

# WHO Environmental Noise Guidelines for the European Region

What is new?

**3. Guidelines recommendations and supporting  
evidence – What is new?**

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# Guidelines Development

## Scoping Questions

1. In the general population exposed to environmental noise, what is the exposure-response relationship between exposure to environmental noise and the proportion of persons with the validated measure of health outcome adjusted for confounders?
2. Are interventions efficient in reducing health outcomes from environmental noise?

# Evidence Review

- Available systematic reviews and meta analyses since 2000
- A new search for cohort studies, case-control studies and cross-sectional studies on noise and health

# Quality of Evidence

**G**radings of  
**R**ecommendations  
**A**ssessments  
**D**evelopments and  
**E**valuations

Guyatt et al. 2008

# Factors decreasing quality of evidence

1. Study limitations
2. Inconsistency of results
3. Indirectness of evidence
4. Imprecision
5. Publication bias

# Factors increasing quality of evidence

1. Large magnitude of effect
2. Plausible confounding
3. Dose-response gradient

# Categories of Evidence Quality

What do we expect from further research?

## High

Very unlikely to change the estimate

## Moderate

Likely to change the estimate

## Low

Very likely to change the estimate

## Very Low

Any estimate is uncertain

# GRADE Confidence (Adapted)

## Types of Studies

### High

Longitudinal studies for relative outcomes

Cross-sectional studies for absolute outcomes

### Low

Other types of studies



# Teams of Experts

## SYSTEMATIC REVIEW TEAM

Commissioned Experts

## EXTERNAL REVIEW TEAM

Technical experts, End-users,  
Stakeholders

# Setting Recommendations

- Harms and benefits
- Values and preferences
- Feasibility
- Resource implications

# The Strenght of Recommendation

**Strong**

Applicable

**Conditional**

In some cases not applicable

# Recommendations

**Exposure Levels** for different noise sources

**Exposure Response Relationships** between noise exposure and specific health effects

**Effective interventions** to reduce noise and improve health

# Conclusion

What is new?

1. New recommended **exposure levels** of environmental noise that are related to specific health outcomes.
2. The application of an adapted **GRADE** system in judging the quality of evidences.
3. Recommended **interventions** to mitigate the health effects of environmental noise.