

## Putting the houses of knowledge synthesis in order

Differentiating between 6 different types of literature reviews

<https://padlet.com/rolaajjawi/74d0zd2b2dicbwqr>

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Welcome to the rabbit hole

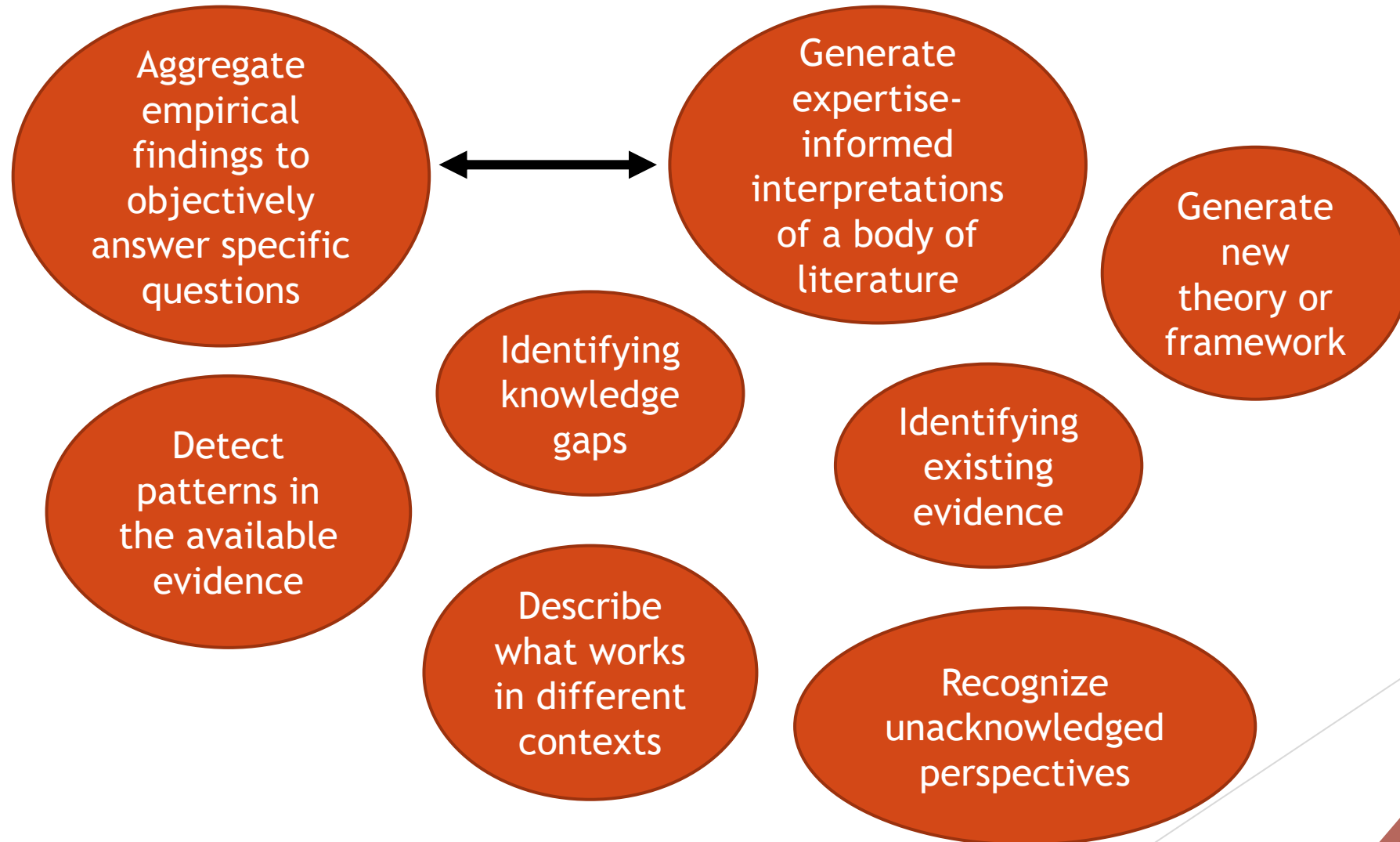
# Why do literature reviews?



You  
tell us

What is(are) the purpose(s) of a  
literature review?

