

"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) 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. Visit us online to learn how to manage your asthma better no matter where you live. Go to www.AsthmaCapitals.com, call 1-800-7-ASTHMA or write to info@aafa.org for more information. This year's report is made possible by a grant from Boston Scientific.

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

2013 rank		Rank last year	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	Un-insured rate	School inhaler access law	ER visits for asthma	Use of quick relief meds	Use of control meds	Number of specialists
1	●	23	100.00	Richmond, VA	◐	◐	●	●	◐	●	●	●	○	●	○	◐	○
2	●	5	96.70	Chattanooga, TN	○	○	◐	●	◐	●	●	◐	○	●	●	●	○
3	●	1	93.53	Memphis, TN	○	○	●	●	◐	●	●	◐	○	●	●	●	○
4	●	13	92.14	Philadelphia, PA	●	●	●	●	●	◐	●	◐	○	●	●	●	◐
5	●	8	90.64	Oklahoma City, OK	●	●	◐	●	◐	●	◐	●	○	●	●	●	◐
6	●	22	88.05	Detroit, MI	●	●	●	◐	●	○	●	◐	○	○	●	○	●
7	●	29	87.20	Dayton, OH	●	●	◐	●	●	○	◐	◐	○	●	●	●	◐
8	●	9	87.01	McAllen, TX	○	○	○	●	○	●	●	●	○	○	●	●	●
9	●	24	86.55	Atlanta, GA	◐	○	●	○	●	●	●	●	○	◐	◐	○	●
10	●	3	86.42	Knoxville, TN	○	○	○	●	●	●	○	○	○	○	●	●	○
11	●	10	86.31	Allentown, PA	●	●	○	●	●	●	○	○	○	●	◐	◐	●
12	●	2	86.24	New Haven, CT	●	●	○	●	●	◐	○	○	○	●	●	●	○
13	●	37	86.22	Augusta, GA	◐	○	●	○	○	●	●	●	○	●	●	●	○
14	●	67	85.93	Springfield, MA	●	●	●	○	◐	○	◐	○	○	●	●	●	●
15	●	11	85.37	Tulsa, OK	●	●	◐	●	◐	●	◐	●	○	○	●	◐	●
16	●	4	85.09	Pittsburgh, PA	●	●	◐	●	●	●	○	○	○	○	◐	◐	○

