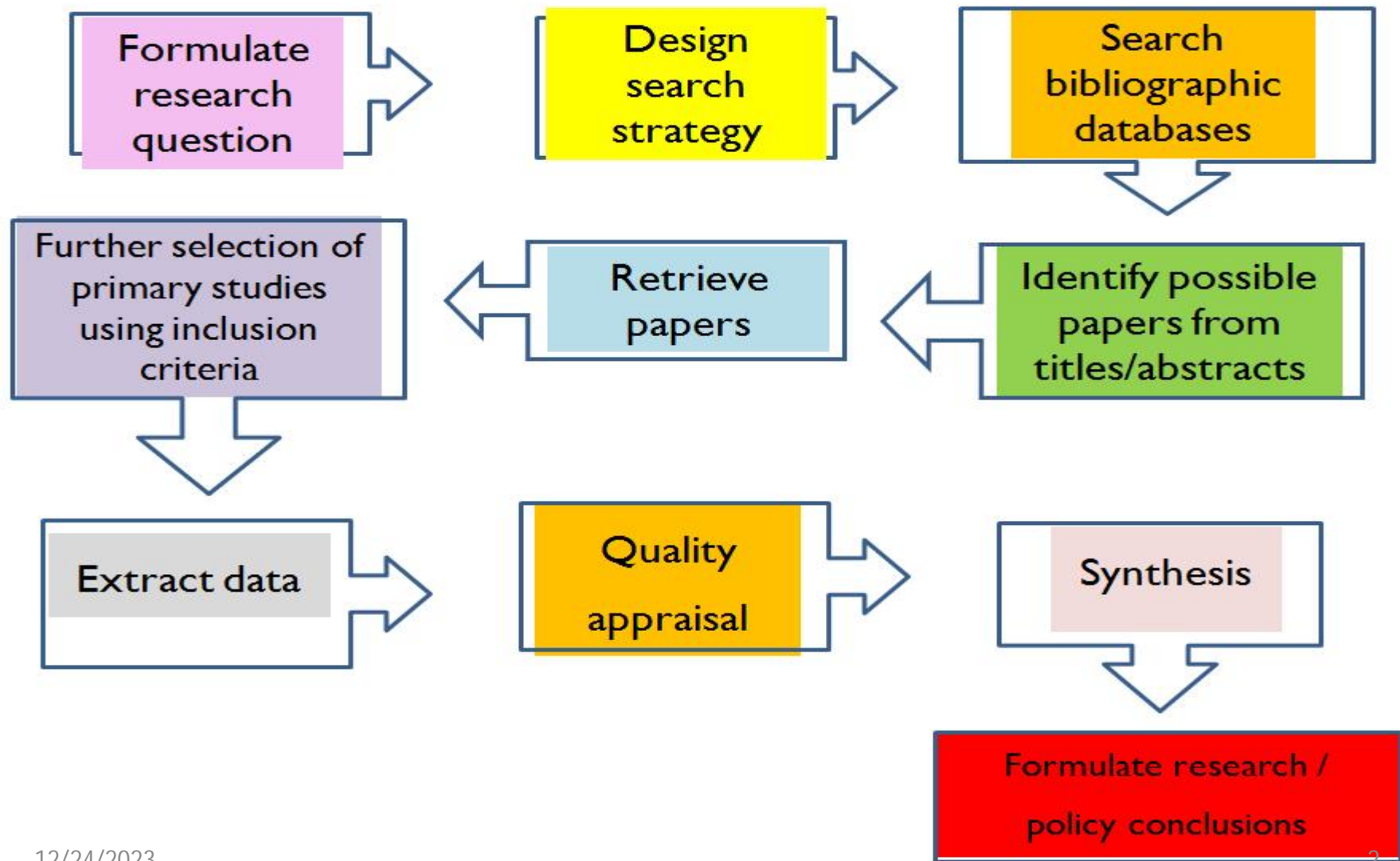


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Outline



Aims of this workshop

- What a systematic review is
- To discuss scope and the formulation of a review question
- The purpose and format of a protocol
- Systematic searching/screening of studies
- Data extraction/quality appraisal and intro to evidence synthesis
- Data analysis
- Documentation of findings

Evidence-based practice (EBP)

- **Evidence-based practice (EBP)** is an interdisciplinary approach to clinical practice that has been gaining ground following its formal introduction in 1992.
- It started in medicine as evidence based medicine (EBM) and spread to other fields.
- EBP is integrating three basic principles:
 - **(1) the best available research evidence bearing on whether and why a treatment works,**
 - **(2) clinical expertise (clinical judgment and experience) to rapidly identify each patient's unique health state and diagnosis, their individual risks and benefits of potential interventions, and**
 - **(3) client preferences and values.**

