



# Uptake and impact of the WHO environmental noise guidelines for the European Region / Insights into the upcoming EU-wide noise health risk assessment

**European Environment Agency**

Eulalia Peris | COST-action "burden-eu" webinar on noise and health | 26 January 2024

# Content of the presentation



## Joint WHO- EEA briefing on the implementation of the WHO Environmental Noise Guidelines

- Evaluates the uptake by relevant stakeholders of the 2018 WHO Environmental Noise Guidelines
- Results based on a survey among WHO and EEA-Eionet member countries.

<https://www.who.int/europe/publications/i/item/WHO-EURO-2023-7658-47425-69687>

# Content of the presentation

## Insights into the upcoming EU-wide noise health risk assessment 2025

- Foreseen changes between noise HRA 2020 and new HRA 2025
- Underpinned by review of evidence and meta-analyses in ETC/HE EEA report

## New noise Health Risk Assessment for Environmental Noise in Europe - 2025





# Uptake and impact of the WHO environmental noise guidelines for the European Region



# Uptake and impact of WHO ENG

## Objectives

- Investigate the degree of implementation of the 2018 WHO Environmental Noise Guidelines (ENG) by relevant stakeholders.
- WHO and EEA supported by UBA and Swiss TPH

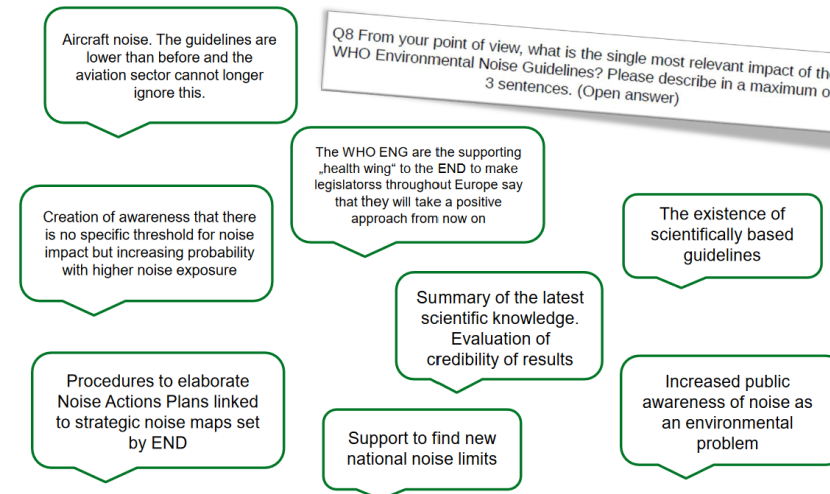
**Impact on local,  
regional, national  
policies**

**Other impacts from  
the guidelines**

# Uptake and impact of WHO ENG

## Methodology

- Online survey distributed to all country representatives from WHO and EEA
- 100 responses / one third completed the questionnaire
- Modal-split into respondents from local/regional level and national level
- Types of questions:
  - Impact of WHO ENG 2018
  - Single most relevant impact
  - Most helpful aspects of WHO ENG 2018
  - Main barriers of WHO ENG 2018
  - Further improvement of WHO ENG 2018
  - Relevant tools /information/ products



