



## Writing a Compelling Review Article

Raffaella Gozzelino, PhD

Founder of Diáspora Mundi & Group Leader at NOVA Medical School, Lisbon, Portugal

# Editage: Making researchers successful. Making research consumable.



Editage is the **world's foremost academic solutions partner** to researchers, journals, publishers, institutions, and corporations worldwide.



**VISION and MISSION:** To accelerate global scientific research communication by helping scholars break through the confines of geography and language, bridge the gap between authors and peer-reviewed journals, and **accelerate the process of publishing high-quality research.**

**20+**  
years' experience

**1,300+**  
in-house employees

**2,500+**  
scientific collaborators  
worldwide

**500,000+**  
researchers served

**2 million+**  
projects executed

**190+**  
countries

**30+**  
partnerships

Recommended by  
**2,000+**  
journals

Researcher.Life

CACTUS  
LIFE SCIENCES

CACTUS | LABS

IMPACT  
SCIENCE

Paperpal

Mind the  
GRAPH

editage **2**

# About me

## Raffaella Gozzelino, PhD

### Education

- PhD, Cell Biology, University of Lerida, Spain
- MSc, Cell Biology, University of Lerida, Spain
- BS & MSc, Chemistry and Pharmaceutical Technologies, University of Parma, Italy

### Research & Work Experiences

- Founder of Diáspora Mundi
- International consultant, WHO
- Group Leader at NOVA Medical School Research, NOVA University of Lisbon, Portugal
- Member of the Board of Directors of the International Society for the study of iron in medicine and biology (Biolron)
- Co-chair of DOTCAN (Development of Ocean Technical Capacity with African Nations)
- Member of International Committees for Fund Attribution to Research Projects
- Editor of international peer-reviewed scientific journals



# Outline of today's session

## Writing a compelling review article

- **What** is a review article and why is it important
- What are the **types** of review articles and how to approach writing them
- **Differences** between review article types, with examples
- **How** to plan and structure a review article
- How to make a **strong** statement and distinguish your review from other reviews
- **Busting myths** about review articles and how to approach a journal and academic editor



Generating impact – promoting your review articles for greater visibility

# Research Article vs. Review Article

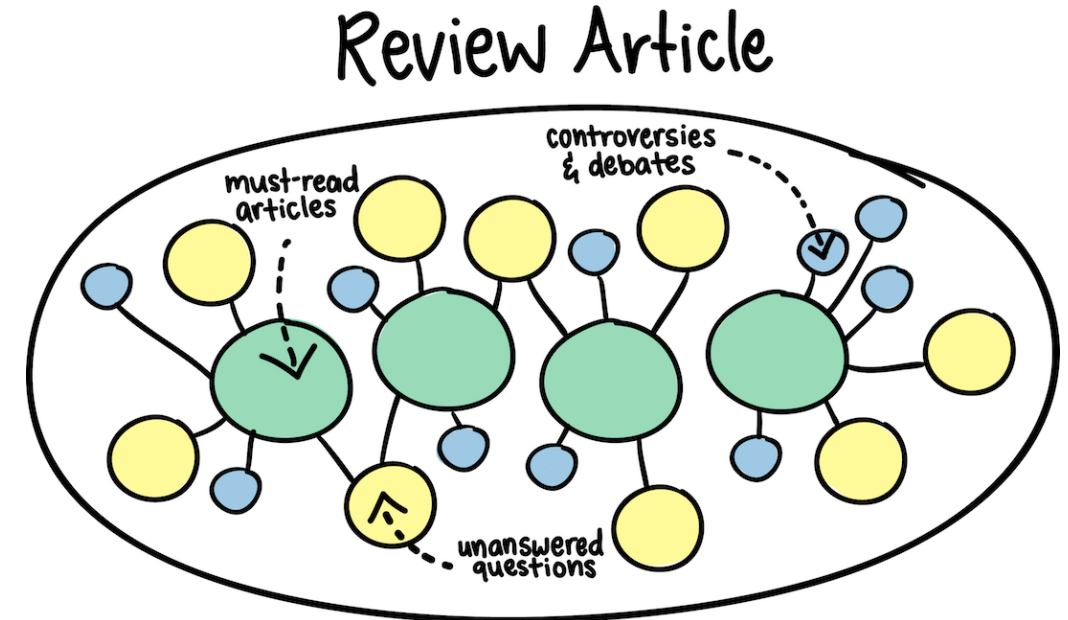
	Research article	Review article
Viewpoint	Presents the viewpoint of the author	Critiques the viewpoint of other authors on a particular topic
Content	New content	Assessing already published content
Length	Depends on the word limit provided by the journal you submit to	Tends to be shorter than a research article, but will still need to adhere to word limits

<https://www.editage.com/insights/5-differences-between-a-research-paper-and-a-review-paper>

# Review Articles: The What, Why, and How

# Why are review articles important?

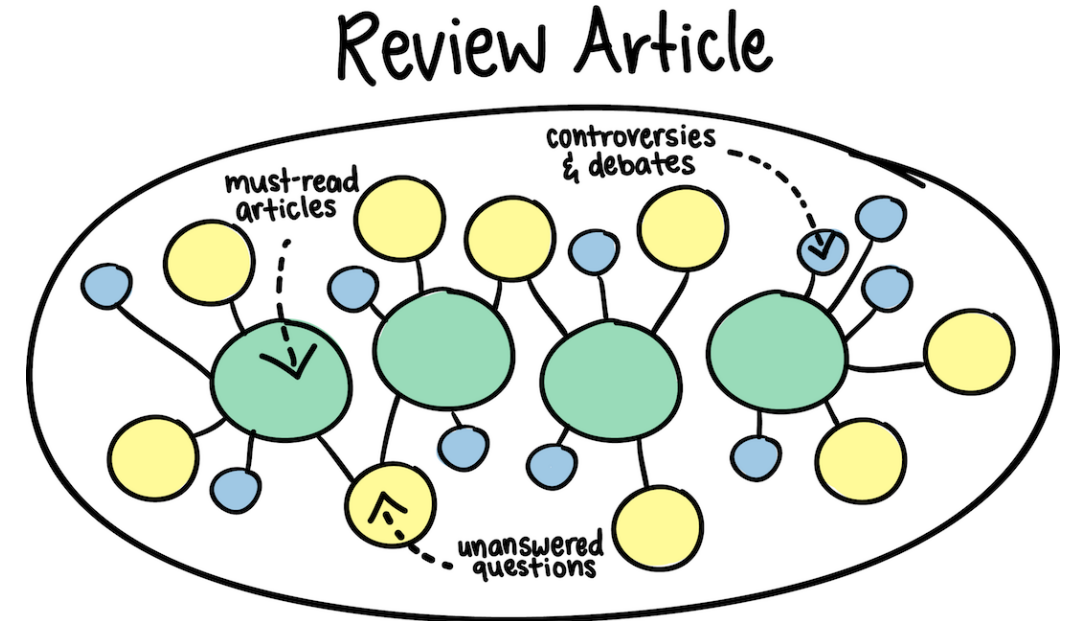
- A review article is a survey of previously published research on a topic. It should give an **overview** of current thinking on the theme.
- Unlike an original research article, it **will not present new experimental results.**



