



## REGIONAL COMMITTEE FOR THE EASTERN MEDITERRANEAN

Sixty-third Session  
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### ADDRESSING AIR QUALITY AND HEALTH IN THE EASTERN MEDITERRANEAN REGION

#### Objectives of the event

The objectives of the event are to:

- brief Member States on recent global developments on air quality and health namely: World Health Assembly resolutions WHA68.8, and WHA69.9; WHO's database on air pollution in cities; and the new WHO estimates on exposures to air pollution and subsequent burden of disease in countries of the Region;
- highlight the cross linkages between air pollution and health and other global agendas, including the Sustainable Development Goals (SDGs), climate change, and housing and sustainable urban development as addressed by Habitat III – the Third United Nations Conference on Housing and Sustainable Urban Development;
- emphasize the role of the health sector in communicating health messages on air pollution, and in catalysing the introduction of air pollution mitigation interventions and policies instigated by other sectors, such as transport, energy, municipality, agriculture;
- highlight the need to develop a regional framework for action for the implementation of the newly endorsed global road map to address the health impacts of air pollution in the Region.

#### Background

Air pollution is one of the main avoidable causes of disease and death globally. About 4.3 million deaths each year, most in developing countries, are associated with exposure to household (indoor) air pollution. A further 3.7 million deaths a year are attributed to ambient (outdoor) air pollution. Exposure to air pollution, especially fine particulate matter (PM), is a leading risk factor for noncommunicable diseases, in particular ischaemia, myocardial infarction, stroke, chronic obstructive pulmonary disease and cancers. Both short- and long-term exposure to air pollutants have been associated with adverse health impacts. Severe health impacts affect people who are already vulnerable, including children, the elderly, pregnant women and the poor. Pollutants of major public health concern include PM, carbon monoxide, ozone, nitrogen dioxide and sulfur dioxide. Because most of the health impact is being caused by PM, it is currently the focus of most health impact assessment studies being performed by WHO and other international organizations.

WHO estimated in 2016 that the annual numbers of premature deaths attributable to different types of air pollution in the Region were: 250 000 due to exposure to outdoor air pollution (mainly PM<sub>2.5</sub>), and 200 000 due to exposure to indoor air pollution caused by burning solid fuels for cooking and heating, as well as 70 000 due to exposure to secondhand tobacco smoke. Premature annual deaths from exposure to air pollutants include stroke and ischaemic heart diseases (37% and 34%, respectively), and other diseases: chronic obstructive pulmonary disease (16%), lung cancer (6%), pneumonia (5%) and acute lower respiratory

disease (2%). WHO estimates coincide with the findings of the global burden of disease published by the Institute for Health Metrics and Evaluation in November 2015.

### **WHO approach: public health response to air pollution and health**

Interventions to curtail air pollutants can reduce disease and death, decrease global warming, and contribute to the promotion of healthy living. They can be divided into two sets – minimizing air pollution at source, usually implemented by different stakeholders, and avoiding/minimizing exposure to air pollution, focusing on what individuals and communities can do to reduce personal health risks from air pollution. The road map, adopted in 2016 by the Sixty-ninth World Health Assembly, for the implementation of resolution WHA68.8 describes an enhanced global response to the adverse health effects of air pollution. It is organized into four categories: expanding the knowledge base; monitoring and reporting; global leadership and coordination; institutional capacity strengthening.

### **Monitoring sources of air pollution in the Region**

Sources of air pollution can be categorized into two main categories: indoor and outdoor. Outdoor air pollution can be an important contributor to the indoor air quality, especially in highly ventilated homes, or in homes near pollution sources. Similarly, indoor air pollution sources may also be important causes of outdoor air pollution.

