WHO Environmental Noise Guidelines for the European Region

What is new?

1. Policy context and methodology used for guideline development

Marie-Eve Héroux, on behalf of the WHO Guideline Development Group

# WHO Environmental Noise Guidelines for the European Region – what is new?

1. Policy context and methodology for guideline development

2. New evidence on health effects from environmental noise and implications for research

3. Guideline recommendations and supporting evidence - What is new?

4. Implementation of guidelines and implications for practice

WHO Guideline Development Group members

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- Mark Brink, Swiss Federal Office for the Environment
- Sabine Janssen, Netherlands Organization for Applied Scientific Research
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- Anna Preis, Adam Mickiewicz University
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- Martin van den Berg, Chiaramonte Noise Consult
- Jos Verbeek, Finnish Institute of Occupational Health

WHO guidelines on noise

- WHO Guidelines for Community Noise (1999)

- WHO Night Noise Guidelines for Europe (2009)

- WHO Environmental Noise Guidelines for the European Region (in development)

  - New sources of noise?

  - New evidence on health outcomes?
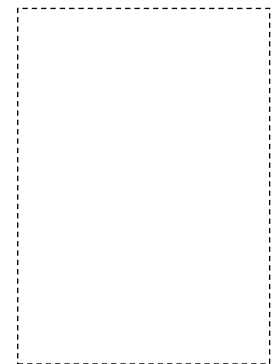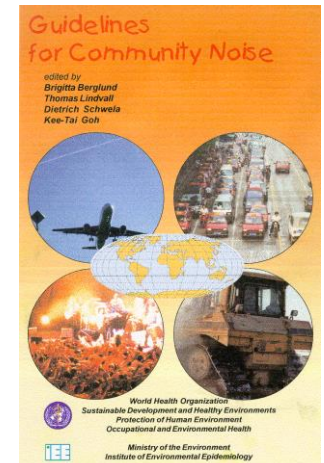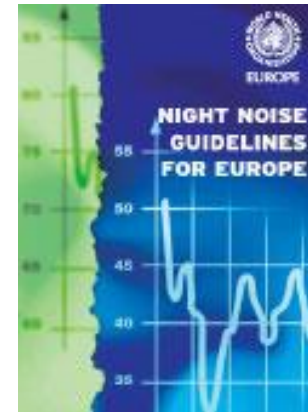
WHO report on disease burden (2011)

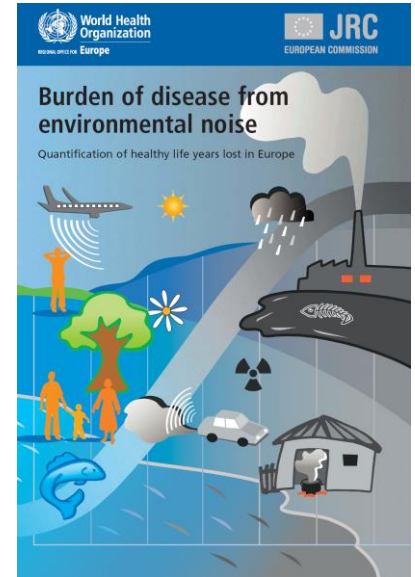*Every year in the EU cities, at least:*

903 000 DALYs for sleep disturbance
654 000 DALYs for annoyance
 61 000 DALYs for ischaemic heart disease
 45 000 DALYs for cognitive impairment
 22 000 DALYs for tinnitus

1~1.6 million healthy life years are lost every year from <u>transport noise</u> in the EU cities.

Sleep disturbance and annoyance related to <u>road</u> transport noise comprise the main burden.

European context

The Guidelines will focus on the WHO European Region (53 Member States):

- <u>European Union Directive</u> relating to the assessment and management of environmental noise
  - requires Members States to map noise exposure and establish action plans to control and reduce the harmful effects of noise exposure
  - In particular, Annex III on "dose effect relations"
- <u>Commitment to Act from European Ministers of Environment and Health</u> (Parma Declaration, 2010)
  - Commitment to reduce children's exposure to noise, and urges WHO to produce appropriate noise guidelines

Fifth Ministerial Conference on Environment and Health

"Protecting children's health in a changing environment"

Parma, Italy, 10–12 March 2010

WHO guidelines

- ✓ Represent the most widely accepted set of **public health recommendations,** intended **to assist policy-makers, health-care providers, and other relevant stakeholders** to make informed decisions for the protection of public health

- ✓ Based on a **comprehensive** and **objective assessment of the available evidence**

- ✓ **Generally intended for worldwide use**, and therefore recognize the heterogeneity on technological feasibility, economic development and other political and economical factors

- ✓ In 2007, WHO adopted internationally recognized standards and methods to ensure that guidelines are **free from biases** and **meet public health needs**

Developing WHO guidelines

✓ Last edition was published in 2014, as a step-by-step guidance manual on how to plan, develop and publish a World Health Organization (WHO) guideline.

