



# Systematic and other reviews

**Lorna Burns and Amanda Wanner**

Information Specialists, University of Plymouth



Tricco AC, Lillie E, Zarin W et al. A scoping review on the conduct and reporting of scoping reviews. BMC Medical Research Methodology. 2016;16(1):15.

# Systematic Review

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## Purpose:

- Seeking the best currently available answer to a specific, focused question to support decision making.

## Features:

- Systematic and explicit methods to identify, select, critically appraise studies and analyse data
- 6-12 months
- Review team

## Method:

[Cochrane Handbook for Systematic Reviews of Interventions](#)

[Centre for Reviews and Dissemination](#)

# Systematic Review vs *systematic approach*

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- Systematic approaches:
  - Clarity, validity, auditability
  - Explicit and reproducible
  
- Review processes:
  - Search
  - Appraisal
  - Synthesis
  - Analysis
  - Presentation

# SALSA framework

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Simple analytical framework to illustrate inputs and processes of review types:

**Search, Appraisal, Synthesis and Analysis (SALSA)**

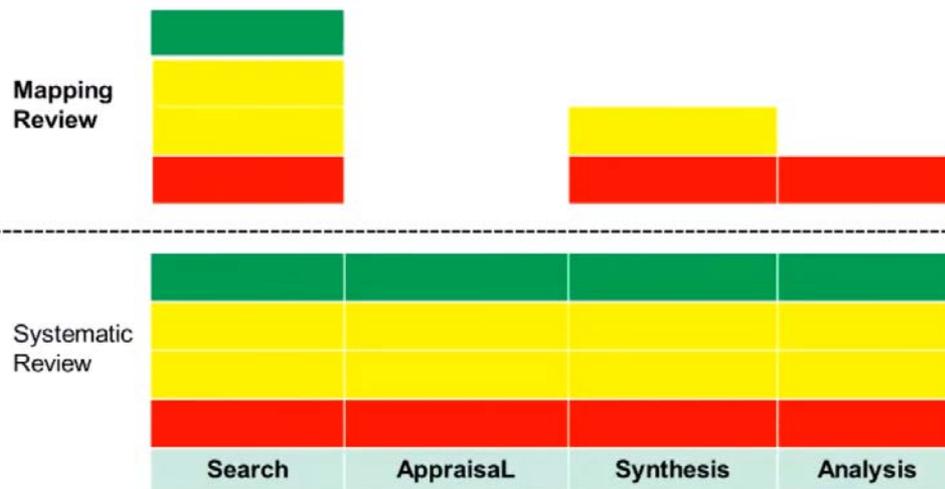
Grant, M. J. and Booth, A. (2009), A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Information & Libraries Journal*, 26: 91–108

# SALSA framework

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- **S**earch – questioning and finding
- **A**ppraisal**L** – assessing for quality
- **S**ynthesis – looking for patterns
- **A**nalysis – making sense of the patterns

## Comparing Two SALSA Profiles



# Scoping review

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*“.. a scoping review is characterised as a broad-brush approach to finding the most notable studies in the field, minimal attempts to evaluate them for quality, a rudimentary attempt at synthesis (perhaps through listing, tabulation, or mapping), and an analysis that caricatures the quantity and distribution of the literature.”*

Booth A, Sutton A, Papaioannou D. Systematic Approaches to a Successful Literature Review. London: Sage; 2016.

# Scoping Review

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## Purpose:

- Mapping key concepts in literature
- Examining extent and range of research
- Identifying key gaps in the knowledge base

## Features:

- Often answers broader questions (e.g. “what is known about..?”)
- No quality appraisal
- Cannot answer questions of effectiveness

