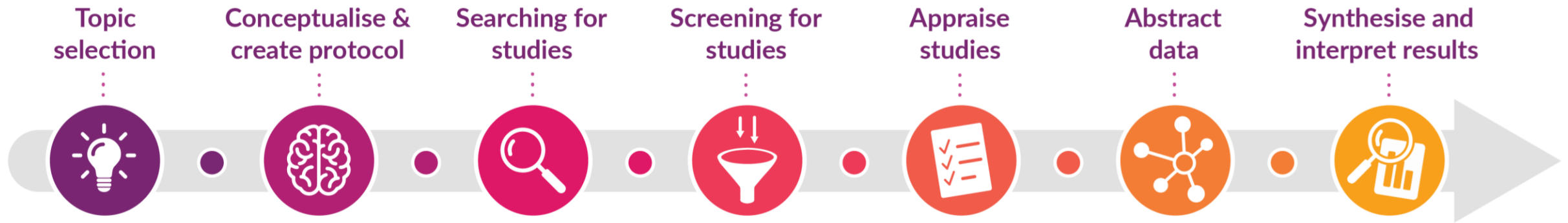


# Systematic Review Workshop



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# Whanaungatanga Activity

**Let's introduce ourselves**

**1.Name**

**2.Area of Research**

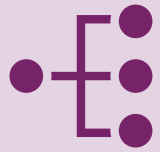
**3.What is your favourite fruit burst flavour?**

# Reflection

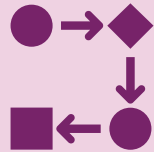
**What do you know already about  
Systematic Reviews?**

**What do you want to know about  
Systematic Reviews?**

# Workshop Objectives



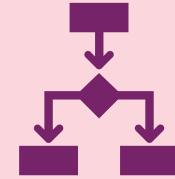
Which review  
type?



Systematic  
review process



Research question  
& framework



Develop your  
protocol



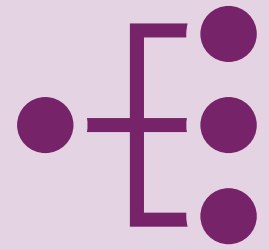
Build your  
search strategy



Run your  
search strategy

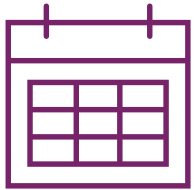


The next steps



# Review types

# Literature/Narrative Review



## Timeframe:

1 to 6 weeks

## Useful for:

- Providing an overview of main theories and hypotheses, appropriate methods and methodologies, and key findings
- Showcasing the key authors/researchers on a topic
- Identifying knowledge gaps

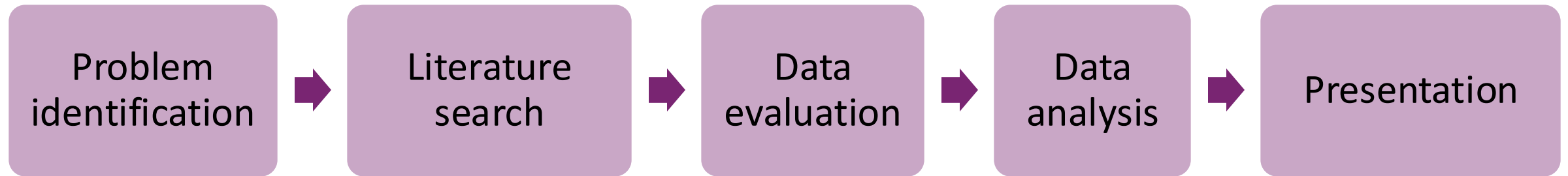
## Limitations:

- Bias Risk: Susceptibility to the reviewer's biases or perspectives.
- Lack of Rigor: Absence of a structured methodology can lead to a less systematic approach.
- Limited Scope: May not encompass the entire breadth of available literature due to selective inclusion.

## Further Reading:

Ferrari, R. (2015). [Writing narrative style literature reviews](#). *Medical writing*, 24(4), 230-235  
Jones, B. (2007). [Ask the Professor about... good literature reviews](#)

# Integrative Review



## Timeframe:

2 months to  
2 years

## Useful for:

- Informing policy and processes
- Defining concepts
- Reviewing theories
- Analysing methodological issues

## Limitations:

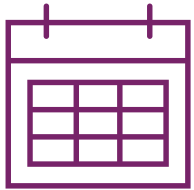
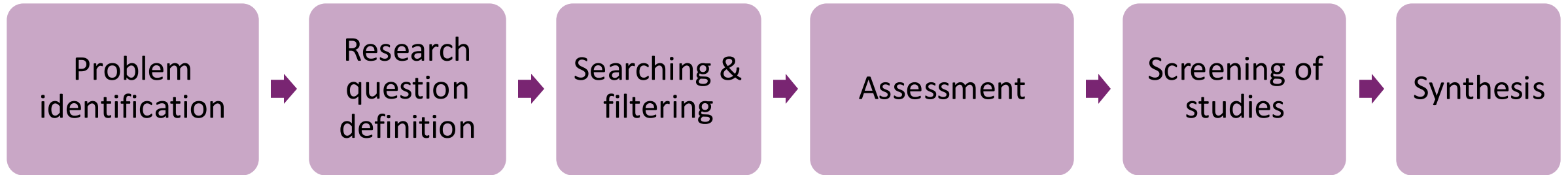
- Resource Intensity: Conducting comprehensive reviews is time and resource-demanding.
- Publication Bias: Reliance on published literature might overlook unpublished studies.
- Synthesis Challenges: Diverse methodologies can make synthesizing findings difficult.

## Further Reading:

Dhollande, S., Taylor, A., Meyer, S., & Scott, M. (2021). [Conducting integrative reviews: A guide for novice nursing researchers](#). *Journal of Research in Nursing*, 26(5), 427-438.

Whittemore, R., & Knafl, K. (2005). [The integrative review: updated methodology](#). *Journal of advanced nursing*, 52(5), 546-553.

# Rapid Review



## Timeframe:

2 months to  
6 months

## Overview:

- Is a variation of a systematic review but balances time constraints with considerations in bias.
- Can exclude hand searching and grey literature.
- May apply limits such as years and language.
- Can be done Individually or a group.