# Why do literature reviews?



There are *MANY* different kinds of literature reviews, each with a unique purpose

# The 6 types of literature reviews we'll discuss today

Realist Reviews

Systematic Reviews

Scoping Reviews

Meta-Ethnography  
Reviews

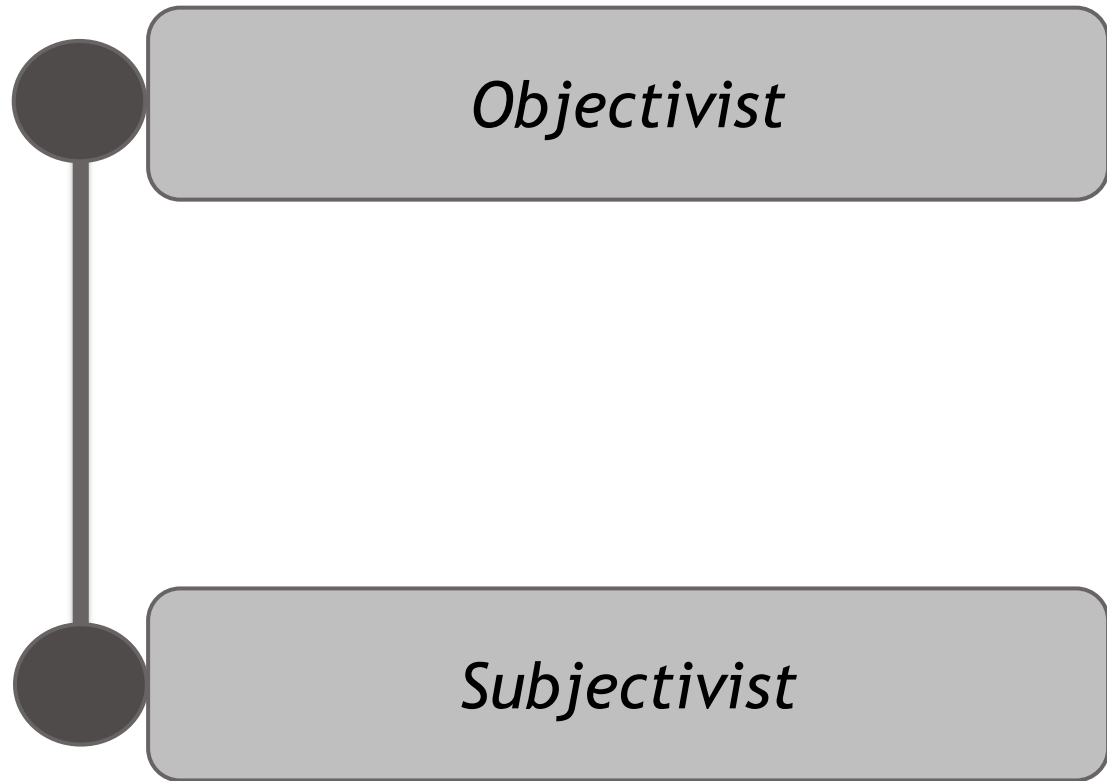
Narrative Reviews

Critical Reviews



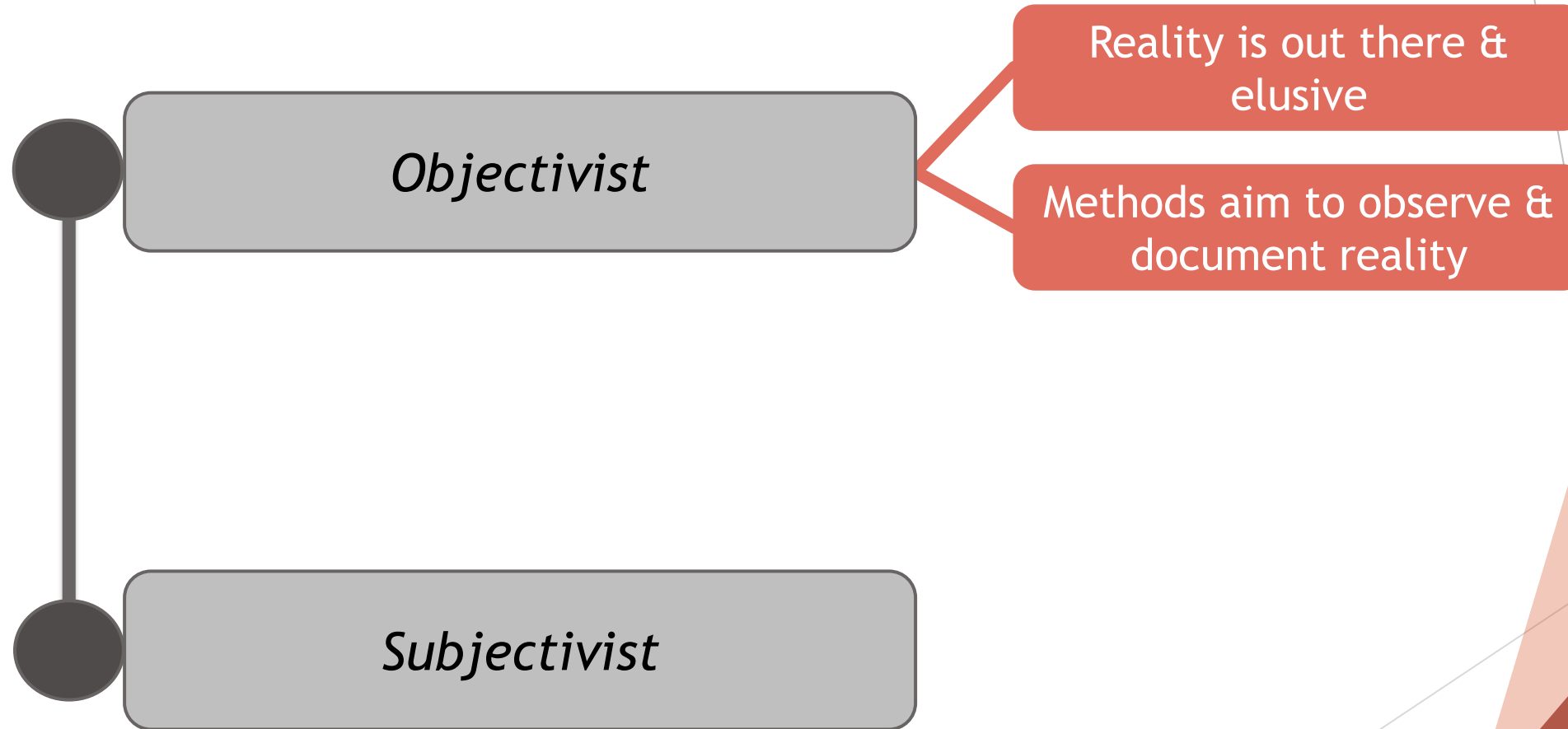
How to put order in the disorder?