## Method:

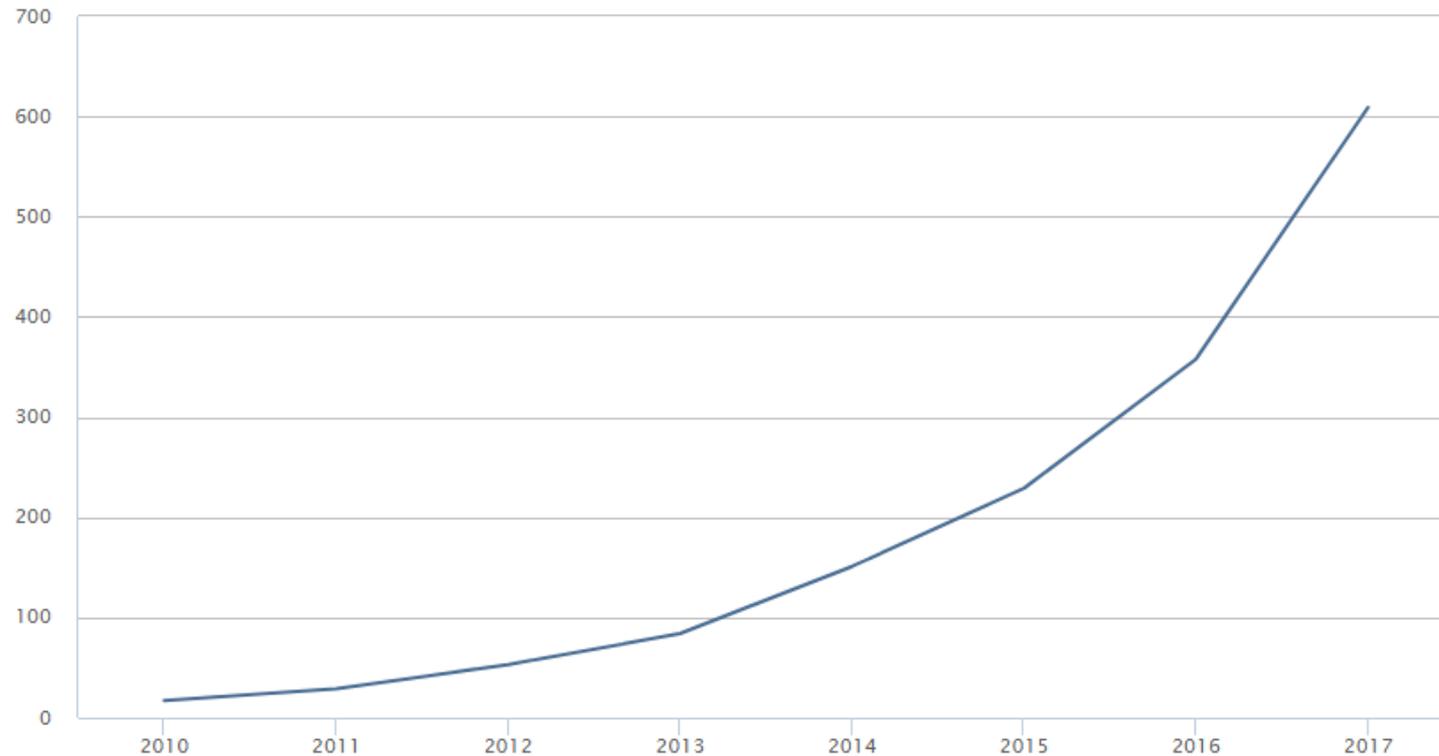
Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International journal of social research methodology*. 2005 Feb 1;8(1):19-32.

## Example:

Khanassov et al (2016). Organizational interventions improving access to community-based primary health care for vulnerable populations: a scoping review

# Scoping reviews published 2010-2017

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# Rapid (“systematic”) Review

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## Purpose:

- Responding to urgency, or political pressures
- Often in rapidly changing field

## Features:

- 3-6 months
- Close interaction between commissioners and reviewers
- Doubling of resources, or use of technology to speed process
- Acknowledges limitations of rapidity

