

A Message From AAFA

The Asthma and Allergy Foundation of America (AAFA) is pleased to share the 2018 Fall Allergy Capitals™ report which ranks the 100 largest cities in the continental United States. AAFA has published this annual report since 2003 to help patients recognize, prevent and manage allergy symptoms. The report also helps communities recognize where the needs of their residents with allergic diseases can be better met. Through the ranking, we seek to raise awareness about the impact of Fall seasonal allergies and provide helpful information to improve the quality of life for the people who experience them.

In the absence of a cure, successful management of chronic and potentially life-threatening allergies and asthma requires:

- Recognizing signs and symptoms
- Provider diagnosis and treatment
- Reducing or controlling exposure to environmental triggers
- Ongoing patient (and family/caregiver) involvement
- Monitoring and self-management

AAFA is committed to working on behalf of individuals with allergies and asthma. We are dedicated to improving the quality of life for people with asthma and allergic diseases through education, advocacy, research and support. We will continue to promote public policy initiatives that improve and protect quality of life and treatment options for those affected by asthma and allergies.

The Fall pollen season has increasingly intensified with longer, warmer growing seasons that produce stronger pollen at higher quantities. Communities need to work together to provide solutions to the challenges raised by climate change, rising health care costs and access to specialized care.

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We look forward to ongoing collaborations with stakeholders such as researchers, payers, scientists, clinicians, industry and policymakers to improve the quality of life for people with allergies and asthma.

Sincerely,

Kenneth Mendez, President and CEO

Melanie Carver, Vice President of Community Health and Services







Background and Introduction

For millions of Americans, allergies are life-limiting. It is critical for people to recognize elements that may trigger their allergies and to determine ways to reduce exposure, as well as to consider appropriate treatments.¹²³ Allergic conditions are among the most common medical conditions affecting U.S. children and they are of special concern among the elderly.⁴⁵

Allergies are a major public health concern, with more than 50 million Americans suffering from allergies every year.¹ More Americans than ever say they manage allergies. It is among the country's most common, but overlooked, diseases. Although there are approaches that can reduce allergic sensitivity, there is no cure for allergies. Allergies can be managed with prevention and treatment. Good allergy treatment is based on medical history, the results of allergy tests and symptom severity. It can include three treatment types: avoiding allergens, medicine options and/or immunotherapy (allergy shots). Allergies account for \$18 billion in costs yearly.¹ Americans also lose more than 6 million work and school days and make 16 million visits to their doctors.6

Allergic rhinitis, often called hay fever, is a common condition that causes symptoms such as sneezing, stuffy nose, runny nose, watery eyes and itching of the nose, eyes or the roof of the mouth. Symptoms are usually caused by allergic sensitivity to pollens from trees, grasses or weeds, or to airborne mold spores. The prevalence of hay fever in children has been found to be roughly 18%, with the highest prevalence in southeastern and southern states.⁷ Allergic rhinitis can be seasonal or perennial, with symptoms of seasonal allergic rhinitis occurring in spring, summer and/or early fall.

How to Reduce Allergic Reactions and Symptoms From Pollen Allergy

Ragweed is the most common allergy trigger in the fall. Almost 75% of people who are allergic to fall plants also have reactions to ragweed. Ragweed pollen usually reaches peak levels in mid-September. There are apps you can use to watch your area's pollen count. On days that pollen is high for plants you are allergic to, take these steps to reduce your pollen exposure:

- Limit outdoor activities
- Keep windows closed
- Wear sunglasses when outdoors
- Wear a hat to cover your hair
- Take a shower and shampoo your hair before going to bed to remove pollen from hair and skin
- Change and wash clothes worn during outdoor activities
- Dry laundry in a clothes dryer, not on an outdoor line
- Limit close contact with pets that spend a lot of time outdoors
- Wipe pets off with a towel before they enter your home
- Remove your shoes before entering your home

Though the most troublesome, Ragweed isn't the only allergen to cause symptoms in the fall. Other problematic fall plants include:

- Pigweed
- Burning bush
- Cocklebur
- Sagebrush
- Mugwort
- Lamb's-quarters
- Tumbleweed
- Russian thistle





- Wash bedding in hot, soapy water once a week
- Rinse the inside of your nose with a nasal rinse to flush out and remove pollen inhaled into nasal passages
- Use a CERTIFIED asthma & allergy friendly® air cleaner (portable or whole house/HVAC)

There are also options available to prevent or treat allergy symptoms:

- Over-the-counter or prescription allergy medicines some of these work best if you start taking them before the allergy season begins
- Immunotherapy there are shots or tablets available that are a long-term treatment for pollen allergy. It can help prevent or reduce the severity of allergic reactions.

