



WORLD  
ALLERGY WEEK

13-19 April 2015

# World Allergy Week 2015

**AIRWAY ALLERGIES**  
**The human and economic burden**

*How will you address the challenge of airway allergies?*



WORLD ALLERGY ORGANIZATION

A World Federation of Allergy, Asthma  
& Clinical Immunology Societies



# Welcome to World Allergy Week 2015



Lanny Rosenwasser, MD  
*President, World Allergy Organization*

The World Allergy Organization welcomes all of you to join us and all of the educators, healthcare practitioners, policymakers, parents, patients, advocates and medical professionals around the world to mark the fifth consecutive year of World Allergy Week by organizing and participating in activities that bring attention to the unmet needs of airway allergies.



Motohiro Ebisawa, MD, PhD  
*Chair, Communications Committee*

In keeping with the World Allergy Week tradition of bringing attention to a specific allergic disease each year, the World Allergy Organization has selected **Airway Allergies – The Human and Economic Burden**, emphasizing the great need for increased awareness, training, and resources that lead to improved safety and quality of life.



A World Federation of Allergy, Asthma  
& Clinical Immunology Societies



## **World Allergy Week 2015 Chairpersons**

**Motohiro Ebisawa, MD and Paul Greenberger, MD**

### WAO Communications Committee 2014-2015

**Chair: Motohiro Ebisawa (Japan)**

**Co-Chair: Paul Greenberger (United States)**

**Mona Al Ahmad (Kuwait)**

**Paolo Barrera Perigault (Panama)**

**Suwat Benjaponpitak (Thailand)**

**Ake Davidsson (Sweden)**

**Mohammad Gharagozlou (Iran)**

**Elham Hossny (Egypt)**

**Carla Irani (Lebanon)**

**Juan Carlos Ivancevich (Argentina)**

**Amir Hamzah Latiff (Malaysia)**

**Hae-Ran Lee (Korea)**

**Dilsad Mungan (Turkey)**

**Ruby Pawankar (Japan)**

**Harald Renz (Germany)**

**Noel Rodriguez (Mexico)**

**Menachem Rottem (Israel)**

**Glenis Scadding (United Kingdom)**

**Revaz Sepiashvili (Georgia)**

**Elopy Sibanda (Zimbabwe)**

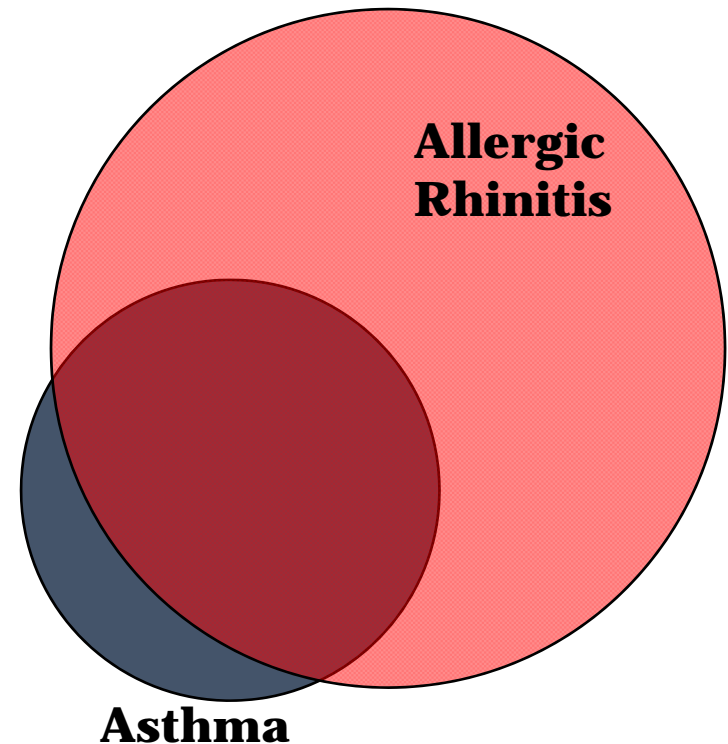
**Mimi Tang (Australia)**

**Stephen Tilles (United States)**

**Richard Weber (United States)**

# Epidemiology of Allergic Rhinitis and Asthma

- **Allergic rhinitis**
  - Occurs in up to 20 - 30% of the general population
  - Occurs in greater than 80% of asthmatics
- **Asthma**
  - Occurs in roughly 5 - 15% of the general population
  - Occurs in up to 40% of AR patients