## Method:

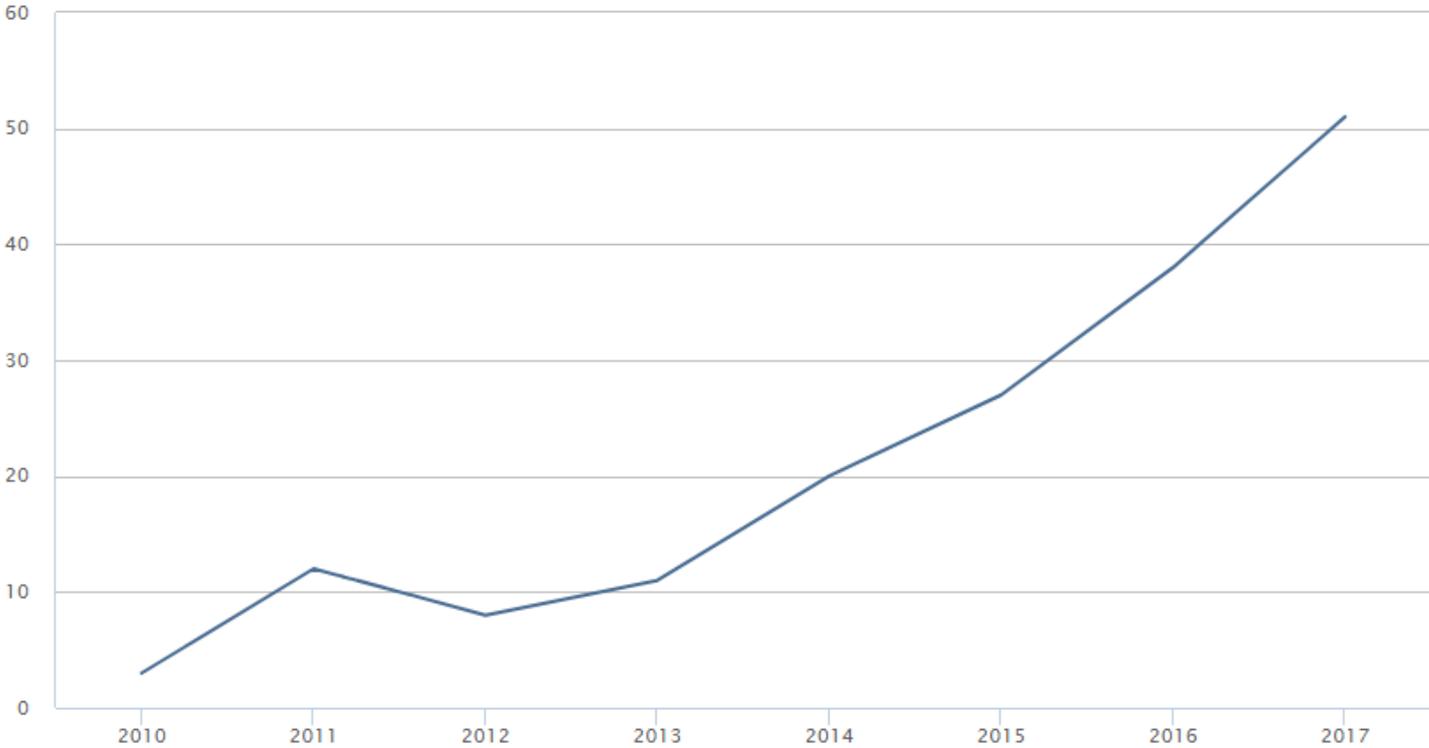
- Ganann, R., Ciliska, D. & Thomas, H. (2010) 'Expediting systematic reviews: methods and implications of rapid reviews'. *Implementation Science*, 5 (1), pp. 56.
- [National Collaborating Centre for Methods and Tools](#)

## Example:

- Davis SF, Enderby P, Harrop D, Hindle L. Mapping the contribution of Allied Health Professions to the wider public health workforce: a rapid review of evidence-based interventions. *Journal of Public Health*. 2017;39(1):177-83.