# Why are review articles important?

## A review article aims at:

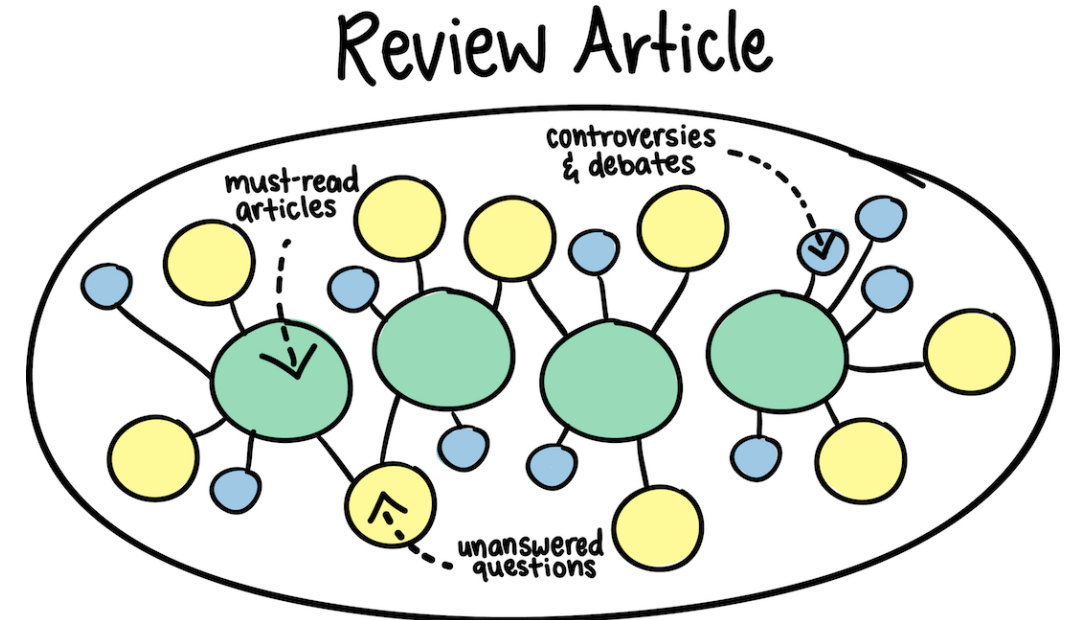
- Evaluating, understanding, and critically assessing the literature.
- Providing sources to highlight outlines, conflicts, and gaps.
- Highlighting the main methodologies and research techniques.
- Providing a **historical** context, while presenting the state of **existing** facts and opinions on **future** paths.





# Why are review articles important?

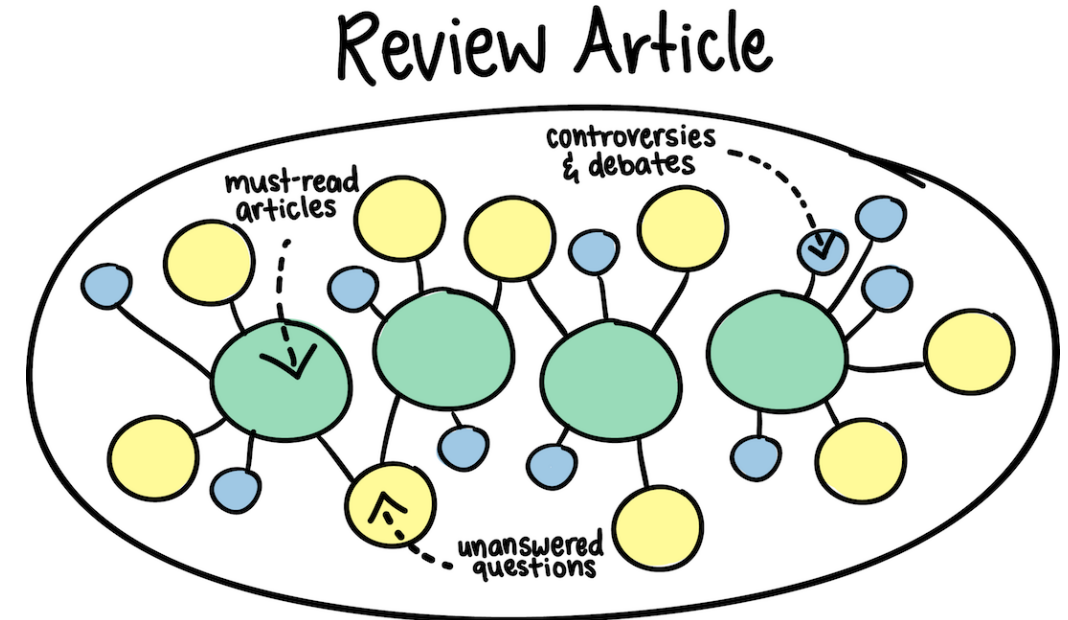
- There is an ever-increasing output of scientific publications.
- For example, compared to 1991, in 2008, there were **3, 8, and 40 times more** papers indexed in Web of Science on **malaria, obesity, and biodiversity**, respectively!
- Mountains of literature: we need regular summaries!



# Why are review articles important?

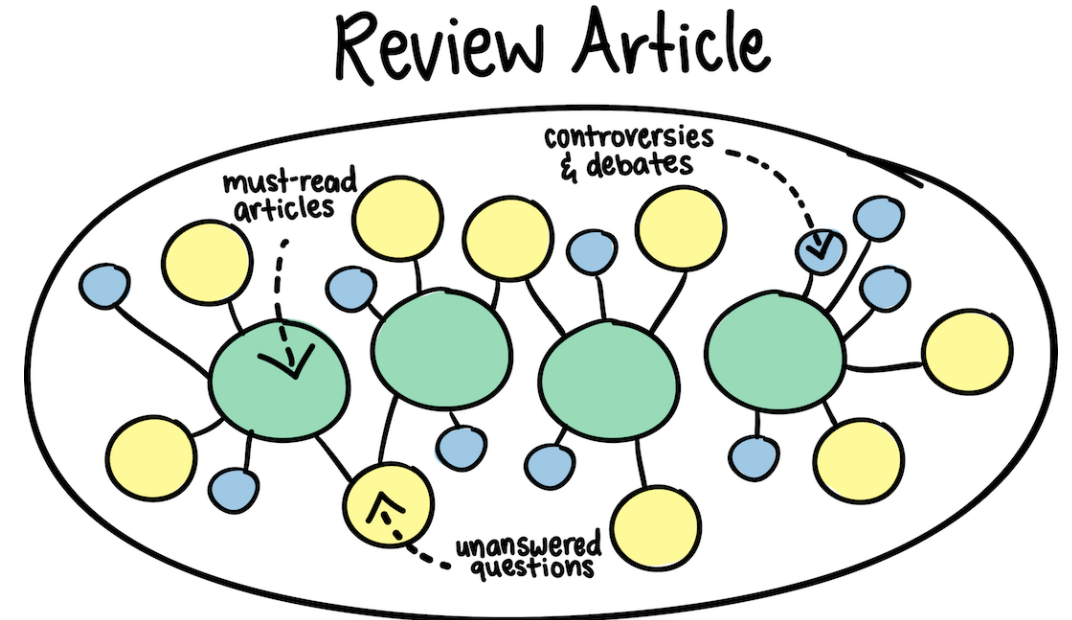
## A review article can help you

- Derive **inspiration** for your own research.
- Identify potential research areas to **explore** next.
- Provide an opportunity to develop practice and skill in **writing**.



# Why are review articles important?

A good review article can end up becoming the definitive **go-to guide** on a topic, forming the backbone of reading lists and appearing as a **reference** in countless books and articles.