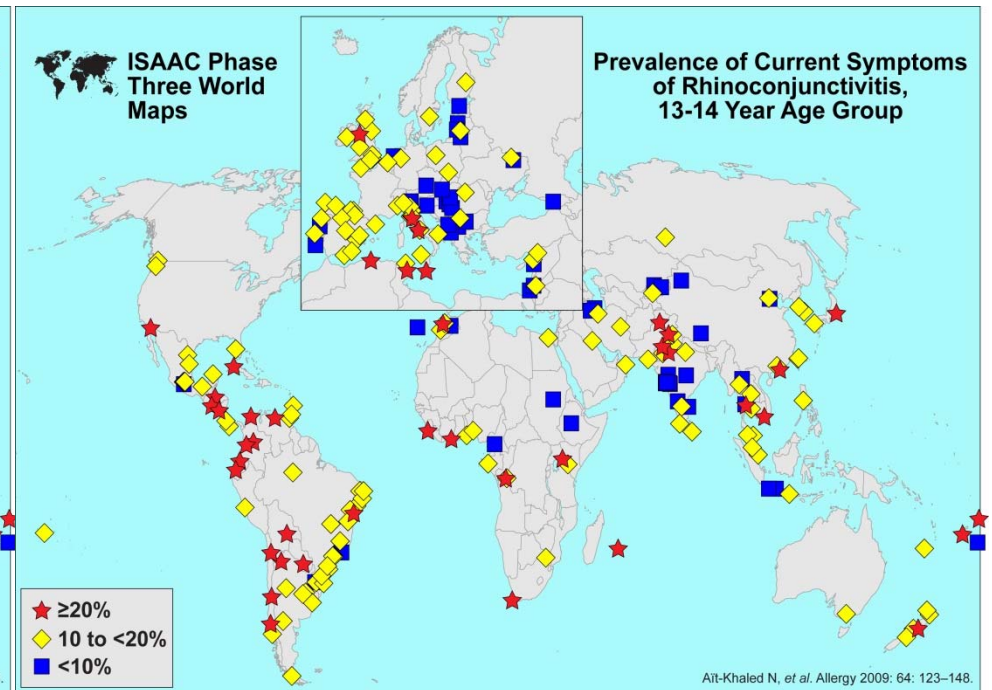
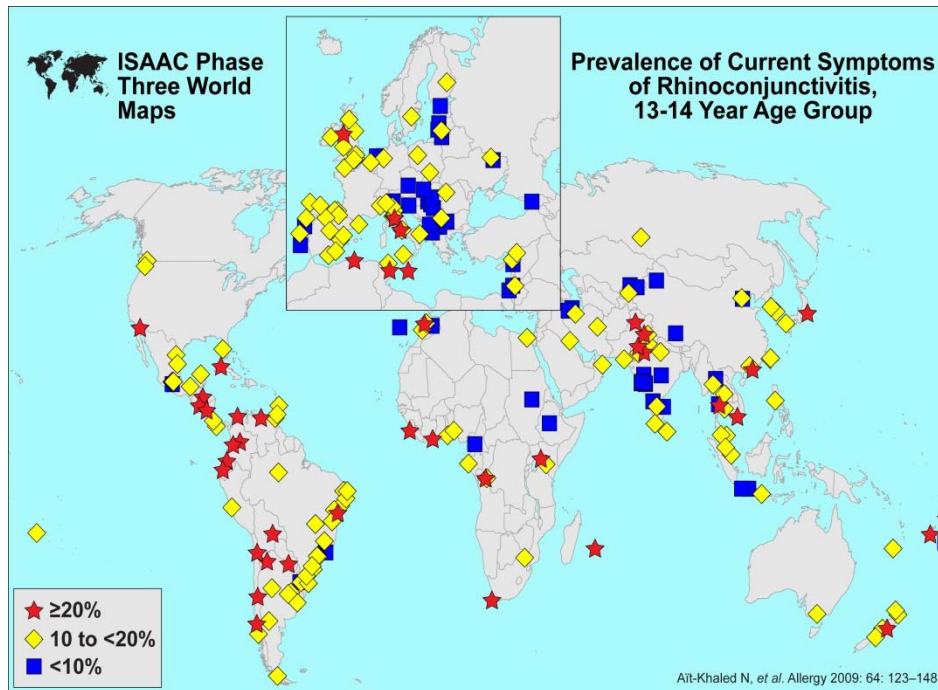


Corren J et al, Allergic rhinitis and asthma: How important is the link?  
*Journal of Allergy and Clinical Immunology* 1997; 99(2): S781-786. [Full text](#)

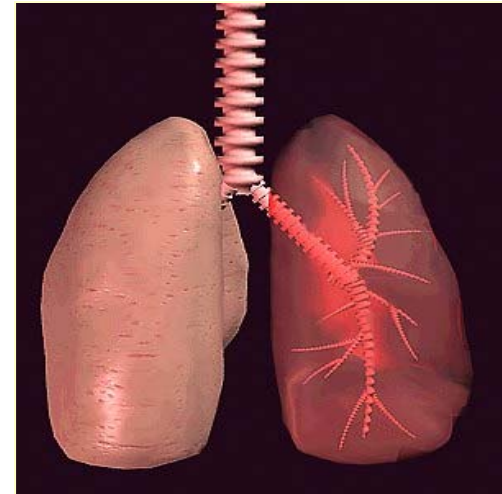
# International Study of Asthma & Allergies in Childhood (ISAAC III)