2013 rank		Rank last year	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	Un-insured rate	School inhaler access law	ER visits for asthma	Use of quick relief meds	Use of control meds	Number of specialists
17	●	44	84.36	Chicago, IL	●	●	●	◐	●	○	◐	●	○	◐	◐	◐	●
18	●	28	83.79	Cleveland, OH	●	●	◐	●	●	○	◐	◐	○	●	●	◐	○
19	●	25	83.31	Louisville, KY	●	●	◐	●	●	○	◐	◐	○	●	◐	●	○
20	●	14	83.10	Fresno, CA	○	○	●	○	●	○	●	●	○	●	●	●	◐
21	●	41	82.84	Akron, OH	●	●	◐	●	●	○	◐	○	○	●	●	◐	●
22	●	42	82.11	Milwaukee, WI	◐	●	●	◐	●	○	●	○	○	●	●	●	○
23	●	21	81.45	Birmingham, AL	◐	◐	●	○	●	○	◐	◐	○	●	●	●	○
24	●	47	81.30	New Orleans, LA	○	○	●	●	◐	○	●	●	○	●	●	●	○
25	●	38	81.12	Toledo, OH	●	●	●	◐	◐	○	●	◐	○	●	●	●	◐
26	●	27	80.37	Virginia Beach, VA	◐	◐	○	◐	●	◐	○	○	○	●	◐	◐	●
27	●	17	80.28	Harrisburg, PA	●	●	○	◐	●	●	○	○	○	○	◐	●	◐
28	●	16	79.84	Scranton, PA	●	●	●	◐	◐	●	○	○	○	◐	◐	●	●
29	●	52	78.81	Cincinnati, OH	●	●	●	○	●	○	◐	○	○	●	◐	◐	◐
30	●	19	78.65	Bakersfield, CA	○	○	●	●	●	○	●	●	○	◐	◐	○	●
31	●	39	78.51	Little Rock, AR	◐	○	●	●	○	●	◐	◐	○	●	●	●	○
32	●	26	78.22	Nashville, TN	○	○	●	○	○	●	●	●	○	◐	●	●	○
33	●	15	77.32	Bridgeport, CT	●	●	○	●	●	◐	○	○	○	●	◐	●	○
34	●	35	77.25	Indianapolis, IN	●	●	●	○	●	○	●	●	○	◐	◐	◐	○
35	●	34	77.24	Lancaster, PA	●	●	○	◐	●	●	○	○	○	○	○	○	●
36	●	50	77.22	Wichita, KS	◐	◐	●	●	○	○	◐	◐	○	●	●	●	●
37	◐	6	76.72	Hartford, CT	●	●	◐	●	◐	◐	○	○	○	●	●	●	●
38	◐	30	76.26	Riverside, CA	○	○	○	●	●	○	◐	●	○	○	○	○	●
39	◐	59	76.22	Youngstown, OH	●	●	◐	●	◐	○	◐	○	○	●	●	●	●
40	◐	43	76.21	Stockton, CA	○	○	●	○	●	○	◐	●	○	●	◐	○	●
41	◐	51	76.13	Providence, RI	●	●	○	●	◐	○	◐	◐	○	●	◐	●	●
42	◐	55	75.70	Modesto, CA	○	○	◐	○	●	○	●	●	○	●	●	◐	●
43	◐	61	75.17	Washington, DC	●	●	●	○	●	○	●	○	○	○	○	○	●
44	◐	56	74.82	Poughkeepsie, NY	●	●	○	○	●	○	○	○	○	●	◐	◐	●
45	◐	45	74.76	El Paso, TX	○	○	○	◐	●	○	●	●	○	○	○	◐	◐
46	◐	33	73.81	Los Angeles, CA	○	○	●	●	●	○	◐	●	○	○	○	○	●
47	◐	87	73.61	Jackson, MS	○	○	●	◐	○	○	●	●	○	●	●	●	○
48	◐	18	73.27	Jacksonville, FL	◐	◐	●	●	○	◐	◐	●	○	●	●	◐	○
49	◐	71	73.18	Dallas, TX	○	○	◐	●	◐	○	●	●	○	○	◐	●	●
50	◐	31	73.16	Greensboro, NC	○	○	◐	○	◐	◐	◐	●	○	●	◐	●	●

