

"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 sponsored by QVAR® (beclomethasone dipropionate HFA) Inhalation Aerosol and Teva Pharmaceuticals. (See Important Safety Information page 7.)

● Worse than Average © AAFA 2015

■ Average*

Detter than Average Factors are not weighted equally

						alence Fa	ctors			Risk Fa	Medical Factors						
nat	015 onal ink	Total score	Rank last year	Metro area	Estimated asthma prev- alence	Self- reported asthma prev- alence	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 special- ists
1	•	100.00	2	Memphis, TN	0	0	•	•	•	•	•	•	0	•	•	•	0
2	•	96.21	1	Richmond, VA		•	•	•		•	•	•	0		•	•	1
3	•	95.23	5	Philadelphia, PA		•	•	•		•	•	•	0		•	•	•
4	•	94.53	10	Detroit, MI	•	•	•	0	•	•	•	•	0	•	•	•	•
5	•	93.22	4	Oklahoma City, OK		•	•	•	•	•	•	•	0	•	•	•	1
6	•	92.20	14	Augusta, GA		•	•	0	•	•	•	•	0		•	•	0
7		90.25	41	Knoxville, TN	0	0	0	•		•	•	•	0	•	•	•	0
8	•	90.14	6	Chattanooga, TN	0	0	(•		•		•	0		•	•	0
9	•	88.68	22	New Orleans, LA	0	0	•	•		•	•	•	0		•	•	0
10	•	88.62	9	Chicago, IL	•	0	•	•	•	•		•	0		•	•	1
11	•	88.33	32	Indianapolis, IN	•	•	•	0	•	•	•	•	0		•	•	1
12	•	87.81	11	New Haven, CT		•	0	•		•	0	0	0		•	•	0
13	•	87.64	7	Fresno, CA		•	•	•	•	•	•	•	0	•	•	•	1
14	•	87.56	33	Providence, RI	•	•	0	•	•	1	•	•	0	•	•	•	•
15	•	87.00	8	Tulsa, OK	•		•	•	1	•	•	•	0	0	•	•	1
16	•	86.88	13	Atlanta, GA	•	•	•	0	•	•	•	•	0	•	•	0	•





