,846,924		2,425	\$6,060,589		658	\$2,703,986		829	\$2,650,646	
2007	775	\$2,375,321		7,900	\$37,259,439		2,500	\$5,789,975		650	\$2,405,907		950	\$3,154,129	
2008	656	\$2,865,143		8,195	\$36,327,659		2,202	\$5,399,224		670	\$2,556,748		901	\$2,730,709	
2009	685	\$2,599,817		8,676	\$41,425,838		3,072	\$6,589,972		731	\$2,641,186		941	\$2,259,721	
<b>Total asthma hospital healthcare charges by hospitalization and ED visits (2009)</b>															
ED Visits	579	\$1,038,583	39.9%	6,768	\$9,882,570	23.9%	2,736	\$2,690,600	40.8%	618	\$999,313	37.8%	775	\$686,221	30.4%
Hospitalization	106	\$1,561,234	60.1%	1,908	\$31,543,268	76.1%	336	\$3,899,372	59.2%	113	\$1,641,873	62.2%	166	\$1,573,500	69.6%
<b>Total asthma hospital healthcare charges by adults and children (2009)</b>															
0-17 years	226	\$618,147	23.8%	3,333	\$11,527,239	27.8%	757	\$1,174,077	17.8%	245	\$493,727	18.7%	276	\$331,829	14.7%
18+ years	459	\$1,981,670	76.2%	5,343	\$29,898,598	72.2%	2,315	\$5,415,895	82.2%	486	\$2,147,459	81.3%	665	\$1,927,892	85.3%
<b>Total asthma hospital healthcare charges by sex (2009)</b>															
Female	417	\$1,639,366	63.1%	4,856	\$26,132,421	63.1%	1,869	\$4,383,173	66.5%	460	\$1,751,940	66.3%	562	\$1,569,889	69.5%
Male	268	\$960,451	36.9%	3,820	\$15,293,417	36.9%	1,203	\$2,206,799	33.5%	271	\$889,246	33.7%	379	\$689,832	30.5%
<b>Total asthma hospital healthcare charges by age group (2009)</b>															
0-4	74	\$228,435	8.8%	1,298	\$4,863,134	11.7%	257	\$503,189	7.6%	81	\$213,137	8.1%	106	\$111,840	4.9%
5-9	76	\$213,081	8.2%	1,010	\$3,475,728	8.4%	220	\$276,582	4.2%	71	\$136,967	5.2%	79	\$110,768	4.9%
10-14	48	\$114,006	4.4%	679	\$2,104,821	5.1%	174	\$199,166	3.0%	53	\$76,383	2.9%	49	\$63,572	2.8%
15-24	98	\$206,603	7.9%	1,259	\$3,334,614	8.0%	534	\$630,387	9.6%	124	\$223,006	8.4%	152	\$133,464	5.9%
25-34	96	\$258,570	9.9%	1,161	\$3,914,859	9.5%	486	\$644,721	9.8%	106	\$269,710	10.2%	138	\$252,248	11.2%
35-44	95	\$383,605	14.8%	1,192	\$4,872,700	11.8%	488	\$952,077	14.4%	103	\$213,319	8.1%	165	\$395,312	17.5%
45-54	85	\$394,824	15.2%	1,092	\$7,448,561	18.0%	509	\$1,383,878	21.0%	101	\$535,037	20.3%	128	\$478,257	21.2%
55-64	63	\$363,411	14.0%	523	\$4,740,931	11.4%	214	\$786,449	11.9%	34	\$168,240	6.4%	57	\$197,700	8.7%
65+	50	\$437,281	16.8%	462	\$6,670,490	16.1%	190	\$1,213,522	18.4%	58	\$805,389	30.5%	67	\$516,558	22.9%
<b>Total asthma hospital healthcare charges by race/ethnicity (2009)</b>															
White, Non-Hispanic	455	\$1,914,508	74.6%	2,576	\$16,120,876	40.6%	2,063	\$4,610,863	70.2%	438	\$1,435,438	55.5%	335	\$1,258,475	61.3%
Black, Non-Hispanic	108	\$357,593	13.9%	2,193	\$12,744,980	32.1%	362	\$769,584	11.7%	41	\$129,981	5.0%	27	\$68,697	3.3%
Hispanic	79	\$281,254	11.0%	2,643	\$10,056,010	25.3%	474	\$837,135	12.8%	165	\$837,728	32.4%	281	\$694,071	33.8%
Other, Non-Hispanic	8	\$11,388	0.4%	201	\$817,611	2.1%	150	\$346,182	5.3%	35	\$182,201	7.0%	12	\$33,203	1.6%
<b>Total asthma hospital healthcare charges by source of payment (2009)</b>															
Public	350	\$1,570,542	60.4%	5,578	\$29,782,994	71.9%	1,689	\$3,963,635	60.1%	340	\$1,544,661	58.5%	570	\$1,535,131	67.9%
Private	287	\$954,234	36.7%	2,272	\$9,383,832	22.7%	1,029	\$2,167,493	32.9%	338	\$986,575	37.4%	289	\$583,794	25.8%
Self/Uninsured	48	\$75,041	2.9%	821	\$2,254,321	5.4%	310	\$343,885	5.2%	52	\$108,855	4.1%	50	\$71,315	3.2%
Other	0	\$0	0.0%	a	a	a	44	\$114,958	1.7%	a	a	a	32	\$69,480	3.1%