# Start with foundations

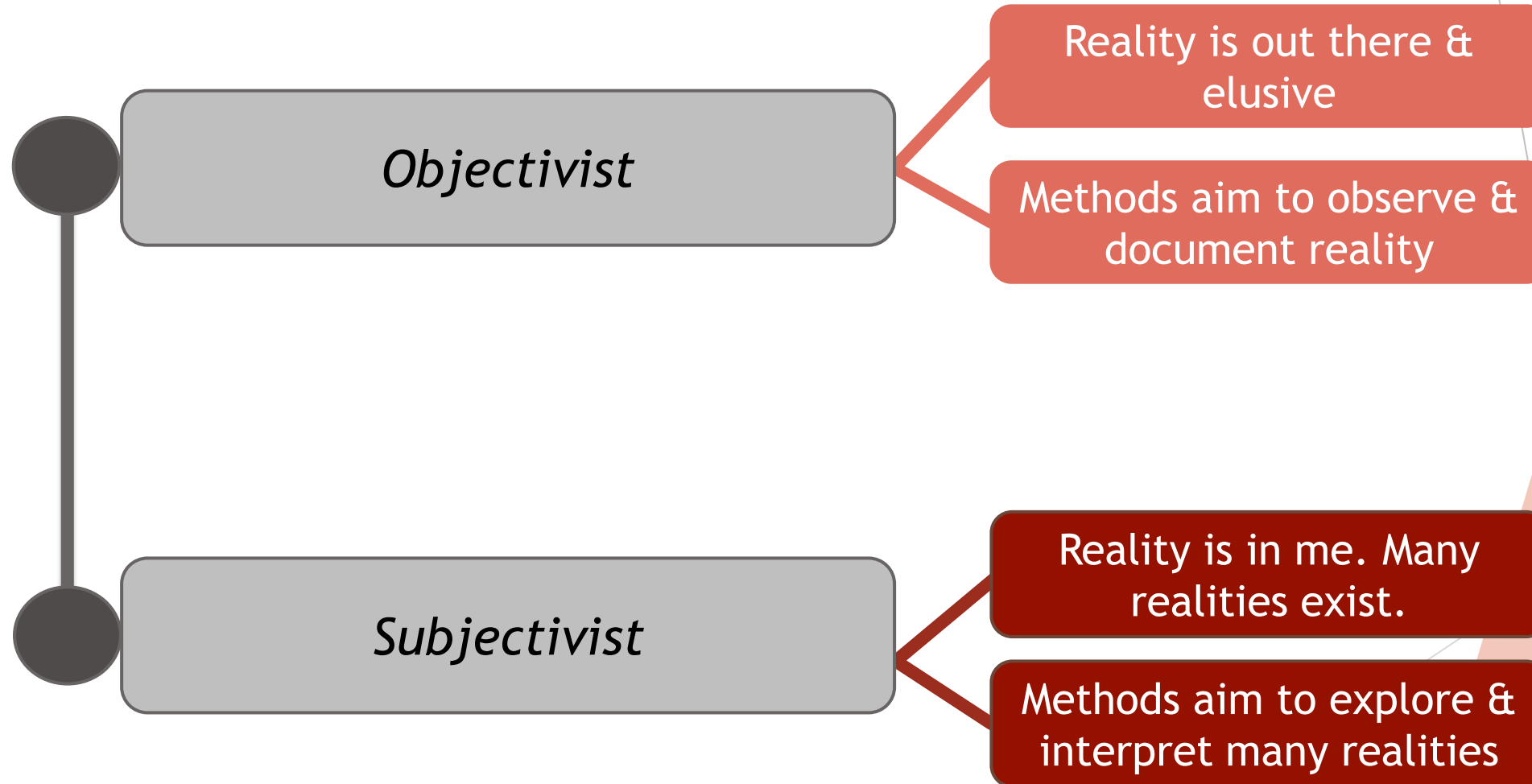




# Start with foundations



# Start with foundations





*Objectivist*

*Subjectivist*

# Systematic Reviews

Lauren Maggio

*Objectivist*

Systematic Review

Ask narrow questions and use explicit, pre-specified methods to identify, select, assess, and summarize the findings of similar but separate studies

*Subjectivist*

# Why do a systematic review?

Synthesize the findings of studies to:

- ▶ Determine the efficacy of an intervention
- ▶ Understand the prevalence or incidence of a condition
- ▶ Calculate costs of an intervention
- ▶ Determine the accuracy of an intervention (e.g., assessment tool)
- ▶ Ascertain the prevalence or incidence of something

## Sample research questions

- ▶ Is continuing professional development effective in improving patient outcomes?
- ▶ What are the costs of virtual reality simulation for disaster drills as compared to live action simulation?
- ▶ What is the accuracy of multi-mini interviews for selection to medical school?
- ▶ What is the prevalence of burnout among critical care residents?

# Expected Outcomes: Example

Meta-Analysis > [J Med Internet Res.](#) 2019 Jul 25;21(7):e13315. doi: 10.2196/13315.

## Impact of Clinicians' Use of Electronic Knowledge Resources on Clinical and Learning Outcomes: Systematic Review and Meta-Analysis

Lauren A Maggio <sup>1</sup>, Christopher A Aakre <sup>2</sup>, Guilherme Del Fiol <sup>3</sup>, Jane Shellum <sup>4</sup>, David A Cook <sup>2</sup>

Affiliations + expand