					Prev	alence Fa	ctors	Risk Factors							Medical Factors				
20 nati ra	onal	Total score	Rank last year	Metro area	Estimated asthma prev- alence	Self- reported asthma prev- alence	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 special- ists		
17	•	86.83	3	McAllen, TX	0	0	0	•	0	•	•	•	0	0	•	•	•		
18	•	86.79	21	Dayton, OH	•	•	•	•	•	1	•	0	0	•	•	•	1		
19	•	86.63	12	Allentown, PA	•	•	0	•	•	•	0	0	0	•		•			
20	•	86.58	23	Cleveland, OH	•	•	•	•	•	•	•	0	0		•	•	0		
21	•	86.15	16	Louisville, KY	•	•	0	•	•	•	•	•	0			•	1		
22	•	86.09	19	Milwaukee, WI	•	•	•	0	•	•	•	0	0	•	•	•	0		
23	•	85.87	18	Springfield, MA	•	•	•	•	0	•	•	0	0	•	•	•	•		
24	•	85.07	25	Toledo, OH	•	•	•		•	1	•	•	0		•	•	1		
25	•	84.97	20	Jacksonville, FL	•	•	•	•	•	•	•	•	0	•	•	•	•		
26	•	84.64	26	St. Louis, MO	•	•	•	•		•	0	•	0	•		•	•		
27	•	84.59	15	Pittsburgh, PA	•	•	0	•	•	•	0	0	0	0		•	0		
28	•	84.58	27	Little Rock, AR	1	1	•	•		•	•	1	0	•	•	•	0		
29	•	84.47	38	Nashville, TN	0	0	•	•	(•	•	•	0	•	•	•	0		
30	•	84.20	42	Jackson, MS	1	•	•	•	0	1	•	•	0	•	•	•	0		
31	•	83.45	31	Akron, OH	•	•	1	•		1	0	0	0	•	•	1	•		
32	•	83.14	35	Wichita, KS	1	•	•	•	1	1	•	1	0	•	•	1	•		
33	•	82.66	39	Hartford, CT	•	•	(•		•	0	0	0	•		1	1		
34	•	82.44	34	Cincinnati, OH	•	•	•	0	1	1	•	0	0	•		1	1		
35	•	82.34	61	New York, NY	1	•	•	0		1	•	0	0	1	•	•	•		
36	•	80.98	28	Bridgeport, CT	1	•	0	•		•	0	0	0	•	0	•	0		
37	•	80.92	17	Bakersfield, CA	1	•	1	•	•	1	•	•	0	•	(0	•		
38	•	80.84	45	Youngstown, OH	•	•	1	•	1	1	(0	0	•	•	•	•		
39	1	79.83 79.79	43	Dallas, TX	0	0	1	•	1	1	•	•	0	•	•	•	•		
40	1	79.79	54	Las Vegas, NV	0	0	0	•	1	•	1	0	0	1	•	1	•		
41	1	79.52	47	Scranton, PA	1		•	0	0	•	0	0	0	•	<u> </u>		•		
42	1	79.08	24	Stockton, CA		•	•	0	•	•			0			0			
43	1	78.75	37	Harrisburg, PA	1	•	0	0	•		0	0	0	0	•	1	0		
44	1	78.61	48	Birmingham, AL El Paso, TX	0			0	1	1	_		0	0			0		
45	1	77.22	30	Phoenix, AZ		0	0	4	•	1	•			0		•	1		
46	1	77.04	40	·			0	•		1			0	0		1	1		
47		76.65	85	Albuquerque, NM Washington, DC			0	0				0	0	0	0	0	0		
48	•	76.63	51	Columbus, OH				•				•	0		•				
		76.57	46	Riverside, CA	_		0						0	_		0			
50	•	70.57	29	Kiveiside, CA							_ •			0	0				





					Prev	alence Fa	ctors	Risk Factors							Medical Factors				
nati	015 onal ink	Total score	Rank last year	Metro area	Estimated asthma prev- alence	Self- reported asthma prev- alence	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 special- ists		
51		75.83	52	Salt Lake City, UT	•	•	•	•	•	0	0	•	0	0	0	•	0		
52	•	75.70	44	Los Angeles, CA	(•		•	•	•	•	•	0	0	0	0			
53	•	75.56	60	Columbia, SC	(•		•		•	•	•	0		0				
54		75.10	50	Tampa, FL					•	•	•	•	0		•				
55		74.91	69	Greenville, SC					•		•	•	0		•	•			
56		74.77	68	Charleston, SC	•	•	•	0	0	•	1	•	0		•	•	0		
57		74.55	36	Virginia Beach, VA	•	•	0	•	0	•	0	0	0		•	•	•		
58		74.47	55	Lakeland, FL			0		0	•	•	•	0		•				
59		74.39	73	Buffalo, NY	•	•	0	•	•	1	0	0	0	•	•	•	•		
60		74.37	62	Greensboro, NC	•	•	•	•	•	•	•	•	0	•	•	•	•		
61		74.29	58	Miami, FL	•	•	0	•	0	•	•	•	0	0	•	•	•		
62		74.28	78	Syracuse, NY	•	•	0	•	0	•	0	0	0	0	•	•	•		
63		74.17	70	Grand Rapids, MI	•	•	0	•	•	•	0	0	0	•	0	•	•		
64		73.97	49	Orlando, FL	1	•	0	0	0	•	•	•	0		1	•	•		
65		73.92	57	San Antonio, TX	0	0	0	•	•	•	1	•	0		•	•	0		
66		73.78	83	Omaha, NE	0	0	•	•	•	•	0	0	0	0	•	•	0		
67	•	73.06	80	Winston-Salem, NC	1	•	0	1		•	•	•	0	0	•	•	0		
68		72.99	87	Charlotte, NC	•	•	0	0		•	1	•	0		1	•	•		
69	•	72.78	66	Ogden, UT	1	•	•	1	•	0	0	1	0	0	0	0	•		
70	•	72.76	95	Albany, NY	1	•	0	1	0	1	0	0	0	•	•	•	1		
71	•	72.64	65	Baton Rouge, LA	0	0	0	•	1	•	•	•	0	•	1	1	0		
72	•	72.50	59	Kansas City, MO	•	•	•	0	0	•	1	•	0	0	1	1	•		
73	•	71.90	56	Sacramento, CA	1	•	•	0	•	0	•	1	0	0	0	0	1		
74	•	71.27	71	Boston, MA	•	•	•	0	0	•	•	0	0	•	1	0	1		
75		71.01	79	Tucson, AZ	•	•	•	•	0	•	•	•	0	0	•	•	0		
76		70.77	53	Baltimore, MD	•	•	•	0	•	1	0	0	0	0	•	•	0		
77	0	69.69	64	Daytona Beach, FL	1	1	1	0	0	•	1	•	0	•	0	0	1		
78	0	69.55	90	Denver, CO	1	1	•	1	1	•	•	•	0	0	0	0	1		
79	0	69.39	77	Worcester, MA	•	•	0	0	0	1	0	0	0	1	•	1	0		
80	0	68.43	97	Spokane, WA	1	•	•	1	0	1	1	1	0	0	1	0	1		
81	0	68.37	91	Madison, WI	1	•	1	•	0	1	0	0	0	0	•	•	0		
82	0	68.13	63	Houston, TX	0	0	0	•		•	•	•	0	0	•	•	•		
83	0	67.88	86	Oxnard, CA	1	1	•	1	•	1	0	•	0	0	0	0	1		
84	0	67.82	94	Provo, UT	1	•	•	1	•	0	0	0	0	0	0	0	•		





