The public health challenge of air pollution – a WHO perspective

Dr Dorota Jarosinska
WHO European Centre for Environment and Health

Solutions Initiative Forum - Air
28 August 2019, Gothenburg, Sweden
WHO role - putting the health argument at the forefront of policy making and actions

• Consolidation of scientific evidence
• Methods and tools to support decision making
• Strengthening capacities in Member States
• Facilitating intersectorial and multistakeholder action
• Advocacy
Air quality and health - WHO milestones

- 1958
- 1964
- 1972
- (1976-84)
- 1987
- 2000
- 2005
- 2009
- 2010
- 2014
- 2015 - WHA Resolution 68.8
- 2018 - First Global Conference on AQ and Health

WHO technical reports

Since 2016... Update
Health effects of air pollution - summary of evidence for action

• Evidence on health effects of air pollution has grown gradually over the last six decades.
• Epidemiological studies from 1990s identified effects of low (common in urban environment) concentrations of “classical” air pollutants (PM, NO\textsubscript{2}, SO\textsubscript{2} and ozone).
• Growing understanding of causal pathways of health effects of “classical air pollutants” in the last 10-15 years.
• Estimation of global burden of disease due to air pollution in the last years.
91% of world population breathe the air above the WHO Air Quality Guidelines values ...

... if achieved, are expected to result in significantly reduced rates of adverse health effects.
WHO ambient air quality database

In 2018, more than 4300 cities in 108 countries

www.who.int/airpollution/data/cities
Public health impact of air pollution

Globally
7 million premature deaths per year
4.2 million due to ambient air pollution
3.8 million due to household air pollution

WHO European Region
550 000 premature deaths per year
509 000 due to ambient air pollution
56 000 due to household air pollution
Air pollution and NCDs - focus on cardiovascular diseases
Pyramid of health effects due to air pollution
Air pollution affects many organs and systems.
5 main NCD risks

- Unhealthy diet
- Tobacco use
- Air pollution
- Harmful use of alcohol
- Physical inactivity

Ensure healthy diets
Tighten laws and regulations
Make health risks clear
Generate data for health
Leverage taxes
Create healthy cities and environments

https://www.who.int/ncds/governance/third-un-meeting/brochure.pdf?ua=1
WHO action on air pollution and NCDs

- ‘Best buys’ for air pollution
- Economic assessments

- WHO European High-level Conference on NCDs: Time to deliver – meeting NCD targets to achieve Sustainable Development Goals in Europe

Tackling air pollution to protect human health

- Multi-sectorial
- Multi-stakeholder
- Multi-level
- Multiple settings
- Multiple time frames
- Multiple benefits
First WHA Resolution on Air Pollution and Health (WHA 68.8, May 2015)

• Highlights the key role of health authorities in raising awareness about the potential to save lives and reduce health costs, if air pollution is addressed effectively.

• Identifies the need for strong cooperation between sectors and integration of health concerns into all national, regional and local air pollution-related policies.

• Urges Member States to develop air quality monitoring systems and health registries to improve surveillance for all illnesses related to air pollution.

• Urges Member States to strengthen international transfer of technologies and scientific data in the field of air pollution.

• Recognizes the role of WHO AQG ...in providing recommendations for clean air that protect human health.

http://apps.who.int/gb/or/e/e_wha68r1.html
European Environment and Health Process
The Ostrava Declaration (2017)

Ministerial Declaration

Compendium of possible actions

Institutional arrangements

- Improve indoor and outdoor air quality
- Ensure access to safe drinking-water, sanitation and hygiene
- Minimize adverse effects of chemicals
- Strengthen adaptation to and mitigation of climate change
- Prevent adverse effects of waste mgmt. & contaminated sites
- Support cities and regions to become healthier
- Build the environmental sustainability of health systems

http://www.euro.who.int/en/media-centre/events/events/2017/06/sixth-ministerial-conference-on-environment-and-health
A vision on how to respond to environmental health risks and challenges until 2030 and ensure safe, enabling and equitable environments for health by transforming way of living, working, producing, consuming and governing.

**Key settings as sites for interventions**

... to address environmental health risks and reduce health inequalities, while responding to demographic, social, economic, technological and lifestyle changes.

**Air pollution.** Countries and major cities have set health-based **air-quality targets** and have put in place policies to achieving the targets by **involving relevant sectors**. Polluting **fuels** and inefficient **technologies** are no longer used. Emissions have been significantly reduced.

WHO is custodian of the air pollution-related SDGs

- **Air quality in cities**
  - SDG 11.6.2: Annual urban mean concentration of particulate matter (PM2.5), population-weighted

- **Clean energy access**
  - SDG 7.1.2: Percentage of population with primary reliance on clean fuels and technologies at the household level

- **Mortality from air pollution**
  - SDG 3.9.1: Mortality from air pollution
Tools and methods: AirQ+

WHO software to calculate the health impacts of air pollution

For calculating estimates that support decision-makers to develop appropriate actions to protect public health

Other tools and methods

Achieving health benefits from carbon reductions - CaRBonH tool


Health Economic Assessment Tool (HEAT) for walking and cycling

Regional and global platforms

• TFH - the Joint WHO/UNECE Long-range Transboundary Air Pollution (LRTAP) Convention Task Force on Health Aspects of Air Pollution


• The Global Platform on Air Quality and Health - to strengthen countries capacity to address air pollution and related health risks

• Global Energy and Health Platform – to accelerate the transition to clean energy to improve health and livelihoods
Clean Air for All: Geneva Action Agenda

- Implement solutions to **burn less** in any form – reduce open burning, fuel burning in transport, cooking, heating and other processes
- Strengthen action to **protect the most vulnerable**, in particular children
- **Enhance education**: children, medical professions, patients, general population
- **Strengthen Universal Health Coverage** to implement actions to prevent air pollution
- **Monitor**, not only air pollution, but also actions and progress made
- Continue building the evidence, in particular on cost-effective solutions
- **Build key partnerships** for shared global response and efficient local action

[www.who.int/airpollution/events/conference/en/](http://www.who.int/airpollution/events/conference/en/)
A global campaign to protect our health and climate by improving air quality

55 cities, regions or countries have joined the network, committing to bring air quality to safe levels by 2030—impacting 153 million citizens
Thank you for your attention

http://www.euro.who.int/en/health-topics/environment-and-health