

"The Most Challenging Places to Live with Asthma"

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

The Asthma Capitals™ is an annual research project of the Asthma and Allergy Foundation of America® (AAFA) to identify "the most challenging places to live with asthma." This report provides a summary of factors used to compare and rank the 100 largest U.S. metro areas. Don't move -- *improve!* Visit www.AsthmaCapitals.com to learn how to manage your asthma better no matter where you live. Call 1-800-7-ASTHMA or write info@aafa.org for more information.

2011 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 quick relief meds	Use of controller meds	Number of asthma specialists	
1	●	100.00	Richmond, VA	●	◐	●	●	●	●	●	●	○	○	◐	●	
2	●	99.74	Knoxville, TN	◐	◐	○	◐	●	●	●	◐	◐	○	●	●	○
3	●	99.05	Memphis, TN	◐	◐	●	●	●	●	●	●	○	◐	◐	◐	◐
4	●	98.78	Chattanooga, TN	◐	◐	●	◐	●	●	●	◐	○	●	●	◐	◐
5	●	96.75	Tulsa, OK	◐	●	○	●	●	●	◐	●	○	●	◐	●	●
6	●	95.45	St. Louis, MO	◐	●	○	●	●	◐	○	○	○	●	●	◐	◐
7	●	94.77	Augusta, GA	◐	○	●	◐	●	●	●	●	○	●	●	◐	◐
8	●	93.53	Virginia Beach, VA	●	◐	◐	●	●	●	○	◐	○	○	◐	●	●
9	●	92.25	Philadelphia, PA	●	●	●	●	●	◐	●	●	○	○	●	●	●
10	●	92.19	Nashville, TN	◐	◐	●	○	●	●	●	●	○	◐	◐	◐	◐
11	●	92.02	Pittsburgh, PA	●	●	◐	●	●	●	◐	○	○	◐	●	●	○
12	●	92.00	Oklahoma City, OK	◐	●	●	●	◐	●	●	●	○	●	●	◐	◐
13	●	91.71	Atlanta, GA	◐	○	◐	◐	●	●	●	●	○	○	◐	●	●
14	●	91.58	Birmingham, AL	○	○	◐	◐	●	●	●	●	◐	○	●	●	○
15	●	91.15	Dayton, OH	●	●	◐	●	●	◐	●	◐	○	●	●	●	●
16	●	90.90	Indianapolis, IN	●	●	●	●	●	◐	●	◐	○	●	●	◐	◐
17	●	90.15	Scranton, PA	●	●	●	○	●	●	◐	○	○	◐	●	●	●
18	●	90.00	Allentown, PA	●	●	◐	●	●	●	○	○	○	○	◐	●	●
19	●	89.58	New Haven, CT	◐	●	◐	◐	●	◐	○	○	○	●	●	○	○
20	●	89.31	Louisville, KY	●	●	●	●	●	◐	◐	◐	○	◐	●	●	◐
21	●	88.78	Milwaukee, WI	●	●	●	●	●	◐	●	○	○	●	●	○	○
22	●	88.47	San Antonio, TX	○	○	◐	●	●	●	●	●	○	◐	◐	◐	◐
23	●	88.05	Detroit, MI	●	●	●	○	●	◐	●	◐	○	●	◐	●	●

2011 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 quick relief meds	Use of controller meds	Number of asthma specialists
24	●	87.86	New York, NY	◐	●	●	◐	●	◐	◐	◐	○	●	●	●
25	●	87.32	McAllen, TX	○	○	○	●	○	●	●	●	○	●	●	●
26	●	87.27	Orlando, FL	○	○	●	○	●	◐	◐	●	○	●	◐	●
27	●	87.09	Cleveland, OH	●	●	●	●	●	◐	●	○	○	●	◐	○
28	●	86.71	Springfield, MA	●	●	●	●	●	◐	●	○	○	●	●	◐
29	●	86.38	Jacksonville, FL	○	○	●	●	●	◐	◐	●	○	●	◐	○
30	●	86.23	Buffalo, NY	◐	●	○	●	●	◐	◐	◐	○	●	●	○
31	●	85.79	Harrisburg, PA	●	●	◐	◐	●	●	○	◐	○	◐	●	○
32	●	85.47	Columbus, OH	●	●	○	◐	●	◐	●	◐	○	●	◐	◐
33	●	85.42	Youngstown, OH	●	●	◐	●	●	◐	●	○	○	●	◐	◐
34	●	85.23	Dallas, TX	○	○	●	●	●	◐	●	●	○	◐	◐	●
35	●	85.18	Greensboro, NC	○	◐	●	●	●	◐	●	●	○	◐	●	●
36	●	84.95	Toledo, OH	●	●	●	○	●	◐	●	○	○	●	●	◐
37	●	84.92	Fresno, CA	◐	◐	●	○	●	◐	●	●	○	●	◐	◐
38	●	84.51	Akron, OH	●	●	◐	●	●	◐	◐	○	○	●	◐	◐
39	●	84.39	Providence, RI	●	●	○	●	●	◐	◐	◐	○	●	●	◐
40	●	83.96	Hartford, CT	◐	●	○	◐	●	◐	○	○	○	●	●	○
41	●	83.95	Little Rock, AR	◐	○	●	●	◐	●	●	●	○	●	●	○
42	●	83.94	Madison, WI	●	●	◐	●	●	◐	◐	○	○	●	●	○
43	●	83.86	Bakersfield, CA	◐	◐	◐	◐	●	◐	●	●	○	○	◐	●
44	●	83.85	Lakeland, FL	○	○	○	◐	◐	◐	●	●	○	●	◐	◐
45	●	83.69	Bridgeport, CT	◐	●	○	◐	●	◐	○	○	○	◐	●	○
46	●	83.21	Chicago, IL	◐	●	●	○	●	◐	●	●	○	●	◐	◐
47	◐	82.78	Modesto, CA	◐	◐	◐	○	●	○	●	●	○	●	◐	●
48	◐	82.58	Cincinnati, OH	●	●	◐	◐	●	◐	◐	◐	○	◐	◐	◐
49	◐	82.52	Washington, DC	●	●	●	◐	●	◐	●	○	○	○	○	●
50	◐	82.50	El Paso, TX	○	○	◐	◐	●	◐	●	●	○	○	◐	◐
51	◐	82.24	Charlotte, NC	○	◐	◐	●	●	◐	◐	●	○	◐	●	●
52	◐	82.05	Poughkeepsie, NY	◐	●	○	◐	●	◐	○	◐	○	◐	◐	●
53	◐	81.54	Lancaster, PA	●	●	○	○	●	●	○	◐	○	○	◐	●
54	◐	81.40	Columbia, SC	◐	◐	◐	●	●	◐	●	◐	○	○	◐	●