Talk with your doctor or health care provider months before allergy season begins so you can discuss which treatment is right for you.



How to Reduce Your Exposure to Mold Spores Outside

If you have a mold allergy, you may experience symptoms year-round. When mold counts are high, there are some steps you can take to reduce your exposure to outdoor molds:

- Limit your outdoor activities. This will lessen the amount of mold spores you inhale and your symptoms.
- Wear a mask and sunglasses/goggles when cutting grass, digging around plants, picking up leaves and disturbing other plant materials.

ABOUT THE ASTHMA AND ALLERGY FOUNDATION OF AMERICA

Founded in 1953 and celebrating 65 years of service, AAFA is the oldest and largest nonprofit patient organization dedicated to improving the quality of life for people with asthma, allergies and related conditions through research, education, advocacy and support. AAFA provides practical information and community-based services through its digital communities and national network of local chapters and educational support groups. Through its Kids With Food Allergies division, AAFA offers the most extensive online support community for families raising children with food allergies. AAFA also helps consumers identify products suitable for those with asthma and allergies through the **asthma & allergy friendly**® Certification Program. For more information, visit **aafa.org**.





Focus on Alaska and Hawaii

This fall, we are highlighting two states not traditionally included in Allergy Capitals: Alaska and Hawaii. In the past, we have not included Alaska or Hawaii because our data source does not collect or report pollen data from either state. This makes comparisons to other states unreliable.

ALASKA

The largest metropolitan statistical area (MSA) in Alaska is Anchorage, AK. The U.S. Census estimates that the population in the MSA of Anchorage as of July 2017 was approximately 400,000.9 AAFA was able to obtain information on pollen and mold counts from a university in Anchorage. Due to the data being from a different source than the other states, we are not including them in our analysis/ranking. The Alaska data are from April 2016 through September 2017. The tree pollen count is typically lowest in late June through early September, and highest in late April through early June. Mold counts were also observed to be the highest in the month of June.*

It has been reported that in places far north, such as Alaska, where the climate is changing faster than in other regions, people are becoming increasingly vulnerable to allergies. The director of the Allergy, Asthma, and Immunology Center of Alaska states that rising temperatures are melting permafrost beneath Alaskan towns, causing moisture to seep into homes. This dampness then allows mold to grow, causing more people to seek treatment for mold allergies. Pollen also remains a huge concern in Alaska, though the main source is birch trees, not ragweed.¹⁰

*No data were available from September 2016 through mid-April 2017.

HAWAII

The largest MSA in Hawaii is Urban Honolulu. The U.S. Census estimates that the population in the MSA of Urban Honolulu as of July 2017 was approximately 989,000.9 In addition to regular allergens and irritants, residents in Hawaii also deal with volcanic smog, or 'vog.'

'Vog' refers to the hazy air pollution caused by the volcanic emissions from K lauea volcano, which are primarily water vapor (H2O), carbon dioxide (CO2), and sulfur dioxide (SO2) gas.¹³ Vog can aggravate preexisting respiratory conditions, such as allergies or allergic asthma.¹²

Residents of Alaska and Hawaii should work with their health care provider to determine the best course of action to manage their allergies, not only in the fall, but year-round.







The Most Challenging Places to Live With Fall Allergies

NATIONAL RANKINGS

Worse Than Average

Average

Better Than Average

(Factors are not weighted equally)

