



# Systematic reviews of qualitative studies: possible application in peer review research

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PEERE meeting, January 27-29, 2015, Lisbon

- What are systematic reviews?
- How systematic reviews are conducted?
- Systematic reviews of quantitative vs. qualitative studies
- Possible application in peer review research

# Systematic review

a review of a **clearly formulated question** that uses **systematic** and **explicit methods** to **identify, select** and **critically appraise** relevant research, and to **collect and analyze data** from the studies that are included in the review

statistical methods ([such as] meta-analysis) may or may not be used to analyze and summarize the results of the included studies

source: Cochrane Collaboration



## **Narrative review**

General overview

Search strategy ?

Assessment of studies ?

Equal weight of studies

Bias in conclusions ?

## **Systematic review**

Focused question

Comprehensive and  
reproducible search

Quality and relevance assessed

High quality studies, weighted

Impartial and relevant  
conclusions

# Steps in the making of a systematic review

- Defining the question
  - inclusion & exclusion criteria
- Developing a search strategy
  - electronic databases, forward & backward citations, gray literature?
- Screening & identifying relevant studies
  - two reviewers independently
- Data extraction
- Critical appraisal of the included studies
- Data synthesis
- Write-up

Step	Systematic reviews of	
	Quantitative studies	Qualitative studies
Review question	straightforward, narrow, specific (PICO)	narrow, specific OR broader, indicative, thematic
Search strategy	possible by study design, can be more specific	qualitative design not easily recognizable, search has to be sensitive
Data extracted	numerical	textual
Critical appraisal of included studies	different criteria and tools	
Synthesis of data/findings	narrative summary with or without statistical meta-analysis, "integrative"	different "interpretive" approaches

# Qualitative synthesis

Any methodology whereby study findings are systematically interpreted through a series of expert judgements to represent the meaning of the collected work.

In a qualitative synthesis, the findings of qualitative studies — and sometimes mixed-methods and quantitative research — are pooled.

Judgement-based qualitative methodologies are used to draw conclusions regarding the collective meanings of this pool of research.

(Bearman and Dawson 2013)



# Synthesis of qualitative studies: approaches

## Variety:

- Meta-ethnography (Noblit & Hare, 1988)
- Meta-study (Paterson et al, 2001)
- Synthesis of qualitative research (Sandelowski & Barroso, 2007)
- Grounded formal theory (Kerney 1998, 2001)
- Realist review (Pawson et al 2005)
- ... other less developed or more rarely used approaches („meta-family“)

## Gaining popularity:

- C. Howell Major & M. Savin-Baden (2011): analysis of 177 qualitative research studies accross a variety of professional and social science fields





# Synthesis of qualitative studies: challenges

For the synthesis component of the qualitative reviews, a black box remains between what people claim to use as a synthesis approach and what is actually done in practice. (Hannes & Macaitis 2011)

Metasynthesis investigations frequently result in isolated findings rather than findings in relationship, and opportunities to generate research hypotheses and theoretical models are not always fully realized. (Fingfeld-Connet 2014)



# Sys revs of qualitative research: purpose

- on the most basic level: a comprehensive and well-organized compilation of qualitative research findings on a phenomenon
- synthesizing the findings of primary qualitative research on a higher level of abstraction
- deepening knowledge and understanding of a phenomenon
- contributing to development of evidence-based practice



# A Systematic Review of Qualitative Research on the Meaning and Characteristics of Mentoring in Academic Medicine

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**BACKGROUND:** Mentorship is perceived to play a significant role in the career development and productivity of academic clinicians, but little is known about the characteristics of mentorship. This knowledge would be useful for those developing mentorship programs.

**OBJECTIVE:** To complete a systematic review of the qualitative literature to explore and summarize the development, perceptions and experiences of the mentoring relationship in academic medicine.

**DATE SOURCES:** Medline, PsycINFO, ERIC, Scopus and Current Contents databases from the earliest available date to December 2008.

**REVIEW METHODS:** We included studies that used qualitative research methodology to explore the meaning and characteristics of mentoring in academic medicine. Two investigators independently assessed articles for relevance and study quality, and extracted data using standardized forms. No restrictions were placed on the language of articles.

