

# 2008 Asthma Capitals™ - "The Most Challenging Places to Live with Asthma"

The Asthma Capitals™ is an annual research project of the Asthma and Allergy Foundation of America® (AAFA) supported by an unrestricted educational grant from AstraZeneca. This report provides a summary of the 12 factors used to compare and rank the 100 largest U.S. metropolitan statistical areas. See methodology page 5. Visit [www.AsthmaCapitals.com](http://www.AsthmaCapitals.com) for more information or call 1-800-7-ASTHMA.

- Worse than Average
- ◐ Average\*
- Better than Average



2008 Rank		Total Score	Metro area	Prevalence Factors			Risk Factors						Medical Factors		
				Estimated asthma prevalence	Self-reported asthma prevalence	Crude death rate for asthma	Annual pollen score	Air quality	"100%" public smoke-free laws	Poverty rate	Uninsured rate	School inhaler access law	Use of rescue meds	Use of controller meds	Number of asthma specialists
1	●	100.00	Knoxville, TN	●	●	◐	●	●	●	◐	◐	◐	●	●	◐
2	●	95.49	Tulsa, OK	●	◐	◐	●	◐	●	◐	●	◐	●	◐	●
3	●	91.21	Milwaukee, WI	●	●	◐	●	●	●	●	◐	◐	●	●	◐
4	●	90.63	Atlanta, GA	◐	○	●	◐	●	●	●	●	◐	●	◐	●
5	●	90.07	Memphis, TN	◐	●	●	●	●	●	●	●	◐	◐	◐	◐
6	●	89.89	Allentown, PA	◐	●	○	●	●	●	○	◐	◐	◐	◐	●
7	●	88.34	Charlotte, NC	○	◐	◐	◐	●	●	◐	◐	◐	◐	●	●
8	●	87.84	Greenville, SC	○	◐	●	◐	●	●	◐	◐	◐	◐	●	◐
9	●	87.53	Saint Louis, MO	●	●	○	●	●	●	○	○	◐	◐	◐	◐
10	●	86.79	Greensboro, NC	○	◐	●	◐	◐	●	◐	◐	◐	●	●	●
11	●	86.31	Kansas City, MO	◐	●	◐	●	◐	●	◐	◐	◐	●	◐	◐
12	●	86.11	Philadelphia, PA	◐	●	●	●	●	●	●	●	◐	●	●	●
13	●	85.18	Birmingham, AL	○	●	●	●	●	●	●	◐	◐	●	●	○
14	●	84.60	Harrisburg, PA	◐	●	○	●	●	●	○	○	◐	◐	◐	○
15	●	82.23	Lancaster, PA	◐	●	◐	●	●	●	○	◐	◐	○	◐	◐
16	●	81.69	Chattanooga, TN	◐	●	○	●	◐	●	◐	◐	◐	○	●	◐
17	●	81.45	Johnson City, TN	◐	●	○	●	◐	●	◐	○	◐	●	●	○
18	●	81.01	Detroit, MI	●	◐	○	◐	●	●	●	◐	◐	◐	◐	●
19	●	80.87	Pittsburgh, PA	◐	●	○	●	●	●	○	○	◐	◐	◐	◐
20	●	80.55	San Antonio, TX	○	○	○	○	●	●	●	●	◐	◐	◐	◐
21	●	79.33	Augusta, GA	◐	○	●	◐	◐	●	●	●	◐	●	●	◐
22	●	78.99	Little Rock, AR	◐	○	●	◐	◐	●	◐	◐	◐	●	●	○
23	●	78.75	Dallas-Ft. Worth, TX	○	○	○	○	●	●	●	●	◐	◐	◐	●