# Review Articles: Types

# Types of review articles

Narrative reviews / Literature reviews

Systematic reviews and Meta-analysis

Critical reviews

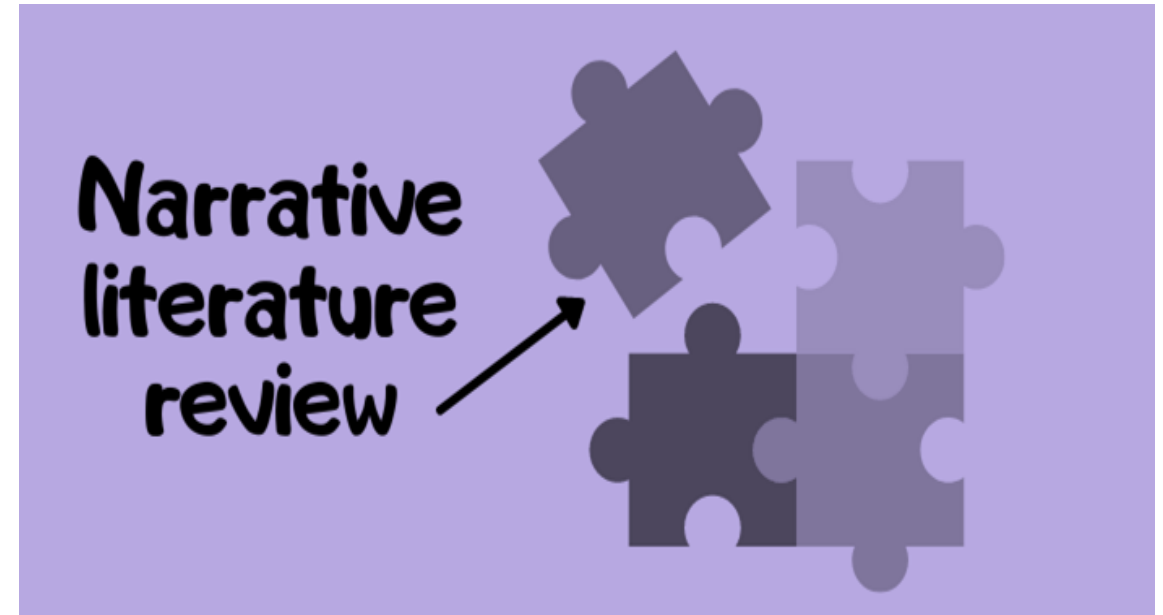
Scoping reviews

Umbrella reviews



## Types of review articles: (i) Narrative reviews

- A narrative review (or literature review) summarizes existing evidence on a topic
- It typically summarizes *each* article being discussed
- It overviews, describes, synthesizes a topic
- It describes information that already exists
- This is the most common type of review article in all scholarly fields



# Writing a narrative (literature) review: Steps

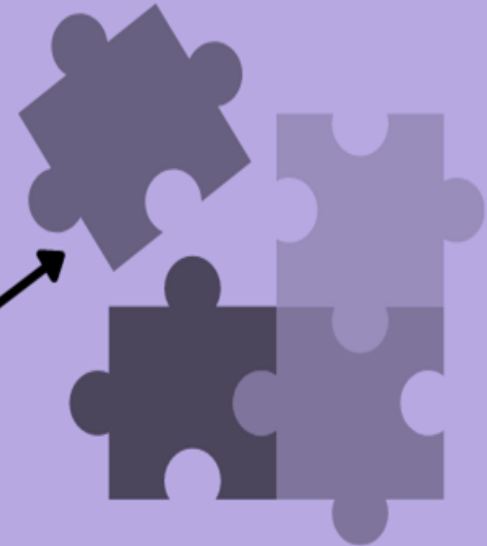
Select topic

Search the literature

Critique and reflect on the evidence

Write the paper

**Narrative  
literature  
review**









# Writing a narrative (literature) review: Steps

## REVIEW article

Front. Genet., 24 April 2020  
Sec. Computational Genomics  
<https://doi.org/10.3389/fgene.2020.00400>

This article is part of the Research Topic  
Explainable Intelligent Processing of Biological Resources Integrating Data, Information,  
Knowledge, and Wisdom  
[View all 21 Articles >](#)

## A Literature Review of Gene Function Prediction by Modeling Gene Ontology

 Yingwen Zhao<sup>1</sup>,  Jun Wang<sup>1</sup>,  Jian Chen<sup>2</sup>,  Xiangliang Zhang<sup>3</sup>,  Maozu Guo<sup>4\*</sup> and  Guoxian Yu<sup>1,3\*</sup>

<sup>1</sup> College of Computer and Information Science, Southwest University, Chongqing, China

<sup>2</sup> State Key Laboratory of Agrobiotechnology and National Maize Improvement Center, China Agricultural University, Beijing, China

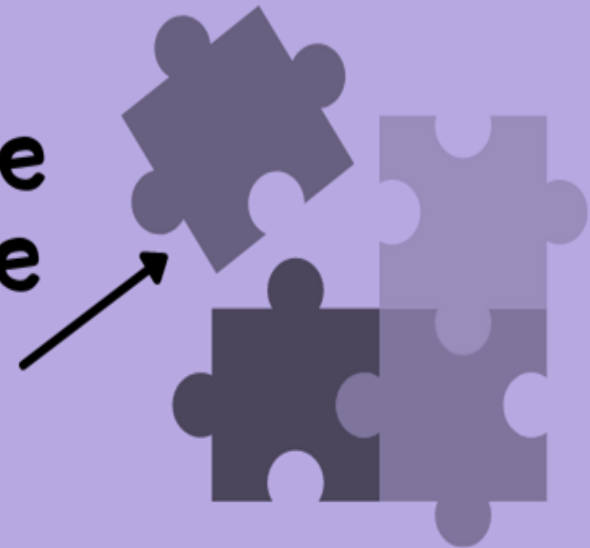
<sup>3</sup> CBRC, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

<sup>4</sup> School of Electrical and Information Engineering, Beijing University of Civil Engineering and Architecture, Beijing, China

Annotating the functional properties of gene products, i.e., RNAs and proteins, is a fundamental task in biology. The Gene Ontology database (GO) was developed to systematically describe the functional properties of gene products across species, and to facilitate the computational prediction of gene function. As GO is routinely updated, it serves as the gold standard and main knowledge source in functional

genomics. Many gene function prediction methods making use of GO have been proposed. But no literature review has summarized these methods and the possibilities for future efforts from the perspective of GO. To bridge this gap, we review the existing methods with an emphasis on recent solutions. First, we introduce the conventions of GO and the widely adopted evaluation metrics for gene function prediction. Next, we summarize current methods of gene function prediction that apply GO in different ways, such as using hierarchical or flat inter-relationships between GO terms, compressing massive GO terms and quantifying semantic similarities. Although many efforts have improved performance by harnessing GO, we conclude that there remain many largely overlooked but important topics for future research.

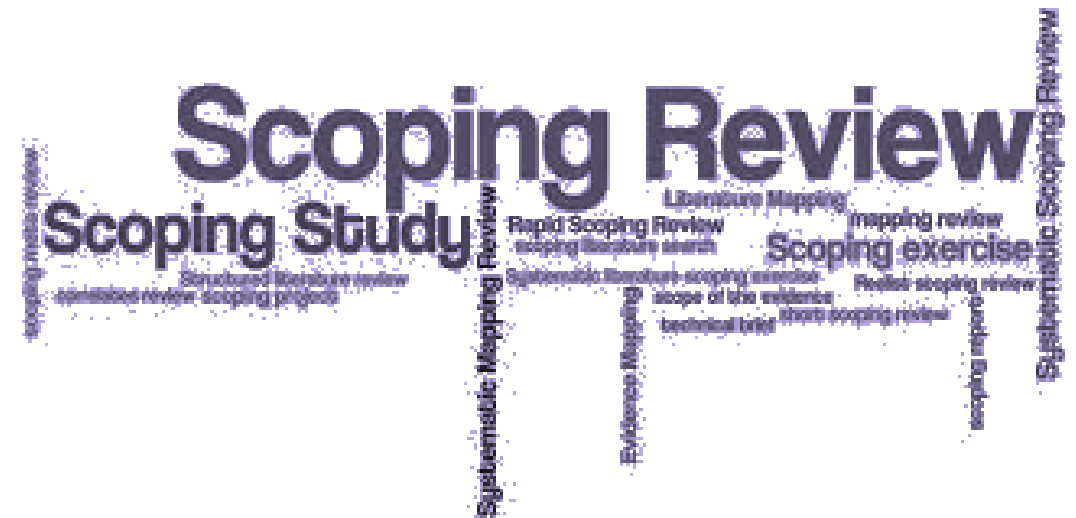
Narrative  
literature  
review





# Types of review articles: (ii) Scoping reviews

- A scoping review is broad (for broadly searching the literature on a specific topic, e.g., reviewing health research evidence).
- It gathers as much evidence as possible.
- It scopes/maps the evidence landscape.
- It maps discovered evidence into themes.
- It is a critical appraisal of study design; statistical analysis is typically not the focus.



