

Comments on time series studies

One reviewer's thoughts

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Three hypotheses

(and rebuttals)

Hypothesis 1: Cohort studies are more relevant for risk assessment (YOLL), so TS studies now irrelevant.

Counter points. TS studies:

- are cheaper/faster...
- are more replicated (certainty)
- inform on mechanisms (of acute effects)

Hypothesis 2: TS studies have reached a plateau where returns are diminishing

First order issue (does urban air poll increase mortality)
PROBABLY

Second order issues:

- disease specificity of responses
- exposure specificity of effect (which pollutants)
- effect modification
- dose-response shape
- displacement
- ...

NO

Thesis 3: Results from time series studies are secure – we know how to control biases

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NO

Biases of particular concern (esp. for second order issues):

- Weather effects on health are large and detail is poorly understood
- “How much smoothing” question is not resolved
- Vague appeals to “over-adjustment” are not convincing
- Relationship of ambient and personal concentrations poorly understood

Summary: Times-series studies

- Are still worth doing
- To address second-order issues
- For which bias control needs tightening