## Allergic Rhinoconjunctivitis

## Asthma



# “United Airway” Concept

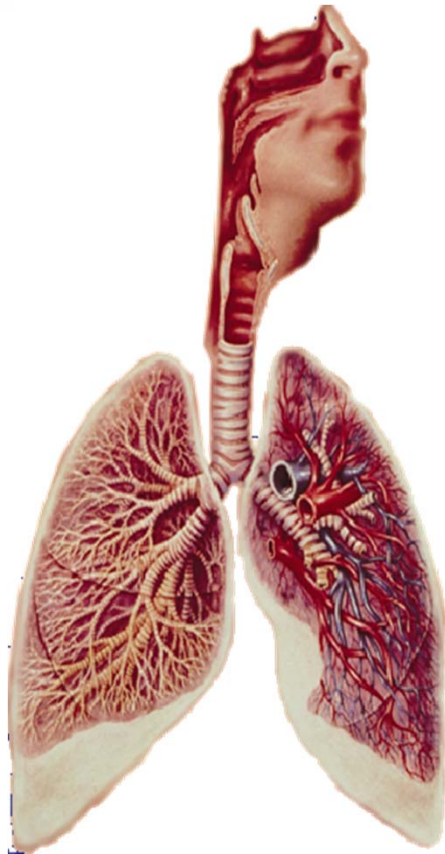


**Alkis Togias: “Asthma and rhinitis are manifestations of one syndrome, the chronic allergic respiratory syndrome.”**

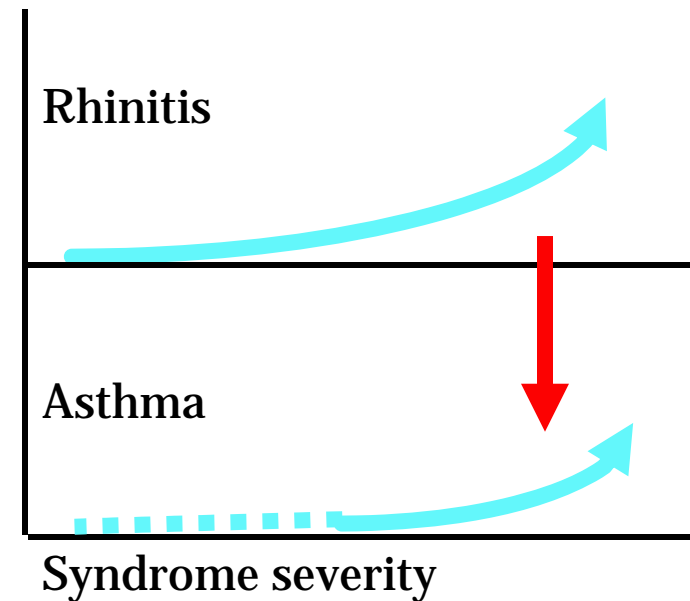
Journal of Allergy and Clinical Immunology 2003



# Chronic Allergic Respiratory Syndrome



Specific  
disease  
severity



Adapted from Togias A, Rhinitis and asthma: Evidence for respiratory system integration

*Journal of Allergy and Clinical Immunology* 2003; 111(6): 1170-1183. [Full text](#)

# Allergic Rhinitis and Asthma Have Common Triggers

- **Outdoor allergens**
  - Pollens
  - Molds
- **Indoor allergens**
  - House-dust mites
  - Animal dander
  - Insects (e.g., cockroach allergen)
- **Nonsteroidal Anti-inflammatory Drugs (NSAIDs)** (e.g., aspirin)