## (ii) Writing a scoping review: The framework\*

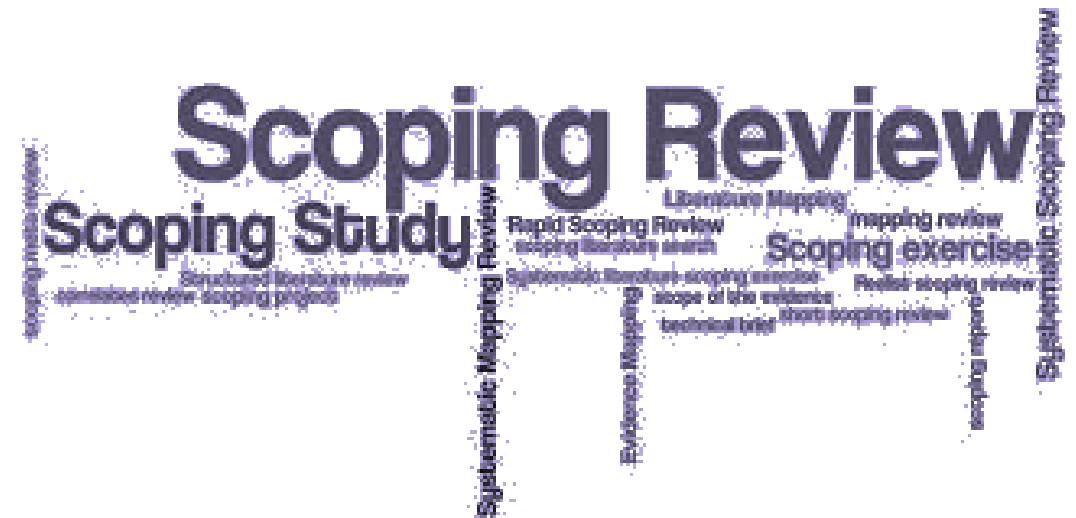
Identify the research question  
(generally broad in nature)

Identify relevant studies as  
comprehensively as possible

Select studies, establish  
inclusion/exclusion criteria

Chart the data: sift and sort information  
according to key issues and themes

Collate, summarize, and report the results:  
provide a descriptive and numerical summary  
of the data and a thematic analysis



\* Adapted from: Arksey H, O'Malley L: Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology: Theory & Practice*. 2005, 8: 19-32. 10.1080/1364557032000119616.

# (ii) Scoping review: Example

## Exploring the prevalence of gaming disorder and Internet gaming disorder: a rapid scoping review

Nazia Darvesh<sup>1</sup>, Amruta Radhakrishnan<sup>1</sup>, Chantelle C Lachance<sup>1</sup>, Vera Nincic<sup>1</sup>, Jane P Sharpe<sup>1</sup>, Marco Ghassemi<sup>1</sup>, Sharon E Straus<sup>1,2</sup>, Andrea C Tricco<sup>3,4</sup>

Affiliations + expand

PMID: 32241295 PMID: PMC7119162 DOI: 10.1186/s13643-020-01329-2

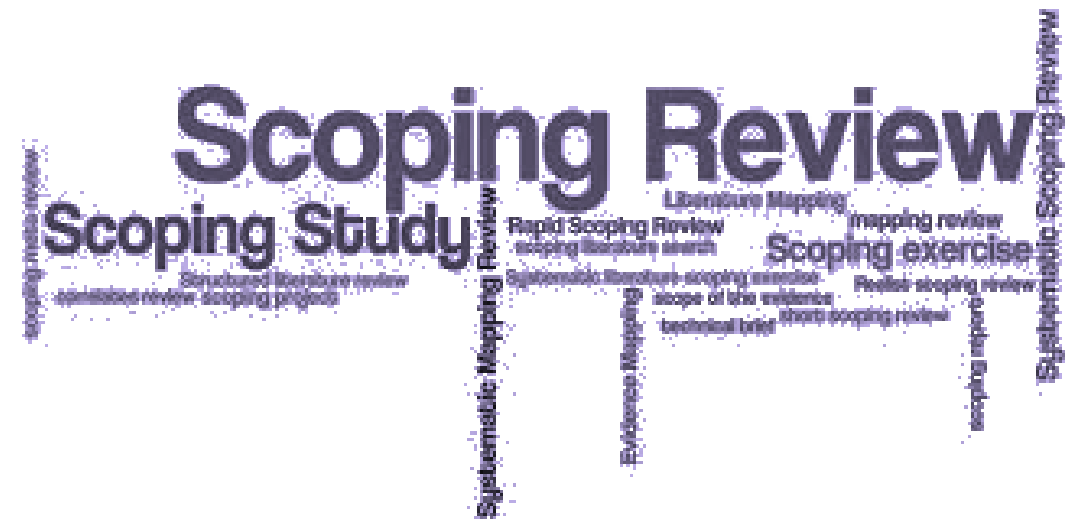
[Free PMC article](#)

### Abstract

**Background:** Internet gaming disorder (IGD) was included in the DSM-5 in 2013 as a condition requiring further research, and gaming disorder (GD) was included in the ICD-11 in 2018. Given the importance of including these conditions in diagnostic guidelines, a review was conducted to describe their prevalence.

**Methods:** Using guidance from the Joanna Briggs Institute and the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR), we conducted a rapid scoping review. MEDLINE, Embase, PsycINFO, and the Cochrane library were searched for literature published from inception to July 2018. All review stages were pilot-tested to calibrate reviewers. The titles/abstracts and full-text articles were screened by one reviewer to include quantitative primary studies that reported GD or IGD prevalence. Excluded citations were screened by a second reviewer to confirm exclusion. Charting was conducted by one reviewer and verified by another, to capture relevant data. Results were summarized descriptively in tables or text.

**Results:** We assessed 5550 potentially relevant citations. No studies on GD were identified. We found 160 studies of various designs that used 35 different methods to diagnose IGD. The prevalence of IGD ranged from 0.21-57.50% in general populations, 3.20-91.00% in clinical populations, and 50.42-79.25% in populations undergoing intervention (severe cases). Most studies were conducted in the Republic of Korea (n = 45), China (n = 29), and the USA (n = 20). Results are also presented for severe IGD and by geographic region, gender/sex, and age groups (child, adolescent, adult). The five most



# Types of review articles:

## (iii) Systematic reviews and meta-analyses

- In systematic reviews, methods are most rigorous.
- A systematic review uses pre-planned methods.
- It involves a highly systematic and scientific approach.
- Here, the study design is of interest.
- It involves statistical analysis and critical appraisal.
- It is highly specific.



# Narrative vs. Systematic Reviews

The **majority of review articles are narrative rather than systematic**. Narrative reviews generally are comprehensive and cover a wide range of issues within a given topic.

- They do not necessarily state rules about the search for evidence.
- Narrative reviews do not reveal how the decisions were made about relevance of studies and the validity of the included studies.

**In a systematic review with a focused question, the research methods must be clearly described.** A “methodological filter” is the best method for identifying the best working style for a research question.

Table 1: Main differences between narrative and systematic reviews

	Narrative reviews	Systematic reviews
Main Features	Describe and appraise published articles but the methods used to select the articles may not be described.	The query is well defined [review question, secondary question(s) and/or subgroup analyses]. Clearly defined criteria for the selection of articles from the literature. Explicit methods of extraction and synthesis of the data. Comprehensive research to find all the relevant studies. Application of standards for the critical appraisal of the studies quality.
Uses/applications	General debates, appraisal of previous studies and the current lack of knowledge. Rationales for future research.  Speculate on new types of interventions available.	Identify, assess and synthesize the literature gathered in response to a specific query. Collect what is known about a topic and identify the basis of that knowledge. Comprehensive report with explicit processes so that rational, assumptions and methods are open to examination by external organizations.
Limitations	The assumptions and the planning are not often known. Selection and evaluation biases not known.  Not reproducible.	The scope is limited by the defined query, search terms, and the selection criteria Usually reader needs to reformulate the alternative questions that have not been answered by the main query.