# Rapid reviews published 2010-2017

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# Realist Review

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## Purpose:

- *What works for whom under which* circumstances
- Often used to better understand how complex interventions work

## Features:

- Iterative literature searching aims for “theoretical saturation” rather than “exhaustivity”
- Theory-driven methods

## Method:

Wong G, Greenhalgh T, Westhorp G, Buckingham J, Pawson R.  
RAMESES publication standards: realist syntheses. *BMC medicine*. 2013  
Jan 29;11(1):21.

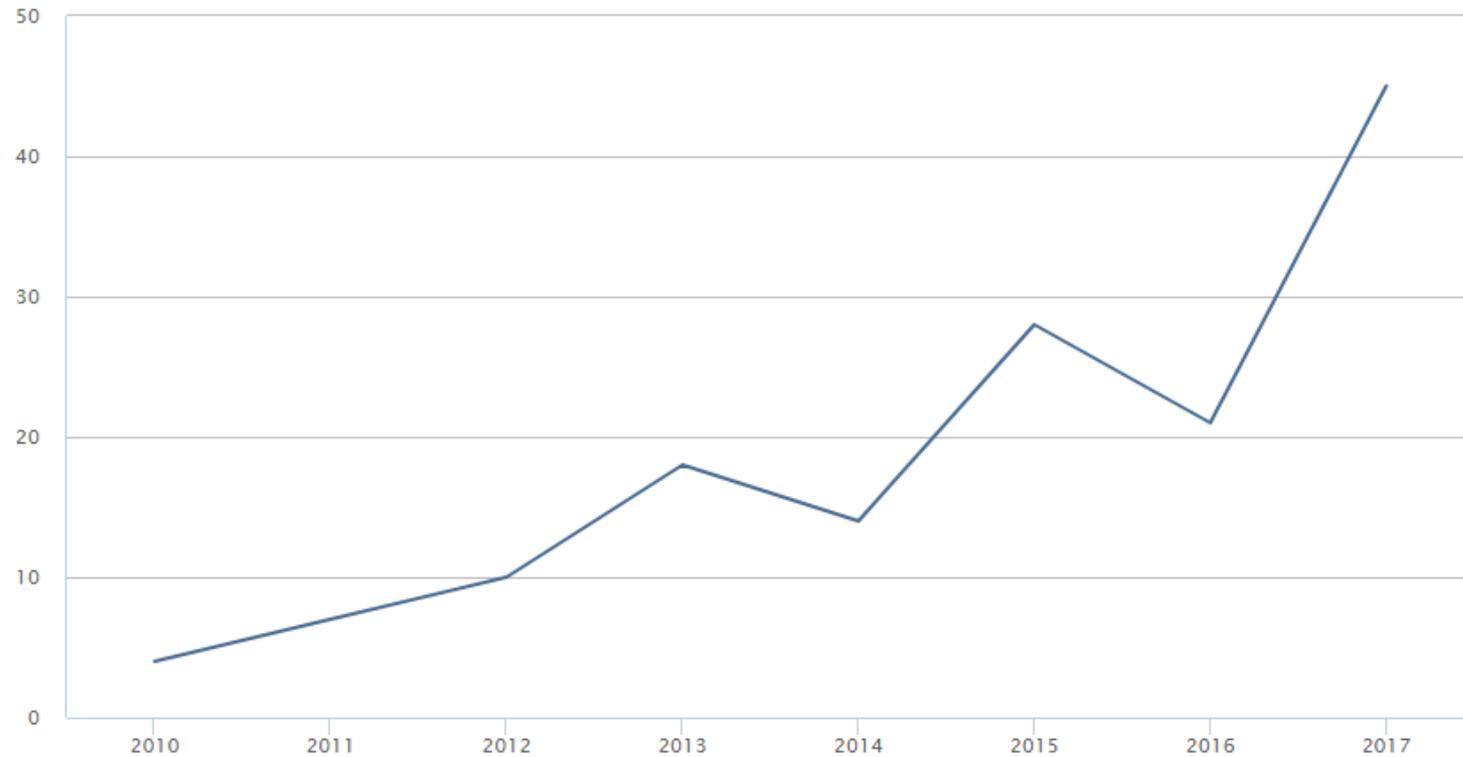
See also: <http://www.ramesesproject.org>

## Example:

Sheaff WR, Brand S, LLOYD H, Wanner A, Fornasiero M, Briscoe S, Valderas J, Byng R, Pearson M. [From Programme Theory to Logic Models for Multispecialty Community Providers: A Realist Evidence Synthesis](#). NIHR Journals Library, 2018.