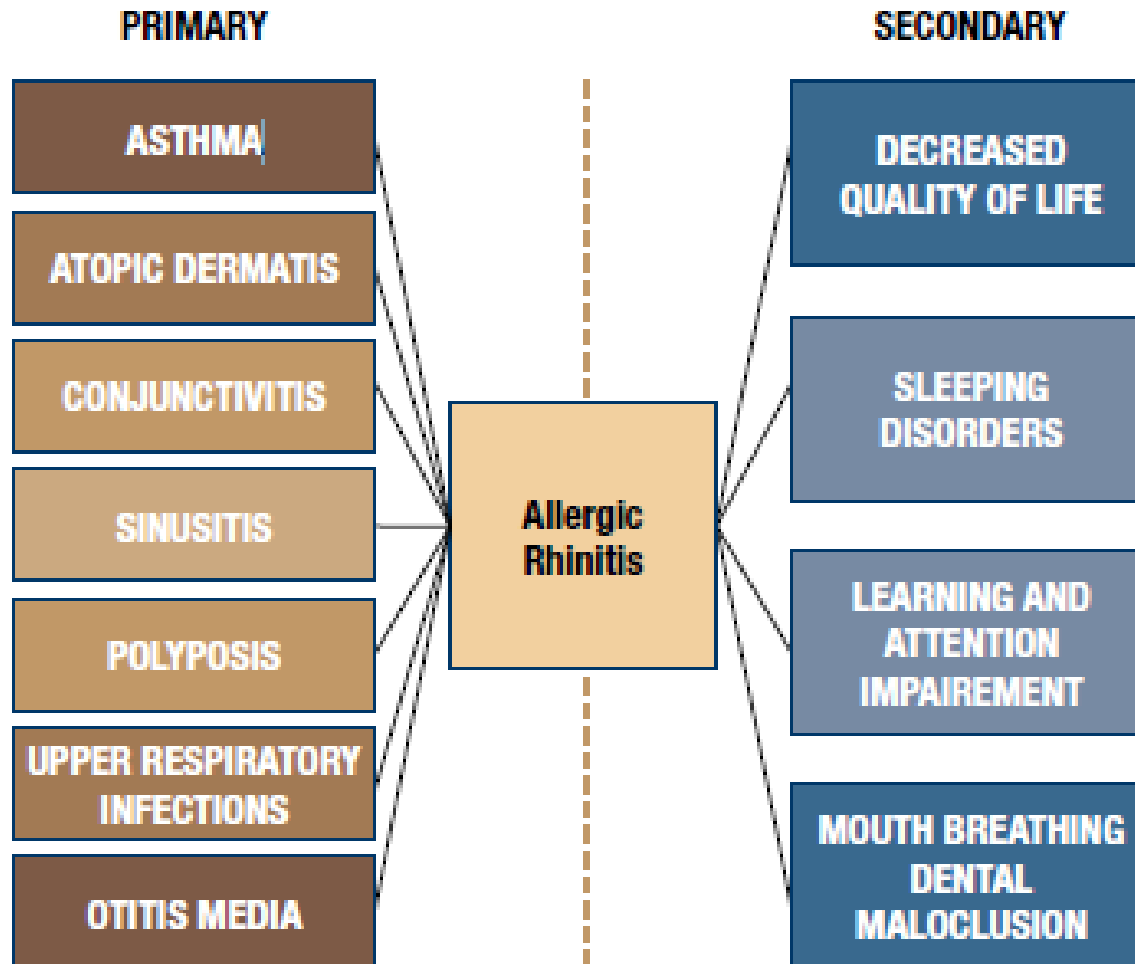


National Institutes of Health Global Initiative for Asthma. Bethesda, MD: National Institutes of Health, 1998; Workshop Expert Panel Management of Allergic Rhinitis and its Impact on Asthma (ARIA) 2001.

[http://www.guideline.gov/summary/summary.aspx?ss=15&doc\\_id=12177&nbr=006274&string=ARIA](http://www.guideline.gov/summary/summary.aspx?ss=15&doc_id=12177&nbr=006274&string=ARIA)



# Co-morbidities of Allergic Rhinitis



Pawankar, R Sanchez-Borges, M, Bonini M, Kaliner MA. Rhinitis, Conjunctivitis, and Rhinosinusitis

Pawankar R, Canonica GW, Holgate ST, Lockey RF, M. Blaiss . WAO White Book on Allergy (World Allergy Organization, 2011), p27.



# The upper and lower airways are linked

## Section 2.1. Allergic Rhinitis, Allergic Conjunctivitis, and Rhinosinusitis

Ruby S. Pawankar, Mario Sánchez-Borges, Sergio Bonini, Michael A. Kaliner

### 2.1.1 Allergic Rhinitis

#### Key statements

- Allergic rhinitis (AR) results from an IgE-mediated inflammation of the nasal mucosa.
- The disease currently affects between 10% and 30 % of the population.
- Studies indicate that prevalence rates are increasing worldwide.
- The classification proposed in the Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines is useful for the implementation of treatment.
- AR is a risk factor for asthma.
- Other co-morbidities of AR include: sinusitis, nasal polyposis, conjunctivitis, otitis media with effusion, upper respiratory infections, breathing through the mouth, and sleep disorders.
- AR has a significant impact on patients based on the degree of the severity of their symptoms. It has psychological effects, interferes with social interactions, and creates an economic burden not only for the affected subject, but for the family and for the society at large.