✓ It covers the methods, processes and procedures for producing a document that meets WHO standards.
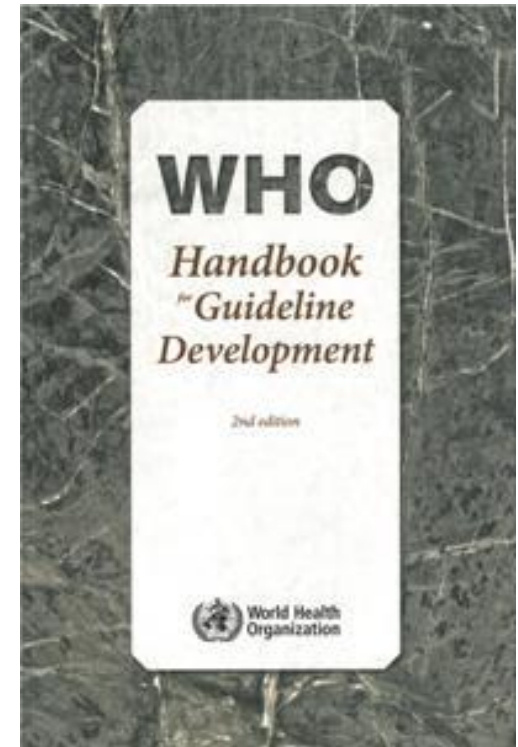
WHO process for guideline development

- WHO Guidelines Review Committee reviews and approves guideline proposals and final set of recommendations

- Declaration of potential personal, financial and academic interests of all experts involved

- Establishment of guideline groups:

  - **Guideline Development Group**: Leading experts and end-users responsible for the process of developing the health-based recommendations

  - **Systematic Review Team**: responsible for reviewing the literature and performing systematic reviews of evidence

  - **External peer-review** by experts

  - **Separate consultation** with stakeholders and end users

Main objectives of the guidelines

✓ To systematically review the scientific literature on:

  ✓ The health effects of environmental noise
  ✓ The effectiveness of interventions to reduce noise exposure and improve health

✓ To provide evidence-based recommendations for protecting public health from the health risks of environmental noise, in the form of:

  ✓ Exposure-response relationships / quantitative guideline values
  ✓ Effectiveness of interventions

Noise sources considered

- Noise exposure to the following sources in such relevant settings as residences, hospitals, educational settings and public venues:
  - Aircraft noise
  - Railroad noise
  - Road noise
  - Wind turbine noise
  - Leisure noise (including personal listening devices)

Guideline development process

Table 1.1.   The guideline development process at WHO

Stage/primary contributor	Step	Chapter
Planning		
WHO Member State, WHO country office or public/private entity	Request guidance on a topic	1
WHO technical unit	Determine if a guideline is needed; review existing WHO and external guidelines	2
	Obtain approval for guideline development from the director of the relevant technical unit at WHO	2
	Discuss the process with the GRC Secretariat and with other WHO staff with experience in developing guidelines	2
	Form the WHO guideline steering group	3
	Identify sufficient resources; determine the timeline	2
WHO guideline steering group	Draft the scope of the guideline; begin preparing the planning proposal	2,4
	Identify potential members of the GDG and its chair	3
	Obtain declaration of interests and manage any conflicts of interest among potential GDG members	6
WHO guideline steering group and GDG	Formulate key questions in PICO format; prioritize outcomes	5, 7
WHO guideline steering group	Finalize the planning proposal and submit it to the GRC for review	4
GRC	Review and approve the planning proposal	4
Development		
Systematic review team	Perform systematic reviews of the evidence for each key question	8
	Evaluate the quality of the evidence for each important outcome, using GRADE as appropriate	9
WHO guideline steering group	Convene a meeting of the GDG	10,11
GDG	Formulate recommendations using the GRADE framework	10,11
WHO steering group	Draft the guideline document	10,11
External review group	Conduct external peer review	12
Publishing and updating		
WHO guideline steering group and editors	Finalize the guideline document; perform copy-editing and technical editing; submit the final guideline to the GRC for review and approval	12
GRC	Review and approve the final guideline	12
WHO guideline steering group and editors	Finalize the layout; proofread	12
	Publish (online and in print as appropriate)	12
WHO technical unit and programme manager	Disseminate, adapt, implement, evaluate	13
WHO technical unit	Update	12

GDG: guideline development group; GRADE: Grading of Recommendations Assessment, Development and Evaluation; GRC: Guideline Review Committee; PICO: population, intervention, comparator, and outcome.

Source: WHO handbook for guideline development. 2nd edition, 2014

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Conclusion

- Environmental noise is an important public health concern
  - *Only second to air pollution in terms of disease burden*
- New scientific evidence in the field of environmental noise and public health
- WHO will develop the *WHO Environmental Noise Guidelines for the European Region*
  - Updated exposure-response functions and/or guideline values for noise sources / health outcomes
  - Recommendations on effectiveness of interventions
- The Guidelines will provide evidence-based recommendations in order to support WHO European Member States in their efforts to prevent and control exposure to excessive noise

Acknowledgements

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