<sup>1</sup>Number of hospitalizations and/or ED visits; numbers may not sum to total due to missing data.

<sup>2</sup>Total asthma hospital healthcare (hospitalization and ED visit) charges. Charges for 2005-2008 are inflation-adjusted to 2009 dollars.

<sup>3</sup>Percentages may not sum to 100% due to rounding.

a: In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6.

**Table 4. Asthma Hospital Healthcare Charges by Geographic Designation, Connecticut, 2005-2009 (Continued)**

	Bridgeport			Hartford			Five Largest Cities			Stamford			Waterbury		
	No. <sup>1</sup>	Charges <sup>2</sup>	% <sup>3</sup>	No.	Charges	%	No.	Charges	%	No.	Charges	%	No.	Charges	%
<b>Total asthma hospital healthcare (hospitalization and ED visit) charges by year</b>															
2005	2,142	\$7,739,109		2,677	\$9,184,510		2,192	\$10,530,887		636	\$2,334,128		1,955	\$5,976,836	
2006	2,081	\$7,610,838		2,931	\$9,678,056		2,296	\$13,880,269		771	\$3,210,204		2,007	\$7,082,288	
2007	1,995	\$7,493,982		2,917	\$9,502,501		2,328	\$14,392,165		786	\$2,821,219		1,939	\$6,022,712	
2008	2,157	\$9,266,050		3,322	\$9,820,966		2,350	\$13,312,006		760	\$3,188,946		2,125	\$7,232,843	
2009	2,225	\$9,157,581		3,616	\$10,790,406		2,551	\$15,471,054		857	\$3,644,555		2,440	\$7,276,175	
<b>Total asthma hospital healthcare charges by hospitalization and ED visits (2009)</b>															
ED Visits	1,812	\$2,667,216	29.1%	3,172	\$4,260,967	39.5%	1,748	\$2,908,704	18.8%	742	\$1,136,897	31.2%	2,153	\$3,265,000	44.9%
Hospitalization	413	\$6,490,365	70.9%	444	\$6,529,439	60.5%	803	\$12,562,350	81.2%	115	\$2,507,658	68.8%	287	\$4,011,176	55.1%
<b>Total asthma hospital healthcare charges by adults and children (2009)</b>															
0-17 years	763	\$2,321,260	25.3%	1,320	\$2,818,085	26.1%	998	\$4,480,418	29.0%	288	\$723,588	19.9%	950	\$2,043,732	28.1%
18+ years	1,462	\$6,836,321	74.7%	2,296	\$7,972,321	73.9%	1,553	\$10,990,635	71.0%	569	\$2,920,967	80.1%	1,490	\$5,232,443	71.9%
<b>Total asthma hospital healthcare charges by sex (2009)</b>															
Female	1,212	\$5,458,764	59.6%	1,996	\$6,758,367	62.6%	1,404	\$9,864,742	63.8%	474	\$2,425,855	66.6%	1,349	\$4,576,195	62.9%
Male	1,013	\$3,698,817	40.4%	1,620	\$4,032,039	37.4%	1,147	\$5,606,311	36.2%	383	\$1,218,700	33.4%	1,091	\$2,699,981	37.1%
<b>Total asthma hospital healthcare charges by age group (2009)</b>															