2018 National Fall Rankings (*Tie)	Overall	2016 Fall Rank	Metropolitan Area	Total Score (Avg. 44.58)	Subtotal: Pollen Score**	Subtotal: Medicine Utilization per Patient	Subtotal: Board- Certified Allergists per Patient
1		3	McAllen, TX	84.58			
2		4	Louisville, KY	70.45			
3		1	Jackson, MS	69.16			
4		16	San Antonio, TX	64.49			
5		8	Dayton, OH	64.21			
6		12	Providence, RI	63.57			
7		2	Memphis, TN	63.23			
8		5	Syracuse, NY	63.19			
9		6	Oklahoma City, OK	61.47			
10		9	Toledo, OH	61.24			
11		49	El Paso, TX	60.78			_
12		19	Springfield, MA	58.53			
13		14	Baton Rouge, LA	58.49			_
14		10	Knoxville, TN	58.07			
15		11	New Orleans, LA	57.65			
16		59	Wichita, KS	56.23			
17		7	Buffalo, NY	55.37			
18		20	Richmond, VA	54.34			
19	<u> </u>	17	Akron, OH	53.47			
20		48	New Haven, CT	53.44			
21		15	Little Rock, AR	53.38			
22		22	Chattanooga, TN	53.18			
23	<u> </u>	47	Hartford, CT	52.85		_	
24		28	Detroit, MI	52.60			
25		23	Dallas, TX	52.09		_	
26		29	Birmingham, AL	51.94			
27		32	Philadelphia, PA	51.63		_	
28		24	Columbia, SC	51.37			
29	<u> </u>	43	Columbus, OH	50.91		<u> </u>	_
30		12	Tulsa, OK	50.41		_	
31	<u> </u>	37	Greenville, SC	50.39			_
32		31	Albany, NY	50.11		_	





Worse Than Average

Average

Better Than Average

(Factors are not weighted equally)

2018 National Fall Rankings (*Tie)	Overall	2016 Fall Rank	Metropolitan Area	Total Score (Avg. 44.58)	Subtotal: Pollen Score**	Subtotal: Medicine Utilization per Patient	Subtotal: Board- Certified Allergists per Patient
33		34	Grand Rapids, MI	50.10		_	
34		21	Cleveland, OH	49.92			
35		30	Pittsburgh, PA	49.39			
36		35	Charleston, SC	48.15			
37		52	New York, NY	47.83			
38		53	Scranton, PA	47.67			
39		68	Miami, FL	47.63			
40		<i>3</i> 8	St. Louis, MO	47.03			
41		64	Bridgeport, CT	46.83			
42		46	Austin, TX	46.66			
43		58	Allentown, PA	46.42			
44		<i>7</i> 8	Las Vegas, NV	46.41			
45		26	Omaha, NE	45.69			
46		42	Greensboro, NC	45.57			
47		39	Winston-Salem, NC	45.34			
48		36	Augusta, GA	45.33			
49		65	Virginia Beach, VA	45.12			
50		44	Cape Coral, FL	44.80			
51		41	Houston, TX	43.70			
52		63	Jacksonville, FL	43.53			
53		50	Fresno, CA	43.32			
54		54	Tucson, AZ	43.28			
55		25	Madison, WI	43.04			
56		66	Cincinnati, OH	42.99			
57		27	Nashville, TN	42.92			
58		67	Chicago, IL	42.59			
59		45	Rochester, NY	42.34			
60		62	Riverside, CA	42.04			
61		55	Charlotte, NC	41.58		_	
62		40	Indianapolis, IN	41.17		_	A
63		81	Orlando, FL	39.98		_	
64		33	Des Moines, IA	39.88			
65		72	Los Angeles, CA	39.74			
66		n/a	Modesto, CA	39.63			





Worse Than Average

Average

Better Than Average

(Factors are not weighted equally)

2018 National Fall Rankings (*Tie)	Overall	2016 Fall Rank	Metropolitan Area	Total Score (Avg. 44.58)	Subtotal: Pollen Score**	Subtotal: Medicine Utilization per Patient	Subtotal: Board- Certified Allergists per Patient
67		74	Lakeland, FL	39.41		_	
68		56	Minneapolis, MN	39.19		•	
69		69	Harrisburg, PA	38.63			
70		51	Kansas City, MO	38.49			
71		61	Albuquerque, NM	38.43			
72		70	Tampa, FL	38.33			
73		57	Durham, NC	38.29			
74		71	Worcester, MA	38.16			
75		82	Oxnard, CA	37.26			
76*		73	Atlanta, GA	36.14		•	
76*		60	Milwaukee, WI	36.14			
78		<i>7</i> 6	Baltimore, MD	35.98			
79		77	Bakersfield, CA	35.46			
80		<i>75</i>	Phoenix, AZ	35.23			
81		80	Boston, MA	34.51			
82		92	Palm Bay, FL	32.56		•	
83		87	Washington, DC	32.02			
84		86	San Diego, CA	31.26		•	
85		<i>7</i> 9	Spokane, WA	30.98			
86		90	Stockton, CA	30.87			
87		97	Daytona Beach, FL	30.66			
88		85	Sarasota, FL	29.81		•	
89		88	Raleigh, NC	29.49			
90		99	Sacramento, CA	28.14			
91		83	Salt Lake City, UT	27.84			
92		95	San Francisco, CA	27.02		•	
93		84	Ogden, UT	27.00			
94		94	Colorado Springs, CO	26.37		•	
95		89	Seattle, WA	25.84			
96		100	San Jose, CA	25.59		•	
97		93	Boise, ID	24.30			
98		98	Portland, OR	23.56		•	
99		91	Provo, UT	22.41			
100		96	Denver, CO	21.81			





