

16. **Dean NC**, Bateman KA, Donnelly SM, *et al*. Improved clinical outcomes with utilization of a community-acquired pneumonia guideline. *Chest* 2006;**130**: 794–9.
17. **Ardanuy C**, Tubau F, Pallarés R, *et al*. Epidemiology of invasive pneumococcal disease among adult patients in Barcelona before and after pediatric 7-valent pneumococcal conjugate vaccine introduction. 1997–2007. *Clin Infect Dis* 2009;**48**:57–64.
18. **Garau J**, Twynholm M, García-Méndez E, *et al*. Oral pharmacokinetically enhanced co-amoxiclav 2000/125 mg, twice daily, compared with co-amoxiclav 875/125 mg, three times daily, in the treatment of community-acquired pneumonia in European adults. *J Antimicrob Chemother* 2003;**52**:826–36.
19. **Bartolomé M**, Almíral J, Morera J, *et al*. A population-based study of the costs of care for community-acquired pneumonia. *Eur Respir J* 2004;**23**:610–16.
20. **Menéndez R**, Reyes S, Martínez R, *et al*. Economic evaluation of adherence to treatment guidelines in nonintensive care pneumonia. *Eur Respir J* 2007;**29**:751–6.
21. **Reyes S**, Martínez R, Vallés JM, *et al*. Determinants of hospital costs in community-acquired pneumonia. *Eur Respir J* 2008;**31**:1061–7.
22. **Metersky ML**, Ma A, Houck PM, *et al*. Antibiotics for bacteremic pneumonia. Improved outcomes with macrolides but not fluoroquinolones. *Chest* 2007;**131**:466–73.
23. **Guchev IA**, Yu VL, Sinopalnikov A, *et al*. Management of nonsevere pneumonia in military trainees with the urinary antigen test for *Streptococcus pneumoniae*: an innovative approach to targeted therapy. *Clin Infect Dis* 2005;**40**:1608–16.
24. **van der Eerden MM**, Vlaspolter F, de Graaff CS, *et al*. Comparison between pathogen directed antibiotic treatment and empirical broad spectrum antibiotic treatment in patients with community-acquired pneumonia: a prospective randomised study. *Thorax* 2005;**60**:672–8.

## Lung alert

### Seasonal predictive factors of acute respiratory tract infections in children

Acute respiratory tract infections (ARTI) in children under 5 years of age are a leading cause of mortality worldwide, and predictive tools are invaluable in preventing infection and timely vaccination. Owing to the seasonal nature of ARTI, this German study aimed to determine the effect of climate on ARTI in children requiring hospitalisation.

This retrospective study investigated the association between common pathogens in children and various meteorological parameters. Between 2003 and 2006, nasopharyngeal aspirates were taken from 2012 children (<16 years) admitted to hospital with ARTI. These were analysed for 19 pathogens. Data on climate taken from the University of Mainz were averaged over 14 days and included measurement of temperature, relative humidity, wind speed and atmospheric pressure.

At least one ARTI pathogen was identified in 66.9% of samples, the most common being rhinovirus, respiratory syncytial virus (RSV), adenovirus and influenza A. RSV and adenovirus were associated with temperature, and rhinovirus with humidity. In addition, RSV, influenza A and human metapneumovirus showed winter peaks. In a time series model, only RSV was found to be associated with hospitalisation for ARTI in children.

This retrospective study provides intriguing data into the prediction of seasonal respiratory tract infection in children. Application of seasonal patterns to pathogen prevalence may be helpful in the management of other respiratory diseases.

- **du Prel J-B**, Puppe W, Gröndahl B, *et al*. Are meteorological parameters associated with acute respiratory tract infections? *Clin Infect Dis* 2009;**49**:861–8.

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