



## **Air Quality & Health Questions and Answer**

### **Q1: What are the health consequences of air pollution?**

Air pollution increases the risk of respiratory and heart disease in the population. Both short and long term exposure to air pollutants have been associated to health impacts. More severe impacts affect people who are already ill. Children, the elderly and poor people are more susceptible.

### **Q2: How bad is air pollution?**

Air pollution is a major environmental health problem affecting everyone.

Whether in Manila, Sao Paolo or London, air pollution is a problem from exhaust fumes from cars, domestic combustion or factory smoke. Worldwide it is estimated that 2 million people -- more than half of them in developing countries -- die every year from air pollution.

World-wide there are risks to health from exposure to particulate matter (PM) and Ozone (O<sub>3</sub>) in many cities of developed and developing countries alike.

The World Health Organization is working with every country across the globe to turn around this unacceptable situation and reach the suggested new standards for air quality.

### **Q3. What are the most polluted cities in the world?**

Unfortunately, there is no comprehensive, world wide data base allowing precise answer to this question. We can also suspect that in many cities with high pollution levels no monitoring is conducted, so such assessment would not be possible. Nevertheless, the available data indicate that air pollution is very high in a number of Asian cities (Karachi, New Delhi, Katmandu, Beijing), in Latin American cities (Lima, Arequipa), and in Africa (Cairo).

It should be stressed that health concerns are not limited to those the most polluted cities: substantial health effects are seen even in the relative cleaner cities of Europe or North America, where PM levels are 3-5 times lower than in the most polluted cities.

### **Q4: In which regions of the world/countries and cities are particulate-matter concentrations particularly high?**

As often is the case, the biggest air-pollution related burden to health is observed in developing countries. The lack of knowledge of the health impacts from pollution is a big obstacle in defining the actions and mobilizing local, and international resources.

### **Q5: The WHO maintains that reducing PM10 alone could lower the number of deaths in heavily affected cities by 15 percent. Has the amount of particulate matter fallen since its public appeal in 2006?**

By reducing particulate matter pollution from 70 to 20 micrograms per cubic metre as set out in the new *Guidelines*, we estimate that we can cut air quality related deaths by around 15%, and by reducing air pollution levels, we can help countries reduce the global burden of disease from respiratory infections, heart disease, and lung cancer. Also, action to reduce the direct impact of air pollution will also cut emissions of gases which contribute to climate change and provide other health benefits.

**Q6: Has air quality, particularly in major cities, improved since the guidelines were set?**

Most activities necessary to reduce pollution levels require long term actions and commitments. It would be premature to expect significant decrement of the pollution within a year or two after publication of the WHO Guidelines. From the data accessible, we can see that the levels of pollution in the present decade are lower than in the previous one. However, there is no health-relevant air quality monitoring in the regions with possibly quite high pollution levels causing significant health impacts.

**Q7: Have there been any new guidelines or other significant, relevant documents since 2005 about the health impact of air pollution?**

**Answer:** The 2005 global guidelines are the most up to date providing the latest scientific evidence. They set targets for air quality which would protect the large majority of individuals from the effects of air pollution on health.

Other publications include:

*Environmental burden of disease country profiles:*

[http://www.who.int/quantifying\\_ehimpacts/countryprofiles/en/index.html](http://www.who.int/quantifying_ehimpacts/countryprofiles/en/index.html)

**Q8: What are the implications for public health?**

Public health recognizes air pollution as an important determinant of health, especially in developing countries. There is significant inequality in the exposure to air pollution and related health risk: air pollution combines with other aspects of the social and physical environment to create a disproportional disease burden in less affluent parts of society.

Exposure to air pollutants is largely beyond the control of individuals and requires action by public authorities at the national, regional and even international levels.

The health sector can play a central role in leading a multisectoral approach to prevention of exposure to air pollution. It can engage and support other relevant sectors (transport, housing, energy production and industry) in the development and implementation of long-term policies to reduce the risks of air pollution to health.

**Q9 How is WHO confronting air pollution effects on health?**

WHO's core function is to identify those air pollutants with the biggest impact on people's health. This helps the Member States to focus their actions on the most efficient way to prevent, or

reduce the risks. WHO's task is to review and analyze the accumulated scientific evidence, and, based on the expert's advice, draw conclusions on the level of risk.

WHO's Air Quality Guidelines available at  
[http://www.who.int/phe/health\\_topics/outdoorair\\_aqg/en/index.html](http://www.who.int/phe/health_topics/outdoorair_aqg/en/index.html)

Full text of the Guidelines including background material is available on  
[http://www.euro.who.int/InformationSources/Publications/Catalogue/20070323\\_1](http://www.euro.who.int/InformationSources/Publications/Catalogue/20070323_1)

Fact sheet: <http://www.who.int/mediacentre/factsheets/fs313/en/index.html>

#### **Q10. How will the Air Quality Guidelines support Member States?**

The WHO Air Quality Guidelines (AQGs) are intended for worldwide use but have been developed to support actions for healthy air quality in different contexts, acknowledging the need of each country to set up its own air quality standards to protect the public health of their citizens based on local circumstances. They inform policy-makers and provide appropriate targets for a broad range of policy options for air quality management in different parts of the world.

#### **Q11. What are the challenges countries face, and what obstacles are preventing assistance in improving air quality?**

There is significant inequality in the exposure to air pollution and the related health risk: air pollution combines with other aspects of the social and physical environment, creating disproportional disease burden in less affluent parts of the society.

Often, the biggest air-pollution related burden to health is observed in developing countries, which are already struggling with various problems of poverty and social deprivation.

The burden of health related to indoor air pollution from burning of solid fuels could be reduced by the relatively simple improvement of stoves. Here information, education and technical assistance are essential if the health burden on children and women is to be reduced.

In many developing countries, consideration of pollution emissions in urban planning, domestic heating, energy production and transport development is still not a common practice. The ignorance of health effects of the pollution, or under appreciation of its magnitude, are big obstacles in defining the actions and mobilizing local, and international resources. At the same time, relatively simple interventions, such as an improvement in kitchen stoves or heating appliances, may reduce exposure of people to the pollution radically, producing significant health gain at minimal cost.

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