Reductions in air pollution in European cities significantly reduce the number of premature deaths, according to researchers. However, these results need to be communicated effectively to policy makers in order to have an impact.

One of the four main target areas of the EU’s Sixth Environment Action Programme (EAP) is Environment and Health, which includes air pollution. Particulate matter is of special concern and the Clean Air For Europe (CAFÉ) programme estimated that there are 348,000 premature deaths in Europe each year associated with PM$_{2.5}$ (particulate matter less than 2.5 micrometers in diameter). The EU Air Quality Directive has set new air quality objectives for PM$_{2.5}$.

The EU supported Apheis project (Air Pollution and Health – A European Information System) was started in 1999 to track the effects of air pollution on health in 26 European cities. It also tracked how results are communicated to policy makers to better understand how research findings are converted into action.

The project used indicators, such as premature death and life expectancy, for a health impact assessment (HIA) of PM$_{10}$ and PM$_{2.5}$. It identified 26 urban centres that could implement these HIAs. To analyse the path of communication between research findings and policy, the researchers interviewed 32 individuals involved in air pollution and health policy in the UK and Spain.

In 23 cities that measured PM$_{10}$ totalling almost 36 million inhabitants the study indicated that, if all other things were equal, and long term exposure to PM$_{10}$ was reduced to 20 µg/m$^3$ in each city, then more than 21,000 premature deaths could be prevented annually. The main causes of these deaths are cardiovascular diseases, respiratory diseases and cancer.

Considering PM$_{2.5}$, the study estimated that, all other things equal, more than 11,000 premature deaths could be prevented annually if long-term exposure to PM$_{2.5}$ levels were reduced to 20 µg/m$^3$ in each city; and that almost 17,000 premature deaths could be prevented annually if long-term exposure to PM$_{2.5}$ were reduced to 15 µg/m$^3$. This means the benefits of reducing levels to 15 µg/m$^3$ is over 30 per cent greater than for a reduction to 20 µg/m$^3$. The EU Air Quality Directive has set an exposure concentration obligation of 20 µg/m$^3$ for PM$_{2.5}$ in urban areas by 2015. This obligation is based on the national average exposure indicator, calculated from monitored concentrations from selected stations placed in urban background locations. These results suggest a greater health benefit of setting the target value at 15 µg/m$^3$.

The research on the communication to policy makers indicated that policy advisors and makers are generally unlikely to use standard scientific reports. A long complex chain of many players leads from the scientists to the policy makers. On the basis of this a strategy was developed to communicate Apheis’s findings along the whole chain. It suggested that research findings should be shaped to the different needs of scientific and policy users. For example, policy users tend to require distilled information with clear messages and implications for policy. This could be done with a range of communications tools beyond scientific reports, such as summary reports, interviews, brochures, presentations and Q&As. By ensuring a firm link to policy, important research findings on air pollution may have a greater impact.

4. See: www.apheis.net


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Theme(s): Air pollution, Environment and health, Environmental information services