**RESULTS:** A total of 8,487 citations were identified, 114 full text articles were assessed, and 9 articles were selected for review. All studies were conducted in North America, and most focused on the initiation and cultivation phases of the mentoring relationship. Mentoring was described as a complex relationship based on mutual interests, both professional and personal. Mentees should take an active role in the formation and development of mentoring relationships. Good mentors should be sincere in their dealings with mentees, be able to listen actively and understand mentees' needs, and have a well-established position within the academic community. Some of the mentoring functions aim at the mentees' academic growth and others at personal growth. Barriers to mentoring and dysfunctional mentoring can be related to personal factors, relational difficulties and structural/institutional barriers.

**CONCLUSIONS:** Successful mentoring requires commitment and interpersonal skills of the mentor and mentee, but also a facilitating environment at academic medicine's institutions.

**KEY WORDS:** mentoring; academic medicine; systematic review; qualitative research.

J Gen Intern Med 25(1):72-8

DOI: 10.1007/s11606-009-1165-8

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## INTRODUCTION

Mentoring relationships have become an object of intense study, beginning with the seminal work by Kathy E. Kram in the 1980s,<sup>1</sup> which initiated a surge of research in diverse settings such as business,<sup>2,3</sup> education<sup>4,5</sup> and nursing.<sup>6</sup> In academic medicine, mentoring was recognized as a crucial developmental relationship,<sup>7</sup> and our recent systematic review showed that mentoring has an important influence on personal development, career guidance, career choice and research productivity.<sup>8</sup> The review we initially performed<sup>8</sup> included only quantitative studies and focused exclusively on outcomes of mentorship. It did not address the meaning of mentoring, its formation and characteristics of its actors, which are more appropriately explored by the use of qualitative research methodologies.

Terms such as "mentoring," "supervision" and "role modeling" can all be considered as describing developmental interactions, but they are often used interchangeably or without clear demarcation, which makes their operationalization more difficult. This lack of clarity has consequences in practice-oriented disciplines, where the development of programs is based on assumptions about the meaning and effectiveness of mentoring.<sup>5,9</sup>

Expert panels have made attempts to clarify the concept of mentoring in academic medicine,<sup>10,11</sup> and authors have compiled narrative literature reviews<sup>12-14</sup> or offered conceptual diagrams<sup>15</sup> on the desirable characteristics of mentoring

# Application in peer review research

Jefferson T, Rudin M, Brodney F, Fole S, Davidoff F. **Editorial peer review for improving the quality of reports of biomedical studies.** Cochrane Database Syst Rev. 2007 Apr 18;(2):MR000016.

- **Objective:** to estimate the effect of processes in editorial peer review
- **Inclusion criteria:** prospective or retrospective comparative studies with two or more comparison groups, generated by random or other appropriate methods, and reporting original research, regardless of publication status
- **Search:** 28 studies included
- **Synthesis:** narrative (no meta-analysis)

# Application in peer review research

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- **Results/outcomes:**

- effect of blinding/masking on the quality of external opinions
- effects of submission checklists on the outcome
- effects of communication media on the outcome
- effects of training, feedback and correspondence on the outcome
- presence and effects of reviewer bias on the outcome
- effects of peer review on study validity
- effects of peer review on study report quality

# Application in peer review research

Demicheli V, Di Pietrantonj C. **Peer review for improving the quality of grant applications**. Cochrane Database Syst Rev. 2007 Apr 18;(2):MR000003

- **Objective:** to estimate the effect of grant giving peer review processes on importance, relevance, usefulness, soundness of methods, soundness of ethics, completeness and accuracy of funded research.
- **Inclusion criteria:** prospective or retrospective comparative studies with two or more comparison groups assessing different interventions or one intervention against doing nothing.
- **Search:** 178 citations retrieved, 37 full texts checked, 10 studies included
- **Synthesis:** narrative (no meta-analysis)



# Application in peer review research

Demicheli V, Di Pietrantonj C. **Peer review for improving the quality of grant applications**. Cochrane Database Syst Rev. 2007 Apr 18;(2):MR000003

- **Results/Outcomes:**

- effect of different ways of screening submissions
- effect of different ways of masking submissions
- effect of different decision making procedures
- agreement of the results of peer review processes (inter-reviewer agreement, effect of different rating scales)

# Sys rev of qualitative research of peer review?

## Research question:

- broad, thematic – probably not many qualitative studies
- inclusion criteria – type of study, context...

## Search strategy:

- broad, sensitive – probably resulting in a very large number of citations for screening (time-consuming!)

## Data/findings extraction

- easier with articles, more difficult with books

## Synthesis:

- choosing the approach

**ANY VOLUNTEERS?**





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