## Limitations:

- Reduced Depth: Limited time may compromise the depth of analysis.
- Potential Bias: Quick turnaround might increase the risk of bias or oversight.
- Quality Compromise: Rapid reviews might sacrifice thoroughness, affecting overall quality.

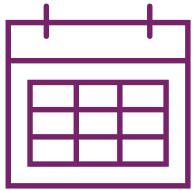
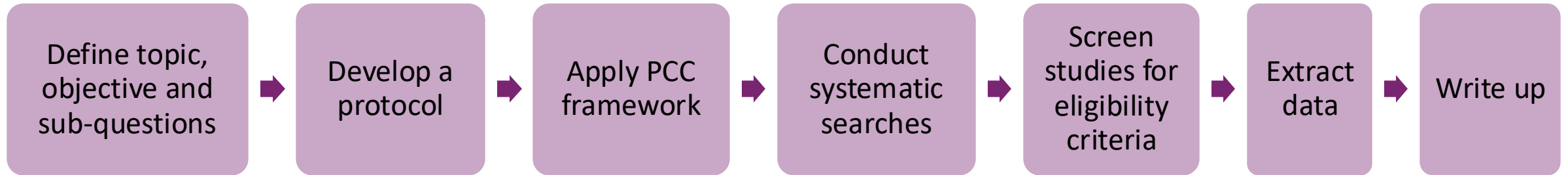
## Further Reading:

Dobbins, M. (2017). [Rapid review guidebook](#). *Natl Collab Cent Method Tools*, 13, 25.

Garritty, C., et al (2021). [Cochrane Rapid Reviews Methods Group offers evidence-informed guidance to conduct rapid reviews](#). *Journal of clinical epidemiology*, 130, 13-22.



# Scoping Review



## Timeframe:

2 months to  
6 months

## Useful for:

- Examining a body of literature that has not been comprehensively reviewed
- Identifying or clarifying key concepts or definitions
- Seeing how research is conducted on a topic

## Limitations:

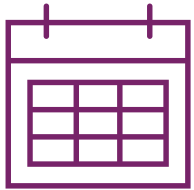
- Lack of Detailed Analysis: Focuses on breadth rather than depth, potentially limiting in-depth analysis.
- Inclusion of Varied Evidence: Due to inclusivity, the quality and heterogeneity of studies might vary widely.
- Potential for Bias: Inherent subjectivity in selection and analysis may introduce bias

**Further Reading:** Peters MDJ, Godfrey C, Mclnerney P, Munn Z, Tricco AC, Khalil, H. [Scoping Reviews](#) (2020). Aromataris E, Lockwood C, Porritt K, Pilla B, Jordan Z, editors. *JBIManual for Evidence Synthesis*. JBI; 2024.

# Systematic Review

## Overview:

Seek to answer a specific question with narrow parameters. Often look at interventions or treatments.



## Timeframe:

8 months to  
2 years

## Useful for:

- Confirming current practices
- Guiding decision-making
- Informing future research

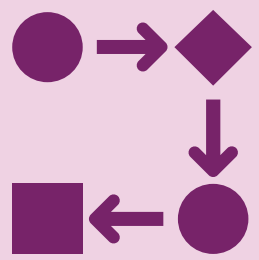
## Limitations:

- Time and Resource Intensity: Conducting thorough systematic reviews can be time-consuming and resource-intensive.
- Heterogeneity of Studies: Variability in methodologies across included studies can complicate synthesis.
- Inherent Bias: Despite systematic approaches, biases in study selection and analysis can still exist.

## Further Reading:

Borah, R., et al (2017). [Analysis of the time and workers needed to conduct systematic reviews of medical interventions using data from the PROSPERO registry](#). *BMJ open*, 7(2)

Higgins JPT, et al. [Cochrane Handbook for Systematic Reviews of Interventions version 6.4](#) (updated August 2023). Cochrane, 2023.



# Systematic review process

# Purpose of a Systematic Review

Systematic reviews aim to

**identify, evaluate, and summarize the findings of all relevant individual studies**

over a health-related issue, thereby making the available evidence more accessible to decision makers

Gopalakrishnan, S., & Ganeshkumar, P. (2013). Systematic Reviews and Meta-analysis: Understanding the Best Evidence in Primary Healthcare. *Journal of family medicine and primary care*, 2(1), 9–14.

# What questions to ask yourself

Is your topic new?

Do you have  
statistical support?

Do you have a  
team?

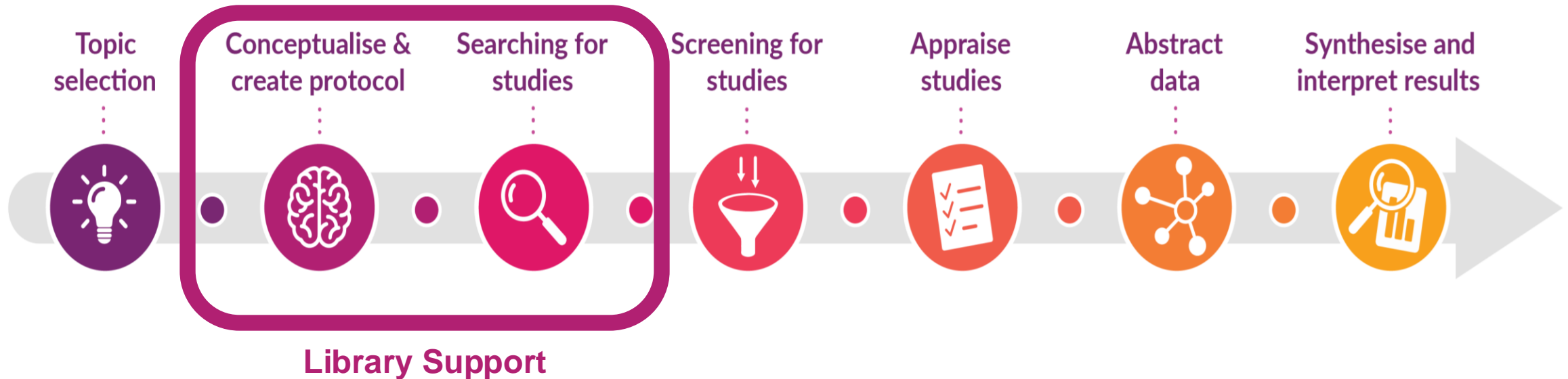
Do you have  
time?