0-4	289	\$802,240	8.8%	624	\$1,256,743	11.6%	401	\$1,829,496	11.8%	80	\$275,075	7.5%	368	\$855,127	11.8%
5-9	235	\$866,450	9.5%	361	\$700,785	6.5%	291	\$1,347,510	8.7%	94	\$201,364	5.5%	310	\$595,849	8.2%
10-14	139	\$408,463	4.5%	227	\$488,833	4.5%	194	\$770,347	5.0%	75	\$159,780	4.4%	181	\$411,375	5.7%
15-24	350	\$771,198	8.4%	504	\$941,688	8.7%	391	\$1,408,004	9.1%	126	\$225,065	6.2%	308	\$604,161	8.3%
25-34	377	\$1,137,587	12.4%	529	\$943,360	8.7%	370	\$1,436,415	9.3%	124	\$231,487	6.4%	337	\$786,788	10.8%
35-44	279	\$935,543	10.2%	428	\$1,255,780	11.6%	347	\$2,119,095	13.7%	126	\$439,197	12.1%	388	\$1,147,839	15.8%
45-54	297	\$1,576,745	17.2%	501	\$1,958,433	18.1%	337	\$3,433,163	22.2%	87	\$379,151	10.4%	320	\$1,259,271	17.3%
55-64	143	\$903,023	9.9%	183	\$1,009,485	9.4%	107	\$1,341,473	8.7%	84	\$623,211	17.1%	166	\$923,372	12.7%
65+	116	\$1,756,332	19.2%	259	\$2,235,297	20.7%	113	\$1,785,552	11.5%	61	\$1,110,223	30.5%	62	\$692,393	9.5%
<b>Total asthma hospital healthcare charges by race/ethnicity (2009)</b>															
White, Non-Hispanic	241	\$1,312,646	14.3%	185	\$935,782	9.3%	214	\$2,368,982	16.3%	265	\$1,547,092	42.4%	516	\$1,779,613	24.5%
Black, Non-Hispanic	867	\$3,581,177	39.1%	723	\$2,922,993	29.1%	1,151	\$8,123,785	56.1%	290	\$1,179,759	32.4%	505	\$1,256,354	17.3%
Hispanic	1,052	\$4,047,535	44.2%	2,075	\$6,060,748	60.3%	657	\$3,895,985	26.9%	248	\$640,565	17.6%	1,327	\$3,988,202	54.9%
Other, Non-Hispanic	62	\$209,083	2.3%	23	\$135,831	1.4%	25	\$103,940	0.7%	54	\$277,140	7.6%	80	\$237,136	3.3%
<b>Total asthma hospital healthcare charges by source of payment (2009)</b>															
Public	1,470	\$7,020,033	76.7%	2,824	\$8,957,163	83.0%	1,934	\$12,843,317	83.0%	427	\$2,346,781	64.4%	1,810	\$5,384,088	74.0%
Private	412	\$1,487,857	16.2%	406	\$1,250,610	11.6%	364	\$1,809,542	11.7%	275	\$1,007,250	27.6%	396	\$1,321,707	18.2%
Self/Uninsured	343	\$649,691	7.1%	385	\$582,103	5.4%	253	\$818,195	5.3%	153	\$289,468	7.9%	233	\$569,154	7.8%
Other	0	\$0	0.0%	0	\$0	0.0%	0	\$0	0.0%	a	a	a	a	a	a

<sup>1</sup>Number of hospitalizations and/or ED visits; numbers may not sum to total due to missing data.

<sup>2</sup>Total asthma hospital healthcare (hospitalization and ED visit) charges. Charges for 2005-2008 are inflation-adjusted to 2009 dollars.

<sup>3</sup>Percentages may not sum to 100% due to rounding.

a: In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6.