PMID: 31359865 PMCID: [PMC6690166](#) DOI: [10.2196/13315](#)

[Free PMC article](#)

### Abstract

**Background:** Clinicians use electronic knowledge resources, such as Micromedex, UpToDate, and Wikipedia, to deliver evidence-based care and engage in point-of-care learning. Despite this use in clinical practice, their impact on patient care and learning outcomes is incompletely understood. A comprehensive synthesis of available evidence regarding the effectiveness of electronic knowledge resources would guide clinicians, health care system administrators, medical educators, and informaticians in making evidence-based decisions about their purchase, implementation, and use.

**Objective:** The aim of this review is to quantify the impact of electronic knowledge resources on clinical and learning outcomes.



# References

- ▶ From the Series:

- ▶ Maggio LA, Samuel A, Stellrecht E. Systematic Reviews in Medical Education. *Journal of Graduate Medical Education*. 2022 Apr;14(2):171-5.

- ▶ General:

- ▶ Cook DA, West CP. Conducting systematic reviews in medical education: a stepwise approach. *Medical education*. 2012 Oct;46(10):943-52.
- ▶ Gordon M, Grafton-Clarke C, Hill E, Gurbutt D, Patricio M, Daniel M. Twelve tips for undertaking a focused systematic review in medical education. *Medical Teacher*. 2019 Nov 2;41(11):1232-8.

# Realist Review

Rola Ajjawi

*Objectivist*

Systematic Review

Ask narrow questions and use explicit, pre-specified methods to identify, select, assess, and summarize the findings of similar but separate studies

