Deriving disability weights for environmental noise-related health states

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Background
What is disability weight?

- The **disability weight** is essential for calculating Disability-Adjusted Life Years (DALYs)

- It quantifies the relative severity of a health state as a percentage reduction from perfect health, and has a value ranging from 0 (equivalent to full health) to 1 (equivalent to death)
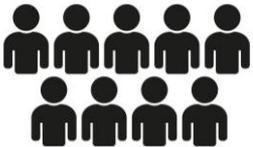
The disability weight for **severe stroke**, long-term consequences plus cognition problems is **0.552**

Then **9 people** living with **severe stroke**, long-term consequences plus cognition problems in a **particular year** would be equivalent to the **loss of 4.97 years** due to premature mortality
*i.e., 9*0.552 = 4.97*

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Background (cont.)
How to derive disability weights?

Haagsma JA, Polinder S, Cassini A, et al. Review of disability weight studies: comparison of methodological choices and values. Popul Health Metrics. 2014;12:20
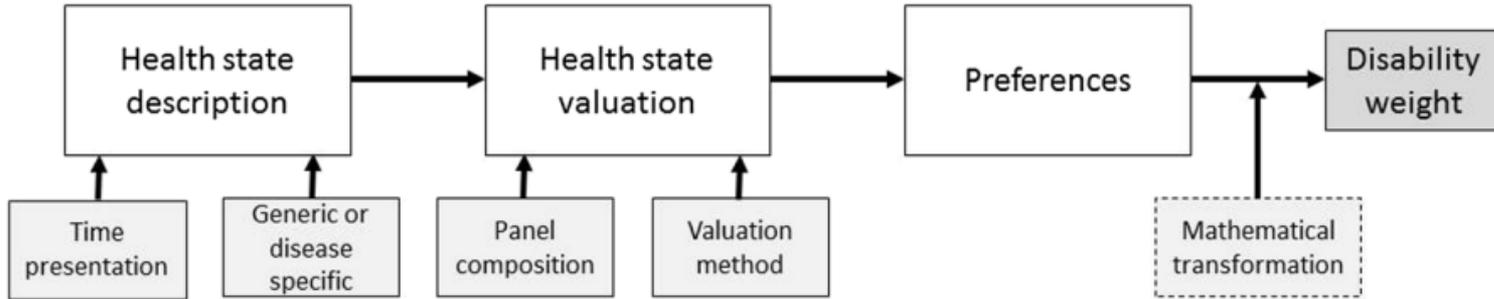
NOISE-DW
Why?

- After the 1996 Global Burden of Disease (GBD) set of disability weights, several disability weights measurement studies have been performed

- **Evolution** of **design choices** for estimation of disability weights

- New (modern) techniques to derive disability weights

- For certain health conditions, **disability weights may not be available**

Charalampous P, Polinder S, Wothge J. et al. A systematic literature review of disability weights measurement studies: evolution of methodological choices. Arch Public Health 2022; 80:91

NOISE-DW
Why?

- The NOISE-DW project follows the publication of Burden of Disease of Environmental Noise in Europe and the Environmental Noise Guidelines for the European Region

- **Disability weights in these publication were important inputs**

- The NOISE-DW work will fill a gap when it comes to estimation of the **burden of disease attributable to environmental noise** in the European region and beyond

To assess disability weights for environmental noise-related health states using a disability weight measurement survey in the general population of four selected European countries

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Study design: NOISE-DW

Time presentation	Health states and description	Health state valuation and survey techniques	Panel of judges	Data collection
Period-profile disability weights	• **Disease-specific brief lay** description • **Around 70 health states** • GBD 2013 study, European DW study, consultation with health professionals from Erasmus MC	• **Web-based survey** • **Paired Comparison (PC)** • **Population Health Equivalence (PHE)** • Visual Analogue Scale (VAS) to check data quality and validity of the PHE responses	• **Representative study sample** from four countries: **Hungary, Italy, The Netherlands, Sweden** • **18-75 years of age** • Panel membership of the Flycatcher Internet Research	• Ongoing

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Acknowledgments

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Thank you for your attention!

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