# Uptake and impact of WHO ENG

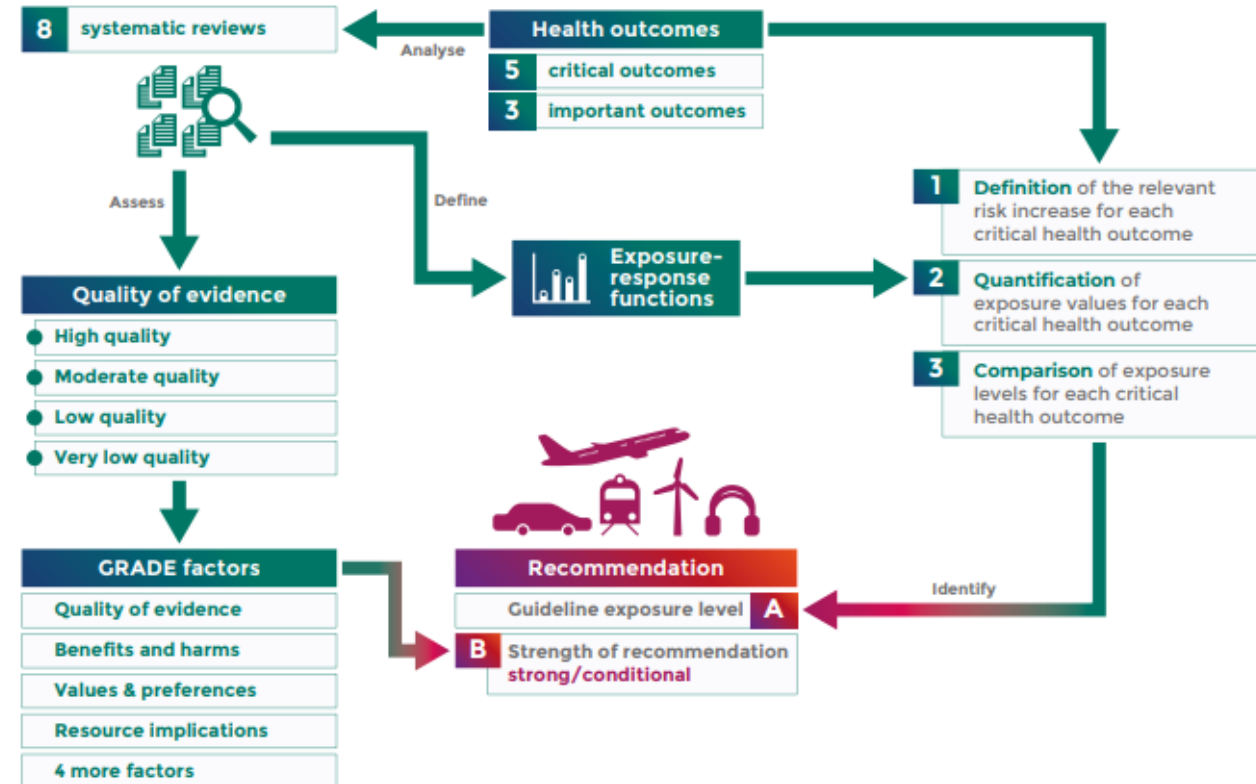
## Implementation and adaptation of the environmental noise guidelines (ENG)

- Direct impact on policy-making at local, regional, national and supranational levels.
- Influence on the European Noise Directive (END)- Annex III.
- Adoption of a new or additional noise source in a law/regulation.
- Adaptation of local and national strategic noise maps and new noise action plans.
- Use of the approach to derive guidelines exposure levels as a reference to develop noise limits.

# Uptake and impact of WHO ENG

## Strengths of the guidelines

- Transparent methodology and evidence-informed process.
- Rating of quality of evidence obtained from applying adapted GRADE framework.
- Source-specific guidelines exposure levels for transportation noise account for the acoustic characteristics of different noise sources.
- The guidelines have increased the demand for high-quality research in the field.





# Uptake and impact of WHO ENG

## Challenges and barriers

- Concerns regarding the attainability of the recommended noise levels.
- Interim targets are needed to bridge the gap.
- Economic costs associated with implementing noise limits are perceived as barrier.
- Balancing the health benefits of noise reduction with economic considerations requires careful consideration.

# Uptake and impact of WHO ENG

## Improving health effects assessment

- Quantifying the health effects of environmental noise is complex due to the wide range of acoustic parameters involved.
- The guidelines focus on average day-evening-night and night-time noise indicators, but additional parameters are needed to capture the variability in noise sources.
- Special protection for vulnerable groups, such as children, is an important consideration.
- Recommendations on overall noise exposure level and integration with other environmental pollutants would provide valuable guidance.
- Special attention should be paid to emerging health outcomes.