2011 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 quick relief meds	Use of controller meds	Number of asthma specialists
55	☐	81.16	Riverside, CA	☐	☐	○	☐	●	☐	☐	●	○	○	○	●
56	☐	81.09	Albany, NY	☐	●	☐	☐	●	☐	○	☐	○	●	☐	☐
57	☐	80.94	Los Angeles, CA	☐	☐	☐	☐	●	☐	●	●	○	○	☐	☐
58	☐	80.38	Baltimore, MD	●	●	☐	☐	●	☐	●	☐	○	☐	☐	☐
59	☐	79.58	Stockton, CA	☐	☐	●	○	●	☐	☐	●	○	○	○	●
60	☐	79.11	Ogden, UT	☐	☐	☐	☐	●	☐	○	☐	○	○	☐	●
61	☐	78.91	Miami, FL	○	○	☐	○	●	☐	●	●	○	●	●	☐
62	☐	78.39	Grand Rapids, MI	●	●	○	☐	●	☐	☐	☐	○	☐	☐	●
63	☐	78.37	Wichita, KS	☐	☐	●	●	○	☐	☐	☐	○	●	●	●
64	☐	78.03	Houston, TX	○	○	○	○	●	☐	●	●	○	○	☐	☐
65	☐	77.83	Boston, MA	●	●	○	○	●	☐	●	○	○	●	●	☐
66	☐	76.66	Charleston, SC	☐	☐	☐	☐	☐	☐	●	●	○	☐	●	○
67	☐	76.33	Salt Lake City, UT	☐	☐	☐	☐	●	☐	○	☐	○	○	☐	○
68	☐	76.29	Rochester, NY	☐	●	○	●	☐	☐	☐	○	○	☐	●	○
69	☐	76.22	Boise City, ID	☐	☐	☐	○	☐	●	○	☐	○	○	☐	☐
70	☐	76.18	Worcester, MA	●	●	○	☐	☐	☐	○	○	○	●	☐	☐
71	☐	75.29	Tucson, AZ	●	●	☐	●	☐	☐	●	●	○	☐	☐	☐
72	☐	74.74	Sacramento, CA	☐	☐	☐	○	●	○	☐	☐	○	○	☐	☐
73	☐	74.54	Las Vegas, NV	☐	●	☐	☐	☐	☐	○	●	○	○	☐	●
74	☐	74.52	Daytona Beach, FL	○	○	●	○	○	☐	☐	●	○	☐	☐	☐
75	☐	74.50	Baton Rouge, LA	☐	○	○	○	●	☐	●	●	○	☐	●	☐
76	☐	74.39	New Orleans, LA	☐	○	●	○	☐	☐	●	●	○	●	●	○
77	○	74.09	Palm Bay, FL	○	○	☐	○	○	☐	○	●	○	☐	●	☐
78	○	74.00	Denver, CO	☐	☐	●	●	☐	☐	●	●	○	○	☐	☐
79	○	73.91	San Jose, CA	☐	☐	☐	●	●	○	○	☐	○	○	○	○
80	○	73.57	Oxnard, CA	☐	☐	●	☐	●	☐	○	☐	○	○	○	☐
81	○	73.38	Phoenix, AZ	●	●	☐	○	☐	☐	☐	●	○	○	○	☐
82	○	73.24	San Diego, CA	☐	☐	☐	○	●	☐	○	●	○	○	○	○
83	○	72.52	Greenville, SC	☐	☐	●	☐	☐	☐	☐	●	○	☐	●	☐
84	○	71.74	Raleigh, NC	○	☐	●	☐	☐	☐	●	●	○	○	☐	○
85	○	71.58	Syracuse, NY	☐	●	○	☐	○	☐	☐	☐	○	●	●	☐