						alence Fa	ctors			Risk Fa	Medical Factors						
nati	015 onal nk	Total score	Rank last year	Metro area	Estimated asthma prev- alence	Self- reported asthma prev- alence	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 special-ists
85	0	67.66	67	San Diego, CA	•	•	0	0	•	•	0	•	0	0	0	0	0
86	0	67.05	93	Des Moines, IA	0	0	0	•	0	•	0	0	0	0	•	•	0
87	0	66.46	72	Minneapolis, MN		0	•	•	0		0	0	0	0	•	•	
88	0	65.39	89	Colorado Springs, CO	•	•	(•	0	•	0	0	0	0	0	0	1
89	0	65.11	96	Rochester, NY	•	•	0	•	0	•	•	0	0	0	•	•	0
90	0	65.03	92	Portland, OR	•	•	•	0	0	0	•	1	0	0	0	0	•
91	0	65.01	88	Austin, TX	0	0	0	•	0	•	•	•	0	0	•	•	1
92	0	64.84	81	Raleigh, NC	1	•	0	0	0	•	•	•	0	•	0	•	0
93	0	64.56	75	Sarasota, FL	•	•	0	•	0	•	0	•	0		0	0	•
94	0	63.74	82	Cape Coral, FL	1	•	0	•	0	•	•	•	0	0	0	•	1
95	0	63.41	76	Palm Bay, FL	•	•	0	0	0	•	0	•	0		0	•	1
96	0	62.53	74	Abilene, TX	0	0	(•	1	1	•	•	0	0	0	0	•
97	0	62.33	84	San Jose, CA	•	•	0	0	•	0	0	0	0	0	0	0	0
98	0	61.81	99	Seattle, WA	•	•	0	0	0	•	0	0	0	0	0	0	•
99	0	61.38	98	Boise, ID	•	•	0	0	•	•	0	1	0	0	0	0	1
100	0	60.28	100	San Francisco, CA	1	•	•	0	0	0	0	0	0	•	0	0	•