**Table 4. Asthma Hospital Healthcare Charges by Geographic Designation, Connecticut, 2005-2009 (Continued)**

	Five Largest Cities Combined					
	5 Largest Cities Combined			Rest of CT		
	No. <sup>1</sup>	Charges <sup>2</sup>	% <sup>3</sup>	No.	Charges	%
<b>Total asthma hospital healthcare (hospitalization and ED visit) charges by year</b>						
2005	9,602	\$35,765,470		16,432	\$58,434,338	
2006	10,086	\$41,461,656		16,354	\$62,207,281	
2007	9,965	\$40,232,579		15,738	\$63,012,435	
2008	10,714	\$42,820,810		16,124	\$63,775,076	
2009	11,689	\$46,339,770		17,630	\$66,496,947	
<b>Total asthma hospital healthcare charges by hospitalization and ED visits (2009)</b>						
ED Visits	9,627	\$14,238,783	30.7%	14,547	\$18,340,739	27.6%
Hospitalization	2,062	\$32,100,987	69.3%	3,083	\$48,156,208	72.4%
<b>Total asthma hospital healthcare charges by adults and children (2009)</b>						
0-17 years	4,319	\$12,387,083	26.7%	5,730	\$14,037,439	21.1%
18+ years	7,370	\$33,952,687	73.3%	11,900	\$52,459,508	78.9%
<b>Total asthma hospital healthcare charges by sex (2009)</b>						
Female	6,435	\$29,083,923	62.8%	10,207	\$42,806,688	64.4%
Male	5,254	\$17,255,847	37.2%	7,423	\$23,690,259	35.6%
<b>Total asthma hospital healthcare charges by age group (2009)</b>						
0-4	1,762	\$5,018,681	10.8%	2,107	\$5,918,806	8.9%
5-9	1,291	\$3,711,958	8.0%	1,667	\$3,994,936	6.0%
10-14	816	\$2,238,798	4.8%	1,275	\$2,738,642	4.1%
15-24	1,679	\$3,950,117	8.5%	2,740	\$4,871,818	7.3%
25-34	1,737	\$4,535,637	9.8%	2,478	\$5,967,029	9.0%
35-44	1,568	\$5,897,455	12.7%	2,508	\$7,676,851	11.5%
45-54	1,542	\$8,606,764	18.6%	2,335	\$10,642,301	16.0%
55-64	683	\$4,800,563	10.4%	1,166	\$7,673,963	11.5%
65+	611	\$7,579,797	16.4%	1,354	\$17,012,601	25.6%
<b>Total asthma hospital healthcare charges by race/ethnicity (2009)</b>						
White, Non-Hispanic	1,421	\$7,944,116	17.8%	8,780	\$40,252,174	62.8%
Black, Non-Hispanic	3,536	\$17,064,067	38.3%	2,151	\$8,699,584	13.6%
Hispanic	5,359	\$18,633,034	41.8%	3,958	\$12,441,102	19.4%
Other, Non-Hispanic	244	\$963,130	2.2%	748	\$2,750,688	4.3%
<b>Total asthma hospital healthcare charges by source of payment (2009)</b>						
Public	8,465	\$36,551,382	78.9%	9,407	\$42,244,691	63.5%
Private	1,853	\$6,876,967	14.8%	6,458	\$20,882,051	31.4%
Self/Uninsured	1,367	\$2,908,611	6.3%	1,651	\$3,139,683	4.7%
Other	a	a	a	108	\$225,672	0.3%

<sup>1</sup>Number of hospitalizations and/or ED visits; numbers may not sum to total due to missing data.

<sup>2</sup>Total asthma hospital healthcare (hospitalization and ED visit) charges. Charges for 2005-2008 are inflation-adjusted to 2009 dollars.

<sup>3</sup>Percentages may not sum to 100% due to rounding.

a: In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6.