Evidence Pyramid for Treatment Effectiveness Questions



Different type of studies

Primary vs Secondary studies

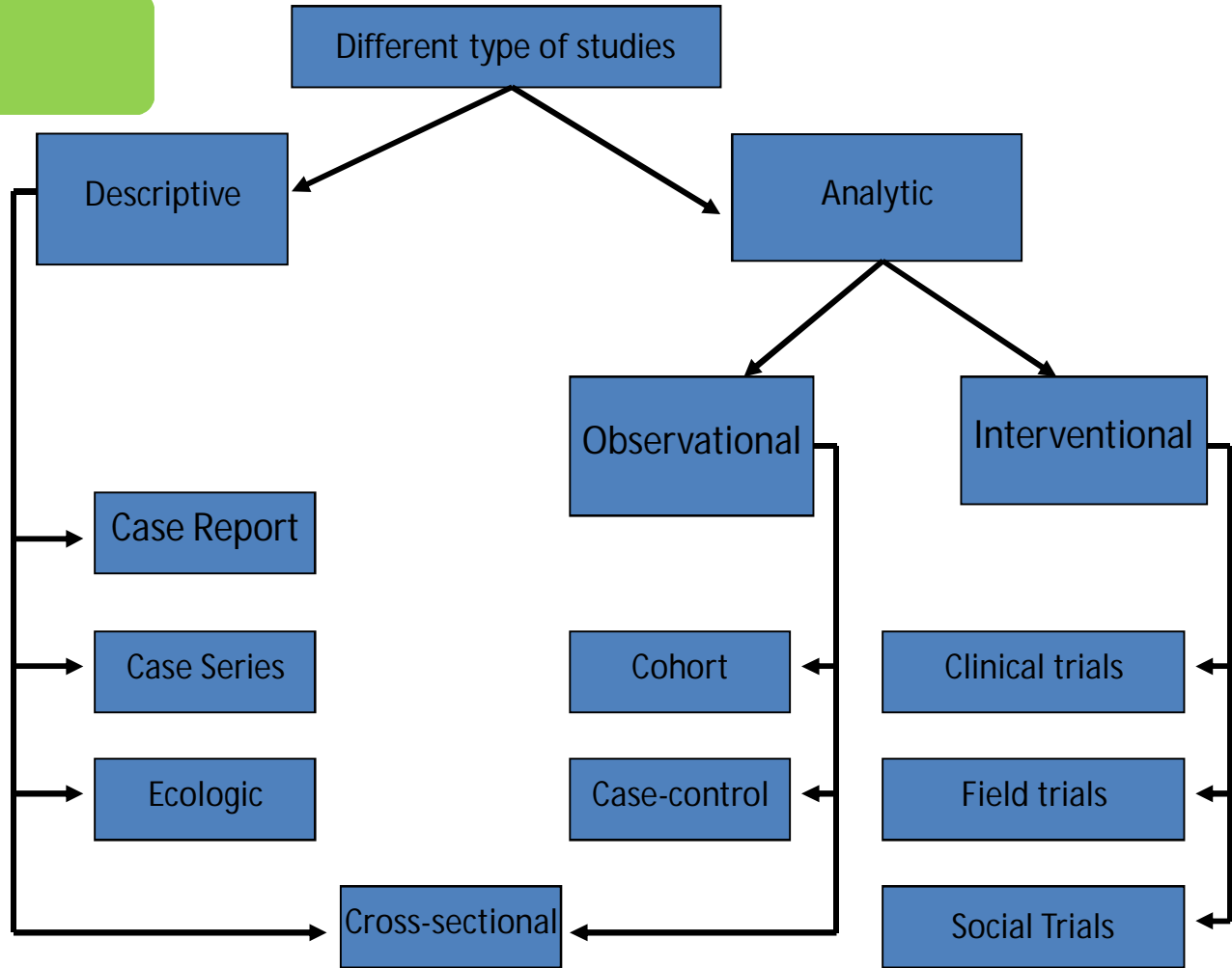
Primary studies

Experiment, clinical trial, survey

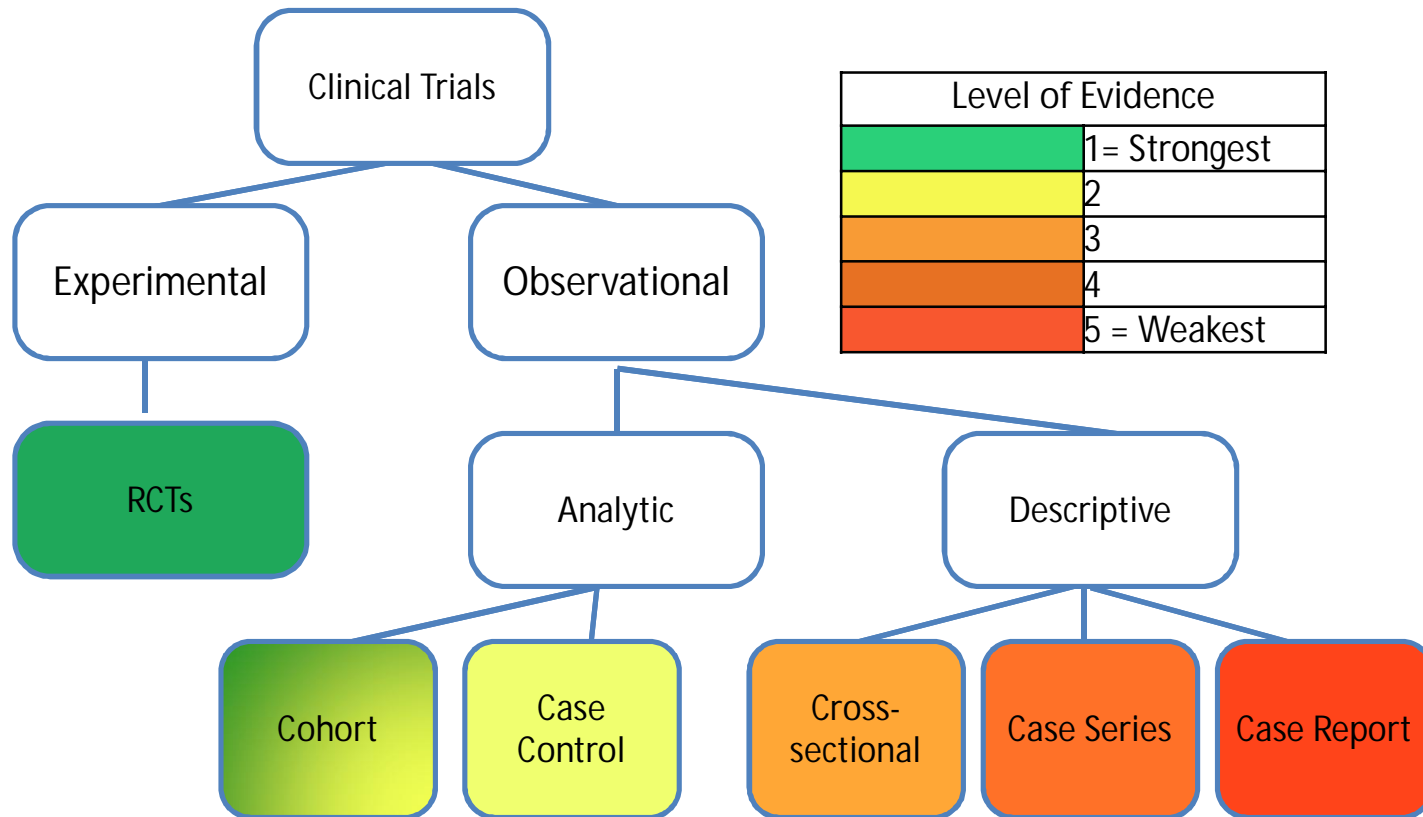
Secondary studies

Review, narrative review, & Meta-analysis ,guidelines ,
decision analysis, Economics analysis

Different type of studies



Study Design



Key elements of a systematic review

Structured, systematic process involving several steps :

1. **Formulate the question**
2. **Plan the review**
3. **Comprehensive search**
4. **Unbiased selection and abstraction process**
5. **Critical appraisal of data**
6. **Synthesis of data (may include meta-analysis)**
7. **Interpretation of results**

What is a systematic review?

A review of the evidence on a **clearly formulated question** that uses **systematic and explicit methods** to identify, select and **critically appraise** relevant primary research, and to extract and analyse data from the studies that are included in the review.

What is a systematic review?