## Section 2.2. Asthma

Stephen T. Holgate, Giorgio Walter Canonica, Carlos E. Baena-Cagnani, Thomas B. Casale, Myron Zitt, Harold Nelson, Pakit Vichyanond

#### Key Statements

- Asthma is a life-long chronic inflammatory disorder of the airways, associated with variable structural changes, that affects children and adults of all ages. It is associated with airway hyperresponsiveness and airflow obstruction that is often reversible either spontaneously or with treatment.
- When uncontrolled, asthma can cause death, and can markedly interfere with normal activities, seriously impacting an individual's quality of life.
- Because of under-diagnosis and inadequate treatment, asthma presents a serious public health problem throughout the world, especially in low and middle income countries.
- Atopy - the genetic predisposition to develop IgE-mediated sensitivity to common aeroallergens - is the strongest identifiable predisposing factor to the development of asthma, especially in children.
- There was a sharp increase in the prevalence, morbidity, and mortality associated with asthma beginning in the 1960's and 1970's in the so-called "Westernized" countries of the world.
- The prevalence of asthma in different countries varies widely, but the disparity is narrowing due to rising prevalence in low and middle income countries as they adopt a more Western-type lifestyle. It is plateauing in high income countries.

*WAO White Book on Allergy*

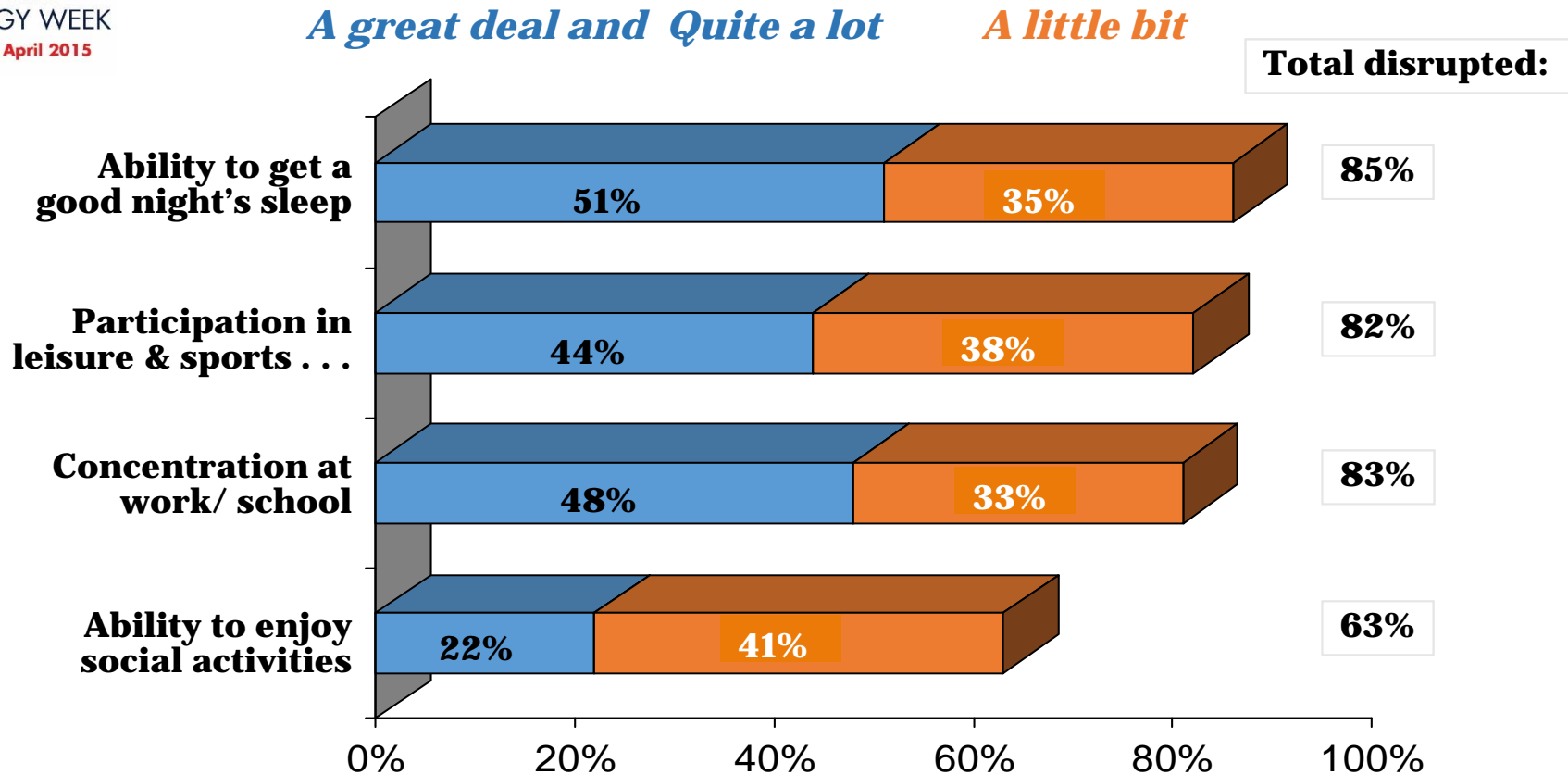
**Pawankar R, Canonica GW, Holgate ST, Lockey RF, M. Blaiss . WAO White Book on Allergy (World Allergy Organization, 2013)**