# Uptake and impact of WHO ENG

## Quantifying health impact

- Health impact assessment (HIA) of environmental noise is essential for informed decision-making.
- Guidance on exposure-response functions, including those provided in Annex III of the European Noise Directive, is valuable.
- Tools to support quantification of health impacts are useful.
- ¼ survey respondents reported using HIA to assess the health impact of policy measures or projects.

# Uptake and impact of WHO ENG

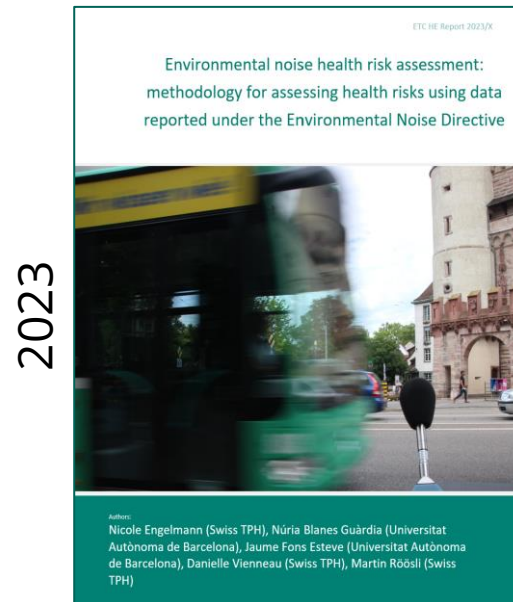
## Future needs

- Further research on environmental noise and health will close the current gaps on emerging adverse health effects.
- The disease burden from environmental noise is likely to be underestimated and future assessments will benefit from methodological developments.
- Making easy-to-use, widely accessible tools will support local and regional authorities to quantify the health impacts of environmental noise.
- Establishing national roadmaps to reach guidelines exposure levels with the help of interim targets that comprehensively consider costs and benefits would facilitate implementation of the guidelines.

# Insights into the upcoming EU-wide noise HRA

## EU-Wide Health Risk Assessment

- The European Environment Agency (EEA) publishes an EU-Wide HRA every 5 years
- HRA will be updated considering new body of evidence



European Environment Agency  
European Topic Centre  
Human health and the environment