	Prevalence Factors					Risk Fa	Medical Factors						
* 2015 LIST AVERAGES	Estimated asthma prev- alence	Self- reported asthma prev- alence	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 special-ists
2010 EIST AVENAGES	8.90%	8.70%	1.20 per	12.60% pollen-	Avg. C- on A to F	Avg. 2.44 on 0 to 4	17.30%	16.86%	All states have an	195.22 ER visits	2.31 Rx per	2.50 Rx per	3.29 spcl per
			100,000 deaths	affected popula-	scale	scale			access	per 10,000	est. patient	est. patient	10,000 est.
			acac	tion						est. Patients*	pallorit	panom	patients
	8.78%	8.70%	1.28	13.38%	C-	2.39	17.76%	17.12%	All states	141.32	2.15	2.27	4.86
			per 100,000	pollen- affected	on A to F	on 0 to 4 scale			had an access	ER visits per	Rx per est.	Rx per est.	spcl per 10,000
Last Year's List Averages			deaths	popula-	Scale	Soale			law	10,000	patient	patient	est.
				tion						est. Patients*			patients





	R	REGION	AL RA	NKINGS (Top-5)													
			Mid	west	Preva	alence Fa	ctors			Risk Fa	ctors				Medical	Factors	
reg	015 ional ank	Total Score	2015 national rank	Metro area	Estimated asthma prev- alence	Self- reported asthma prev- alence	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 special- ists
1	•	94.53	4	Detroit, MI	•	•	•	0	•	1	•	•	0	•	•	•	
2	•	88.62	10	Chicago, IL		0	•	•	•	•	•	•	0	•	•	•	
3		88.33	11	Indianapolis, IN		•	•	0	•	•	•	•	0	•	•	•	
4		86.79	18	Dayton, OH	•	•	•	•	•	•	•	0	0	•	•	•	
5		86.58	20	Cleveland, OH	•	•	•	•	•	•	•	0	0		•	•	0
			Nort	heast													
reg	015 ional ank	Total Score	2015 national rank	Metro area													
1	•	95.23	3	Philadelphia, PA	•	•	•	•	•	•	•	•	0	•	•	•	•
2	•	87.81	12	New Haven, CT	•	•	0	•	1	•	0	0	0	•	•	•	0
3	•	87.56	14	Providence, RI	•	•	0	•	1	1	•	•	0	•	•	•	•
4	•	86.63	19	Allentown, PA	•	•	0	•	•	•	0	0	0	•	•	•	•
5	•	85.87	23	Springfield, MA	•	•	•	•	0	•	•	0	0	•	•	•	•
			Sc	outh													
reg	015 ional ank	Total Score	2015 nationa I rank	Metro area													
1		100.00	1	Memphis, TN	0	0	•	•		•	•	•	0	•	•	•	0
2	•	96.21	2	Richmond, VA	1	•	•	•	1	•	•	•	0	•	•	•	1
3	•	93.22	5	Oklahoma City, OK	•	•	(•	1	•	1	•	0	1	•	•	1
4	•	92.20	6	Augusta, GA	•	•	•	0	1	•	•	•	0	•	•	•	0
5	•	90.25	7	Knoxville, TN	0	0	0	•	•	•	•	•	0	•	•	•	0
			W	est													
reg	015 ional ank	Total Score	2015 national rank	Metro area													
1		87.64	13	Fresno, CA	(•	•	•	•	•	•	•	0		•	•	
2	•	80.92	37	Bakersfield, CA	•	•	•	•	•	•	•	•	0	•	•	0	
3	•	79.79	40	Las Vegas, NV	0	0	0	•	•	•	•	•	0	•	•	•	
4	•	79.51	42	Stockton, CA	•	•	•	0	•	•	•	•	0	•	0	0	
5		77.22	46	Phoenix, AZ		•	0	•	•	•	•	•	0	0	((•





2015 Asthma Capitals™ Methodology

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 #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 predicted population with asthma (adult and pediatric)
- *Self-Reported Prevalence for Asthma self-reported population with asthma (adult, state-level only)
- *Crude Death Rate from Asthma recorded metro area death rates from asthma (adult and pediatric)
- (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) \triangle
- *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 ▼
- (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 of 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
- ▲ Pollen Score 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. △ 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 refer to states having a single state-wide law protecting students' rights to carry and access asthma medications at school.