Source: *Writing Narrative Style Literature Reviews*, Rosella Ferrari (European Medical Writers Association)

Citation: Ferrari, R. (2015). *Writing Narrative Style Literature Reviews*. *Medical Writing* Vol 24 230-5

ResearchGate: [https://www.researchgate.net/publication/288039333\\_Writing\\_narrative\\_style\\_literature\\_reviews/figures?lo=1](https://www.researchgate.net/publication/288039333_Writing_narrative_style_literature_reviews/figures?lo=1)

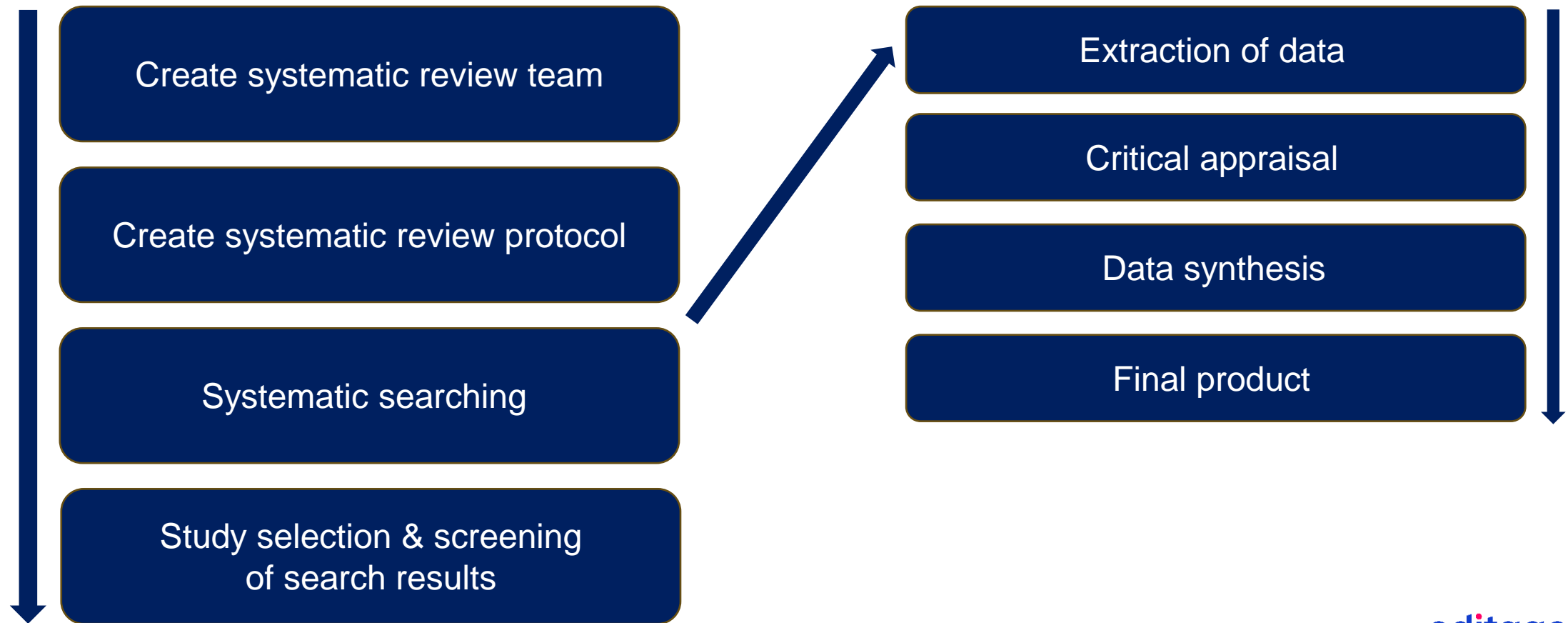
# Types of review articles:

## (iii) Systematic reviews and meta-analyses

- All meta-analyses are systematic reviews, but not all systematic reviews are meta-analyses.
- Both represent a “study of studies”.

	<b>Systematic review</b>	<b>Meta-analysis</b>
<b>METHOD</b>	Systematically search for, appraise, and synthesize research evidence	Statistically combine the results of quantitative studies to provide a more precise effect of the results
<b>FORMAT</b>	Results are typically narrative, may have tabular component	Results are graphical and tabular with narrative commentary


# (iii) Systematic reviews: The approach





# (iii) Systematic reviews: An example

## A systematic review investigating the use of microbiology outcome measures in randomized controlled trials evaluating antimicrobial stewardship interventions published between 2011 and 2021

Tin Man Mandy Lau , Rhian Daniel, Kathryn Hughes, Mandy Wootton, Kerry Hood, David Gillespie

*JAC-Antimicrobial Resistance*, Volume 4, Issue 1, February 2022, dlac013,  
<https://doi.org/10.1093/jacamr/dlac013>

Published: 24 February 2022 [Article history](#) ▼

 PDF  Split View  Cite  Permissions  Share ▼

### Abstract

#### Introduction


Antimicrobial stewardship interventions (ASIs) aim to reduce the emergence of antimicrobial resistance. We sought to systematically evaluate how microbiological outcomes have been handled and analysed in randomized controlled trials (RCTs) evaluating ASIs.

#### Methods

We searched PubMed and Embase from 2011–21. Studies were selected if they were RCTs evaluating ASIs. A narrative synthesis approach was taken, identifying whether the study reported any microbiological data (bacterial genus/species; bacterial colony counts; prevalence of bacterial, microbiologically defined infections; and antibiotic susceptibility, measured pre-randomization or post-randomization in one arm only) or outcomes (post-randomization data compared between arms). Studies with or without microbiological data/outcomes were summarized in terms of study characteristics, methods of reporting and analysis of these outcomes.

# (iii) Systematic reviews and Meta-analysis : An example

## A systematic review investigating the use of microbiology outcome measures in randomized controlled trials evaluating antimicrobial stewardship interventions published between 2011 and 2021

Tin Man Mandy Lau , Rhian Daniel, Kathryn Hughes, Mandy Wootton, Kerry Hood, David Gillespie

*JAC-Antimicrobial Resistance*, Volume 4, Issue 1, February 2022, dlac013, <https://doi.org/10.1093/jacamr/dlac013>

Published: 24 February 2022 [Article history](#) ▼

 PDF  Split View  Cite  Permissions  Share ▼

### Abstract

#### Introduction

Antimicrobial stewardship interventions (ASIs) aim to reduce the emergence of antimicrobial resistance. We sought to systematically evaluate how microbiological outcomes have been handled and analysed in randomized controlled trials (RCTs) evaluating ASIs.

#### Methods

We searched PubMed and Embase from 2011–21. Studies were selected if they were RCTs evaluating ASIs. A narrative synthesis approach was taken, identifying whether the study reported any microbiological data (bacterial genus/species; bacterial colony counts; prevalence of bacterial, microbiologically defined infections; and antibiotic susceptibility, measured pre-randomization or post-randomization in one arm only) or outcomes (post-randomization data compared between arms). Studies with or without microbiological data/outcomes were summarized in terms of study characteristics, methods of reporting and analysis of these outcomes.

## The microbiology of diabetic foot infections: a meta-analysis

[Katherine E. Macdonald](#), [Sophie Boeckh](#), [Helen J. Stacey](#) & [Joshua D. Jones](#) 

*BMC Infectious Diseases* 21, Article number: 770 (2021) | [Cite this article](#)

8972 Accesses | 9 Citations | 4 Altmetric | [Metrics](#)

### Abstract

#### Background

Diabetic foot ulcers are a common complication of poorly controlled diabetes and often become infected, termed diabetic foot infection. There have been numerous studies of the microbiology of diabetic foot infection but no meta-analysis has provided a global overview of these data. This meta-analysis aimed to investigate the prevalence of bacteria isolated from diabetic foot infections using studies of any design which reported diabetic foot infection culture results.