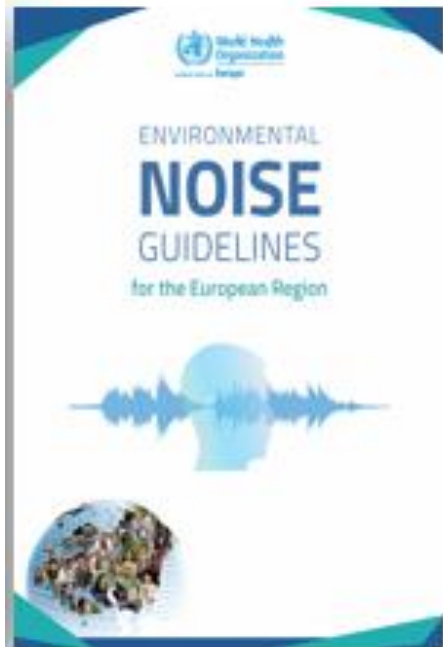


European Environment Agency





# Insights into the upcoming EU-wide noise HRA



2018

Road transport



- Annoyance
- Sleep disturbance
- IHD

- Diabetes
- Stroke

Rail transport



- Annoyance
- Sleep disturbance

Air transport



- Annoyance
- Sleep disturbance
- Cognitive impairment in children

- IHD
- Obesity

After publication of 2018 guidelines

Increased quality of evidence for some cardiometabolic risk factors

Emerging health impacts of traffic noise



# Insights into the upcoming EU-wide noise HRA

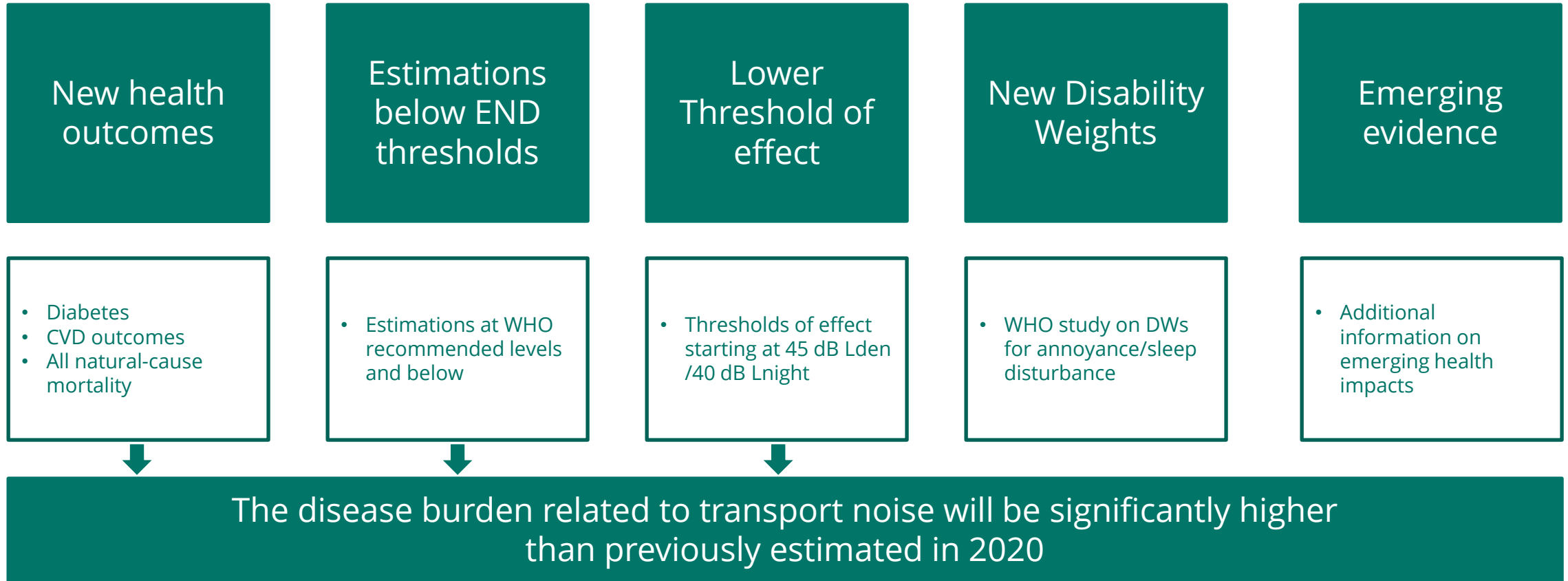
## EU noise health risk assessment 2020

- Health outcomes chosen based mainly on noise WHO guidelines
- Based on END thresholds (55 dB Lden /50 dB Lnight)
- BoD estimates



# Insights into the upcoming EU-wide noise HRA

## New EU noise health risk assessment 2025



# Thank you!

## More information

- Viewer on combined health impacts from road traffic noise and air pollution:  
<https://www.eea.europa.eu/themes/human/noise/viewer-on-combined-health-impacts>
- European environment and health atlas:  
<https://discomap.eea.europa.eu/atlas/>
- Noise viewer:  
<https://noise.eea.europa.eu/>
- Noise country factsheets  
<https://www.eea.europa.eu/themes/human/noise/noise-fact-sheets>

A photograph of two people jogging on a path through a forest. The path is illuminated by sunlight filtering through the trees, creating a bright, glowing effect. The trees are dense and green, and the overall atmosphere is serene and natural. The text "Thank you" is overlaid in the top right corner.

# Thank you

Eulalia Peris | [Eulalia.Peris@eea.europa.eu](mailto:Eulalia.Peris@eea.europa.eu) | 26 January 2024