SYSTEMATIC: Done or acting according to a fixed plan or system: methodical

REVIEW: A critical appraisal of a book, play or other work

Types of papers

- Original Research Articles
- Letter to Editor
- Rapid Communication/Research Communication
- Brief Report
- Review Articles
 - Narrative Review Article
 - Systematic Review

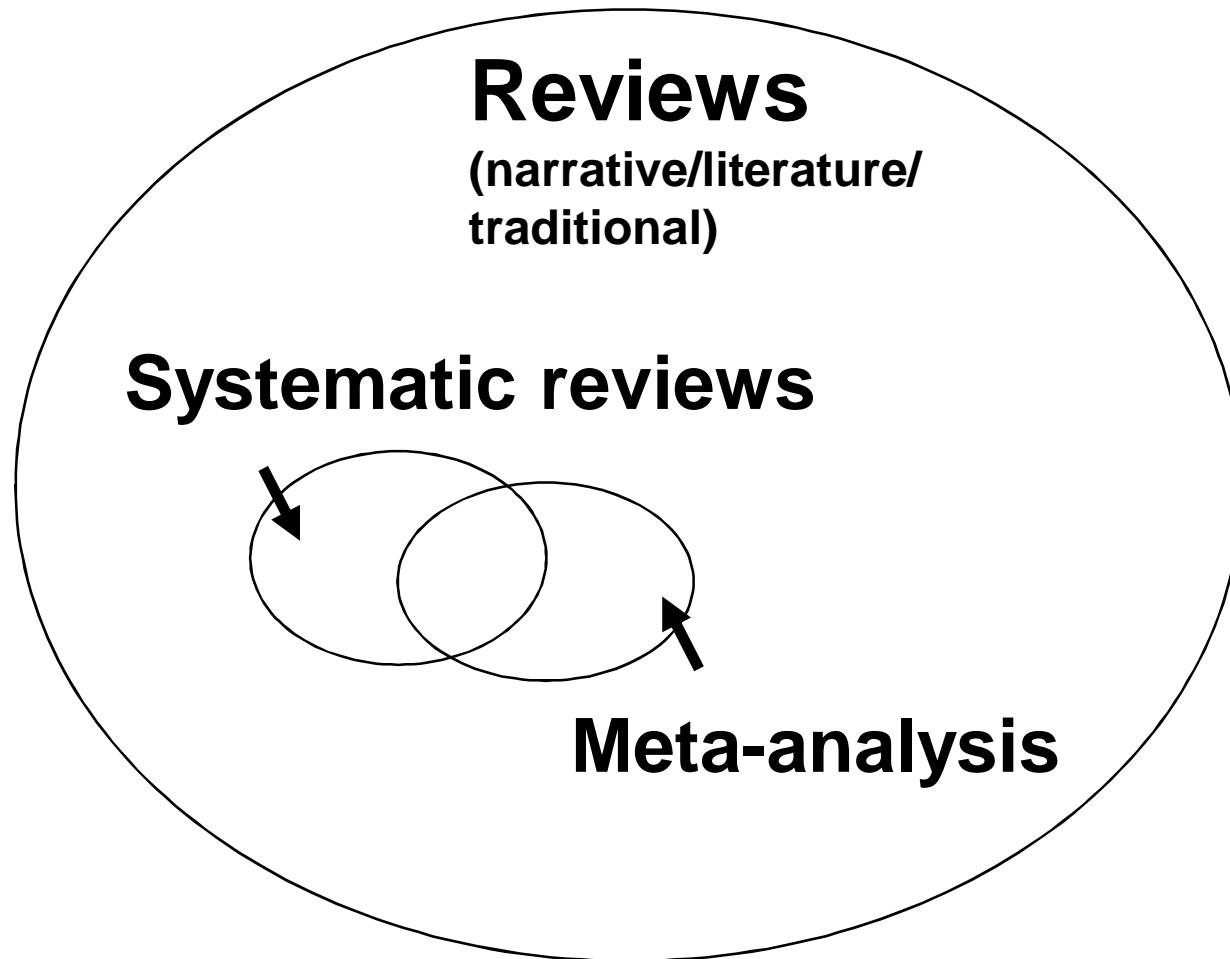
Too much information, too little time

- There is simply **too much information** around for people to keep up to date.
- On top of this, high quality information is often **not easy to find**.