2008 Rank		Total Score	Metro area	Prevalence Factors			Risk Factors						Medical Factors		
				Estimated asthma prevalence	Self-reported asthma prevalence	Crude death rate for asthma	Annual pollen score	Air quality	"100%" public smoke-free laws	Poverty rate	Uninsured rate	School inhaler access law	Use of rescue meds	Use of controller meds	Number of asthma specialists
24	●	78.74	Toledo, OH	◐	◐	●	●	●	○	◐	◐	◐	●	●	◐
25	●	78.61	Hartford, CT	◐	●	○	●	◐	◐	○	◐	●	●	●	◐
26	●	78.42	McAllen, TX	○	○	●	○	◐	●	●	●	◐	●	◐	●
27	●	78.39	Scranton, PA	◐	●	◐	◐	◐	●	○	○	◐	◐	◐	●
28	●	78.36	Mobile, AL	◐	●	◐	◐	◐	●	●	●	◐	●	◐	○
29	●	77.59	Nashville, TN	◐	●	◐	◐	◐	●	◐	◐	◐	◐	◐	○
30	●	77.44	Fresno, CA	◐	◐	◐	◐	●	○	●	●	◐	●	◐	●
31	●	77.36	Grand Rapids, MI	◐	◐	●	◐	●	●	○	○	◐	◐	◐	◐
32	●	77.22	Springfield, MA	●	◐	◐	◐	●	○	●	◐	◐	◐	◐	●
33	●	76.44	Providence, RI	●	●	○	◐	●	○	◐	◐	◐	◐	◐	●
34	●	76.38	Columbus, OH	◐	◐	◐	◐	●	○	◐	◐	◐	●	◐	◐
35	●	76.13	Modesto, CA	◐	◐	◐	◐	●	○	◐	●	◐	◐	◐	●
36	●	75.94	Bakersfield, CA	◐	◐	○	◐	●	○	●	●	◐	◐	○	●
37	●	75.85	Columbia, SC	○	◐	○	◐	●	◐	●	◐	◐	◐	◐	◐
38	●	75.65	New York, NY	●	◐	◐	○	●	○	●	◐	◐	○	◐	◐
39	●	75.60	Indianapolis, IN	◐	◐	●	◐	●	◐	◐	◐	◐	◐	◐	○
40	●	75.55	Buffalo, NY	●	●	○	●	●	○	◐	○	◐	●	◐	○
41	◐	74.74	Lansing, MI	●	◐	●	◐	◐	●	◐	◐	◐	○	◐	●
42	◐	74.65	Raleigh, NC	○	◐	○	◐	◐	●	◐	◐	◐	◐	●	◐
43	◐	74.29	Chicago, IL	○	◐	●	○	●	○	●	●	◐	◐	◐	◐
44	◐	73.85	Oklahoma City, OK	◐	◐	◐	◐	◐	●	●	●	◐	○	○	◐
45	◐	73.84	Canton, OH	◐	◐	◐	●	●	○	○	○	◐	◐	◐	●
46	◐	73.80	Pensacola, FL	○	○	●	○	◐	◐	◐	●	◐	◐	◐	◐
47	◐	73.60	Las Vegas, NV	○	○	○	○	◐	◐	○	●	◐	◐	◐	◐
48	◐	73.38	Fort Wayne, IN	◐	◐	○	◐	◐	○	○	◐	◐	●	●	◐
49	◐	72.89	Boston, MA	●	●	●	●	◐	○	●	◐	◐	◐	◐	○
50	◐	72.88	Cincinnati, OH	◐	◐	◐	●	◐	○	◐	○	◐	◐	◐	○
51	◐	72.78	Youngstown, OH	◐	◐	●	●	●	○	◐	◐	◐	◐	◐	●
52	◐	72.47	Cleveland, OH	◐	◐	○	●	●	○	●	◐	◐	●	◐	○
53	◐	72.14	Dayton, OH	◐	◐	○	●	◐	○	◐	○	◐	●	●	◐
54	◐	71.95	Des Moines, IA	◐	○	●	○	◐	●	◐	○	◐	●	●	○
55	◐	71.66	Wichita, KS	○	○	●	◐	○	●	◐	◐	◐	●	◐	●

