

COMMITTEE ON THE MEDICAL EFFECTS OF AIR POLLUTANTS

STATEMENT ON PAPERS BY DR ANDREA VENN AND DR ROB MCCONNELL

1. Members were provided with copies of and asked to comment upon the following papers:

- (i) Living near a main road and the risk of wheezing illness in children.
Venn AJ, Lewis SA, Cooper M, Hubbard R, Britton J.
Am J Respir Crit Care Med 2001; 164:2177-2180.
- (ii) Asthma in exercising children exposed to ozone: a cohort study.
McConnell R, Bergane K, Gilliland F, London SG, Islam T, Gauderman WJ, Avol E, Margolis HG, Peters JM.
Lancet 2002; 359:386-391.

2. Members were reminded that these papers had attracted considerable media attention and had been interpreted as showing that exposure to air pollutants is a cause of asthma. Members noted that the authors had been more guarded in their discussions of their findings than had the commentators who drew attention to the work.

3. With regard to the study by Venn *et al* it was noted that an earlier study in Nottingham¹ had not shown an association, at a community level, between proximity to roads and wheezing. In the present study, as regards primary school children, living even very close to roads seemed to have no effect on reported wheezing in boys. In girls, though there appeared to be a trend towards increased effects as distance from the road decreased, the effect was statistically significant only at 30 metres from the road. For secondary school children a similar trend with distance was found but, again, only at 30 metres was significance attained. No combined analysis for both age groups had been reported. It was noted that adjustment for socio-economic factors had been undertaken but Members wondered how well this accounted for other possible differences, such as in diet.

4. With regard to the study by McConnell *et al* Members noted that with the exception of 24-hour average ozone concentrations, pollutants concentrations were inversely related to the rate of "incident asthma" i.e. higher asthma prevalence in less polluted areas. In the case of ozone (24-hour average) the association, though positive, was not statistically significant. This led Members to assert that the study could have been interpreted as showing that air pollution did not cause asthma. Members also noted that the highest ozone levels recorded in the study significantly exceeded those seen in the UK and that the lower Californian levels exceeded UK urban concentrations and approximated to UK rural concentrations.

5. Members concluded:

The papers considered did not provide convincing evidence that exposure to air pollution played a significant part in causing asthma. It was accepted that exposure to raised levels of air pollutants could produce a worsening of symptoms in individuals suffering from the disease. A new COMEAP subgroup will be looking at all the evidence regarding air pollution and the causation of asthma and will report in 2003.

Reference

1. Venn A, Lewis S, Cooper M, Hubbard R, Hill I, Boddy R, Bell M, Britton J. Local road traffic activity and the prevalence, severity, and persistence of wheeze in school children: combined cross sectional and longitudinal study. *Occup Environ Med* 2000; 57:152-158.

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