#### Methods

The Medline, EMBASE, Web of Science and BIOSIS electronic databases were searched for studies published up to 2019 which contained microbiological culture results from at least 10 diabetic foot infection patients. Two authors independently assessed study eligibility and extracted the data. The main outcome was the prevalence of each bacterial genera or species.

# Types of review articles:

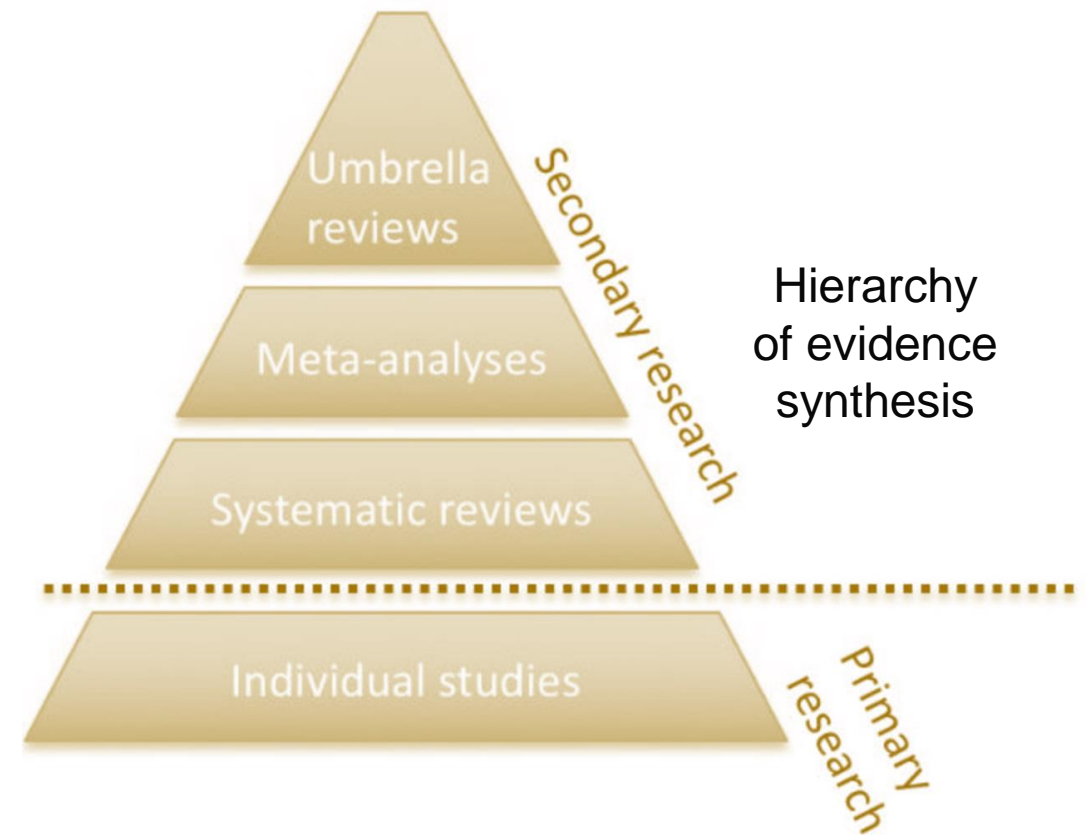
## (iv) Critical reviews

- A **critical review** describes an author's hypothesis or conceptual model based on key literature in their field of study.
- Demonstrates that the reviewer's **authority** such that they can extrapolate hypotheses on the topic of review.
- There must be a degree of **mastery** of the field to derive new theory from existing literature.
- Format is like a narrative review.



# (v) Umbrella reviews

- An **umbrella review** is a review of reviews.
- It compiles all the evidence from existing reviews on a topic to give a high-level overview.
- It is commonly conducted when there are **multiple competing** interventions for a condition.
- An overview of reviews about each of these interventions can be useful in determining how to best translate the evidence into practice.
- They represent one of the **highest** levels of evidence synthesis.



- Source:  
<https://ebmh.bmj.com/content/21/3/95>

## An umbrella review comparing computer-assisted and conventional total joint arthroplasty: quality assessment and summary of evidence

Mohamed Mosaad Hasan,<sup>1</sup> Manrui Zhang,<sup>2</sup> Matthew Beal,<sup>3</sup> and Hassan M K Ghomrawi<sup>4</sup>

[Author information](#) [Article notes](#) [Copyright and License information](#) [Disclaimer](#)

### Associated Data

[Supplementary Materials](#)

### Abstract

[Go to:](#) [▶](#)

#### Background

Systematic reviews (SRs) of computer-assisted (CA) total knee arthroplasty (TKA) and total hip arthroplasty (THA) report conflicting evidence on its superiority over conventional surgery. Little is known about the quality of these SRs; variability in their methodological quality may be a contributing factor. We evaluated the methodological quality of all published SRs to date, summarized and examined the consistency of the evidence generated by these SRs.

#### Methods

We searched four databases through December 31, 2018. A Measurement Tool to Assess systematic Reviews 2 (AMSTAR 2) was applied to assess the methodological quality. Evidence from included meta-analyses on functional, radiological and patient-safety outcomes was summarized. The corrected covered area was calculated to assess the overlap between SRs in including the primary studies.

#### Results

Based on AMSTAR 2, confidence was critically low in 39 of the 42 included SRs and low in 3 SRs. Low rating was mainly due to failure in developing a review protocol (90.5%); providing a list of excluded studies (81%); accounting for risk of bias when discussing the results (67%); using a comprehensive search strategy (50%); and investigating publication bias (50%). Despite inconsistency between SR findings comparing functional, radiological and patient safety outcomes for CA and conventional procedures, most TKA meta-analyses favored CA TKA.

# If you are unsure which review suits your study...



*Previously known as "What Review is Right for You?"*

This tool is designed to provide guidance and supporting material to reviewers on methods for the conduct and reporting of knowledge synthesis.

Select the type of review:

Quantitative

Qualitative

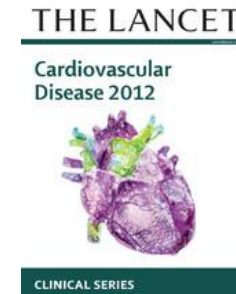
Try tools that will help you select:

e.g. <https://rightreview.knowledgetranslation.net/>

# Planning, Structuring, and Writing a Review Article

# How to plan and structure a review article

- Check the journal's aims and scope
- Define the scope of your review
- Find sources to evaluate
- Introduce the topic
- Include critical discussion
- Sum it up
- Write your title, abstract, and keywords
- Follow all necessary checks.



MAIN STRUCTURE



# How to select the journal

- Keep in mind your target audience
- Consider the article type
- Examine your paper's applicability (general, specialized or super specialized)
- If in doubt, email the Editor as a pre-submission inquiry.
  - ✓ What the paper is about
  - ✓ What is new
  - ✓ Why it is important
  - ✓ **Why** it is a good match for the journal

*Some editors will reply, others will not!*

## Remember!

Being encouraged to submit does not guarantee the paper will get accepted or even reviewed.

# Define the scope and find sources

- At the planning stage, register your systematic review protocol to avoid duplication.
- PROSPERO is an international database of prospectively registered systematic reviews in health and social care, as they should be registered at the inception stage.
- Keep track of the search items you use (so that your search can be replicated).
- Keep a list of papers whose PDFs you cannot access immediately.
- Use a reference management system and look at who has cited past relevant papers and book chapters. Be thorough and up-to-date, mentioning older studies.
- Define early criteria for the exclusion of irrelevant papers, use different keywords and database sources (e.g., Google Scholar, Medline, Scopus, Web of Science).

# What are the 3 Main Components of a Literature Review?

Irrespective of the type of literature review, three main components remain constant while formulating the same.