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# Impact of Allergic Rhinitis on Asthma in Child's Quality of Life



**Most patients (73%) had pre-existing AR when diagnosed with asthma. most troublesome symptom was wheezing (17%) and coughing (17%).**

# Costs of Rhinitis and Asthma: Global Perspective

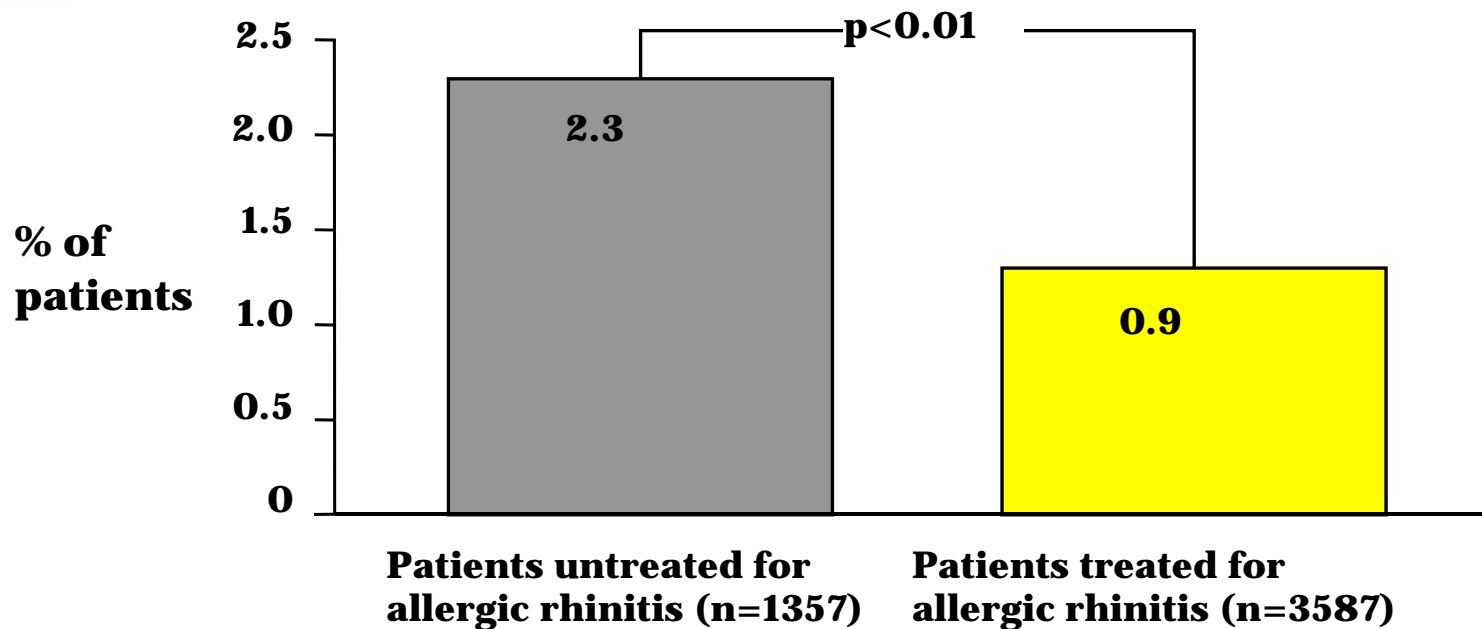
Country	Year costs calculated	Population (2010)	Disease	Direct costs*	Indirect costs**	Total costs estimated
<b>Australia</b>	2007	23 million	All allergies	A\$1.1 billion	A\$8.3 billion	A\$9.4 billion
<b>Finland</b>	2005	5.3 million	All allergies	€468 million	€51.7 million	€519.7 million
<b>South Korea</b>	2005	50 million	Asthma Allergic Rhinitis			US \$1.78 billion US \$266 million
<b>Israel</b>		7.5 million	Asthma			US \$250 million
<b>Mexico</b>	2007	103 million	Asthma			US \$35 million
<b>USA</b>	2007 2005	310.2 million	Asthma Allergic Rhinitis	US \$14.7 billion US \$11.2 billion	US \$5 billion Up to US \$9.7 billion	US \$19.7 billion Up to \$20.9 billion

\* **Direct costs:** Expenditure on medications and health care provision

\*\* **Indirect costs:** Cost to society from loss of work, social support, loss of taxation income, home modifications, lower productivity at work, etc.

Pawankar R, Canonica GW, Holgate ST, Lockey RF, Blaiss M. WAO White Book on Allergy. Member Society Survey (World Allergy Organization, 2013), pp 153-226.