# Realist reviews published 2010-2017

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# Review of Reviews / Umbrella Review

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## Purpose:

- A synthesis of evidence where there is already good coverage by reviews
- Useful across broad topic areas

## Features:

- Both types of review can handle heterogeneity in review evidence
- Included reviews quality assessed (typically) using AMSTAR
- Mapping of individual studies or of reviews (resource implications)
- Synthesis at review level or individual study level

## Method:

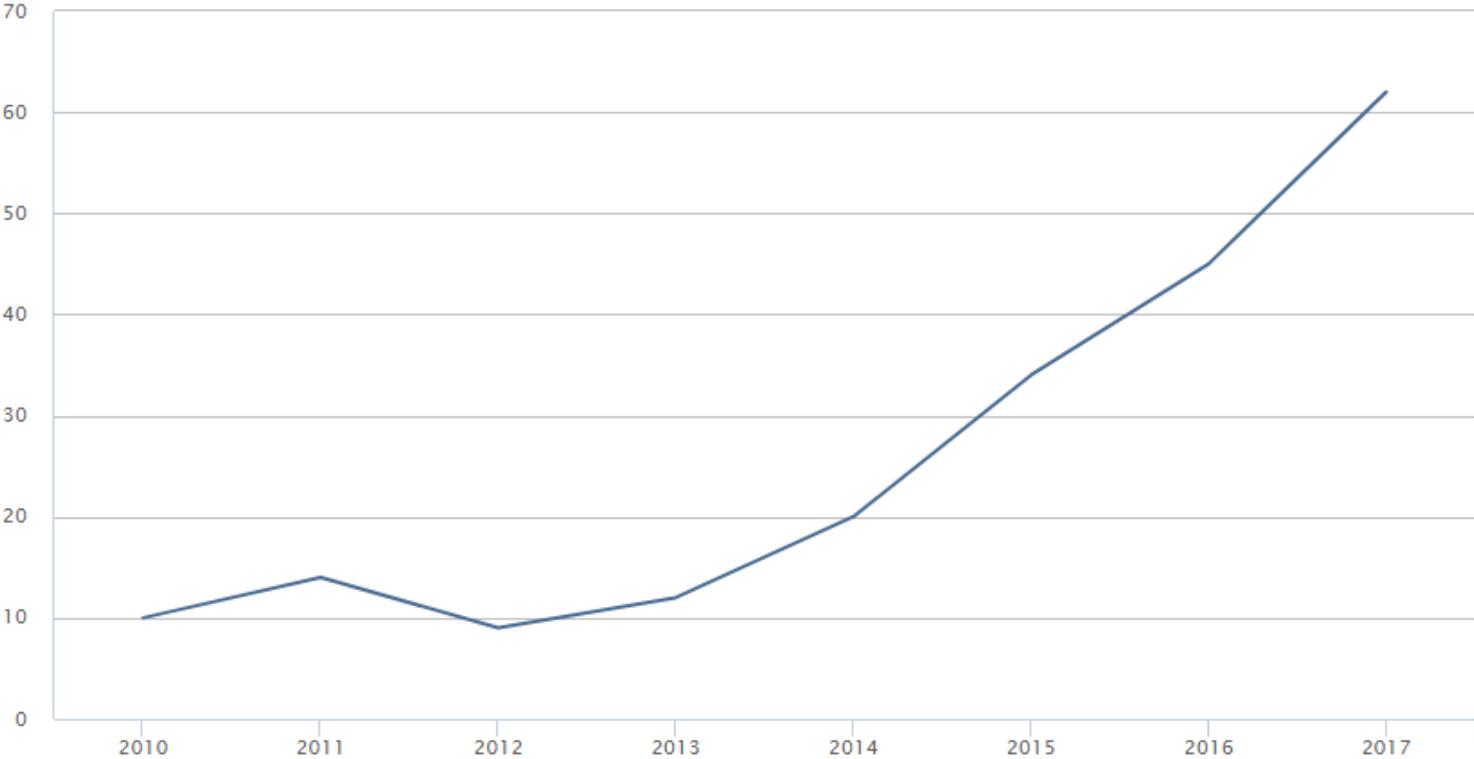
Smith V, Devane D, Begley CM, Clarke M. Methodology in conducting a systematic review of systematic reviews of healthcare interventions. *BMC Medical Research Methodology*. 2011;11(1):15.

