

## Publication

# Methods matter: a comparative review of health risk assessments for ambient air pollution in Switzerland

### JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

**ID** 4651503

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**Year** 2022

**Title** Methods matter: a comparative review of health risk assessments for ambient air pollution in Switzerland

**Journal** Public health reviews

**Volume** 43

**Pages / Article-Number** 1604431

**Objectives:** Air pollution health risk assessments (AP-HRAs) provide a method to quantify health effects for entire populations. In Switzerland, AP-HRAs are included in Swiss assessments for Transport Externalities (STEs), ordered by public authorities since the 1990s. This study aimed to describe the differences among national and international AP-HRAs for Switzerland. **Methods:** We compared input data, approaches and results across AP-HRAs over time. Results and input data for each AP-HRA were expressed as a ratio compared to the most recent STE (in most cases STE-2010). **Results:** Substantial variation across AP-HRAs was found. For all-cause adult mortality attributed to particulate matter (the most frequent outcome-pollutant pair), the ratio in HRAs oscillated from 0.40 to 2.09 (times the STE-2010 value). Regarding input data, the ratio ranged from 0.69 to 1.26 for population exposure, from 0 to 1.81 for counterfactual scenario, from 0.96 to 1.13 for concentration-response function and from 1.03 to 1.13 for baseline health data. **Conclusion:** This study demonstrates that methods matter for AP-HRAs. Transparent and possibly standardized reporting of key input data and assumptions should be promoted to facilitate comparison of AP-HRAs.

**ISSN/ISBN** 0301-0422

**URL** <https://doi.org/10.3389/phrs.2022.1604431>

**edoc-URL** <https://edoc.unibas.ch/90407/>

**Full Text on edoc** Available;

**Digital Object Identifier DOI** 10.3389/phrs.2022.1604431

**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/35465140>

**ISI-Number** WOS:000791304300001

**Document type (ISI)** Journal Article, Review