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86	○	71.55	Tampa, FL	○	○	◐	◐	○	◐	◐	●	○	●	◐	◐
87	○	70.58	Jackson, MS	○	○	◐	◐	○	◐	●	●	○	●	●	○
88	○	70.36	Portland, ME	●	●	◐	●	○	○	○	○	○	◐	◐	◐
89	○	69.16	Albuquerque, NM	◐	◐	◐	◐	○	◐	◐	●	○	◐	◐	◐
90	○	69.06	Seattle, WA	●	◐	◐	○	●	◐	○	○	○	○	◐	◐
91	○	68.17	Omaha, NE	○	○	●	◐	○	◐	○	○	○	●	●	○
92	○	67.23	Sarasota, FL	○	○	○	◐	◐	◐	○	●	○	○	◐	◐
93	○	66.64	Cape Coral, FL	○	○	○	◐	○	◐	○	●	○	◐	◐	◐
94	○	66.18	Austin, TX	○	○	◐	◐	◐	◐	●	●	○	○	◐	●
95	○	65.21	Kansas City, MO	◐	●	◐	◐	○	◐	◐	◐	○	◐	◐	●
96	○	64.65	Minneapolis, MN	◐	○	◐	○	◐	◐	○	○	○	◐	◐	◐
97	○	63.70	Des Moines, IA	○	○	○	○	○	◐	○	○	○	●	●	◐
98	○	63.67	Colorado Springs, CO	◐	◐	○	◐	○	◐	○	●	○	○	◐	◐
99	○	62.09	San Francisco, CA	◐	◐	○	●	○	○	○	●	○	○	○	●
100	○	61.18	Portland, OR	◐	●	◐	○	○	◐	◐	●	○	○	○	●

	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 quick relief meds	Use of controller meds	Number of asthma specialists
* 2011 AVERAGES FOR EACH FACTOR	8.71%	8.50%	1.12%	14.90% pollen-affected population daily	Avg. D on A to F scale	Avg. 2.32 on 0 to 4 scale	15.60%	16.50%	All states have an access law	2.09 Rx per est. patient	1.63 Rx per est. patient	3.45 spcl per 10,000 est. patients
Last Year's Averages	8.49%	8.22%	1.19%	14.0% pollen-affected population daily	D	2.16	14.39%	17.24%	All states had access law	2.17 Rx per est. patient	2.43 Rx per est. patient	3.36 spcl per 10,000 est. patients

NOTE: Factors are not equally weighted.

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 Consolidated Metropolitan Statistical Areas (MSAs) in the U.S. including 12 individual factors grouped into three primary areas: I. Prevalence Factors, II. Risk Factors and III. 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 people with asthma. 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).

I. 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 population with asthma (adult, state-level)
- *Crude Death Rate from Asthma – recorded adult and pediatric metro area deaths from asthma

II. 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 primary MSA city/county/state 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 scale of: A (best) to F (worst)
- *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” provided by Surveillance Data, Inc. is a comprehensive index of the population at risk of being affected by airborne allergenic pollen. It is derived from actual pollen counts, allergy prevalence per pollen type and related factors. The public smoke-free laws recognized by this report are “100%” public bans only; partial public smoking bans or bans with exceptions are not included. State school inhaler access laws recognized by this report are for state-wide policies allowing students to carry and access asthma medications.

III. MEDICAL FACTORS – Quantitative data from the most recently available sources in the 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 Current Available Local-Level Data Used for the 2011 Asthma Capitals™

Decennial U.S. Census 2000, U.S. Department of Commerce, Census Bureau, and 2009 Population Estimate Updates

National Annual Pollen Index Measurements and Reports, Surveillance Data, Inc., 2010

Local Tobacco Control Ordinance Database, American Nonsmokers' Rights Foundation, 2011

AAFA's Annual State Honor Roll of Asthma and Allergy School Policies, 2010

National Prescription Tracking Database, IMS Health Inc., 2010

National Medical Specialist Database, American Board of Medical Specialties, 2010

Small Area Income & Poverty Estimates, U.S. Department of Commerce, Economics and Statistics Administration, 2009

Small Area Health Insurance Estimates, U.S. Department of Commerce, Economics and Statistics Administration 2007

AAFA's "The Cost of Asthma," Metro Area Asthma Prevalence Statistics

Mortality Statistics Database, U.S. Centers for Disease Control and Prevention, CDC Wonder, 2007

National Health Interview Survey (NHIS), U.S. Centers for Disease Control and Prevention, 2008

National Center for Health Statistics, Behavioral Risk Factor Surveillance System (BRFSS), "Adult Self-Reported Current Asthma Prevalence Rate," 2009

Air Quality System (AQS) Air Quality and Ozone Data, U.S. Environmental Protection Agency, 2006-2008

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