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## **Prevalence of Asthma in the Swedish Population Factors Contributing in the Rise of Asthma from 1955-1995**

Studies have been made into the incidence of asthma, allergies and other forms of hypersensitivity in Sweden since the 1950s. It has been found that such conditions have become more common over the years. Genetic factors are important but do not explain the increase. Environmental factors play a major role.

Particularly for those with an hereditary tendency to develop asthma and allergies. The interplay between heredity and environment is highly complicated. It has been possible to show that dust mites and cigarette smoke are among factors increasing the risk of asthma and it is suspected that nitrogen oxides and sulfur dioxide also contribute. Several international studies indicate that the risk of developing asthma and allergies is greater in towns and cities than in rural areas.

Despite removing carpet from bedrooms, asthma and allergies are still a problem in Sweden. Twenty years ago, Sweden accounted for 45% of the carpet flooring market. Today, it only accounts for 5% of the market. Despite this, asthma and allergies have actually rose since the 1970s when carpet was removed from almost all houses and facilities due to the allergy scare of 1977.

In Sweden, the prevalence of childhood asthma has increased from about 2-3% in the early 1970s to about 6-9% twenty years later. Among the risk factors for inhalant allergy and asthma in children are sensitization to environmental allergens, low gestational age, male gender, maternal smoking, and low socioeconomic class. Low birth weight is a risk factor for both neonatal and long term disease. Lower respiratory disease is present in 8% of low birth weight babies.

In the UK, 95% of families have bedroom fitted and 29% of the children are allergic to dust mites. In Sweden, no families have had bedroom carpet, but 6+% still suffer from allergies to dust mites. The UK has the highest consumption of carpet at 3.9m<sup>2</sup> per person. In contrast, Sweden consumes only 0.4m<sup>2</sup> per person. In Sweden, the major trigger of asthma is cat and not mite allergen.

It is clear that the prevalence of asthma and allergic disease has been increasing in developed countries for the past 30-50 years, though this has been most apparent since the 1960s. A report in 1989 showed an increase in asthma in Sweden from 1.9% in 1971 to 2.8% in 1981. An even larger increase was seen in the rise of allergic rhinitis. In 1971, only 4.4% for Swedish suffered; by 1981, approximately 8.4%. Allergic rhinitis was more common in urban than in rural recruits; low in those living on farms.

The number of people and level of human activity in urban areas lead to locally high pollution and noise levels. In Sweden, these levels occasionally exceed maximum acceptable levels in terms of health and environment. Air quality in Sweden is good in international terms. However, high concentration of nitrogen dioxide continue to be a problem, especially along heavily trafficked streets. Concentrations of air pollutants in urban areas are influenced both by local emissions and long range air pollution. Traffic accounts for 70-80% of total emissions of nitrogen oxides and many other substances in

urban areas. In the next 15 years, the EU is expecting approximately a 30% increase in passenger vehicles, hence adding to the air pollution. The emissions are having a strong effect on the air pollutants, and as a result, increasing the amount of asthma and allergy sufferers. There has been some improvement in eco-efficiency. But production and consumption are continuing to increase and the demand for natural resources will generate more pollutants and waste. Despite a growth in energy efficiency, the EU's energy consumption will increase by 15% from 1995 to 2010.

The City air quality index takes into account levels of soot, sulfur dioxide and nitrogen oxides. Over the past ten years, there have been improvements due to the introduction of fossil fuels with a low content of sulfur, the introduction of catalytic converters in the car fleet and enlargement of the district heating network. Particular pollutants are involved in perhaps 40,000 to 150,000 extra adult deaths of respiratory diseases in cities/year. The effects of chemicals such as dioxin are a concern to public health issues.