Image made by Freepik from [www.storyset.com](http://www.storyset.com)

# Systematic Review Steps

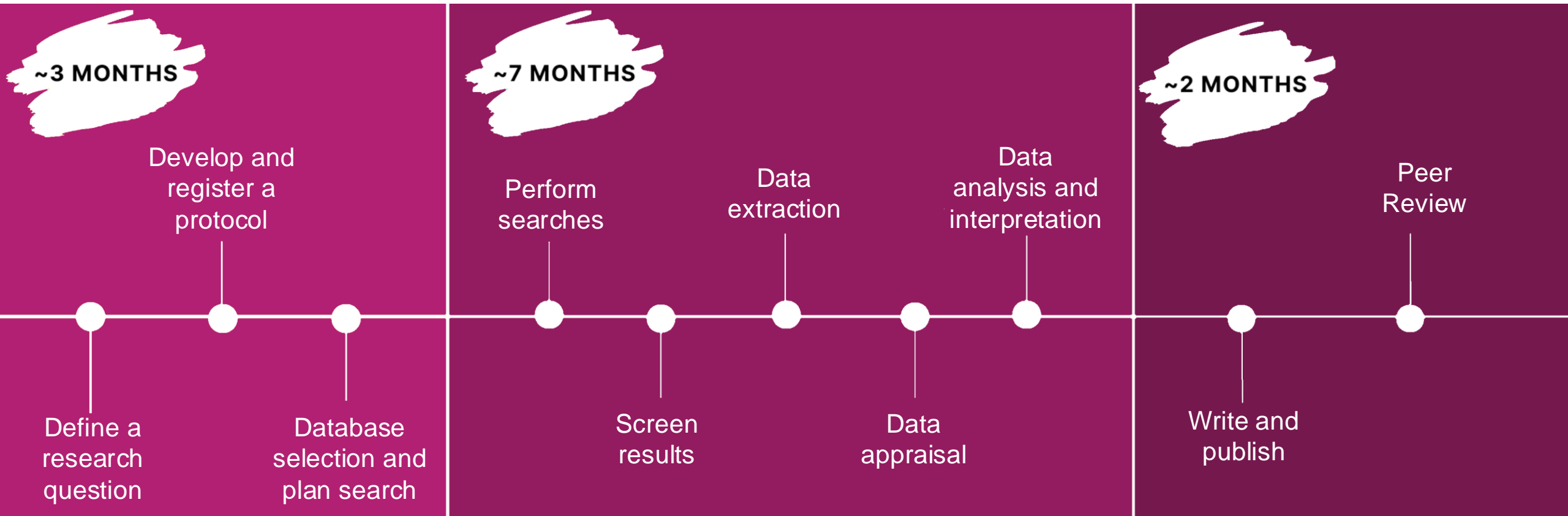
## Steps in a systematic review



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# Systematic Review Timeline



# ? Research question & frameworks



# Developing a research question

**Research topic**

Broad area  
of research

**Research question**

Answerable

Focused

Specific

New

P

I

C

O

Question Type:	Population, Patient, Problem	Intervention or Exposure	Comparison	Outcome Measures
Treatment (Therapy)	The patient's disease or condition.	A therapeutic measure a medical, surgical intervention, or lifestyle change.	Standard of care, another intervention, or a placebo.	Ex: mortality rate, days lost from work, pain, disability.
Prevention	The Patient's risk factors and general health condition.	A preventive measure, e.g. a medication or a lifestyle change.	May not be applicable.	Ex. Disease incidence, mortality rate, days lost from work.
Diagnosis	The target disease or condition.	A diagnostic test or procedure.	The current "reference standard" or "gold standard" test for the problem.	Measures of the test utility, ex sensitivity, specificity, odds ratio.
Prognosis (Nature History)	The main prognostic factor or clinical problem in terms of its severity and duration.	The exposure of interest is usually time, sometimes expressed as "watchful waiting".	Usually not applicable. Identify the standard treatment if your question is about "watchful waiting".	Ex: survival rates, mortality rates, rates disease progression.
Etiology or Harm (Causation)	Your patient's risk factors, current health disorders or general health condition.	The intervention or exposure of interest, including some indications of the strength (dose) of the risk factor and the duration of the exposure.	May not be applicable.	Ex: disease incidence, rates of disease progression, mortality rates.

Quantitative

P

I

C

O

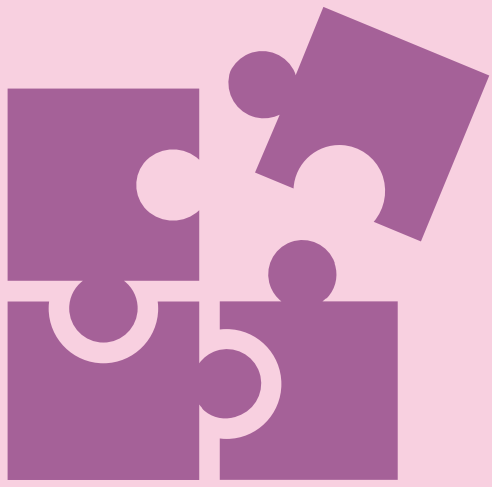
Element of the clinical question

Population, Patient, Problem	Intervention or Exposure	Comparison	Outcome Measures
Describe as accurately as possible the patient or group of patients of interest.	What is the main intervention or therapy you wish to consider? Including an exposure to disease, a diagnostic test, a prognostic factor, a treatment, a patient perception, a risk factor, etc.	Is there an alternative treatment to compare? Including no disease, placebo, a different prognostic factor, absence of risk factor, etc.	What is the clinical outcome, including a time horizon if relevant?
Example In patients with acute bronchitis	Do antibiotics	None	Reduce sputum production, cough or days off?
Example In children with cancer	What are the current treatments	None	In the management of fever and infection?
Example Among family-members of patients undergoing diagnostic procedures	Does standard care	Listening to tranquil music, or audio taped comedy routines	Make a difference in the reduction of reported anxiety.