**Table 5. Excess Asthma Hospital Healthcare Charges by Race/Ethnicity by Geographic Designation, Connecticut, 2009**

	Rural classification				County					
	Non-rural		Rural		Fairfield		Hartford		Litchfield	
	IRR <sup>1</sup>	Total Charges <sup>2</sup>	IRR	Total Charges	IRR	Total Charges	IRR	Total Charges	IRR	Total Charges
<b>Hospitalization (Inpatient)</b>										
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$35,028,062	1.0 <sup>†</sup>	\$2,853,845	1.0 <sup>†</sup>	\$7,268,956	1.0 <sup>†</sup>	\$9,642,111	1.0 <sup>†</sup>	\$1,594,059
Black, Non-Hispanic	4.08	\$19,203,502	2.27	a	3.81	\$4,210,924	2.80	\$3,727,146	2.43	\$83,708
Hispanic	3.73	\$20,026,043	3.67	\$423,717	2.63	\$3,783,671	4.84	\$7,950,925	0.74	\$81,352
Other, Non-Hispanic	1.24	\$2,483,102	1.21	\$167,357	1.82	\$977,818	1.60	\$652,745	1.14	a
<b>ED Visits</b>										
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$9,398,673	1.0 <sup>†</sup>	\$915,709	1.0 <sup>†</sup>	\$1,581,798	1.0 <sup>†</sup>	\$2,173,685	1.0 <sup>†</sup>	\$595,519
Black, Non-Hispanic	3.58	\$6,476,887	3.24	\$32,498	6.77	\$1,986,531	3.10	\$1,659,624	3.83	\$24,883
Hispanic	3.94	\$10,489,589	2.12	\$134,787	4.25	\$2,022,033	6.59	\$4,476,388	1.06	\$53,569
Other, Non-Hispanic	0.97	\$1,022,026	0.99	\$41,333	1.87	\$398,690	1.36	\$231,393	0.84	\$18,857
	% Excess <sup>3</sup>	Excess (Fewer) Charges <sup>4</sup>	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges
<b>Hospitalization (Inpatient)</b>										
White, Non-Hispanic <sup>†</sup>	--	--	--	--	--	--	--	--	--	--
Black, Non-Hispanic	75.48%	\$14,495,205	55.97%	a	73.73%	\$3,104,524	64.32%	\$2,397,127	58.82%	\$49,240
Hispanic	73.19%	\$14,657,616	72.76%	\$308,308	61.93%	\$2,343,296	79.33%	\$6,307,224	-34.62%	(\$28,160)
Other, Non-Hispanic	19.09%	\$474,047	17.65%	\$29,534	45.08%	\$440,820	37.68%	\$245,962	12.50%	a
<b>ED Visits</b>										
White, Non-Hispanic <sup>†</sup>	--	--	--	--	--	--	--	--	--	--
Black, Non-Hispanic	72.08%	\$4,668,406	69.13%	\$22,464	85.23%	\$1,693,187	67.78%	\$1,124,896	73.90%	\$18,388
Hispanic	74.61%	\$7,826,549	52.82%	\$71,192	76.49%	\$1,546,695	84.83%	\$3,797,322	5.88%	\$3,151
Other, Non-Hispanic	-2.99%	(\$30,600)	-1.38%	(\$572)	46.54%	\$185,540	26.35%	\$60,983	-18.36%	(\$3,461)
<b>Total Excess Charges<sup>5</sup></b>		\$42,091,223		\$430,925		\$9,314,062		\$13,933,514		\$39,157
<b>Percent Excess of Total Charges<sup>6</sup></b>		39.0%		9.0%		41.0%		43.4%		1.6%

<sup>1</sup>IRR=incidence rate ratio (2005-2009). Risk of asthma hospitalization/ED visits as compared to referent group († is the referent group).

<sup>2</sup>Total asthma hospital healthcare charges for hospitalizations or ED visits by race/ethnicity (2009).

<sup>3</sup>Percent excess are the hospitalizations/ED visits that would not have occurred if the hospitalization/ED visit rates for the minority group was the same as the referent group; (IRR-1)/IRR.

<sup>4</sup>Excess (fewer) charges\* are the result of multiplying percent excess events by the total charges.

<sup>5</sup>Total excess charges are the result of adding all excess hospitalization and ED visit charges.

