WHO...and Why

John Bachmann

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In this issue, Krzyzanowski and Cohen summarize the recent World Health Organization (WHO) Air Quality Guidelines (AQG). Their article and the WHO reports remind us that despite well-documented progress in many developed nations, the effects of air pollution on public health remain a significant concern worldwide. WHO's estimates of the annual burden of disease attributable to urban air pollution are on the order of a million premature deaths and more than three million life years lost, not counting hospital admissions, illness, and lost productivity. The rising global background of air pollutants also reaches those living in smaller urban and rural areas. Estimated risk and impacts are greatest in developing areas of Asia where pollutant exposures rival those experienced in the USA and Europe in the 1950s and 1960s. Yet, in the USA and Europe, the burden of ill health from air pollution still constitutes tens of thousands of premature deaths and millions of cases of illness that have an estimated monetary cost of many billions of dollars. These estimates make clear that air pollution persists as a national and global public health concern.

As Krzyzanowski and Cohen note, the efforts of WHO and others to update, interpret, and produce impact assessments based on advances in scientific information for key air pollutants are also valuable by providing guidance and also an impetus for action for the many countries who do not have the infrastructure to develop their own. The

history of air pollution over the twentieth century shows that newly industrialized areas sustained horrendous levels of smoke and sulfur pollution for decades until well-documented pollutant episodes made an unequivocal linkage between air pollution and health in the minds of the public and of policy makers. Later, incorporation of health-based air quality goals and standards proved to be a major driver in the processes that have led to continuing improvements in air quality as well as in the scientific understanding of the health effects of air pollution. As the WHO report documents, the scientific evidence documents effects at ever lower concentrations, giving a basis for strengthening of air quality standards and guidelines.

The WHO Working Group had to address the complex issue of translating scientific information into public health policy, with the additional complication that the guidelines were intended to be useful for nations with widely varying environmental, economic, social, and political conditions. Among the vexing issues is how to draw lines applicable to all nations for pollutants with no obvious threshold below which effects do not occur. The new Guidelines improved on the previous WHO approach by coupling a recommended guideline with a series of interim targets to promote continuing improvements in places with the most severe problems. Their rationale includes an assessment of the evidence and risk, with a precautionary or public health oriented perspective. Not surprisingly, the science-policy judgments of the authors of the WHO Guidelines differs from those made by a contemporary panel of independent scientists advising the US EPA. The latter group recommended somewhat higher levels of particles.

For the future, we need to learn whether and where these new Guidelines help. The authors highlight the

J. Bachmann (✉)
Vision Air Consulting,
Chapel Hill, NC 27516, USA
e-mail: johnbachmann@bellsouth.net

need for WHO and others to evaluate how these guidelines and reports ultimately affect air pollution control policies in various regions. It would be of interest to know the relative value of promoting the reporting of daily air pollutant indices in addition to leading to the establishment of guidelines. We will also need to track

how well programs and policies for improving air pollution can be integrated into policies for another main focus of this Journal—climate change. Recognition of the interactions between strategies to address air pollution and climate change should lead to effective progress on both.