# PICO Framework

Research question: Do dietary interventions such as intermittent fasting reduce the risk of heart attack in adults?

<b>P</b>	Patient Population	Adults
<b>I</b>	Intervention or Exposure	Intermittent Fasting
<b>C</b>	Comparison	Conventional Treatment Options
<b>O</b>	Outcome measures	Reduced risk of heart attack



# Activity #1

Create a PICO framework for your research topic.

**P**

---

Population, Patient,  
Problem

---

**I**

Intervention or Exposure

**C**

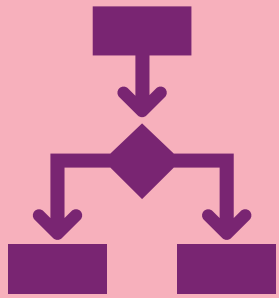
Comparison

**O**

Outcome Measures

---





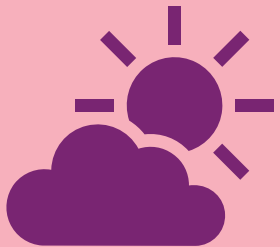
# Protocol



# What is a Protocol

The protocol describes the rationale and proposed methods of the review - it is the plan your systematic review will follow.

Why do systematic reviews need a protocol?



**Transparency**



**Reduce biases**



**Consistency**



**Duplication**

Check out the protocol of our example [Clarke 2021](#). The protocol was created in 2003.

# Where can you register your protocol

## PROSPERO

Is an international database for prospectively registered systematic reviews.

## Cochrane Library of Systematic Reviews

Offer registration for affiliated papers.

## The Open Science Framework

Is a free open platform that supports research through the entire project life cycle. Among other functions, it offers preregistration

## Joanna Briggs Institute (JBI)

Offer registration for affiliated papers.



Image made by [Freepik](https://www.storyset.com) from [www.storyset.com](https://www.storyset.com)



# What questions to ask yourself

What is the scope of your enquiry?

What will be included & excluded in your study?

What date range will you be working within?

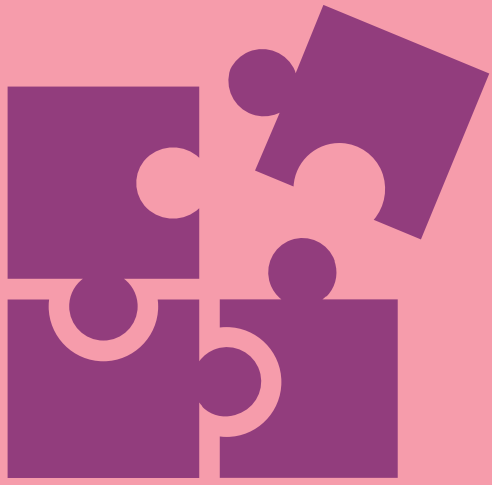
Will you limit to studies from a particular country/region?

Does your population group have a specific age/gender?

Will you use gray literature?



Image made by [Freepik](https://www.storyset.com) from [www.storyset.com](https://www.storyset.com)



# Activity #2

**Write down some of the criteria you need for your protocol**





# Search strategy



# Why use keywords and subject headings?



Curtin University. (2017, April 10). *Keywords vs. Subject Headings* [Video]. YouTube. <https://www.youtube.com/watch?v=bNIG4qLuhJA>

# Finding synonyms and alternate terms

Online Thesaurus

MeSH Database

Author keywords from  
articles on your topic.

## Abstract

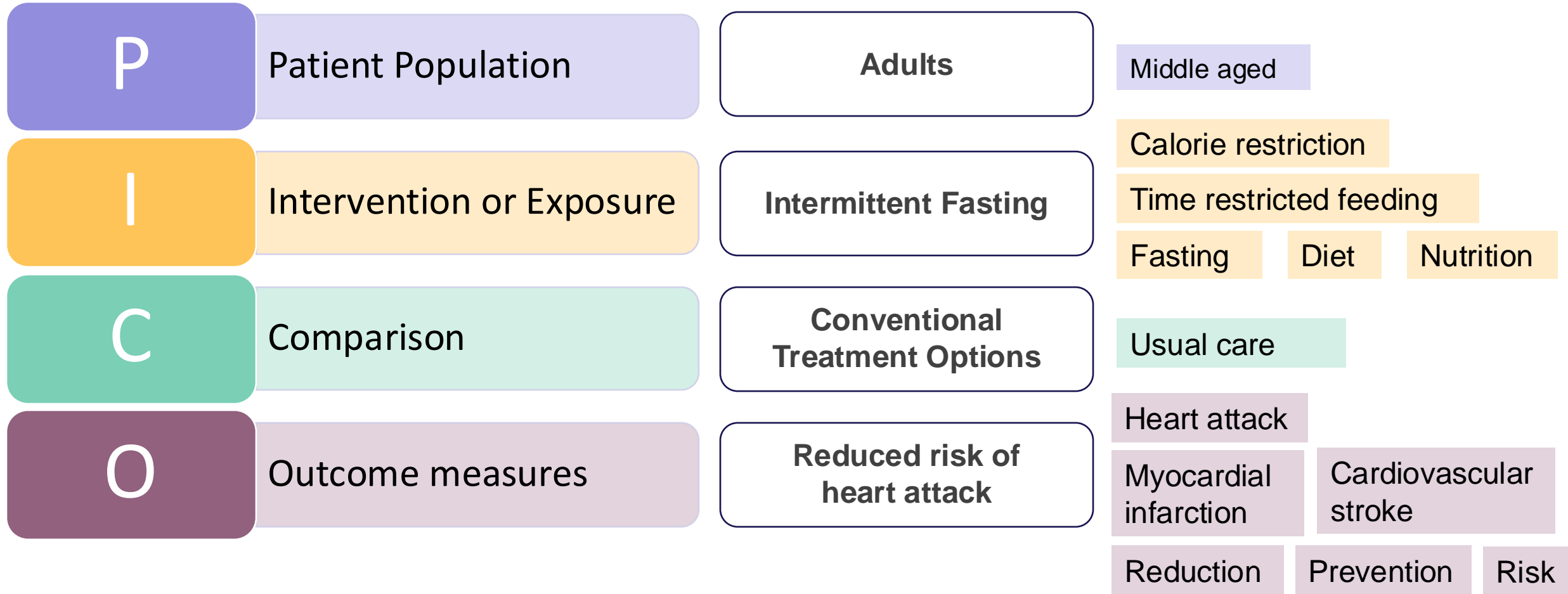
The use of electronic cigarettes (e-cigarettes) is common and increasing, especially among youth. In 2022/2023, 30% of 12- to 17-year-olds reported ever using e-cigarettes in Australia-a >50% increase from 2017 (14%). Several adverse e-cigarette health effects have been identified and most effects remain unknown. Social norms, rules that govern social behaviours, are associated with current and future adolescent e-cigarette use. Understanding social norms in Australian adolescents is critical to the development of targeted and effective e-cigarette prevention activities. This study aims to explore e-cigarette social norms among adolescents living in New South Wales, Australia. A total of 32 online single or paired semi-structured qualitative interviews were conducted involving 46 participants aged 14-17 years, as part of the Generation Vape project. Reflexive thematic analysis was applied within a constructivist perspective. Adolescents perceived e-cigarettes use as prolific among their peers, with use considered common, acceptable and normal. Fuelled by social exposure to e-cigarettes, 'everyone' was generally thought to be using them (descriptive norms). E-cigarette use was considered so entrenched that it was part of adolescent identity, with abstinence regarded as atypical. Use was driven by an internalised desire to fit it (injunctive norm), rather than being attributed to overt/external 'peer-pressure'. Positive e-cigarette norms exist among Australian adolescents with norm formation strongly influenced by social exposure, including e-cigarette promotion. Prevention efforts should include limiting adolescent exposure to e-cigarette marketing to help redefine existing pro-e-cigarette social norms and protect health.

