End of the New Zealand asthma mortality epidemic

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Abstract

Summary

In 1989, a case-control study reported that inhaled fenoterol was associated with the epidemic of asthma deaths that had affected New Zealand since 1976. The New Zealand Department of Health issued warnings about the safety of fenoterol and restricted its availability. The associated time trends are consistent with the hypothesis that fenoterol was the main factor in the New Zealand asthma mortality epidemic. The epidemic commenced when fenoterol was introduced in 1976, and the New Zealand death rate remained the highest in the world for more than a decade. After publication of the case-control study, the death rate fell by half and has now remained low for a further 3 years (1990-92). Time-trend data do not suggest a class effect of inhaled beta-agonists in the epidemic: there was no association between beta-agonist sales and the start of the epidemic, and total sales of inhaled beta-agonists actually increased slightly during 1989-90 when the epidemic came to an end. Time-trend data are also inconsistent with the hypothesis that the epidemic may have occurred because of underprescribing of inhaled corticosteroids. Similarly, time-trend data is inconsistent with hypotheses postulating a major role of social factors such as unemployment.
Data on time trends should be assessed with caution, because time trends in asthma deaths can be affected by many factors. Nevertheless, the New Zealand time trends are consistent with fenoterol being the main cause of the New Zealand asthma mortality epidemic and are inconsistent with a significant role for other suggested causes.

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