2013 rank		Rank last year	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	Un-insured rate	School inhaler access law	ER visits for asthma	Use of quick relief meds	Use of control meds	Number of specialists
51	◀	48	73.16	New York, NY	●	●	●	○	◀	○	◀	○	○	○	◀	◀	●
52	◀	65	72.90	Salt Lake City, UT	◀	●	●	◀	●	○	○	◀	○	○	○	○	○
53	◀	66	72.29	Ogden, UT	◀	●	●	◀	●	○	○	◀	○	○	○	○	●
54	◀	54	72.26	Columbus, OH	●	●	○	◀	●	○	◀	◀	○	◀	●	○	◀
55	◀	7	72.12	St. Louis, MO	●	◀	◀	●	◀	◀	○	○	○	●	◀	●	○
56	◀	79	71.86	Phoenix, AZ	●	●	○	○	●	○	◀	●	○	○	◀	○	●
57	◀	20	71.64	Tampa, FL	◀	◀	◀	○	◀	◀	◀	●	○	◀	●	◀	●
58	◀	32	70.76	Buffalo, NY	●	●	○	●	◀	○	◀	○	○	◀	●	●	◀
59	◀	46	70.61	Las Vegas, NV	●	●	○	◀	◀	◀	◀	●	○	○	○	○	●
60	◀	53	69.26	Lakeland, FL	◀	◀	◀	○	○	◀	●	●	○	●	◀	○	●
61	◀	95	69.17	Kansas City, MO	●	◀	●	◀	◀	○	◀	◀	○	◀	◀	●	●
62	◀	49	69.15	Orlando, FL	◀	◀	○	○	○	◀	◀	●	○	●	◀	○	●
63	◀	93	68.98	Omaha, NE	○	○	●	●	○	○	○	○	○	◀	●	●	○
64	◀	40	68.96	Miami, FL	◀	◀	○	○	○	◀	●	●	○	○	◀	◀	●
65	◀	70	68.94	Sacramento, CA	○	○	●	○	●	○	◀	◀	○	◀	○	○	◀
66	◀	12	68.92	San Antonio, TX	○	○	○	●	◀	○	◀	●	○	●	●	●	○
67	◀	68	68.35	Albany, NY	●	●	○	●	◀	○	○	○	○	◀	◀	●	◀
68	◀	63	67.92	Grand Rapids, MI	●	●	○	●	○	○	○	○	○	◀	○	○	●
69	◀	74	67.70	Boston, MA	●	●	●	○	○	○	●	○	○	◀	◀	◀	◀
70	◀	86	67.70	Portland, ME	●	●	○	●	○	○	○	○	○	●	●	●	◀
71	◀	92	67.67	Charleston, SC	◀	◀	◀	◀	○	◀	●	●	○	●	◀	●	○
72	◀	73	67.40	Columbia, SC	◀	◀	◀	◀	◀	○	◀	◀	○	●	○	◀	◀
73	◀	75	67.30	San Diego, CA	○	○	○	◀	●	○	◀	●	○	○	○	○	○
74	◀	62	67.28	Houston, TX	○	○	○	◀	◀	○	●	●	○	○	◀	◀	○
75	○	78	66.75	Syracuse, NY	●	●	○	●	○	○	◀	○	○	○	●	●	◀
76	○	76	66.23	Daytona Beach, FL	◀	◀	◀	○	○	◀	◀	●	○	●	○	○	●
77	○	90	65.92	Tucson, AZ	●	●	●	◀	○	○	●	◀	○	○	◀	◀	○
78	○	69	65.86	Rochester, NY	●	●	○	●	○	○	◀	○	○	◀	◀	●	○
79	○	96	65.67	Baton Rouge, LA	○	○	○	●	◀	○	●	◀	○	◀	●	●	○
80	○	64	65.55	Baltimore, MD	●	◀	◀	○	●	○	○	○	○	○	◀	◀	○
81	○	57	65.42	Madison, WI	◀	●	◀	●	◀	○	○	○	○	○	◀	●	○
82	○	89	65.38	Minneapolis, MN	○	○	●	●	◀	○	○	○	○	○	●	◀	●
83	○	77	65.16	Worcester, MA	●	●	○	○	◀	○	○	○	○	●	●	◀	●
84	○	58	64.38	Denver, CO	●	●	●	●	○	◀	◀	●	○	○	○	○	○

					Prevalence Factors			Risk Factors						Medical Factors			
2013 rank		Rank last year	Total score	Metro area	Estimated asthma prevalence	Self-reported asthma prevalence	Crude death rate for asthma	Annual pollen score	Air quality	"100%" public smoke-free laws	Poverty rate	Un-insured rate	School inhaler access law	ER visits for asthma	Use of quick relief meds	Use of control meds	Number of specialists
85	○	82	63.68	Colorado Springs, CO	●	●	◐	●	○	◐	○	◐	○	○	○	○	◐
86	○	36	63.55	Charlotte, NC	○	○	◐	◐	◐	◐	◐	◐	○	○	○	○	●
87	○	81	63.38	Sarasota, FL	◐	◐	○	○	○	◐	○	●	○	●	○	○	◐
88	○	85	63.35	San Jose, CA	○	○	◐	○	●	○	○	○	○	○	○	○	◐
89	○	97	62.88	Greenville, SC	◐	◐	●	○	○	○	◐	●	○	●	○	○	●
90	○	60	62.39	Oxnard, CA	○	○	●	●	◐	○	○	◐	○	○	○	○	●
91	○	84	62.38	Raleigh, NC	○	○	○	○	○	◐	●	●	○	●	○	◐	◐
92	○	91	62.31	Des Moines, IA	○	○	○	●	○	○	○	○	○	○	●	●	◐
93	○	94	61.53	Austin, TX	○	○	○	◐	○	○	◐	●	○	◐	○	◐	◐
94	○	80	61.09	Albuquerque, NM	●	●	○	◐	○	○	●	●	○	○	◐	○	○
95	○	83	60.19	Cape Coral, FL	◐	◐	○	○	○	◐	◐	●	○	○	○	○	◐
96	○	98	60.04	Portland, OR	●	●	●	○	○	○	●	●	○	○	○	○	◐
97	○	88	59.86	Palm Bay, FL	◐	◐	○	○	○	◐	○	●	○	○	○	○	●
98	○	72	58.22	Boise, ID	○	◐	○	○	◐	○	○	◐	○	○	○	○	●
99	○	99	57.55	Seattle, WA	◐	●	○	○	○	○	○	○	○	○	○	○	◐
100	○	100	52.88	San Francisco, CA	○	○	●	○	○	○	○	○	○	○	○	○	◐

