# CHANGE IN PREVALENCE OF PRE-SCHOOL WHEEZE IN LEICESTERSHIRE: TWO SURVEYS 8 YEARS APART

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## BACKGROUND

The prevalence of wheeze in **schoolchildren** has increased significantly over recent decades. **No repeated surveys** have been performed in the **pre-school** age-group.

## QUESTION

**Has the prevalence of wheeze in pre-school children increased?**

**If yes:**

- which "**asthma phenotypes**" increased?
- has **health-care utilisation** changed?
- is there a change in **severity** of wheeze?
- can the increase be attributed to a **change in indoor risk factors**?
- is there evidence for a **diagnostic shift**?

## METHODS:

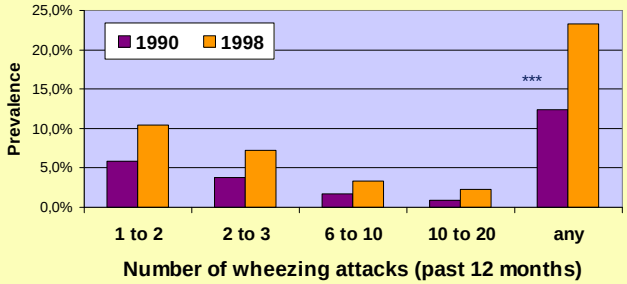
**In 1990**, a **postal questionnaire** was sent to the parents of a random sample of 1650 preschool children (aged 1-5 years) in Leicestershire (Luyt et al, BMJ 1993; 306: 1386-90).

**1998, the survey was repeated** on a new sample of 2600 pre-school children using identical methodology (key questions, sample selection, season of survey).

## RESULTS

**Response rates:** 86% (1990) and 84% (1998).

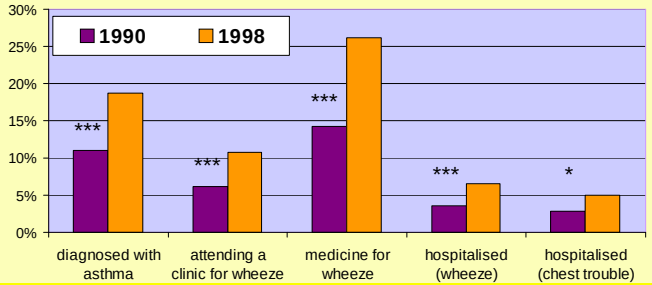
**Current wheeze** (last 12 months) increased from 12% to 24% (affecting all categories of severity) *** p<0.0001



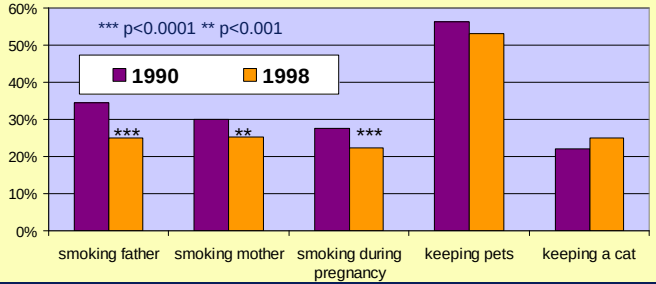

The increase occurred **in both phenotypes**

| Phenotype | 1990 n=1264 | 1998 n=2117 | p |
|---|---|---|---|
| „wheezing only with colds" | 10.1% | 19.4% | <0.0001 |
| „multiple triggers" | 5.7% | 9.8% | <0.0001 |

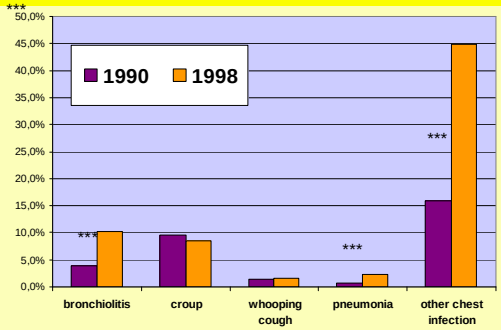
**Health care utilisation** *** p<0.0001 * p<0.01

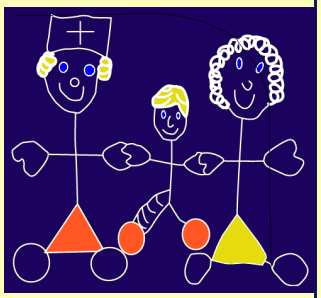



**No increase in known indoor risk factors**




**No evidence for a diagnostic shift**: other diagnoses either increased or remained stable *** p<0.0001



## CONCLUSIONS

–**Parent-reported wheeze in pre-school children doubled over the past 8 years.**
–**Health care utilisation (and presumably costs) increased accordingly.**
–The findings are not explained by over-reporting of mild symptoms or a diagnostic shift.
–Classic indoor risk factors for asthma (as measured in the questionnaire) improved during the 8 years.

**The findings could be explained by:**

**a) a genuine increase** of atopy/bronchial responsiveness due to risk factors not assessed in this study
**b) a raised awareness** of respiratory symptoms by parents and health care professionals with associated changes in health-related behaviour.

## NEXT STEPS

We are planning a follow-up study to compare objective measures (skin prick tests and bronchial reactivity) with the data from the 1990 cohort

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