Important Sweden Environment/Health web pages:

SWEIONET - Swedish Environmental Protection Agency [www.sweionet.environ.se](http://www.sweionet.environ.se)

Sweden EPA: <http://www.internat.environ.se/index.php3>

Swedenvironment Web Site: <http://www.swedenvironment.environ.se/>

EnviroReport: (every other month) <http://www.environ.se/enviroreport/>

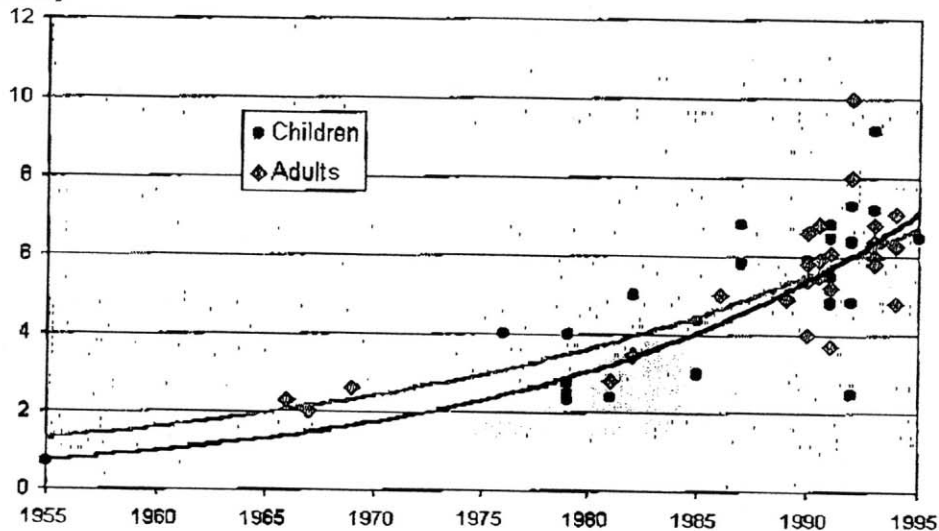


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## Urban air pollution and noise: Prevalence of asthma in the Swedish population

### Prevalence of asthma in the Swedish population in different surveys 1955 - 1995

% of asthma in survey



Source: The National Institute of Public Health, Dr. Hans Formgren

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[Data file](#)

**Sources:** Hans Formgren, National Swedish Institute of Public Health,  
 Carl-Elis Boström, Swedish Environmental Protection Agency  
 Comments welcome to [nfp@environ.se](mailto:nfp@environ.se)  
 Last updated: 10 Sept 1999

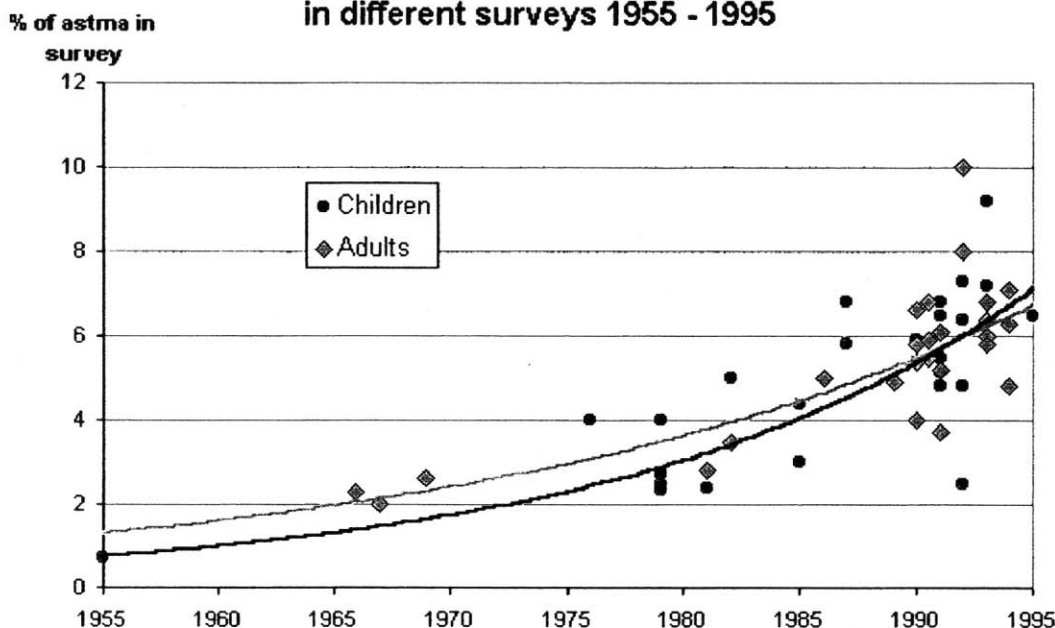


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