2008 Rank		Total Score	Metro area	Prevalence Factors			Risk Factors						Medical Factors		
				Estimated asthma prevalence	Self-reported asthma prevalence	Crude death rate for asthma	Annual pollen score	Air quality	"100%" public smoke-free laws	Poverty rate	Uninsured rate	School inhaler access law	Use of rescue meds	Use of controller meds	Number of asthma specialists
56	☐	71.10	Baltimore, MD	☐	☐	●	☐	☐	○	●	○	☐	☐	☐	☐
57	☐	70.80	Phoenix-Mesa, AZ	☐	○	○	○	●	○	☐	●	☐	☐	☐	●
58	☐	70.54	Salt Lake City, UT	☐	☐	●	☐	☐	☐	○	☐	☐	○	○	○
59	☐	69.81	Albany, NY	●	●	●	●	☐	○	○	○	☐	☐	☐	☐
60	☐	69.69	Washington, DC	●	●	☐	●	●	○	●	☐	☐	○	○	●
61	☐	68.81	Louisville, KY	●	☐	○	☐	☐	○	☐	☐	☐	☐	●	○
62	☐	68.54	Los Angeles, CA	☐	☐	○	☐	●	○	●	●	☐	○	○	☐
63	☐	68.24	Kalamazoo, MI	●	☐	○	☐	☐	●	☐	○	☐	☐	☐	☐
64	☐	67.05	Tampa, FL	○	○	☐	○	☐	☐	○	●	☐	●	☐	●
65	☐	67.01	Lexington, KY	●	☐	○	☐	☐	●	☐	☐	☐	●	●	○
66	○	65.85	Charleston, SC	○	☐	○	☐	☐	☐	●	☐	☐	☐	○	○
67	○	65.71	Austin, TX	○	○	○	○	☐	○	☐	☐	☐	☐	☐	●
68	○	65.04	Stockton, CA	☐	☐	☐	☐	☐	○	☐	●	☐	○	○	●
69	○	64.93	Sacramento, CA	☐	☐	☐	☐	●	○	☐	●	☐	○	○	☐
70	○	64.76	Baton Rouge, LA	○	○	○	○	☐	○	●	●	☐	☐	☐	☐
71	○	64.63	El Paso, TX	○	○	○	○	☐	○	●	●	☐	○	☐	○
72	○	64.51	Houston, TX	○	○	○	○	☐	○	●	●	☐	☐	☐	☐
73	○	64.09	Jacksonville, FL	○	○	●	○	☐	☐	○	☐	☐	●	☐	☐
74	○	64.09	Madison, WI	●	●	☐	☐	☐	●	○	○	☐	☐	●	○
75	○	64.00	Omaha, NE	○	○	●	○	☐	●	○	○	☐	●	●	○
76	○	63.72	San Diego, CA	☐	☐	○	☐	●	○	○	●	☐	○	○	○
77	○	63.52	Portland, OR	●	●	☐	○	○	●	☐	☐	☐	○	○	●
78	○	62.74	Albuquerque, NM	●	●	☐	○	☐	●	☐	●	☐	☐	○	☐
79	○	62.70	Richmond, VA	●	○	●	○	☐	●	●	☐	☐	○	○	○
80	○	62.21	Orlando, FL	○	○	☐	○	☐	☐	☐	●	☐	●	●	○
81	○	62.04	Norfolk, VA	●	○	☐	○	○	●	●	☐	☐	○	○	☐
82	○	61.95	New Orleans, LA	○	○	☐	○	☐	○	●	●	☐	●	●	○
83	○	59.97	Syracuse, NY	●	●	●	●	☐	○	☐	○	☐	●	●	☐
84	○	59.47	Jackson, MS	☐	○	●	○	○	●	●	●	☐	☐	●	○
85	○	58.96	Denver, CO	☐	●	○	●	☐	☐	●	●	☐	○	○	☐
86	○	57.52	Miami, FL	○	○	○	○	○	☐	●	●	☐	☐	☐	○
87	○	55.39	Rochester, NY	●	●	○	●	☐	○	☐	○	☐	☐	☐	○

2008 Rank		Total Score	Metro area	Prevalence Factors			Risk Factors						Medical Factors		
				Estimated asthma prevalence	Self-reported asthma prevalence	Crude death rate for asthma	Annual pollen score	Air quality	"100%" public smoke-free laws	Poverty rate	Uninsured rate	School inhaler access law	Use of rescue meds	Use of controller meds	Number of asthma specialists
88	○	54.33	Lakeland, FL	○	○	◐	○	○	◐	◐	●	◐	◐	◐	◐
89	○	53.29	Tucson, AZ	◐	○	●	○	○	○	●	●	◐	●	◐	◐
90	○	52.93	Boise City, ID	◐	◐	○	◐	○	●	○	◐	◐	○	◐	◐
91	○	52.32	Sarasota, FL	○	○	○	○	◐	◐	○	○	◐	○	○	◐
92	○	51.34	Seattle, WA	●	●	○	◐	◐	○	○	◐	◐	○	○	◐
93	○	51.23	West Palm Beach, FL	○	○	○	○	○	◐	○	◐	◐	◐	◐	◐
94	○	50.73	Spokane, WA	◐	●	◐	○	○	○	◐	◐	◐	○	○	◐
95	○	50.38	Melbourne, FL	○	○	○	○	○	◐	○	◐	◐	◐	◐	◐
96	○	50.09	Fort Myers, FL	○	○	○	○	○	◐	○	◐	◐	○	◐	○
97	○	50.07	Daytona Beach, FL	○	○	○	○	○	◐	○	◐	◐	○	○	◐
98	○	49.64	Minneapolis, MN	●	◐	○	◐	○	○	○	○	◐	◐	○	◐
99	○	46.88	San Francisco, CA	○	◐	○	◐	◐	○	○	◐	◐	○	○	◐
100	○	46.72	Colorado Springs, CO	●	◐	●	○	○	◐	○	◐	◐	○	○	○

	Prevalence Factors			Risk Factors						Medical Factors		
	Estimated asthma prevalence	Self-reported asthma prevalence	Crude death rate for asthma	Annual pollen score	Air quality	"100%" public smoke-free laws	Poverty rate	Uninsured rate	School inhaler access law	Use of rescue meds	Use of controller meds	Number of asthma specialists
*AVERAGES for each FACTOR	8.00%	8.09%	1.45%	40 grains per cubic meter air daily	Avg. C- on A to F scale	Avg. 1.7 on 0 to 4 scale	14.60%	14.24%	Avg. 1 state law per state	2.2 Rx per est. patient	2.68 Rx per est. patient	4.22 spcl per 10,000 est. patients

NOTE: Factors are not all weighed equally for the final total score.

