Systematic Reviews and Meta-Analyses

Systematic reviews or overviews in clinical medicine were originally summaries of relevant randomized controlled trials (RCTs), performed in a systematic way so their results could be duplicated by other researchers. However, because there is a paucity of RCTs available in many clinical areas and almost none available in public health areas, systematic reviews may employ the best external evidence available: RCTs when possible, and comparative studies or primary studies when no RCTs exist.

Meta-analyses are systematic reviews which employ a quantitative method to summarize results.

Criticisms

Like evidence-based practice, meta-analyses have also come under criticism. Concerns center around:

1. Using statistical analyses incorrectly and combining studies that should not be combined in a statistical summary.
2. Using studies that are not RCTs and are not stringent enough methodologically to ensure the truth of the results.

EBSCO: Cochrane Database of Systematic Reviews (Cochrane Reviews)

- 'Gold Standard' for high-quality systematic reviews
- Full-text included in Cochrane Library
- Cochrane Reviews includes complete reviews and protocols (reviews that are still in progress).
- Cochrane Reviews abstracts are in PubMed
EBSCO or PubMed: PubMed MEDLINE - Systematic Reviews

- **access:** part of PubMed's *Clinical Queries* (linked in PubMed Services section, left navigation bar)
- NSU Find It - access for more full-text links
- Identifies systematic reviews and other similar types of studies found in biomedical journals included in PubMed database.
- No evaluation of comparative quality of different reviews on a topic.
- Abstracts supplied by authors/journals. No separate evaluation of quality of research.
- Identify systematic reviews in the biomedical area - gathers together much larger collection than other evidence-based practice resources.

**Finding Meta-analysis in PubMed**

1. Enter search words for the clinical question
2. Click on the **Limits** link above the search entry box
3. Under **Type of Article** click next to Meta-analysis

**Finding Systematic Reviews in PubMed**

1. Enter search words for the clinical question
2. Click on the **Limits** link above the search entry box
3. Under **Subsets** click next to Systematic Reviews

**EMBASE:**

**Finding Systematic Reviews or Meta-Analyses in EMBASE**

1. Choose **Advanced**
2. Enter search words for the clinical question
3. Click on the **Evidence Based Medicine Limits** link below the search entry box
4. Under **Type** click checkbox next to Systematic Review or Meta-Analysis

**Finding Cochrane Reviews in EMBASE**

1. Choose **Advanced**
2. Enter search words for the clinical question
3. Click on the **Evidence Based Medicine Limits** link below the search entry box
4. Under **Type** click checkbox next to Cochrane Reviews

**EBSCO: Database of Abstracts of Reviews of Effects** (Other Reviews - DARE)
EVIDENCE GUIDELINES/SUMMARIES

Clinical Guidelines

A clinical practice guideline is a systematically developed statement designed to assist the practitioner and patient make decisions about appropriate health care for specific clinical circumstances.

Criticisms

Practice guidelines are often extremely helpful because they are concise and don't contain extraneous information. However, some criticisms include:

1. Systematic reviews and meta-analyses present all the criteria used in arriving at their conclusion. By definition, any researcher should be able to duplicate findings based on the published criteria and methodology. Clinical guidelines often publish only the findings, and the criteria and methodology are not always available, forcing the user to accept the findings on faith or on the authority of the publishing body.
2. Clinical practice guidelines are often dependent on the politics of organizations involved in the treatment.
3. Because clinical guidelines are not always published as peer-reviewed articles in the medical literature, they are often difficult to locate.

MD CONSULT

- GUIDELINES
- DRUGS: GO TO REFERENCE LINKS

DynaMed

- Best available evidence summaries for nearly 2000 topics
- Clinical reference tool developed for use at the 'point-of-care'
- Outline format to quickly identify key conclusions
- Updated daily

National Guideline Clearinghouse | www.ngc.gov/

- Initiative of the Agency for Healthcare Research and Quality (AHRQ).
- Available at no charge
• Updated weekly with new and changed guidelines.

ACCESS MEDICINE > DRUGS > REFERENCES

Other Resources

• USPSTF Guidelines | www.ahrq.gov/clinic/prevenix.htm
• AHRQ Evidence Reports | www.ahrq.gov/clinic/epcix.htm

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RCTS, CASE COHORTS, CONTROL STUDIES

Finding Randomized Controlled Trials (RCT) in PubMed

1. Enter search words for the clinical question
2. Click on the Limits link above the search entry box
3. Under Type of Article click next to Randomized Control Trial

PubMed

• note: Filtered by publication type, but not quality

• Clinical Queries - Uses preconfigured search strategies to retrieve research-based citations on clinical topics in the areas of therapy, diagnosis, etiology, or diagnosis.
• Use Limits to search by specific publication type (e.g. meta-analysis, randomized controlled trial, review).

Finding Cohort Studies in PubMed

1. Enter search words for the clinical question
2. Add Cohort Studies[MeSH] to the search words

Finding Case-Control Studies in PubMed

1. Enter search terms for the clinical question
2. Add Case-Control Studies[Mesh] to the search words

EBSCO: Cochrane Central Register of Controlled Trials (Clinical Trials)
Bibliography of controlled trials as part of an international effort to hand search the world's journals.
- Includes reports published in conference proceedings and in many other sources not in PubMed or other bibliographic databases.

EMBASE:

Finding Controlled Clinical Trials or Randomized Clinical Trials in EMBASE

1. Choose Advanced
2. Enter search words for the clinical question
3. Click on the Evidence Based Medicine Limits link below the search entry box
4. Under Type click checkbox next to Controlled Clinical Trial or Randomized Clinical Trial

More:

See Pharmacy LibGuide > Decision Tools > Trials

CLINICAL RESEARCH CRITIQUES


- American College of Physicians - American Society of Internal Medicine (ACP-ASIM)
- Internal medicine focus
- Abstracts to journal articles selected according to explicit criteria from major peer-reviewed medical journals
- Available in print.

OTHER REVIEWS OF THE LITERATURE

Natural Medicines Comprehensive Database

- Subject-specific database of evidence-based information.
- Compiled by publishers of Pharmacist's Letter and Prescriber's Letter
- Herbal medicines, and dietary supplements used in the western world
- Assesses available evidence; check references for quality of source

META-SEARCH ENGINES

TRIP (Turning Research Into Practice) | www.tripdatabase.com

- Meta-search from UK
- Searches over 55 sites of evidence-based information
- Includes links to peer-reviewed journals and other publications
SUMSearch | sumsearch.uthscsa.edu/

- Produced by University of Texas Health Sciences Center, San Antonio
- Simultaneously searches few free-access sources - PubMed Cochrane Systematic Reviews (within PubMed), National Guideline Clearinghouse and Merck Index
- Results grouped by reviews, practice guidelines, systematic reviews and research-based articles
- Often very slow

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BACKGROUND INFORMATION, EXPERT OPINION, TRADITIONAL THERAPY:

UP TO DATE DATABASE

TEXTBOOKS: eBooks or Print- Use the Library Catalog to find.