# Treating Allergic Rhinitis Decreases Asthma-Related Resource Utilization



**61% fewer hospitalizations in patients treated for AR**

Retrospective cohort study of costs over a period of up to one year incurred by patients 12 to 60 years of age with both allergic rhinitis and asthma.

Adapted from Crystal-Peters J et al *J Allergy Clin Immunol* 2002;109(1):57-62.



# Socio-economic Consequences of Concurrent Allergic Rhinitis and Asthma

- A number of studies confirm that co-morbid Allergic Rhinitis in asthmatics is associated with higher total annual medical costs, greater prescribing frequency of asthma-related medications and increased likelihood of hospitalizations and emergency visits.
  - Valovirta E, Pawankar R. Survey on the impact of comorbid allergic rhinitis inpatients with asthma. *BMC Pulm Med.* 2006 Nov 30;6 Suppl 1:S3. [Full text](#)
  - Price D, Zhang Q, Sazonov Kocevar V et al, Effect of a concomitant diagnosis of allergic rhinitis on asthma-related health care use by adults. *Clinical and Experimental Allergy* 2005; 35: 282-7. [Abstract](#)
  - Bousquet J, Gaugris S, Sazonov Kocevar V et al, Increased risk of asthma attacks and emergency visits among asthma patients with allergic rhinitis: a subgroup analysis of the improving asthma control trial. *Clinical and Experimental Allergy* 2005; 35: 723-7. [Abstract](#)
  - Pawankar R, Canonica GW, Holgate ST, Lockey RF. M. Blaiss. WAO White Book on Allergy (World Allergy Organization, 2013)



## Concluding Remarks

- Concomitant rhinitis and asthma increases morbidity, worsens quality of life, and increases socio-economic costs, in a significant way.
- The presence and severity of allergic rhinitis should be assessed in **every** patient with asthma.
- Patients with rhinitis should be evaluated for asthma.
- ***Adequate management of both asthma and rhinitis is essential to achieve optimal disease control.***
- Management is based on patient education, environmental control measures (allergen avoidance etc.), medications and allergen-specific immunotherapy.



# To learn more about airway allergies

## **World Allergy Organization**

*Resources*

<http://www.worldallergy.org/airway-allergies>

[www.worldallergyweek.org](http://www.worldallergyweek.org)

### *Patient Advocacy:*

#### **Allergy and Anaphylaxis Australia**

*Allergic Rhinitis*

<https://www.allergyfacts.org.au/allergy-anaphylaxis/allergic-rhinitis-hayfever>

#### **Asthma Society of Canada**

*Asthma Information*

[http://www.anaphylaxis.ca/en/resources/helpful\\_info.html](http://www.anaphylaxis.ca/en/resources/helpful_info.html)

Children with Asthma Information

<http://www.asthma.ca/global/kids.php>

#### **Asthma Society of Ireland**

*Basic Asthma Information*

<http://www.asthma.ie/get-help/learn-about-asthma/asthma-basics/asthma-basics>

#### **European Federation of Allergy and Airways**

**Diseases Patients Associations (EFA)**

*Allergic Diseases Information*

<http://www.efanet.org/diseases-allergies/>

#### **National Asthma Council Australia**

*Understanding Asthma Resources*

<http://www.nationalasthma.org.au/understanding-asthma>



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## About the World Allergy Organization

The World Allergy Organization is an international alliance of 95 regional and national allergy, asthma and immunology societies. Through collaboration with its Member Societies WAO provides a wide range of educational and outreach programs, symposia and lectureships to allergists/immunologists around the world and conducts initiatives related to clinical practice, service provision, and physical training in order to better understand and address the challenges facing allergists/immunologists worldwide.

[www.worldallergy.org](http://www.worldallergy.org)

### Upcoming World Allergy Organization Meetings:



# Member Societies of the World Allergy Organization

## ASIA AND PACIFIC REGION

[Allergy & Immunology Society of Sri Lanka](#)

Allergy and Clinical Immunology Society (Singapore)

Allergy and Immunology Society of Thailand

Asia Pacific Association of Allergy, Asthma, and Clinical Immunology

[Asia Pacific Association of Pediatric Allergy, Respiriology and Immunology](#)

Australasian Society of Clinical Immunology and Allergy

Azerbaijan Society for Asthma, Allergy and Clinical Immunology

Bangladesh Society of Allergy and Immunology

Chinese Society of Allergology

Hong Kong Institute of Allergy

Indian Academy of Allergy

Indian College of Allergy, Asthma and Clinical Immunology

Indonesian Society of Allergy and Immunology

[Japanese Society of Allergology](#)

Korean Academy of Asthma, Allergy and Clinical Immunology

Malaysian Society of Allergy and Immunology

[Mongolian Society of Allergology](#)

Taiwan Academy of Pediatric Allergy Asthma Immunology

Vietnam Association of Allergy, Asthma and Clinical Immunology

## LATIN AMERICA REGION

[Argentine Association of Allergy and Immunology](#)