**Keywords:** descriptive norms; e-cigarette marketing; electronic cigarettes; injunctive norms; social exposure; social norms.

Yazidjoglou, A., Watts, C., Joshy, G., Banks, E., & Freeman, B. (2024). Electronic cigarette social norms among adolescents in New South Wales, Australia. *Health promotion international*, 39(2), daae018.  
<https://doi.org/10.1093/heapro/daae018>

# Finding keywords using your PICO

Research question: Do dietary interventions such as intermittent fasting reduce the risk of heart attack in adults?



# Turning your keywords into a concept map

	Concept 1: Adult	Concept 2: Intermittent Fasting	Concept 3: Heart Attack	Concept 4: Risk
Keywords	Adult	Intermittent Fasting	Heart Attack	Risk
Synonyms				
Subject Headings (e.g. MESH)				

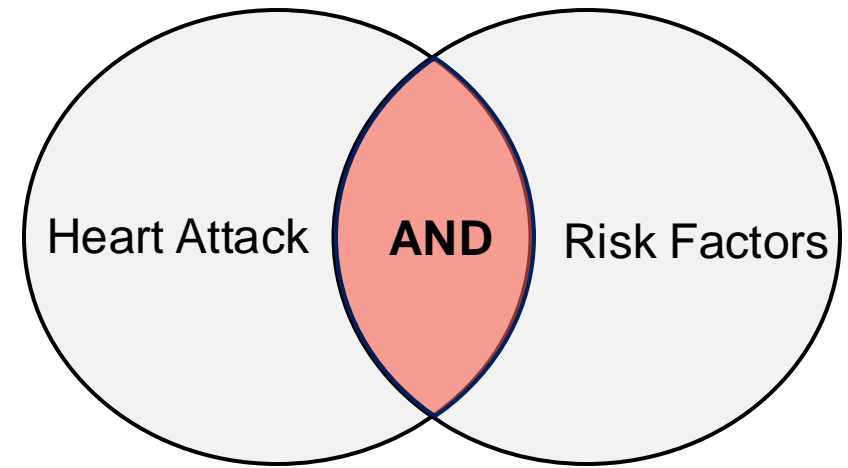
# Boolean Operators

**AND**

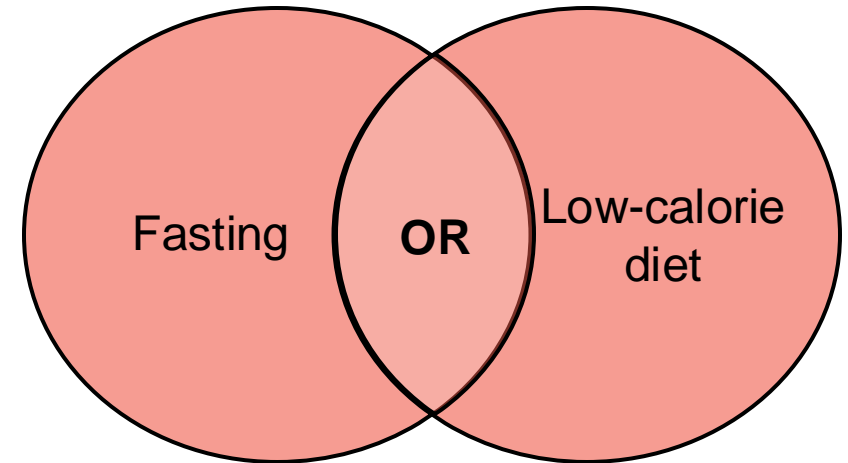
- Includes **both** search terms
- Many databases use AND by default
- **Narrows** your search

**OR**

- Includes **either** search term
- **Broadens** your search



E.g. *heart attack* **AND** *risk factors* returns documents containing **both** terms.



E.g. *fasting* **OR** *low-calorie diet* returns documents containing **either** term.