Types of Reviews

- **Systematic Review:** literature review focused on a single question which tries to identify, appraise, select and synthesize all high quality research evidence relevant to that question
- **Meta-analysis:** a statistical technique often used in systematic reviews that enables the results from a number of studies to be combined into a common metric to determine the average effect of a given technique. Comparisons can then be made about the relative effectiveness of various techniques
- **Integrative Review:** literature review that attempts to combine experimental and non-experimental studies, or from experimental and theoretical work. Can be used to review theories, evidence, or to analyze methodological issues
- **Qualitative Review:** methods for combining qualitative research studies. Techniques include meta-synthesis, formal grounded theory, and meta-ethnography

Types of reviews



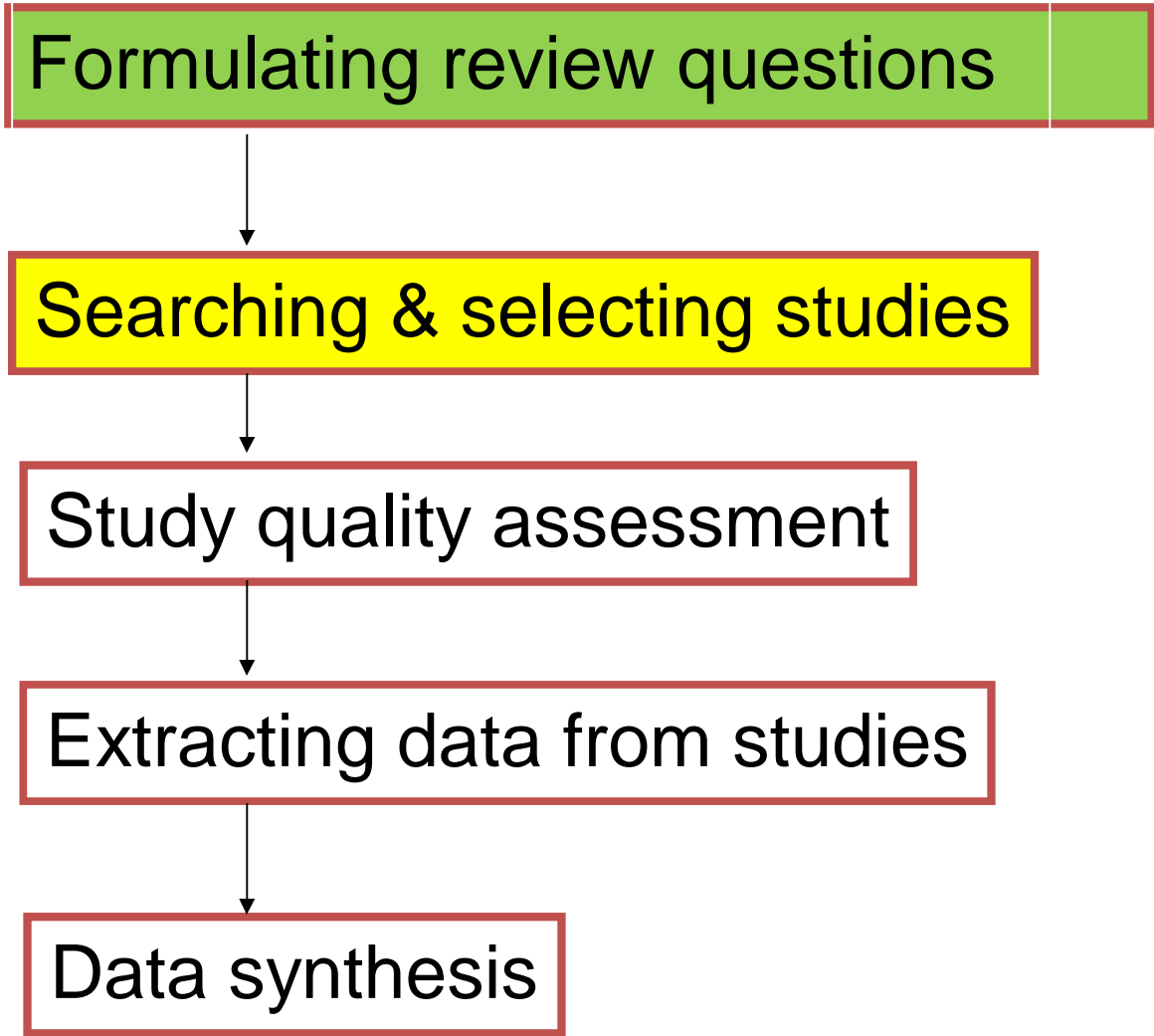
Advantages of systematic reviews

- Reduce bias
- Replicability
- Resolve controversy between conflicting studies
- Identify gaps in current research
- Provide reliable basis for decision making

Limitations of systematic reviews

- Results may still be inconclusive
- There may be no trials/evidence
- The trials may be of poor quality
- The intervention may be too complex to be tested by a trial
- Practice does not change just because you have the evidence of effect/effectiveness

Development of a review protocol



Development of a review protocol

