



## Summary of approach to be taken by COMEAP for literature reviews

1. In order to provide accurate, up-to-date advice reflecting current knowledge, COMEAP and its Sub-group on the Quantification of Air Pollution Risks in the UK (QUARK) need to review the current state of evidence on health effects associated with air pollutants. In this context, COMEAP and QUARK have discussed whether they should establish a protocol for literature reviews and meta-analyses undertaken to inform their consideration of epidemiological and other evidence. At QUARK meetings held in March and September 2019, Members discussed various possible approaches, and considered their appropriateness and practicality for adoption by COMEAP/QUARK. Following these meetings, an approach was proposed to COMEAP and discussed by the whole Committee at its meeting held in November 2019.

2. Based on these discussions, the following approach was agreed:

- a) The type of review that is undertaken will depend upon the required timescale and resources available, as well as the likely extent of the literature relevant to the policy-relevant question under consideration. This decision will therefore need to be made on a case-by-case basis.
- b) The constraints of the review type selected will be made clear in the COMEAP statement/report.
- c) If a systematic review and/or meta-analysis is undertaken or commissioned to support COMEAP's considerations, it should follow the MOOSE guidelines. Alternatively, COMEAP/QUARK may also wish to consider using (or adapting) a quality scoring appropriate to the studies under review.
- d) If a meta-analysis is undertaken or commissioned to support COMEAP's considerations, it should adopt an *a priori* algorithm for selecting which coefficients should be included or excluded from the meta-analysis. Algorithms similar to those which have previously been used in DH-funded meta-analyses of time-series

studies<sup>1</sup> or to support COMEAP's decision-making (eg of studies linking all-cause mortality with long-term average concentrations of ozone<sup>2</sup> or nitrogen dioxide<sup>3</sup>) would be appropriate. These algorithms are intended to ensure, for example, that only one coefficient is included from any cohort which has been included in multiple published papers, and that cohorts which are not relevant to the population in which the coefficient is to be applied for quantification purposes are not included.

**COMEAP**  
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<sup>1</sup> eg Atkinson et al (2014) <https://www.ncbi.nlm.nih.gov/pubmed/24706041>; Mills et al (2015) <https://www.ncbi.nlm.nih.gov/pubmed/24706041>

<sup>2</sup> Atkinson et al (2016) <https://www.ncbi.nlm.nih.gov/pubmed/26908518>

<sup>3</sup> <https://www.gov.uk/government/publications/nitrogen-dioxide-effects-on-mortality>