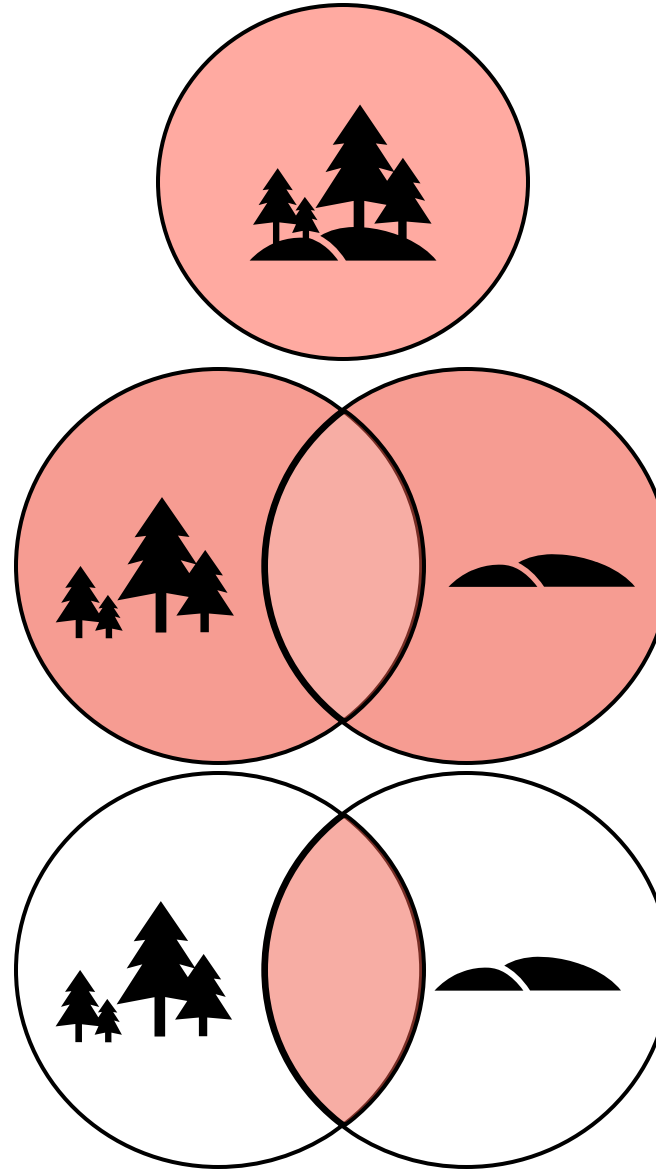


# Combine your concept map with AND/OR

	Concept 1:	Concept 2:	Concept 3:	Concept 4:
	<div>AND</div> <div>AND</div> <div>AND</div>			
Synonyms	<div>Adult</div> <div>OR</div> <div>Aged</div> <div>OR</div> <div>Middle-aged</div>	<div>Intermittent Fasting</div> <div>OR</div> <div>Time restricted eating</div> <div>OR</div> <div>Calorie restriction</div> <div>OR</div> <div>Fasting</div> <div>OR</div> <div>Meal Skipping</div> <div>OR</div> <div>Diet</div> <div>OR</div> <div>Nutrition</div> <div>OR</div> <div>Low-calorie diet</div>	<div>Heart Attack</div> <div>OR</div> <div>Myocardial infarction</div> <div>OR</div> <div>Cardiovascular stroke</div>	<div>Risk</div> <div>OR</div> <div>Reduction</div> <div>OR</div> <div>Reduce</div> <div>OR</div> <div>Prevention</div> <div>OR</div> <div>Risk factors</div>
Subject Headings (e.g. MESH)	<div>Adult</div>	<div>Intermittent Fasting</div> <div>OR</div> <div>Caloric Restriction</div>	<div>Myocardial Infarction</div>	<div>-</div>

# Phrase Searching

"quotation marks"  
around a keyword  
phrase keeps words  
together in the order  
specified



"forest soil"

**41** 

forest soil

**386**    

forest AND soil

**386**    

# Truncation \*

Using a truncation symbol like \* expands a keyword to include all possible variations of a word.

- Child\* = child, children, childhood

analysis

12 176



analysis\*

11 267



analys\*

13 320



analyz\*

486



analy\*

16 162



analysis, analyse, analyze, analyses, analyzes, analyst, analysed, analyzed, analyser, analyzer, analysers, analyzers

ana\*

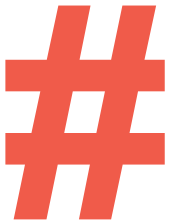
19 097



# Wildcards



Replace one character to allow for variations within a word.



Behavio?r  
behavior, behaviour

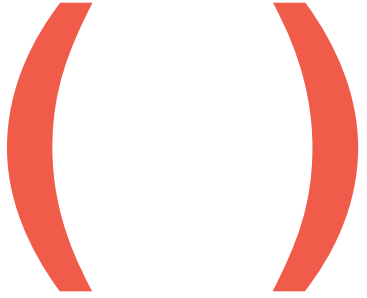


Wom?n  
women, woman

Combine with a truncation (\*) to get more variations.

Organi?ation\*  
organisation,  
organization,  
organisational,  
organizational

# Nesting



Nesting (using brackets) groups keywords together  
(paracetamol OR acetaminophen)

mindfulness AND "mental health" AND teenagers OR adolescents × Search

[Advanced](#) [Create alert](#) [Create RSS](#) [User Guide](#)

Save Email Send to Sort by: mindfulness AND "mental health" AND (teenagers OR adolescents) × Search

[Advanced](#) [Create alert](#) [Create RSS](#) [User Guide](#)

2,391,256 results

☐ 1 [Anterior vertebral tethering for adolescents: clinical experience.](#)

Cite Braun JT, Federico SC, Lawlor DM, Paschos NJ, Cr  
Spine Deform. 2024 May 26. doi: 10.1007/s43399

979 results

Save Email Send to Sort by: Most recent ⬆ ⬇ Display options ⚙

⏪ ⏩ Page 1 of 98 ⏪ ⏩

☐ [Feasibility and Acceptability of a Meditation Mobile App Intervention for](#)

# Proximity Searching

**ADJ/n**

**NEAR/n**

**W/n**

Operator specify how close together (n) two words appear in texts.