Realist Review

What interventions work, for whom, how, and in what contexts

*Subjectivist*

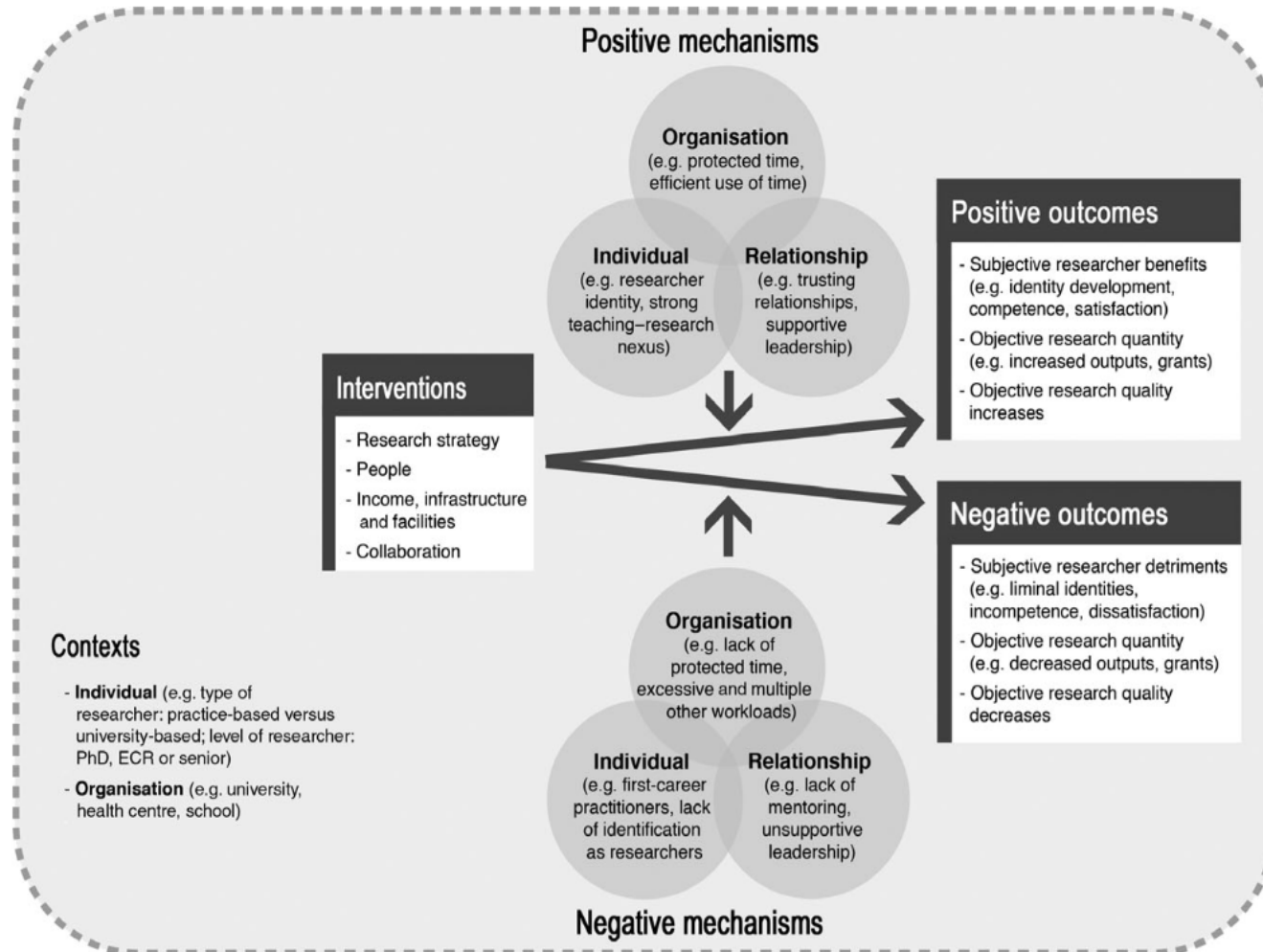
# Why do a realist review?

- ▶ A theory-driven approach to literature synthesis that seeks to evaluate the effectiveness of interventions in a contextualized way.
- ▶ The foundational premise of realism is that interventions work differently in different contexts and for different people.
- ▶ Do it to understand the role of context in the effectiveness of interventions and the necessary mechanisms that mobilise outcomes (known as a mechanism).

# Research question

What intervention works, for whom, how,  
and in what circumstances?

# Expected Outcomes: Example



What are the features of successful research environments, for whom, how and in what circumstances?

# References

- ▶ Ajjawi, R., & Kent, F. (2022). Understanding Realist Reviews for Medical Education. *Journal of graduate medical education*, 14(3), 274-278. doi: 10.4300/jgme-d-22-00334.1
- ▶ Ajjawi R, Crampton PES, Rees CE. What really matters for successful research environments? A realist synthesis. *Med Educ*. 2018; 52 (9): 936- 950. doi:10.1111/medu.13643
- ▶ Kent, F., & Ajjawi, R. (2022). Realist Reviews: A Brief How-To. *Journal of graduate medical education*, 14(3), 279-280. doi: 10.4300/jgme-d-22-00335.1



# Case Study



Dr. Smith has been asked to develop Interprofessional Education (IPE) experiences for their program's residents. A Pubmed search on "interprofessional education" returns more than 24,000 citations and Dr. Smith can find no synthesis that would help inform the IPE initiative. Feeling overwhelmed by the amount of information, Dr. Smith begins to randomly sample the papers, noting the huge diversity of types and approaches. Some are documenting results from randomized trials. Some are reflecting on qualitative investigations. Others are taking a critical perspective on issues of concern. A more deliberate approach is clearly needed, and Dr. Smith thinks publishing this work might make the path forward easier for others in this situation. They seek the help of their local academic librarian to choose a way forward.

