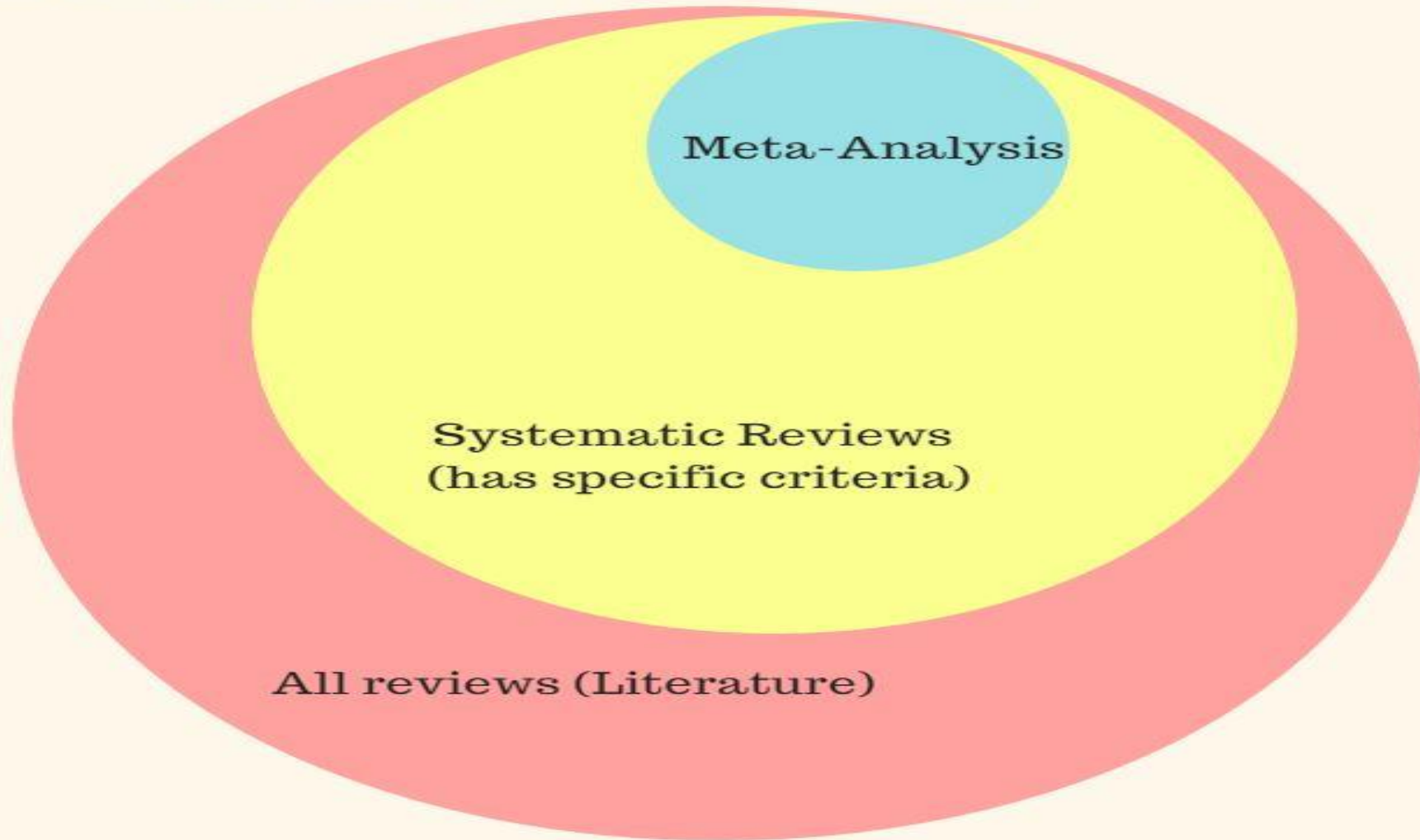


# Research Review Types



Bill Komanecki, Librarian  
Saint Francis College of Nursing

# How Are Reviews Related?



Source: Hillary Fox, University of West Florida Lib Guides, <https://tinyurl.com/yx4krvuf>