<sup>6</sup>Percent of total asthma hospital healthcare charges in 2009 that were in excess due to hospitalization and ED visit rates disparity among minority populations.

a: In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6.

**Table 5. Excess Asthma Hospital Healthcare Charges by Race/Ethnicity by Geographic Designation, Connecticut, 2009 (Continued)**

	County									
	Middlesex		New Haven		New London		Tolland		Windham	
	IRR <sup>1</sup>	Total Charges <sup>2</sup>	IRR	Total Charges	IRR	Total Charges	IRR	Total Charges	IRR	Total Charges
<b>Hospitalization (Inpatient)</b>										
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$1,236,287	1.0 <sup>†</sup>	\$13,515,699	1.0 <sup>†</sup>	\$2,779,427	1.0 <sup>†</sup>	\$808,037	1.0 <sup>†</sup>	\$1,037,331
Black, Non-Hispanic	2.89	\$193,218	5.34	\$10,455,032	2.90	\$463,811	1.90	a	4.36	a
Hispanic	1.77	\$131,729	3.68	\$6,966,761	2.04	\$434,650	12.13	\$635,312	6.25	\$465,358
Other, Non-Hispanic	0.61	a	0.74	\$605,775	0.61	\$221,484	2.98	\$125,057	0.54	a
<b>ED Visits</b>										
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$678,221	1.0 <sup>†</sup>	\$2,605,177	1.0 <sup>†</sup>	\$1,831,436	1.0 <sup>†</sup>	\$627,401	1.0 <sup>†</sup>	\$221,145
Black, Non-Hispanic	3.70	\$164,375	3.80	\$2,289,947	2.70	\$305,773	2.50	\$56,514	4.94	\$21,737
Hispanic	1.95	\$149,525	3.76	\$3,089,249	1.85	\$402,485	3.16	\$202,416	8.78	\$228,713
Other, Non-Hispanic	0.51	\$11,388	0.60	\$211,836	0.53	\$124,698	1.23	\$57,144	0.67	\$9,352
	% Excess <sup>3</sup>	Excess (Fewer) Charges <sup>4</sup>	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges
<b>Hospitalization (Inpatient)</b>										
White, Non-Hispanic <sup>†</sup>	--	--	--	--	--	--	--	--	--	--
Black, Non-Hispanic	65.45%	\$126,470	81.27%	\$8,496,788	65.46%	\$303,613	47.50%	a	77.07%	a
Hispanic	43.56%	\$57,387	72.81%	\$5,072,573	50.93%	\$221,387	91.75%	\$582,924	83.99%	\$390,852
Other, Non-Hispanic	-62.86%	a	-35.63%	(\$215,851)	-64.06%	(\$141,888)	66.49%	\$83,150	-84.85%	a
<b>ED Visits</b>										
White, Non-Hispanic <sup>†</sup>	--	--	--	--	--	--	--	--	--	--
Black, Non-Hispanic	72.94%	\$119,899	73.66%	\$1,686,717	63.00%	\$192,643	60.05%	\$33,935	79.76%	\$17,338
Hispanic	48.85%	\$73,039	73.43%	\$2,268,314	45.95%	\$184,941	68.37%	\$138,396	88.61%	\$202,662
Other, Non-Hispanic	-96.13%	(\$10,948)	-67.28%	(\$142,526)	-88.32%	(\$110,135)	18.85%	\$10,774	-50.00%	(\$4,676)
<b>Total Excess Charges<sup>5</sup></b>		\$365,847		\$17,166,015		\$650,561		\$849,178		\$606,176
<b>Percent Excess of Total Charges<sup>6</sup></b>		14.1%		41.4%		9.9%		32.2%		26.8%

<sup>1</sup>IRR=incidence rate ratio (2005-2009). Risk of asthma hospitalization/ED visits as compared to referent group († is the referent group).

<sup>2</sup>Total asthma hospital healthcare charges for hospitalizations or ED visits by race/ethnicity (2009).

<sup>3</sup>Percent excess are the hospitalizations/ED visits that would not have occurred if the hospitalization/ED visit rates for the minority group was the same as the referent group; (IRR-1)/IRR.

<sup>4</sup>Excess (fewer) charges\* are the result of multiplying percent excess events by the total charges.