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(Factors are not we	ighted equally)								
NORTHEAST									
2018 Regional Spring Rankings	Overall	2018 National Rank	Metropolitan Area	Total Score (Avg. 56.48)	Subtotal: Pollen Score**	Subtotal: Medicine Utilization per Patient	Subtotal: Board- Certified Allergists per Patient		
1		6	Providence, RI	63.57					
2		8	Syracuse, NY	63.19					
3		12	Springfield, MA	58.53					
4		17	Buffalo, NY	55.37					
5		20	New Haven, CT	53.44					
			SOUTH						
2018 Regional Spring Rankings	Overall	2018 National Rank	Metropolitan Area	Total Score (Avg. 56.48)	Subtotal: Pollen Score**	Subtotal: Medicine Utilization per Patient	Subtotal: Board- Certified Allergists per Patient		
1		1	McAllen, TX	84.58					
2		2	Louisville, KY	70.45					
3		3	Jackson, MS	69.16					
4		4	San Antonio, TX	64.49		_			

MIDWEST									
2018 Regional Spring Rankings	Overall	2018 National Rank	Metropolitan Area	Total Score (Avg. 56.48)	Subtotal: Pollen Score**	Subtotal: Medicine Utilization per Patient	Subtotal: Board- Certified Allergists per Patient		
1		5	Dayton, OH	64.21			_		
2		10	Toledo, OH	61.24					
3		16	Wichita, KS	56.23					
4		19	Akron, OH	53.47					
5		24	Detroit, MI	52.60					

63.23

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Memphis, TN

WEST									
2018 Regional Spring Rankings	Overall	2018 National Rank	Metropolitan Area	Total Score (Avg. 56.48)	Subtotal: Pollen Score**	Subtotal: Medicine Utilization per Patient	Subtotal: Board- Certified Allergists per Patient		
1	<u> </u>	44	Las Vegas, NV	46.41		_			
2		53	Fresno, CA	43.32		_			
3		54	Tucson, AZ	43.28					
4		60	Riverside, CA	42.04					
5		65	Los Angeles, CA	39.74					





METHODOLOGY

The 2018 Fall Allergy Capitals™ research and ranking is reported by the Asthma and Allergy Foundation of America (AAFA). The ranking is based on analysis of data from the 100 most-populated Metropolitan Statistical Areas (MSAs) in the contiguous 48 states. The three (3) individual factors analyzed for the 2018 rankings are: seasonal (Fall) pollen score, medication use (allergy) and number of allergy specialists. For each factor, AAFA used the most recently available calendar year data. Weights are applied to each factor; factors are not weighted equally. Total scores are calculated as a composite of all three factors, and cities are ranked from highest total score (city rank #1) to lowest total score (city rank #100).

Seasonal (Fall) Pollen Score

For each city, AAFA obtained a comprehensive index of the population at risk of being affected by airborne allergenic pollen, derived from actual pollen counts, allergy prevalence for each pollen type, and related factors, for the most recent Fall allergy season (Fall 2017).

Medication Use

For each city, AAFA obtained the number of allergy medication prescriptions per patient prevalence, for the most recent Fall allergy season (Fall 2017). Also includes over-the-counter and behind-the-counter allergy medication sales at the pharmacy counter.

Number of Allergy Specialists

For each city, AAFA obtained the number of board-certified allergists/immunologists per patient prevalence.

Data Sources

- American Board of Medical Specialties, Specialists Database
- IQVIA Allergy Activity Notification (AAN) Program Database
- IQVIA Medication Database
- U.S. Department of Commerce, Bureau of the Census, Metropolitan and Micropolitan Statistical Areas





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