***liver* adj3 *cancer***

returns results where *liver* and *cancer* are no more than 3 words apart  
(*liver cancer*, *cancer of the liver*)

# ▲	Searches	Results
1	((hepat* or liver) adj4 (cancer or tumo?r* or neoplasm*)).mp.	241872
2	((hepat* or liver) and (cancer or tumo?r* or neoplasm*)).mp.	413295

**((hepat\* OR liver) adj4 (cancer OR tumo?r\* OR neoplasm\*))**

Combine with **nesting** to include synonyms

# Database variations for Proximity Searching

Database	Proximity operators	
Embase.com	<b>NEAR/n</b>	<b>NEXT/n</b>
Embase (Ovid)	<b>ADJn</b>	
Medline (Ovid)	<b>ADJn</b>	
Cochrane Library	<b>NEAR/n</b>	<b>NEXT/n</b>
Web of Science	<b>NEAR/n</b>	
Scopus	<b>W/n</b>	<b>PRE/n</b>

# Update your concept map

	Concept 1:	Concept 2:	Concept 3:	Concept 4:
	<b>AND</b>			
Synonyms	Adult* OR Aged OR "Middle?aged"	"Intermittent Fast*" OR "Time restricted eat*" OR "Calori* restrict*" OR Fasting OR "Meal Skip*" OR Diet* OR Nutrition* OR "Low?calorie diet*"	"Heart Attack*" OR "Myocardial infarction*" OR "Cardiovascular stroke*"	Risk* OR Reduc* OR Prevent* OR "Risk factor*"
Subject Headings (e.g. MESH)	Adult	Intermittent Fasting OR Caloric Restriction	Myocardial Infarction	-



# Turn your concept map into a search string

(adult\* OR aged OR "middle?aged")

AND

("intermittent fast\*" OR "time restricted eat\*" OR "calori\* restrict\*" OR fasting OR "meal skip\*" OR diet\* OR nutrition\* OR "low?calorie diet\*")

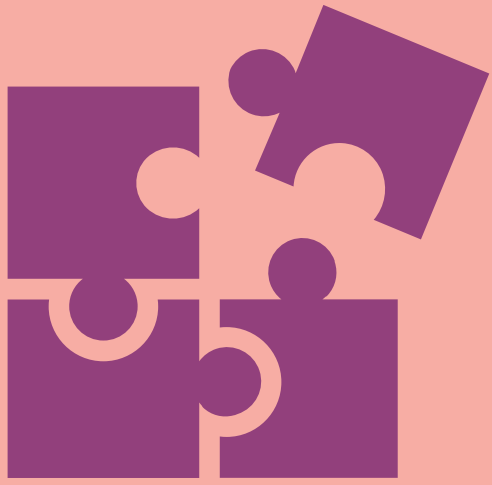
AND

("heart attack\*" OR "myocardial infarction\*" OR "cardiovascular stroke\*")

AND

(risk\* OR reduc\* OR prevent\* OR "risk factor\*")

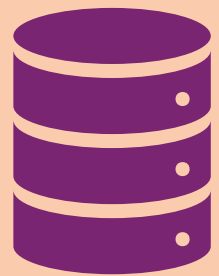
There are also pre-made search strings that you can include in your search that can act as filters. For example, see page 62 of the [Cochrane Handbook- Technical Supplement](#)



# Activity #3

**Start listing some keywords for your  
concept map.**

**5 mins stretch break**



# Database Searching

# Selecting databases

## MedLine

Journal articles in all fields of **medicine, biomedicine, health sciences** and **allied health**, from 1946 to current; now includes all records which were previously in the OldMedline database.

## CINAHL Complete

Nursing and Allied Health journal articles and dissertations.

## Scopus

The largest abstract and citation database of peer-reviewed literature; covers **Sciences, Engineering, Medicine, Social Sciences** and some Arts.

1

Bibliographic databases

2

Full-text databases

3

Primary source databases

4

Subject-specific databases

5

Multidisciplinary database

# Input your search string into a database

(adult\* OR aged OR "middle?aged")

AND

("intermittent fast\*" OR "time restricted eat\*" OR "calori\* restrict\*" OR fasting OR "meal skip\*" OR diet\* OR nutrition\* OR "low?calorie diet\*")

AND

("heart attack\*" OR "myocardial infarction\*" OR "cardiovascular stroke\*")

AND

(risk\* OR reduc\* OR prevent\* OR "risk factor\*")

# Example Scopus search

Search within Article title, Abstract, Keywords	Search documents * ( adult* OR aged OR "middle?aged" )	1
AND		
Search within Article title, Abstract, Keywords	Search documents ( "intermittent fast*" OR "time restricted eat*" OR "calori* restrict*" OR fasting OR "r	2
AND		
Search within Article title, Abstract, Keywords	Search documents ( "heart attack*" OR "myocardial infarction*" OR "cardiovascular stroke*" )	3
AND		
Search within Article title, Abstract, Keywords	Search documents ( risk* OR reduc* OR prevent* OR "risk factor*" )	4

+ Add search field

Reset Search

Documents Preprints Patents Secondary documents Research data

5,625 documents found

Access Scopus through the library website:

[https://auckland.primo.exlibrisgroup.com/permalink/64UAUCK\\_INST/1lk16jl/alma99134396714002091](https://auckland.primo.exlibrisgroup.com/permalink/64UAUCK_INST/1lk16jl/alma99134396714002091)

# Example CINAHL Complete Search

(adult* OR aged OR "middle?aged")	Select a Field (optional) ▼	1
AND ▼ ("intermittent fast*" OR "time restricted eat*")	Select a Field (optional) ▼	2
AND ▼ ("heart attack*" OR "myocardial infarction*" OR "stroke")	Select a Field (optional) ▼	3
AND ▼ (risk* OR reduc* OR prevent* OR "risk facto	Select a Field (optional) ▼	4

[Basic Search](#) [Advanced Search](#) [Search History](#) ▶



Search Results: 1 - 50 of 1,268

Access CINAHL through the library website:

[https://auckland.primo.exlibrisgroup.com/permalink/64UAUCK\\_INST/1lk16jl/alma99265493479702091](https://auckland.primo.exlibrisgroup.com/permalink/64UAUCK_INST/1lk16jl/alma99265493479702091)