## Example:

Catalan-Matamoros D, Gomez-Conesa A, Stubbs B, Vancampfort D. Exercise improves depressive symptoms in older adults: An umbrella review of systematic reviews and meta-analyses. *Psychiatry Research*. 2016;244:202-9.

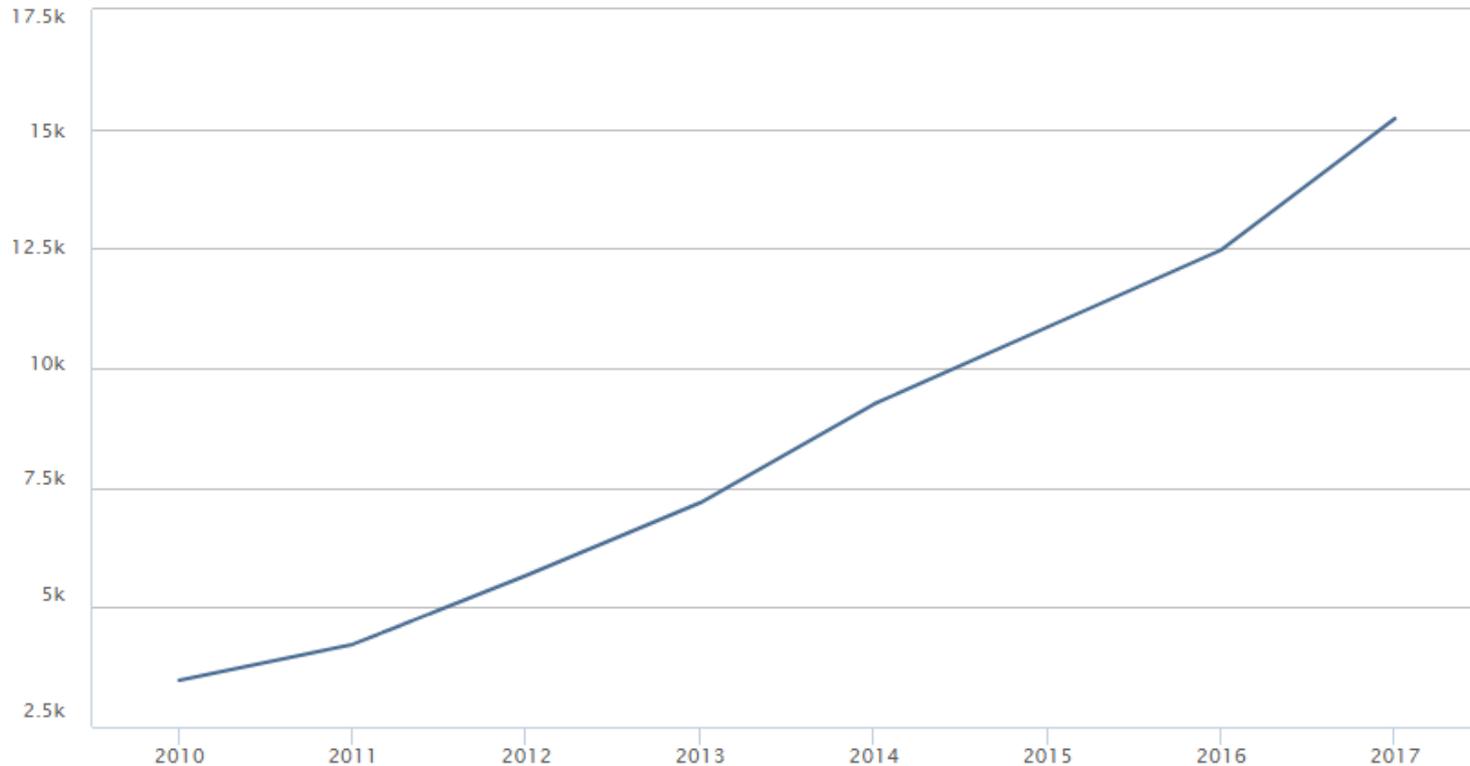
# Review of reviews published 2010-2017

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# Systematic reviews published 2010-2017

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# SALSA framework revisited

Review type	Description	Search	Appraisal	Synthesis	Analysis
Systematic search and review	Combines strengths of critical review with exhaustive search process. Addresses broad questions to produce “best evidence synthesis”.	Exhaustive.	Possibly.	Narrative. Tabular.	What is known, recommendations for practice.
Scoping review	Identifies the nature and extent of research evidence (including ongoing research)	As time allows. May include research in progress.	No.	Narrative. Tabular.	Quantity and quality of literature, perhaps by study design and other features. Attempt to specify viable review.
Rapid review	Assesses what is already known about policy or practice issue.	As time allows, uses systematic review methods to search existing research.	As time allows, uses systematic review methods to critically appraise existing research.	Narrative. Tabular.	Quantities of literature and overall quality/direction of effect of research.
Realist review	Synthesizes large and diverse selection of literature to inform policy revision, design effective interventions, and identify potentially effective and innovative interventions.	Mainly iterative and purposive.	Privileges relevance over rigour.	Narrative, causal chains and graphical.	Key output is programme theory/ies of target intervention, specifying how and why programme/service is thought to cause intended outcomes (theory building), and then testing assumptions against further evidence, to strengthen and refine it (theory testing).
Umbrella review	Summarises results from systematic reviews	Exhaustive (for reviews)	Possibly using a review specific appraisal tool (for example AMSTAR)	Graphical and tabular	What is know and research gaps for primary research or further reviews.