Sources of outdoor air pollution are of two types – natural and anthropogenic. Natural sources include natural airborne dust, and sea salt aerosols. Anthropogenic sources include two types: mobile sources (i.e. cars) and stationary sources (i.e. smoke stacks), and both make significant contributions to outdoor air pollution. Although source apportionment of air pollution studies are not common in the Region, the available assessments indicate that about 50% of PM<sub>2.5</sub> is caused by natural sand and dust storms, while industry may cause 27%, and traffic 12%. In larger cities of the Region, transport is responsible for about 80% of the pollution.

Monitoring the exposure to air pollution requires careful observation of all sources of pollution and proximity to human beings. Monitoring and reporting of air pollutants in the outdoor air is notably lacking in the Region. Out of 3000 cities around the world that are monitoring and reporting air quality data to WHO databases, only 86 cities belong to the Region. Almost all cities in the Region that are monitoring and reporting air quality data (PM<sub>10</sub> and PM<sub>2.5</sub>) are exceeding the WHO guidelines (PM<sub>10</sub> = 20 µg/m<sup>3</sup>, and PM<sub>2.5</sub> = 10 µg/m<sup>3</sup>) by many folds. The average PM<sub>10</sub> in the Region is more than 238 µg/m<sup>3</sup>.

Household surveys are being used to monitor the number of households that are still using solid fuels for cooking and heating, and the percentage of the population exposed to secondhand tobacco smoke. Very scattered information and research data are available in the Region documenting other sources of indoor air pollution and indoor air quality, such as the use of kerosene for heating and cooking.

Surveillance of the health outcomes of air pollution is seriously lacking, which makes the conducting of epidemiological studies to better understand the specificity of the air quality and health in the Region a very difficult mission.

### **Specificities and challenges for the Region**

- Natural air pollution (e.g. sand) and different types of household fuels used are adding some specific characteristics to air pollution in the Region. Accordingly, WHO health guidelines and regional road map need to address such features and specific needs.
- Often, the public at large as well as (to a lesser extent) the health and environment governmental sectors are not fully aware of the health impacts of outdoor and indoor air

pollution, or the cost-effective interventions available to minimize exposure to, or effects of, air pollution. Therefore, Member States and WHO need to collectively support actions targeting awareness-raising of the health aspects pertinent to air pollution.

- Capacity, as well as willingness to monitor and report on outdoor and indoor air pollution and its health impact, is lacking in most countries of the Region. There is a real need for WHO to support technical capacity-building on air quality monitoring, and focus on cost-effective methodologies, such as remote sensing and modelling.
- Capacity development for conducting health impact assessments of outdoor and indoor pollution is also inadequate in the Region. WHO is prepared to provide pertinent tools and train national experts from the health and environment sectors to estimate and quantify the health impact of air pollution.

### **The way forward**

Commitment is needed to develop a regional framework for action for the implementation of the global road map to address the health impacts of air pollution in the Region. As 50% of ambient air pollution in the Region is estimated to originate from natural resources (without a clear understanding of its health impacts), there is a need to focus attention on research to address the gaps in knowledge and develop evidence-based interventions suitable to regional conditions and environmental settings. The regional framework should take into account all prevalent sources of indoor air pollution. There is also a need for a more coherent and well coordinated health sector responsive approach which takes into account relevant inter-linkages with existing public health priorities and concerns. Health sector involvement should be in the form of framing national policies to protect health from the impacts of air pollution; advocating for health outcomes based on air pollution control policies and interventions by other relevant sectors; and catalysing monitoring and reporting of air quality to assess its subsequent health impacts.

### **Expected outcomes**

- Raised awareness of the serious health impacts as a result of outdoor and indoor air pollution and the need to strengthen public health institutional capacity to act as a regulator and advocator for monitoring and evaluating of air quality, and steering actions to be undertaken by other relevant sectors.
- Highlighted synergies and cross linkages between air pollution and health and other global agendas, such as the SDGs, climate change and housing and sustainable urban development.
- Consensus reached on compilation of a regional database and development of a regional framework for action for the implementation of the global road map to address the health impacts of air pollution, to be submitted at the 64th Session of the Regional Committee for the Eastern Mediterranean.