What research question would you ask for a systematic review?

What research question would you ask for a realist review?

How do you think the process of conducting the review might be different for a systematic review vs realist review?

# Narrative Review

Lara Varpio

*Objectivist*

Systematic Review

Ask narrow questions and use explicit, pre-specified methods to identify, select, assess, and summarize the findings of similar but separate studies

Realist Review

What interventions work, for whom, how, and in what contexts

Narrative Reviews

Summary, interpretation and critique of a body of literature that is informed by the researcher's subjectivity. Many kinds of reviews sit underneath this umbrella term

*Subjectivist*

# Why do a narrative review?

Narrative review = an umbrella term

Interpret a body of literature to:

- ▶ Describe known knowledge on a topic
- ▶ Interpret knowledge through the lens of a specific theory
- ▶ Offer expertise-informed synthesis of a body of literature
- ▶ Identify contradictions in a body of literature

# Research questions & expected outcomes

- ▶ Depend on the type of narrative review carried out
- ▶ Subjective interpretations of the literature

## References

- ▶ Sukhera J. Narrative reviews in medical education: A guide for researchers. *Journal of graduate medical education. In press.*
- ▶ Greenhalgh T, Thorne S, Malterud K. Time to challenge the spurious hierarchy of systematic over narrative reviews? *Eur J Clin Invest.* 2018. 48:e12931

# Scoping Reviews

Lauren Maggio

*Objectivist*

Systematic Review

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What interventions work, for whom, how, and in what contexts

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*Subjectivist*

Scoping Review

Narrative synthesis that creates a map of what we know about a phenomenon.



# Why do a scoping review<sup>1</sup>?

You should do a systematic review to :

- ▶ Examine the extent, range and nature of the literature on a topic
- ▶ Identify gaps in the literature
- ▶ Summarize and disseminate research findings
- ▶ Determine if the literature is ready to undertake a systematic review

<sup>1</sup>Arksey H, O'Malley L. Scoping studies: towards a methodological framework. International journal of social research methodology. 2005 Feb 1;8(1):19-32.

# Sample research questions

- ▶ What is the scope of the literature on burnout in medical school?
- ▶ What factors lead to successful performance on national licensing exams?
- ▶ What is the role of coaching on personal identity formation?
- ▶ How is interprofessional education taught in nursing programs?

# Expected Outcomes: Example

Review

> [Acad Med.](#)

2018 Nov;93(11S Association of American Medical Colleges Learn Serve Lead: Proceedings of the 57th Annual Research in Medical Education Sessions):S60-S67.

doi: [10.1097/ACM.0000000000002375](https://doi.org/10.1097/ACM.0000000000002375).

## Electronic Knowledge Resources and Point-of-Care Learning: A Scoping Review

[Christopher A Aakre](#)<sup>1</sup>, [Laurie J Pencille](#), [Kristi J Sorensen](#), [Jane L Shellum](#), [Guilherme Del Fiol](#), [Lauren A Maggio](#), [Larry J Prokop](#), [David A Cook](#)

Affiliations + expand

PMID: 30365431 DOI: [10.1097/ACM.0000000000002375](https://doi.org/10.1097/ACM.0000000000002375)

### Abstract

**Purpose:** The authors sought to summarize quantitative and qualitative research addressing electronic knowledge resources and point-of-care learning in a scoping review.

**Method:** The authors searched MEDLINE, Embase, PsycINFO, and the Cochrane Database for studies addressing electronic knowledge resources and point-of-care learning. They iteratively revised inclusion criteria and operational definitions of study features and research themes of interest. Two reviewers independently performed each phase of study selection and data extraction.

# References

- ▶ From the Series:

- ▶ Mak S., Thomas A. An Introduction to Scoping Reviews. JGME. (in press)

- ▶ General:

- ▶ Colquhoun HL, Levac D, O'Brien KK, Straus S, Tricco AC, Perrier L, Kastner M, Moher D. Scoping reviews: time for clarity in definition, methods, and reporting. *Journal of clinical epidemiology*. 2014 Dec 1;67(12):1291-4.
- ▶ Maggio LA, Larsen K, Thomas A, Costello JA, Artino Jr AR. Scoping reviews in medical education: A scoping review. *Medical education*. 2021 Jun;55(6):689-700.
- ▶ Thomas A, Lubarsky S, Durning SJ, Young ME. Knowledge syntheses in medical education: demystifying scoping reviews. *Academic Medicine*. 2017 Feb 1;92(2):161-6.

# Metaethnographic Reviews

Anna MacLeod

*Objectivist*

Systematic Review

Ask narrow questions and use explicit, pre-specified methods to identify, select, assess, and summarize the findings of similar but separate studies

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*Subjectivist*

Scoping Review

Narrative synthesis that creates a map of what we know about a phenomenon.