Sources: Most Current Available Local-Level Data Used for the 2015 Asthma Capitals™

Decennial U.S. Census 2000, U.S. Department of Commerce, Census Bureau, and 2014 Population Estimate Updates

National Annual Pollen Index Measurements and Reports, IMS Health Inc., Pollen.com Database, 2014

Local Tobacco Control Ordinance Database, American Nonsmokers' Rights Foundation, 2015

AAFA's Annual State Honor Roll of Asthma and Allergy School Policies, 2014

National Prescription Tracking Database, IMS Health Inc., 2014

National Medical Specialist Database, American Board of Medical Specialties, 2015

Small Area Income & Poverty Estimates, U.S. Department of Commerce, Economics and Statistics Administration, 2013

Small Area Health Insurance Estimates, U.S. Department of Commerce, Economics and Statistics Administration, 2013

Mortality Statistics Database, U.S. Centers for Disease Control and Prevention, CDC Wonder, 1999-2013

National Health Interview Survey (NHIS), U.S. Centers for Disease Control and Prevention, 2013

National Center for Health Statistics, Behavioral Risk Factor Surveillance System (BRFSS), "Adult Self-Reported Current Asthma Prevalence Rate," 2012

Air Quality System (AQS) Air Quality and Ozone Data, U.S. Environmental Protection Agency, 2010-2012

CMS Hospital Outpatient Prospective Payment System (OPPS) and Provider of Service Files, 2013

CMS MEDPAR Hospital (National), 2013

Thompson Reuters Medicare Database, 2013

American Hospital Association Annual Survey Database, 2014

Boston Scientific Master Hospital List, 2014

(AAFA thanks Boston Scientific for their in-kind donation of asthma ER data for this annual report)

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About QVAR®

QVAR® (beclomethasone dipropionate HFA) Inhalation Aerosol is used in the ongoing treatment of asthma as preventative therapy in patients five years of age or older. QVAR is also used for asthma patients who require systemic corticosteroid administration, where adding QVAR may reduce or eliminate the need for systemic corticosteroids.

Important Safety Information

- QVAR® does not replace quick-relief inhalers for sudden symptoms
- Do not use QVAR if you are allergic to beclomethasone dipropionate or any of the ingredients in QVAR.
- Do not use QVAR more often than it is prescribed. Do not stop taking QVAR abruptly without talking to your healthcare provider.
- QVAR may cause serious side effects, including:
 - o Fungal infections (thrush). Tell your healthcare provider if you have any redness or white-colored patches in your mouth or throat. Rinse your mouth after using QVAR to help prevent an infection in your mouth or throat
 - o Worsening asthma or sudden asthma attacks. After using your rescue inhaler, contact your healthcare provider right away if you do not get relief from your sudden asthma attacks
 - o Decreased adrenal function. This potentially life-threatening condition can happen when you stop taking oral corticosteroid medicines and start using QVAR. Tell your healthcare provider right away about any symptoms such as: tiredness, weakness, nausea and vomiting, and dizziness or faintness
 - o Immune system effects or infection. Tell your healthcare provider about any signs or symptoms, such as: fever, pain, body aches, chills, feeling tired, nausea, or vomiting
 - o Increased wheezing right after QVAR use. Always have a rescue inhaler with you to treat sudden wheezing
 - o Serious allergic reactions. Stop using QVAR and call your healthcare provider or get emergency medical help right away if you get any of the following: hives; swelling of your lips, tongue, or face; rash; or breathing problems
 - o Slowed growth in children. Children should have their growth checked regularly while using QVAR
 - o Lower bone density. This may be a problem for people who already have a higher chance for this condition
 - o Eye problems. If you have had glaucoma or cataracts in the past, you should have regular eye exams while using QVAR
- The most common side effects of QVAR include: headache, throat irritation, and sinus irritation.

Please see full Prescribing Information www.gvar.com/Pl

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch, or call 1-800-FDA-1088.