# Review scenario 1

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You and your colleagues wish to gain a better understanding of the range of interventions used to support weight management in diabetics.

You are not trying to evaluate how well this has been done, merely to find the key papers in this area, including research beyond randomised controlled trials, and find out what has previously been done.

This work could support a bid for funding leading to a post doc project.

# Review scenario 2

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Your Executive Board wishes to conduct a review to find out the effectiveness of paediatric consultant support phone lines for GPs in reducing unplanned admissions to A&E.

You want to find all the randomised controlled trials that have been conducted on this topic and integrate the results of the studies to find the bottom-line of whether or not this intervention 'works'.

## Review scenario 3

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You are a part of a research team that wants to find out in which contexts school breakfast programmes are effective. You want to bring together heterogeneous evidence from many different types of studies, including white papers and the grey literature, to find out how, for whom, and in what circumstances these programmes benefit schools and students. The results of this study will help researchers understand how to better design more effective interventions in this area in the future.

# Decision tools

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Booth, A., Sutton, A. & Papaioannou, D. (2016). [\*Systematic Approaches to a Successful Literature Review\*](#). London: Sage.

Kastner, et al (2016). [Conceptual recommendations for selecting the most appropriate knowledge synthesis method to answer research questions related to complex evidence](#).

Noyes, J. & Lewin, S. (2016). Chapter 6: [Supplemental Guidance on Selecting a Method of Qualitative Evidence Synthesis, and Integrating Qualitative Evidence with Cochrane Intervention Reviews](#).

Booth, A. (2016). [EVIDENT Guidance for Reviewing the Evidence: a compendium of methodological literature and websites](#).