Meta-Ethnography Review

Narrative synthesis of empirical *qualitative* data.

# Why do a meta-ethnography?

You should do a meta-ethnography if:

- ▶ you're interested in synthesizing in-depth qualitative studies to advance the understanding in a focused topic
- ▶ You're willing to embrace the complexity of engaging in a qualitative interpretation of qualitative interpretations

# Research questions

Qualitative insights can help us understand why certain educational policies are successful, why certain professionals behave in particular ways, or how diverse learners experience an educational innovation, for example.

Synthesizing *qualitative* evidence helps us understand *what* things work and *how*, through descriptions of the complex and nuanced range of human experience



# Expected outcomes

- ▶ Reciprocal Translation
  - ▶ Studies are aligned, and analogies and explanations are developed to represent the whole
- ▶ Refutational Synthesis
  - ▶ Studies refute each other, and the refutations become the unit of analysis
- ▶ Lines-of-argument Synthesis
  - ▶ Different aspects of the same topic are drawn together to develop a new storyline

# References

- ▶ From the Series:

- ▶ Luong V, Bearman, M & MacLeod A. A Beginners Guide to Doing Meta-Ethnography. JGME. (in press)

- ▶ General:

- ▶ Campbell R, Pound P, Morgan M, Daker-White G, Britten N, Pill R, et al. Evaluating meta-ethnography: Systematic analysis and synthesis of qualitative research. Health Technol Assess. 2011;15(43).
- ▶ Noblit GW, Hare RD. Meta-ethnography: Synthesizing Qualitative Studies. Newbury Park, CA: Sage Publications; 1988.
- ▶ France EF, Cunningham M, Ring N, Uny I, Duncan AS, Kepson RG, et al. Improving reporting of meta-ethnography: The eMERGe reporting guidance. BMC Med Res Methodol. 2019;19(1):1-13.
- ▶ Toye F, Seers K, Allcock N, Briggs M, Carr E, Barker K. Meta-ethnography 25 years on: Challenges and insights for synthesising a large number of qualitative studies. BMC Med Res Methodol. 2014;14(1):1-14.

# Critical Reviews

Renate Kahlke

**Objectivist**

**Systematic Review**

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**Realist Review**

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Narrative synthesis that creates a map of what we know about a phenomenon.

**Meta-Ethnography Review**

Narrative synthesis of empirical *qualitative* data.

**Critical Review**

Narrative synthesis critiquing literature about a phenomenon by drawing on insights and/or literature from another field or an external theory.

# Why do a critical review?

- ▶ Your topic has been well explored in health professions education BUT the perspectives used are limited and leave many unanswered questions
- ▶ You want to bring new perspectives or theories to bear and offer the field new directions for research on your topic

# Research questions/objectives

- ▶ Define and elaborate the concept of ‘comfort with uncertainty’ in clinical settings by juxtaposing a variety of frameworks and theories in ways that generate more deliberate ways of thinking about, and researching, this phenomenon
  - ▶ Ilgen, J. S., Eva, K. W., de Bruin, A., Cook, D. A., & Regehr, G. (2019). Comfort with uncertainty: reframing our conceptions of how clinicians navigate complex clinical situations. *Advances in Health Sciences Education, 24*(4), 797-809.
- ▶ Examine the value of EI (Emotional Intelligence) as a theoretical platform on which to base selection for medicine, communication skills education and professionalism.
  - ▶ Cherry, M. G., Fletcher, I., O’Sullivan, H., & Dornan, T. (2014). Emotional intelligence in medical education: A critical review. *Medical Education, 48*(5), 468-478


# Expected outcomes

Advances in Health Sciences Education (2020) 25:227–240  
<https://doi.org/10.1007/s10459-019-09886-5>

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REVIEW

## The disconnect between knowing and doing in health professions education and practice

Renate M. Kahlke<sup>1,2,3</sup>  · Meghan M. McConnell<sup>4</sup> · Katherine M. Wisener<sup>5</sup> · Kevin W. Eva<sup>6</sup>

Received: 17 December 2018 / Accepted: 19 March 2019 / Published online: 23 March 2019  
© Springer Nature B.V. 2019

# References

## From the Series:

- ▶ Kahlke, R., Lee, M. & Eva, K. (Accepted March 2021). Critical reviews in health professions education research. *Journal of Graduate Medical Education*.
- ▶ Kahlke, R., Lee, M. & Eva, K. (Accepted March 2021). Review methods rip our series: Doing critical reviews in health professions education research. *Journal of Graduate Medical Education*.