# What is a Literature Review?

- A literature review is a comprehensive summary of previous research on a topic.
- Surveys scholarly articles, books, and other sources relevant to a particular area of research.
- Enumerates, describes, summarizes, evaluates and clarifies previous research.
- Acknowledges the work of previous researchers

Source: Bloomsburg State University, <https://tinyurl.com/5drbepvz>

# Literature Review Steps



Source: <https://dkit.ie.libguides.com/literaturereview>

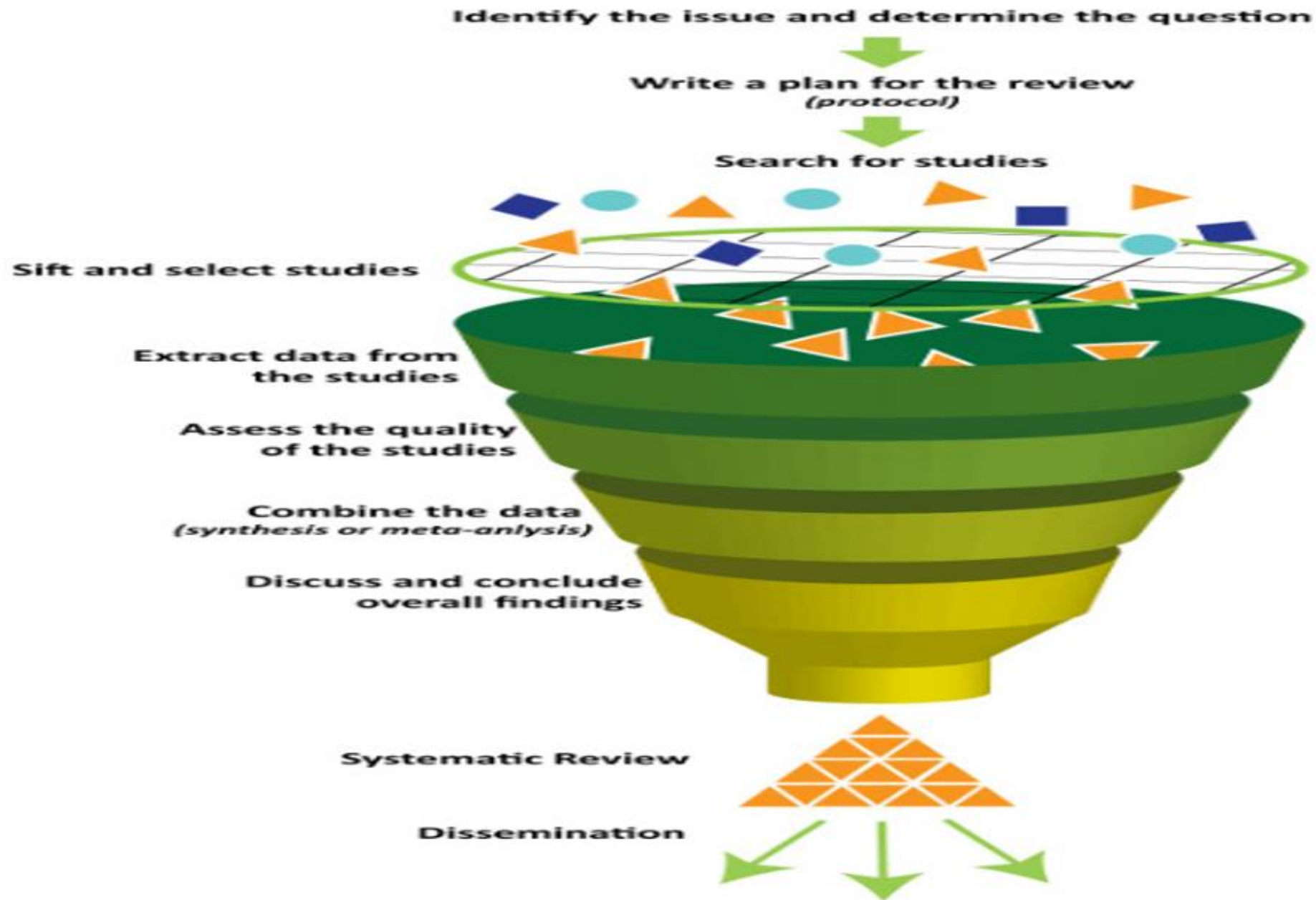
# What is a Systematic Review?

