

# HEALTH IMPACT ASSESSMENT OF AIR POLLUTION IN THE EIGHT MAJOR ITALIAN CITIES







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*By*

MARCO MARTUZZI

WHO European Centre for Environment and Health  
Rome Operational Division  
WHO Regional Office for Europe

CLAUDIA GALASSI

Regional Agency for Health, Bologna, Italy

BART OSTRO

Air Pollution Epidemiology Unit  
California Office of Environmental Health Hazard Assessment (OEHHA)

FRANCESCO FORASTIERE

Department of Epidemiology, Rome Health Authority, Rome, Italy

ROBERTO BERTOLLINI

WHO European Centre for Environment and Health  
Rome Operational Division  
WHO Regional Office for Europe

## ABSTRACT

The report contains the health impact assessment of urban air pollution in the eight major Italian cities; it gives estimates of mortality, morbidity and numbers days of restricted activity associated with air pollution level. The report illustrates the methodology, discusses scientific uncertainty and implications for findings as well as for the need for further research.

Due to the methodological discussion and to its practical application in quantifying health effects of air pollution exposure, the report is also recommended as a handbook for local health officers.

The case study and methodological tools can support Member States in implementing and developing environmental health policies. The dissemination of the report, among health officers and local government officers in Europe will increase awareness of air pollution related health effects and improve the knowledge of management of air quality data for air pollution monitoring and exposure assessment.

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Thomas Petruso

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Nicoletta Di Tanno; Vitali Shkaruba (cover photo)

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## Foreword

This report describes a research project carried out by the European Centre for Environment and Health of the World Health Organization to assess the health impact of urban air pollution in Italy. The project was based on the eight cities in Italy with a population greater than 400 000 people and was developed in two phases, beginning in 1998 with a financial contribution from the Italian Ministry of Environment. The first phase of the project gathered data on urban air pollution, and the second phase assessed its health impact.

In the first phase, the difficulties of using the data as recorded in the local databases became apparent: the collection and storage methods differed from city to city and the classification criteria of the air quality monitoring stations are not standardised. Although the air quality monitoring networks (i.e. the location and number of the monitoring stations) have been designed to monitor a large number of pollutants, the data have not been extensively used. Thus, an expert group (“Itaria”) was set up to support the process. The group provided hourly data for a six-year period and informed the choice and weight of monitoring stations for exposure assessment. The work of the group is still in progress and the association itself is currently a very important consultancy working group for issues relating to air quality monitoring.

The second phase of the project (the health impact assessment of urban air pollution) has also been based on a collaborative effort, involving a large group of advisors and consultants.

As a result, the report draws on existing expertise and literature to quantitatively estimate the current health effects attributable to air pollution in the eight major Italian cities, using PM10 as a proxy for concurrent exposures to different pollutants. These eight cities constitute 15% of the population of Italy and include: Genoa, Turin, Milan, Bologna, Florence, Rome, Naples and Palermo.

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