A good literature review consists of:

1. Introduction
2. Main content body (paragraphs)
3. Conclusion

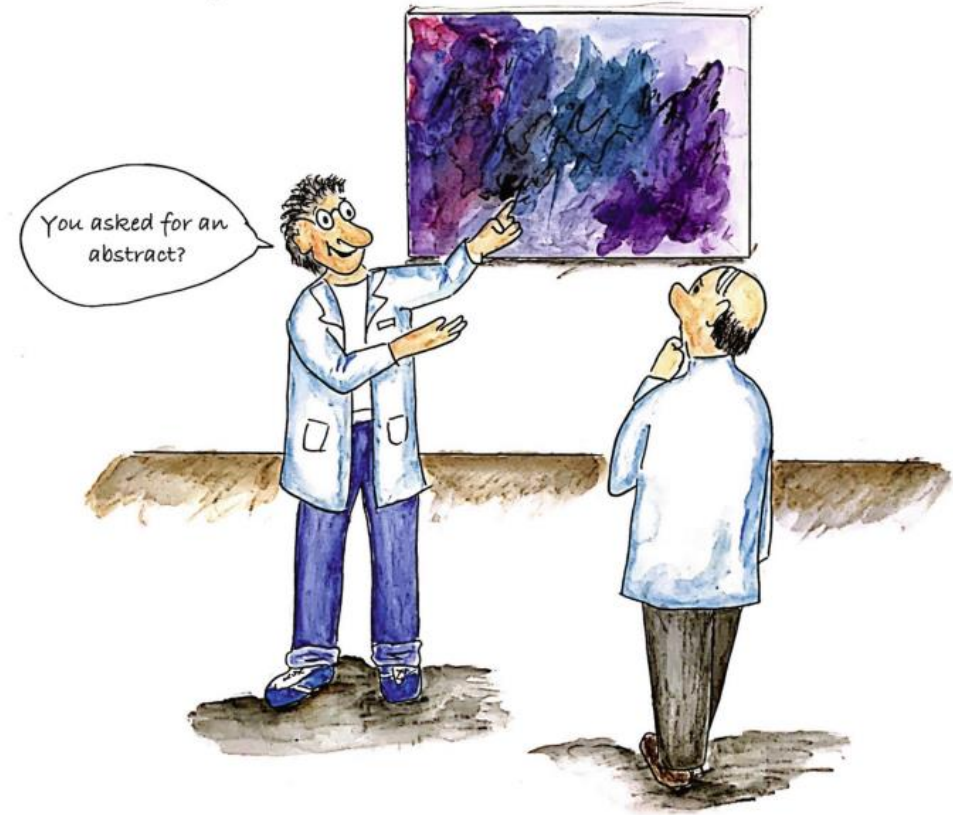


# Writing your title and keywords

- Spend time writing an effective title, abstract, and keywords (Answer the questions: What is my paper about? Who/what was studied? What were the implications? Use your answers to list keywords. Build a sentence with these keywords).
- Your title and abstract should be clear, concise, accurate, and informative, as this will help maximize the visibility of your article online, ensuring the right readers find your research. **Articles with simple and declarative titles are more likely to be cited frequently.**
- Avoid broad and generic terms for keywords (~~Genetic Markers~~ • GWAS • DNA sequencing • ~~Animal~~ • ~~Dairy Cattle~~ • Bovine Milk • Chinese Holstein)

# Writing your abstract

- The abstract summarizes your entire study in a paragraph.
- It should be within the word limit set by the journal.
- It should not have undefined abbreviations.
- Ideally, references should not be cited.
- Important keywords should appear a couple of times.



# An example of an unstructured abstract

## Points to note

- Brief, clear, and to the point
- No unnecessary information
- The undefined abbreviations used are standard abbreviations
- Compelling background and rationale.
- Outlines the implications of the review.
- Important keywords appear several times.

### Review

## The emergence, genomic diversity and global spread of SARS-CoV-2

Since the first cases of COVID-19 were documented in Wuhan, China in 2019, the world has witnessed a devastating global pandemic, with more than 238 million cases, nearly 5 million fatalities and the daily number of people infected increasing rapidly. Here we describe the currently available data on the emergence of the SARS-CoV-2 virus, the causative agent of COVID-19, outline the early viral spread in Wuhan and its transmission patterns in China and across the rest of the world, and highlight how genomic surveillance, together with other data such as those on human mobility, has helped to trace the spread and genetic variation of the virus and has also comprised a key element for the control of the pandemic. We pay particular attention to characterizing and describing the international spread of the major variants of concern of SARS-CoV-2 that were first identified in late 2020 and demonstrate that virus evolution has entered a new phase. More broadly, we highlight our currently limited understanding of coronavirus diversity in nature, the rapid spread of the virus and its variants in such an increasingly connected world, the reduced protection of vaccines, and the urgent need for coordinated global surveillance using genomic techniques. In summary, we provide important information for the prevention and control of both the ongoing COVID-19 pandemic and any new diseases that will inevitably emerge in the human population in future generations.

# An example of a structured abstract

## Mapping conflict of interests: scoping review

Susan Chimonas,<sup>1,2</sup> Maha Mamoor,<sup>1,2</sup> Sophia A Zimbalist,<sup>1,2</sup> Brooke Barrow,<sup>3</sup> Peter B Bach,<sup>1,2,4</sup> Deborah Korenstein<sup>2,5</sup>

### ABSTRACT

#### OBJECTIVE

To identify all known ties between the medical product industry and the healthcare ecosystem.

#### DESIGN

Scoping review.

#### METHODS

From initial literature searches and expert input, a map was created to show the network of medical product industry ties across parties and activities in the healthcare ecosystem. Through a scoping review, the ties were then verified, cataloged, and characterized, with data abstracted on types of industry ties (financial, non-financial), applicable policies for conflict of interests, and publicly available data sources.

#### MAIN OUTCOME MEASURES

Presence and types of medical product industry ties to activities and parties, presence of policies for conflict of interests, and publicly available data.

#### RESULTS

A map derived through synthesis of 538 articles from 37 countries shows an extensive network of medical product industry ties to activities and parties in the healthcare ecosystem. Key activities include research, healthcare education, guideline development, formulary selection, and clinical care. Parties include non-profit entities, the healthcare profession, the market supply chain, and government. The medical product industry has direct ties to all parties and some activities through multiple pathways; direct ties extend through interrelationships among parties and activities. The most frequently identified parties were within the healthcare profession, with individual professionals described in 422 (78%) of the included studies. More than half (303, 56%) of the publications documented medical product industry ties to research, with clinical care (156, 29%),

health professional education (145, 27%), guideline development (33, 6%), and formulary selection (8, 1%) appearing less often. Policies for conflict of interests exist for some financial and a few non-financial ties; publicly available data sources seldom describe or quantify these ties.

#### CONCLUSIONS

An extensive network of medical product industry ties to activities and parties exists in the healthcare ecosystem. Policies for conflict of interests and publicly available data are lacking, suggesting that enhanced oversight and transparency are needed to protect patient care from commercial influence and to ensure public trust.

#### Introduction

In an influential 2009 report, the Institute of Medicine described a multifaceted healthcare ecosystem rife with industry influence.<sup>1</sup> Central to the ecosystem are healthcare providers, researchers, clinical care facilities, journals, professional societies, and other healthcare institutions and supporting organizations engaged in medicine's core professional activities: providing beneficial care to patients, conducting valid research, and providing evidence based clinical education and guidance. In so doing, these individuals and institutions frequently collaborate with pharmaceutical, medical device, and biotechnology product manufacturers.<sup>1-5</sup> Although these for profit entities play a crucial role in the ecosystem, particularly in developing new tests and treatments, their primary objective is to ensure financial returns to shareholders. Thus, industry collaborations inevitably introduce potential commercial bias into the healthcare ecosystem. With absent rigorous conflict of interest oversight across the entire system, the Institute of Medicine warned that medicine's extensive ties to the medical product industry "threaten the integrity

- Text is allocated to designated sections (check journal's guidelines, as subsection headings may vary - Objective, Design, Methods, Main Outcome Measures, Results, and Conclusions).
- This format is easier to understand, as summarizing the entire study (study aim, design, and methods are clearly defined, while the results provide just enough information without being too detailed).