[Argentine Society of Allergy and Immunology](#)

[Brazilian Society of Allergy and Immunology](#)

[Chilean Society of Allergy and Immunology](#)

Colombian Allergy, Asthma and Immunology Association

[Cuban Society of Allergology](#)

[Ecuadorian Society of Allergy, Asthma, and Immunology](#)

Guatemalan Allergy, Asthma, and Clinical Immunology Society

Honduran Society of Allergy and Clinical Immunology

## AFRICA AND MIDDLE EAST REGION

Allergy Society of Kenya

[Allergy Society of South Africa](#)

[Egyptian Society of Allergy and Clinical Immunology](#)

Egyptian Society of Pediatric Allergy and Immunology

Iranian Society of Asthma and Allergy

Israel Association of Allergy and Clinical Immunology

Jordanian Society for Allergy and Clinical Immunology

Kuwait Society of Allergy & Clinical Immunology

Lebanese Society of Allergy and Immunology

Moroccan Society of Allergology and Clinical Immunology

National Association for Private Algerian Allergists

Serbian Association of Allergologists and Clinical Immunologists

Tunisian Society of Respiratory Diseases and Allergology

Turkish National Society of Allergy and Clinical Immunology

Zimbabwe Allergy Society

[Latin American Society of Allergy and Immunology](#)

[Mexican College of Allergy and Clinical Immunology \(CMICA\)](#)

[Mexican College of Pediatricians Specialized in Allergy and Clinical Immunology](#)

Panamanian Association of Allergology and Clinical Immunology

[Paraguayan Society of Allergy, Asthma, and Immunology](#)

Peruvian Society of Allergy and Immunology

[Philippine Society of Allergy, Asthma and Immunology](#)

Uruguayan Society of Allergology

[Venezuelan Society of Allergy, Asthma and Immunology](#)

# Member Societies of the World Allergy Organization

## EUROPE REGION

Albanian Society of Allergology and Clinical Immunology  
Armenian Association of Immunology and Allergy  
[Austrian Society of Allergology and Immunology](#)  
Belarus Association of Allergology & Clinical Immunology  
[Belgian Society of Allergy and Clinical Immunology](#)  
[British Society of Allergy and Clinical Immunology](#)  
Bulgarian National Society of Allergology  
Commonwealth of Independent States Society of Allergology and Immunology  
Croatian Society of Allergology and Clinical Immunology  
[Czech Society of Allergology and Clinical Immunology](#)  
[Danish Society for Allergology](#)  
[Dutch Society of Allergology](#)  
[European Academy of Allergy and Clinical Immunology \(EAACI\)](#)  
[Finnish Society of Allergology and Clinical Immunology](#)  
[French Society of Allergology and Clinical Immunology](#)  
Georgian Association of Allergology and Clinical Immunology  
[German Society for Allergology and Clinical Immunology](#)  
[Hellenic Society of Allergology and Clinical Immunology](#)

## AFFILIATE ORGANIZATIONS

[British Society for Immunology](#)  
[Global Allergy and Asthma European Network \(GA2LEN\)](#)  
[International Association of Asthmology \(INTERASMA\)](#)  
[International Primary Care Respiratory Group \(IPCRG\)](#)  
Southern European Allergy Societies (SEAS)

[Hungarian Society of Allergology and Clinical Immunology](#)  
Icelandic Society of Allergy and Clinical Immunology  
Italian Association of Territorial and Hospital Allergists  
[Italian Society of Allergology and Clinical Immunology](#)  
[Latvian Association of Allergists](#)  
Moldavian Society of Allergology & Immunology  
[Norwegian Society of Allergology and Immunopathology](#)  
[Polish Society of Allergology](#)  
[Portuguese Society of Allergology and Clinical Immunology](#)  
[Romanian Society of Allergology and Clinical Immunology](#)  
[Russian Association of Allergology and Clinical Immunology](#)  
[Slovenian Association for Allergology & Clinical Immunology](#)  
[Spanish Society of Allergology and Clinical Immunology](#)  
[Swedish Association for Allergology](#)  
[Swiss Society of Allergology and Immunology](#)  
Ukrainian Allergists Association  
Ukrainian Association of Allergologists and Clinical Immunologists

## NORTH AMERICA REGION

[American Academy of Allergy, Asthma and Immunology](#)  
[American College of Allergy, Asthma and Immunology](#)  
[Canadian Society of Allergy and Clinical Immunology](#)



## How will you address the unmet needs of airway allergies?

Tell us about your activities for World Allergy Week 2015.

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Facebook: [facebook.com/worldallergy.org](https://facebook.com/worldallergy.org)

Twitter: [@worldallergy](https://twitter.com/worldallergy)

#WorldAllergyWeek

[www.worldallergyweek.org](http://www.worldallergyweek.org)