Foreword

Studies of air pollution episodes in northern Europe and the USA before the 1960s provided indisputable evidence that high levels of pollution have major short term effects on mortality and morbidity. Subsequent regulatory measures in these areas resulted in lowering the levels of some air pollutants and the prevailing opinion among scientists and administrators around the 1970s and 1980s was that current levels of pollution were safe for health. However, during the last decade a few time series studies from Europe, and more from the USA, indicated the existence of short term health effects of levels of air pollution below the set national and international standards and guidelines. These results suggest small but statistically significant relative risks which are associated with a large number of attributable events, due to the ubiquity of air pollution exposure.

In this context, the APHEA project (Short term effects of air pollution on health: a European approach using epidemiological time series data) was initiated and funded in the framework of the *EC Environment 91-94 Programme*. Its main objective was to provide quantitative estimates, using standardised methods, of the short term effects of air pollution in Europe, with data from 15 large cities representing various social, cultural, environmental, and air pollution situations. This supplement contains a de-

scription of the APHEA project and a major part of its results.

The first paper describes the APHEA protocol with particular emphasis on the methodological procedures followed in the analysis of all data sets. The second discusses theoretical and applied aspects of the analysis of time series studies. The following papers report results from the individual APHEA centres, concerning either mortality or hospital admissions and including all or most pollutants routinely monitored in their cities. All centres have followed the common statistical analysis protocol and report results in a comparable way to enable the quantification and comparison of effects.

We hope that this supplement – in which the reader will find more results than have previously been published on current air pollution levels and their short term effects on mortality and hospital admissions in Europe – will be useful for those who would like to assess the public health importance of current air pollution levels. These findings are generally consistent with the reports from the USA and support the recent attention given to air pollution health effects and the ongoing revisions of air quality guidelines and standards.

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