		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	Un-insured rate	School inhaler access law▼	ER visits for asthma	Use of quick relief meds	Use of control meds	Number of specialists
* 2013 LIST AVERAGES		8.71%	8.70%	1.27 per 100,000 deaths	13.76% pollen-affected population	Avg. C-on A to F scale	Avg. 2.42 on 0 to 4 scale	17.40%	17.60%	All states have an access law	155.23 ER visits per 10,000 est. Patients	2.22 Rx per est. patient	2.31 Rx per est. patient	4.77 spcl per 10,000 est. patients
Last Year's List Averages		8.58%	8.68%	1.45 per 100,000 deaths	14.07% pollen-affected population	C-on A to F scale	1.68 on 0 to 4 scale	15.68%	17.07%	All states had an access law	n/a	2.19 Rx per est. patient	2.42 Rx per est. patient	4.84 spcl per 10,000 est. patients

The U.S. Asthma Capitals™ research and ranking is reported annually by the Asthma and Allergy Foundation of America® (AAFA). The ranking is based on analysis of data from the 100 most-populated Consolidated Metropolitan Statistical Areas (MSAs) in the U.S. including 13 individual factors grouped into three primary areas: I. Prevalence Factors, II. Risk Factors and III. Medical Factors. Weights are 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 are calculated as a composite of all factors, and cities are 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 IMS Health is a comprehensive index of the population at risk of being affected by airborne allergenic pollen (“pollen-affected population”) derived from actual pollen counts, allergy prevalence for each 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 ER visits for asthma per 10,000 patients, 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 allergy & immunology and/or pulmonary medicine.

- *ER Visits for Asthma – number out-patient plus in-patient Medicare and non-Medicare emergency room visits for asthma per patient ▽
- *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

▽Note: Maryland ER data is for non-Medicare visits only

Sources: Most Current Available Local-Level Data Used for the 2013 Asthma Capitals™

Decennial U.S. Census 2000, U.S. Department of Commerce, Census Bureau, and 2012 Population Estimate Updates
National Annual Pollen Index Measurements and Reports, IMS Health Inc., Pollen.com Database, 2012
Local Tobacco Control Ordinance Database, American Nonsmokers' Rights Foundation, 2013
AAFA's Annual State Honor Roll of Asthma and Allergy School Policies, 2012
National Prescription Tracking Database, IMS Health Inc., 2012
National Medical Specialist Database, American Board of Medical Specialties, 2013
Small Area Income & Poverty Estimates, U.S. Department of Commerce, Economics and Statistics Administration, 2012
Small Area Health Insurance Estimates, U.S. Department of Commerce, Economics and Statistics Administration, 2010
Mortality Statistics Database, U.S. Centers for Disease Control and Prevention, CDC Wonder, 1999-2010
National Health Interview Survey (NHIS), U.S. Centers for Disease Control and Prevention, 2010
National Center for Health Statistics, Behavioral Risk Factor Surveillance System (BRFSS), "Adult Self-Reported Current Asthma Prevalence Rate," 2010
Air Quality System (AQS) Air Quality and Ozone Data, U.S. Environmental Protection Agency, 2008-2010
CMS Hospital Outpatient Prospective Payment System (OPPS) and Provider of Service Files, 2011
CMS MEDPAR Hospital (National), 2011
Thompson Reuters Medicare Database, 2011
American Hospital Association Annual Survey Database, 2010

© 2013-AAFA - Neither this report nor its contents may be reproduced or used for commercial purposes without permission

(Dissemination of this year's report is made possible by a sponsorship from Boston Scientific Corporation (NYSE:BSX), a leading manufacturer of medical devices, and additional support from patients and family donors to AAFA.)

Updated 4/23/2013