<sup>5</sup>Total excess charges are the result of adding all excess hospitalization and ED visit charges.

<sup>6</sup>Percent of total asthma hospital healthcare charges in 2009 that were in excess due to hospitalization and ED visit rates disparity among minority populations.

a: In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6.

**Table 5. Excess Asthma Hospital Healthcare Charges by Race/Ethnicity by Geographic Designation, Connecticut, 2009 (Continued)**

	Five Largest Cities									
	Bridgeport		Hartford		New Haven		Stamford		Waterbury	
	IRR <sup>1</sup>	Total Charges <sup>2</sup>	IRR	Total Charges	IRR	Total Charges	IRR	Total Charges	IRR	Total Charges
<b>Hospitalization (Inpatient)</b>										
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$1,071,043	1.0 <sup>†</sup>	\$756,415	1.0 <sup>†</sup>	\$2,190,034	1.0 <sup>†</sup>	\$1,188,651	1.0 <sup>†</sup>	\$1,096,137
Black, Non-Hispanic	1.40	\$2,526,388	1.54	\$2,033,925	3.50	\$7,069,903	2.94	\$774,786	1.65	\$563,900
Hispanic	1.63	\$2,747,917	2.30	\$3,616,523	2.74	\$3,224,076	1.54	\$315,827	2.90	\$2,207,333
Other, Non-Hispanic	0.47	\$145,018	1.04	\$122,576	0.40	a	1.87	\$228,393	0.87	\$143,806
<b>ED Visits</b>										
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$241,603	1.0 <sup>†</sup>	\$179,367	1.0 <sup>†</sup>	\$178,948	1.0 <sup>†</sup>	\$358,440	1.0 <sup>†</sup>	\$683,476
Black, Non-Hispanic	2.07	\$1,054,789	2.86	\$889,068	3.58	\$1,053,881	4.90	\$404,972	2.09	\$692,454
Hispanic	2.16	\$1,299,618	5.98	\$2,444,226	2.53	\$671,909	2.30	\$324,738	2.77	\$1,780,868
Other, Non-Hispanic	0.59	\$64,065	0.32	\$13,255	0.38	\$25,603	1.87	\$48,746	0.71	\$93,330
	% Excess <sup>3</sup>	Excess (Fewer) Charges <sup>4</sup>	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges	% Excess	Excess (Fewer) Charges
<b>Hospitalization (Inpatient)</b>										
White, Non-Hispanic <sup>†</sup>	--	--	--	--	--	--	--	--	--	--
Black, Non-Hispanic	28.38%	\$717,061	34.98%	\$711,559	71.46%	\$5,051,975	66.02%	\$511,509	39.49%	\$222,687
Hispanic	38.53%	\$1,058,688	56.43%	\$2,040,859	63.57%	\$2,049,413	35.19%	\$111,124	65.52%	\$1,446,184
Other, Non-Hispanic	-110.68%	(\$160,505)	4.11%	\$5,037	-149.56%	a	46.56%	\$106,351	-15.15%	(\$21,789)
<b>ED Visits</b>										
White, Non-Hispanic <sup>†</sup>	--	--	--	--	--	--	--	--	--	--
Black, Non-Hispanic	51.67%	\$545,021	65.03%	\$578,167	72.03%	\$759,099	79.59%	\$322,330	52.24%	\$361,709
Hispanic	53.80%	\$699,219	83.28%	\$2,035,511	60.45%	\$406,140	56.50%	\$183,488	63.91%	\$1,138,089
Other, Non-Hispanic	-69.72%	(\$44,665)	-212.33%	(\$28,144)	-164.60%	(\$42,142)	46.66%	\$22,743	-40.67%	(\$37,953)
<b>Total Excess Charges<sup>5</sup></b>		\$2,814,819		\$5,342,989		\$8,224,485		\$1,257,545		\$3,108,927
<b>Percent Excess of Total Charges<sup>6</sup></b>		30.7%		49.5%		53.2%		34.5%		42.7%

<sup>1</sup>IRR=incidence rate ratio (2005-2009). Risk of asthma hospitalization/ED visits as compared to referent group († is the referent group).

