CPH609: Evaluation the Public Health Literature Reviewing Review Articles Leslie Dennis, MS, PhD

Why Perform A Review or Read a Review Article?

* Need for review articles
  + Explosive growth of the medical literature
  + Updates researchers efficiently
  + Synthesizes and condenses material
  + Helps explore conflicting results

Types of Review Articles

* Qualitative
  + narrative review
  + subjective
* Quantitative
  + meta-analysis
  + objective

Qualitative or Narrative Reviews

* Often literature searches are inadequate
* Selection bias in studies reviewed
* Reviewer’s personal bias
* Inefficient when reviewing over 30 studies
* Highlights rather than resolves conflicts

Quantitative Reviews or Meta-analyses

* Quantitatively synthesizes the results of many studies, objectively verifiable
* Might answers questions not possible with individual studies
* Increases statistical power of primary end points and for subgroups (due to an increased sample size)
* Increases precision of risk estimates
* Assesses and resolves uncertainly when reports disagree

A Meta-analysis is literally a study of studies

Why Perform A Meta-Analysis?

* Need for review articles
  + Clinical importance of the effect
    - Magnitude of the effect
  + Consistency of effects across studies
  + Statistical significance

Assessment of Meta-analysis Similar to Other Studies:

* Is there a clearly defined research question?
* Were the study participants described?
  + homogeneous vs. heterogeneous
* Were the author’s conclusions valid?
  + were they unbiased?
  + were they consistent with the data?

Additional Assessment

* Is the search strategy described?
  + search methods
  + inclusion / exclusion criteria
* How was the data abstracted?
  + independent abstraction by >1 person
  + objective third party resolution of disagreements
  + evaluation of inter-rater reliability
* Was a quality assessment done?
* Was publication bias avoided?
  + did the search strategy look for unpublished studies?
  + negative studies are less likely to be published
  + when negative studies are published, few details are given
  + publication bias is possibly the most important bias in a meta-analysis