The U.S. Asthma Capitals research and rankings are reported annually by the Asthma and Allergy Foundation of America® (AAFA). The rankings are based on analysis of data from the 100 most-populated metro areas in the U.S. including 12 individual factors grouped into three primary areas: Prevalence Factors, Risk Factors and Medical Factors. Weights were applied to each set of data in each factor group by researchers and medical specialists, reflecting each factor's relative effect on the quality of life for asthma sufferers. Factors are not equally weighted. Total scores were calculated as a composite of all factors, and cities were ranked from highest total score (city rank #1) to lowest total score (city rank #100).

**PREVALENCE FACTORS** – Quantitative data including morbidity statistics from the most recently available sources of estimated asthma prevalence, self-reported prevalence and crude death rates for asthma.

- \*Estimated Prevalence for Asthma – adult and pediatric predicted population with asthma
- \*Self-Reported Prevalence for Asthma – self-reported adult and pediatric population with asthma
- \*Crude Death Rate from Asthma – recorded metro area deaths from asthma

**RISK FACTORS** – Qualitative and quantitative data from the most recently available sources of comprehensive annual pollen measurements, average length of peak pollen seasons, outdoor air quality (including number of ozone days and annual levels of pollution particulate matter [pm]), poverty rates, uninsured rates, state school inhaler access laws and city laws prohibiting smoking in public places (including workplaces, restaurants, bars and/or cars with minors).

- \*Annual Pollen Score – reported “Pollen Score” for each metro area
- \*Annual Air Quality – pollution levels and number of unhealthy outdoor ozone days, scored on A (best) to F (worst) scale
- \*Public Smoking Laws – number of "100% smoke-free" public smoking bans (bars, restaurants, workplaces and/or cars with minors)
- \*Poverty Rate – reported percent of metro area population in poverty
- \*Uninsured Rate – reported percent of metro area population without health insurance
- \*School Inhaler Access Laws – state laws ensuring student access to inhalers

Note: The “Pollen Score” is supplied by the Surveillance Data, Inc. and each score is made using information from actual pollen counts, local vegetation, allergy prevalence per pollen type and weather patterns. The “Score” is an index of the risk of being affected by airborne allergenic pollen and is not the actual pollen count.

**MEDICAL FACTORS** – Quantitative data from the most recently available sources in the top 100 most populated U.S. cities for the number of asthma rescue and controller medication prescriptions per patient, and the number of adult and pediatric specialists per 10,000 patients with their primary Board Certification in asthma, allergy, immunology and/or pulmonology.

- \*Rescue Medication Use – number of rescue medication prescriptions per patient prevalence
- \*Controller Medication Use – number of controller medication prescriptions per patient prevalence
- \*Number of Asthma Specialists – number of Board Certified adult/pediatric allergists, immunologists and pulmonologists per patient prevalence

Sources: Most Currently Available Local-Level Data Used for the 2008 Asthma Capitals:

Decennial U.S. Census 2000, U.S. Department of Commerce, Census Bureau, and 2006 Population Updates  
National Annual Pollen Index Measurements and Reports, Surveillance Data, Inc., 2007  
Local Tobacco Control Ordinance Database, American Nonsmokers' Rights Foundation, 2008  
State Policy Reports, National Conference of State Legislatures, 2007  
National Prescription Tracking Database, IMS Health Inc., 2007  
National Medical Specialist Database, American Board of Medical Specialties, 2007  
Small Area Income & Poverty Estimates, U.S. Department of Commerce, Economics and Statistics Administration, 2004  
Small Area Health Insurance Estimates, U.S. Department of Commerce, Economics and Statistics Administration 2000 (2005 Report)  
"The Cost of Asthma," Metro Area Asthma Prevalence Statistics, Asthma and Allergy Foundation of America  
Mortality Statistics Database, U.S. Centers for Disease Control and Prevention, CDC Wonder, 2004  
National Health Interview Survey, U.S. Centers for Disease Control and Prevention, 2005  
National Center for Health Statistics, Behavioral Risk Factor Surveillance System, "Self-Reported Asthma Prevalence Rates," 2005  
Air Quality System (AQS) "Air Data," U.S. Environmental Protection Agency, 2003-2005

(© 2008-AAFA - Neither this report nor its contents may be reproduced or used for commercial purposes without permission)



This project is made possible by an unrestricted educational grant from AstraZeneca