## General:

- ▶ Depraetere, J., Vandeviver, C., Keygnaert, I., & Beken, T. Vander. (2020). The critical interpretive synthesis: an assessment of reporting practices. *International Journal of Social Research Methodology*, 00(00), 1-21.
- ▶ Dixon-Woods, M., Cavers, D., Agarwal, S., Annandale, E., Arthur, A., Harvey, J., Hsu, R., Katbamna, S., Olsen, R., Smith, L., Riley, R., & Sutton, A. J. (2006). Conducting a critical interpretive synthesis of the literature on access to healthcare by vulnerable groups. *BMC Medical Research Methodology*, 6, 1-13.





# Case Study

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What research question would you ask for a meta-ethnographic review?

What research question would you ask for a critical review?

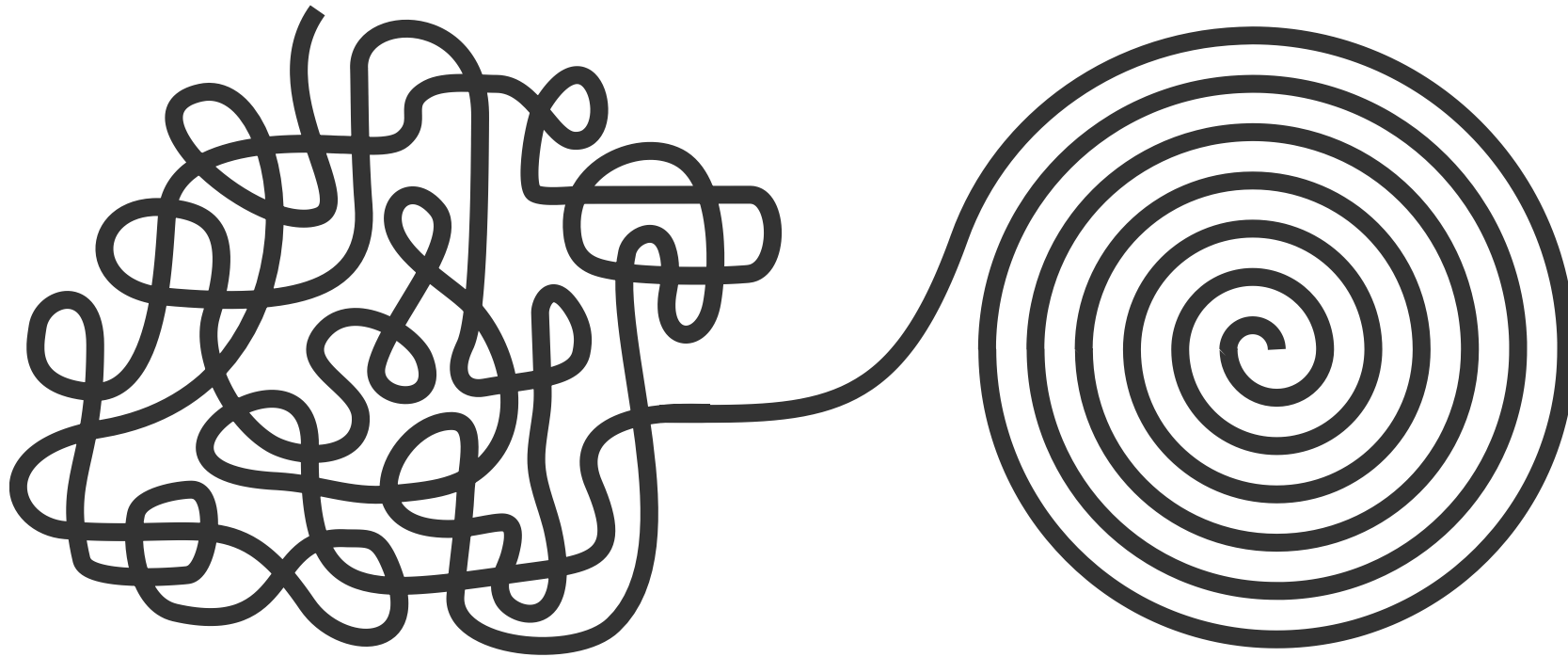
How might the process of conducting the review be different for a scoping review vs meta-ethnographic review vs critical review?



JGME  
resources...

# Journal of Graduate Medical Education's Literature Review Series

- ▶ Dec 2021
  - ▶ Introduction / key terms
- ▶ February 2022
  - ▶ Tips from librarians
- ▶ April 2022
  - ▶ Systematic reviews
- ▶ June 2022
  - ▶ Realist reviews
- ▶ August 2022
  - ▶ Narrative reviews
- ▶ October 2022
  - ▶ Scoping reviews
- ▶ December 2022
  - ▶ State-of-the-art reviews
- ▶ February 2023
  - ▶ Meta-Ethnography reviews
- ▶ April 2023
  - ▶ Critical reviews
- ▶ June 2023
  - ▶ Theory integrative reviews
- ▶ August 2023
  - ▶ Conclusion: Which review should I use?



## Putting the houses of knowledge synthesis in order

Thank you!

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