- A type of review that uses repeatable methods to find, select, and synthesize all available evidence
- It includes a clearly stated set of objectives with pre-defined eligibility criteria for studies
- A search that attempts to identify all studies that would meet the eligibility criteria
- An assessment of the validity of the findings of the included studies, such as an assessment of risk of bias
- A systematic presentation, and synthesis, of the characteristics and findings of the included studies.

# Systematic Review Characteristics

- Clearly-defined question with inclusion and exclusion criteria
- Rigorous search of research evidence from multiple studies
- Phases of screening - data extraction and management, analysis and interpretation of results, and risk of bias assessment
- Can involve narrative approaches to integrations, or quantitative approaches that integrate findings statistically by using individual studies

Source: Temple University Lib Guides, <https://tinyurl.com/2wrvu9ff>



Source: Cochrane Infographics, <https://cccr.org/cochrane.org/infographics>

# Systematic vs. Literature Review

	Systematic Review	Literature Review
Question	Focused on a single question	Not necessarily focused on a single question but may describe an overview
Protocol	A peer review protocol or plan is included	No protocol is included
Background	Both provide summaries of the available literature on a topic	
Objectives	Clear objectives are identified	Objectives may or may not be identified
Inclusion & exclusion criteria	Criteria stated before review is conducted	Criteria not specified
Search strategy	Comprehensive search conducted in a systematic way	Strategy not explicitly stated
Process of selecting articles	Usually clear and explicit	Not described in a literature review
Process of evaluating articles	Comprehensive evaluation of study quality	Evaluation of study quality may or may not be included
Results and data synthesis	Clear summaries based on high quality evidence	Summary based on studies where the quality of articles may not be specified. May also be influenced by the reviewer's theories, needs and beliefs.
Discussion	Written by an expert or group of experts with a detailed and well-grounded knowledge of the issues.	



# Meta Analysis Defined

- Meta-analysis is a systematic, objective way to combine data from studies, and arrive at an estimate of treatment effectiveness and statistical significance
- Combines data from case control and cohort studies
- Advantages - increases sample size and allows for analysis that is not possible otherwise
- Disadvantages - publication bias and quality of design may lead to misleading results

Source: British Medical Journals <https://ebn.bmj.com/content/16/1/3>

 **STEP 7**

The extent of the publication bias in these articles is determined and a funnel plot is run.

A theory based question is formulated, and scholarly works are searched for the framed questions in databases such as PubMed, Medline, Google Scholar, or any other valid source of scientific research.

 **STEP 1**

The abstract and title of the individual papers are read and relevant ones are chosen.

 **STEP 2** **STEP 6**

The summary effect size is estimated in the form of Odds Ratio, and both fixed and random effects models are used and a forest plot is constructed.

 **STEP 5**

The heterogeneity of the articles is determined.

 **STEP 8**

Subgroup analysis and meta-regression test are conducted to check if there are subsets of research that capture summary effects.

 **STEP 4**

Quality of the information in the articles is determined; preferably with software like GRADE or using a judgment of their internal validity.

 **STEP 3**

Information from the selected final set of articles is extracted.

How is a

## *Meta-analysis* Performed?



IND +91-8754446690



[www.statswork.com](http://www.statswork.com)



[info@statswork.com](mailto:info@statswork.com)

# Steps in Meta-Analysis

- **Identification** - find all of the pertinent articles on topic
- **Selection** - include enough information for analysis (standard deviation or standard error) and study design (controlled trials only vs. randomized controlled trials)
- **Abstraction** – identify appropriate studies and abstract relevant data
- **Analysis** – identify degree of between-study variability

# Meta-Syntheses Defined

- Consolidates qualitative data to form a new interpretation
- Builds upon new theories that compare meta-analysis to test a hypothesis using quantitative data
- Explains why the intervention works, or not, and provides hypothesis for future testing or comparison with trial outcomes
- Provides meaning across many qualitative studies

Source: Temple University Lib Guides, <https://tinyurl.com/ynnzez75>

# Meta-Syntheses Steps