<sup>2</sup>Total asthma hospital healthcare charges for hospitalizations or ED visits by race/ethnicity (2009).

<sup>3</sup>Percent excess are the hospitalizations/ED visits that would not have occurred if the hospitalization/ED visit rates for the minority group was the same as the referent group; (IRR-1)/IRR.

<sup>4</sup>Excess (fewer) charges\* are the result of multiplying percent excess events by the total charges.

<sup>5</sup>Total excess charges are the result of adding all excess hospitalization and ED visit charges.

<sup>6</sup>Percent of total asthma hospital healthcare charges in 2009 that were in excess due to hospitalization and ED visit rates disparity among minority populations.

a: In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6.

**Table 5. Excess Asthma Hospital Healthcare Charges by Race/Ethnicity by Geographic Designation, Connecticut, 2009 (Continued)**

	Five Largest Cities Combined			
	5 Largest Cities Combined		Rest of CT	
	IRR <sup>1</sup>	Total Charges <sup>2</sup>	IRR	Total Charges
<b>Hospitalization (Inpatient)</b>				
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$6,302,281	1.0 <sup>†</sup>	\$31,579,627
Black, Non-Hispanic	2.88	\$12,968,902	3.17	\$6,285,364
Hispanic	2.76	\$12,111,675	2.91	\$8,338,084
Other, Non-Hispanic	0.85	\$718,130	1.27	\$1,932,329
<b>ED Visits</b>				
White, Non-Hispanic <sup>†</sup>	1.0 <sup>†</sup>	\$1,641,835	1.0 <sup>†</sup>	\$8,672,547
Black, Non-Hispanic	2.80	\$4,095,166	2.94	\$2,414,219
Hispanic	3.41	\$6,521,358	2.94	\$4,103,017
Other, Non-Hispanic	0.74	\$245,000	0.99	\$818,358
	% Excess <sup>3</sup>	Excess (Fewer) Charges <sup>4</sup>	% Excess	Excess (Fewer) Charges
<b>Hospitalization (Inpatient)</b>				
White, Non-Hispanic <sup>†</sup>	--	--	--	--
Black, Non-Hispanic	65.24%	\$8,460,400	68.48%	\$4,304,374
Hispanic	63.76%	\$7,722,209	65.68%	\$5,476,284
Other, Non-Hispanic	-17.39%	(\$124,892)	21.36%	\$412,730
<b>ED Visits</b>				
White, Non-Hispanic <sup>†</sup>	--	--	--	--
Black, Non-Hispanic	64.27%	\$2,631,834	66.00%	\$1,593,385
Hispanic	70.68%	\$4,609,133	66.04%	\$2,709,458
Other, Non-Hispanic	-34.58%	(\$84,714)	-0.62%	(\$5,099)
<b>Total Excess Charges<sup>5</sup></b>		<b>\$23,213,970</b>		<b>\$14,491,132</b>
<b>Percent Excess of Total Charges<sup>6</sup></b>		<b>50.1%</b>		<b>21.8%</b>

<sup>1</sup>IRR=incidence rate ratio (2005-2009). Risk of asthma hospitalization/ED visits as compared to referent group († is the referent group).

<sup>2</sup>Total asthma hospital healthcare charges for hospitalizations or ED visits by race/ethnicity (2009).

<sup>3</sup>Percent excess are the hospitalizations/ED visits that would not have occurred if the hospitalization/ED visit rates for the minority group was the same as the referent group; (IRR-1)/IRR.

<sup>4</sup>Excess (fewer) charges\* are the result of multiplying percent excess events by the total charges.

<sup>5</sup>Total excess charges are the result of adding all excess hospitalization and ED visit charges.

<sup>6</sup>Percent of total asthma hospital healthcare charges in 2009 that were in excess due to hospitalization and ED visit rates disparity among minority populations.

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For additional information please contact the Connecticut Department of Public Health Asthma Program:  
410 Capitol Avenue Phone: (860) 509-8251  
PO Box 340308, MS#11HLS <http://www.ct.gov/dph/asthma>  
Hartford, CT 06134-0308

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