# Introduce the Topic (Main Structure)

- Don't make your introduction too long.
- Start with an overview of the topic and give some context, explaining why a review of the topic is necessary.
- Gather research to inform your introduction and make it broad enough to reach out to a large audience of non-specialists.
- The opening paragraphs should provide an informative background, perhaps with a historical perspective, if applicable.
- Then, streamline the broad topic by narrowing the focus on the basis of various parameters.



# Main Body (Include critical discussion)

- Make sure you present a critical discussion, not just a descriptive summary of the topic.
- If there is contradictory research in your area of focus, make sure to include an element of **debate** and present both sides of the argument.
- Use **subheadings** for easy navigation and cohesion.
- Be careful to avoid repetition and overlaps in text and ideas, avoid jargon.
- For systematic reviews, ensure that you follow the minimum set of items for reporting.
- **Tips:**
  - Divide the main body text into subsections (and sub-subsections if needed)
  - Organizing/grouping the subtopics (chronological, theme, region, methods used)

# Conclusion (Sum it up)

- Once you have the core review section written, take a step back and look for common trends that emerge. Highlight key advances that have been made and areas where more focused research may lead to high impact. These are crucial to show where the field is heading, and any common pitfalls people have struggled with.
- This can include making suggestions for future research on the topic as part of your conclusion.
- *You should aim to write a review that leaves a clear impression of what is 'well understood', and what remains a 'mystery' to be solved.*

# Follow all possible checks?

- Always perform a final spell and grammar check of your article before submission.
- Read the text aloud; this helps identify issues in flow and repetition.
- Print it out: sometimes it's easier to catch errors on paper.
- Ask a critical friend or colleague to read the review article before you submit.



- Justify your review (this is done in the **Introduction** and your **Cover Letter** to the Editor).
- Explain **why** a review is warranted and why it is a good fit with the journal and its audience.
- Explain the **novelty** and timeliness.
- Explain what has been reviewed before and **WHY YOUR REVIEW IS DIFFERENT.**

# Busting Common Myths about Review Articles

- Only senior researchers or famous researchers (Nobel laureates) write review papers.
- Review articles are by invitation only.
- Most journals will consider review articles because they are cited more than original articles.

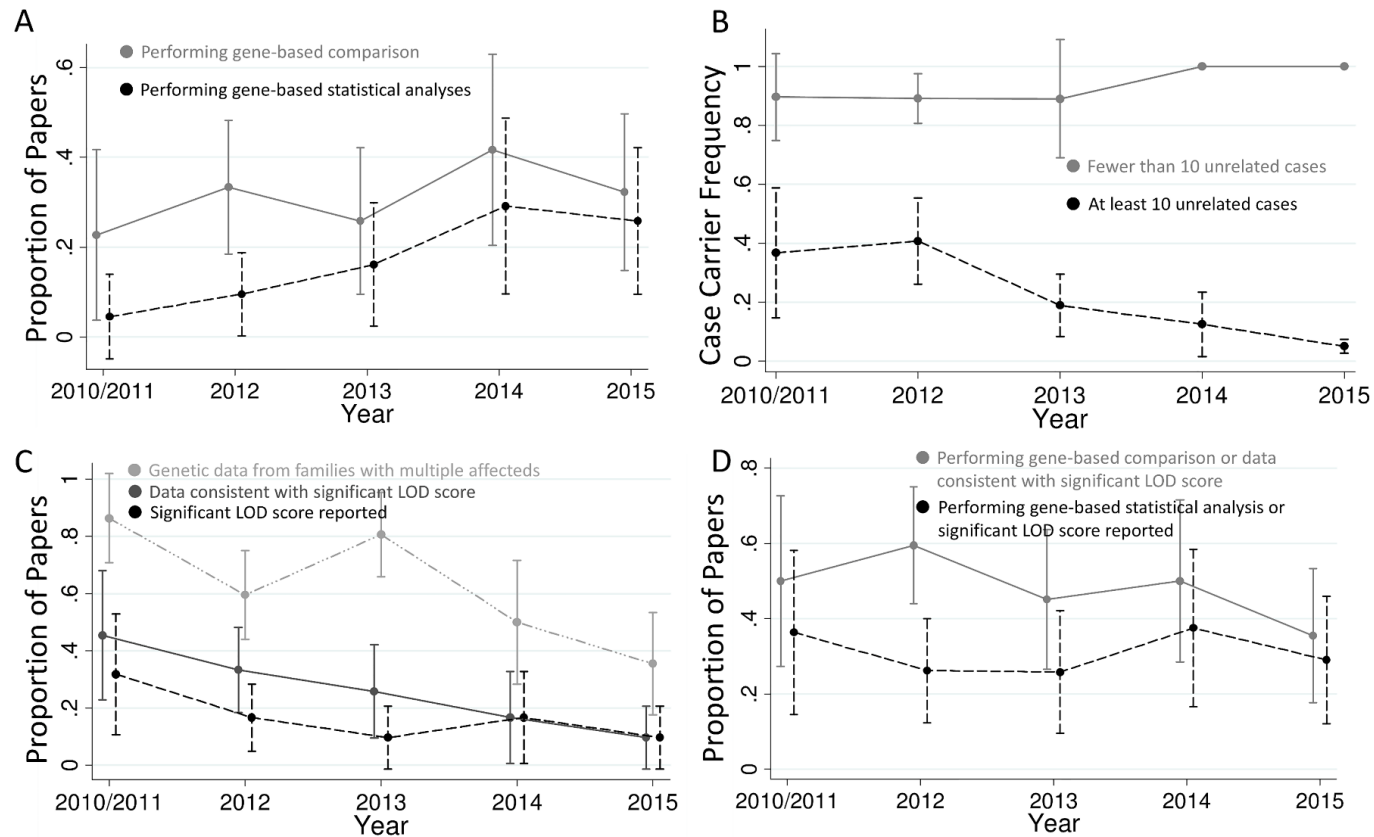


# Tips for Writing Impactful Review Articles

- Where possible, include **short videos** or **interactive graphics**.
- **Stay up to date**, on your field.
- Use meaningful **schematics** or **cartoons** to improve reader understanding.
- Reproduce **images from original papers** (with appropriate permissions) where necessary.
- Provide plots that **bring together data** from multiple research papers to identify broad trends and suggest underlying mechanisms that could explain all the different conclusions.



# An example of combining results and data replotting



**Figure: Trends in exome sequencing disease gene discovery papers.**

*Source: The Increasing Importance of Gene-Based Analyses (Cirulli, 2016, PLOS Genetics)*



# Disseminate review articles to generate impact and promote visibility

- At a conference: present your review as a paper or poster.
- Share your review article on a pre-print server.
- Promote your work on your blog and personal and professional networking sites profiles like LinkedIn and Twitter.
- Post your article on your institutional repository.



bioRxiv  
beta  
THE PREPRINT SERVER FOR BIOLOGY



Institutional  
Repository

# How to promote your review papers to different researchers in the same or relevant fields

- Contact leading bloggers in your subject or discipline and offer to write a guest post about your research.
- Repackage your research in different forms: blogs, images, videos. This can increase shareability and engagement.
- For wider dissemination among non-specialists, get advice from your institution, faculty, or funding body about public engagement (e.g., press releases).
- Keep your social media profiles and contact information updated.



- **Ten Simple Rules for Writing a Literature Review.** Pautasso M (2013). PLOS Computational Biology.
- **Writing narrative literature reviews for peer-reviewed journals: secrets of the trade.** Green BN, Johnson CD & Adams A (2006) J Chiropr Med.
- **Scoping studies: Towards a methodological framework.** Arksey H, O'Malley L (2005). Int J Soc Res Methodol.
- **Cochrane Handbook for Systematic Reviews of Interventions.**
- **The PRISMA 2020 statement: An updated guideline for reporting systematic reviews.**



# Thank you

Raffaella Gozzelino, PhD

Founder of Diáspora Mundi & Group Leader at NOVA Medical School, Lisbon, Portugal

**editage**