# Example Medline Search

## # ▲ Searches

## Results

1	Adult/	1	5525820
2	(adult* or aged or "middle?aged").mp.		9153911
3	1 or 2		9153911
4	Intermittent Fasting/ or Caloric Restriction/	2	7561
5	("intermittent fast*" or "time restricted eat*" or "calori* restrict*" or fasting or "meal skip*" or diet* or nutrition* or "low?calorie diet*").mp.		1347836
6	4 or 5		1347836
7	Myocardial Infarction/	3	182578
8	("heart attack*" or "myocardial infarction*" or "cardiovascular stroke*").mp.		290686
9	7 or 8		290686
10	(risk* or reduc* or prevent* or "risk factor*").mp.	4	9066930
11	3 and 6 and 9 and 10		4133

Access Medline through the library website:

[https://auckland.primo.exlibrisgroup.com/permalink/64UAUCK\\_INST/1lk16jl/alma9955080314002091](https://auckland.primo.exlibrisgroup.com/permalink/64UAUCK_INST/1lk16jl/alma9955080314002091)



# Additional Filters & Limitations

Many databases have built-in **filters** and **limits**

e.g., publication date, study type, age of participants, human/animal studies, etc.

Some of these filters can be a little unreliable so it is important to test them out before finalising your search.

## Limits

<input type="checkbox"/> Abstracts	<input type="checkbox"/> Structured Abstracts	<input type="checkbox"/> English Language
<input type="checkbox"/> No Language Specified	<input type="checkbox"/> All EBMR Article Reviews	<input type="checkbox"/> Evidence Based Medicine Reviews
<input type="checkbox"/> Male	<input type="checkbox"/> Animals	<input type="checkbox"/> Female
<input type="checkbox"/> Ovid Full Text Available	<input type="checkbox"/> Article Reviews (ACP Journal Club)	<input type="checkbox"/> Full Text
<input type="checkbox"/> Review Articles	<input type="checkbox"/> Article Reviews (DARE)	<input type="checkbox"/> Humans
<input type="checkbox"/> Topic Reviews (Cochrane)	<input type="checkbox"/> Core Clinical Journals (AIM: Discontinued in 2020)	<input type="checkbox"/> Clinically Useful Journals (JMLA July 2023)
<input type="checkbox"/> Latest Update	<input type="checkbox"/> Pharmacologic Actions	<input type="checkbox"/> Remove Preprint Records
<input type="checkbox"/> COVID-19		
<input type="checkbox"/> Publication Year		
<div><div>-</div><div>▼</div></div> - <div><div>-</div><div>▼</div></div>		

# Reducing bias

To make sure you are finding all relevant data, ask yourself the following questions:

Are you searching in **enough places** or using enough **search terms**?

How will you find relevant papers from **other regions** and in **other languages**?

How will you access any relevant data that may be **unpublished** or not found in the usual databases?



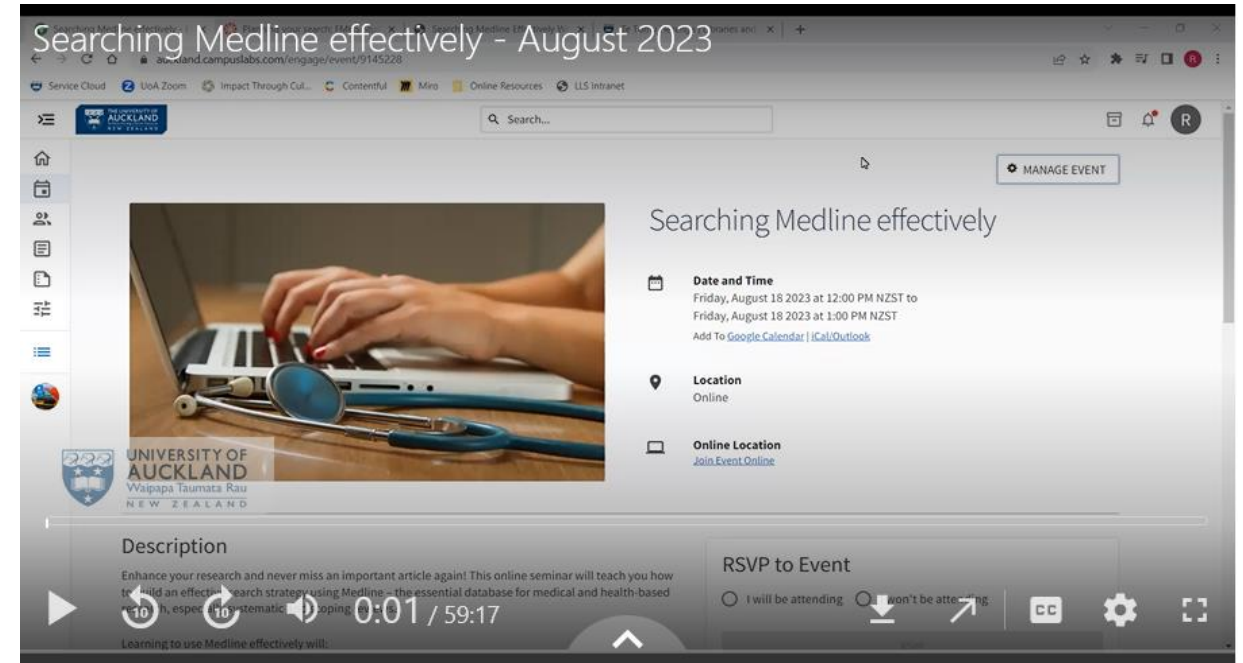
Image made by [Freepik](https://www.storyset.com) from [www.storyset.com](https://www.storyset.com)

# Databases Searching Support

**FMHS Research & Study Skills Hub video tutorials:**  
<https://canvas.auckland.ac.nz/courses/70858/pages/video-tutorials>

**Includes:**

- planning your search
- searching Medline effectively
- troubleshooting



# Managing Search Results

Keep a record of:

- **Number of results** for each database searched.
- **Date** you ran each search.
- **Search strategies** for each database.
- **Databases used.**

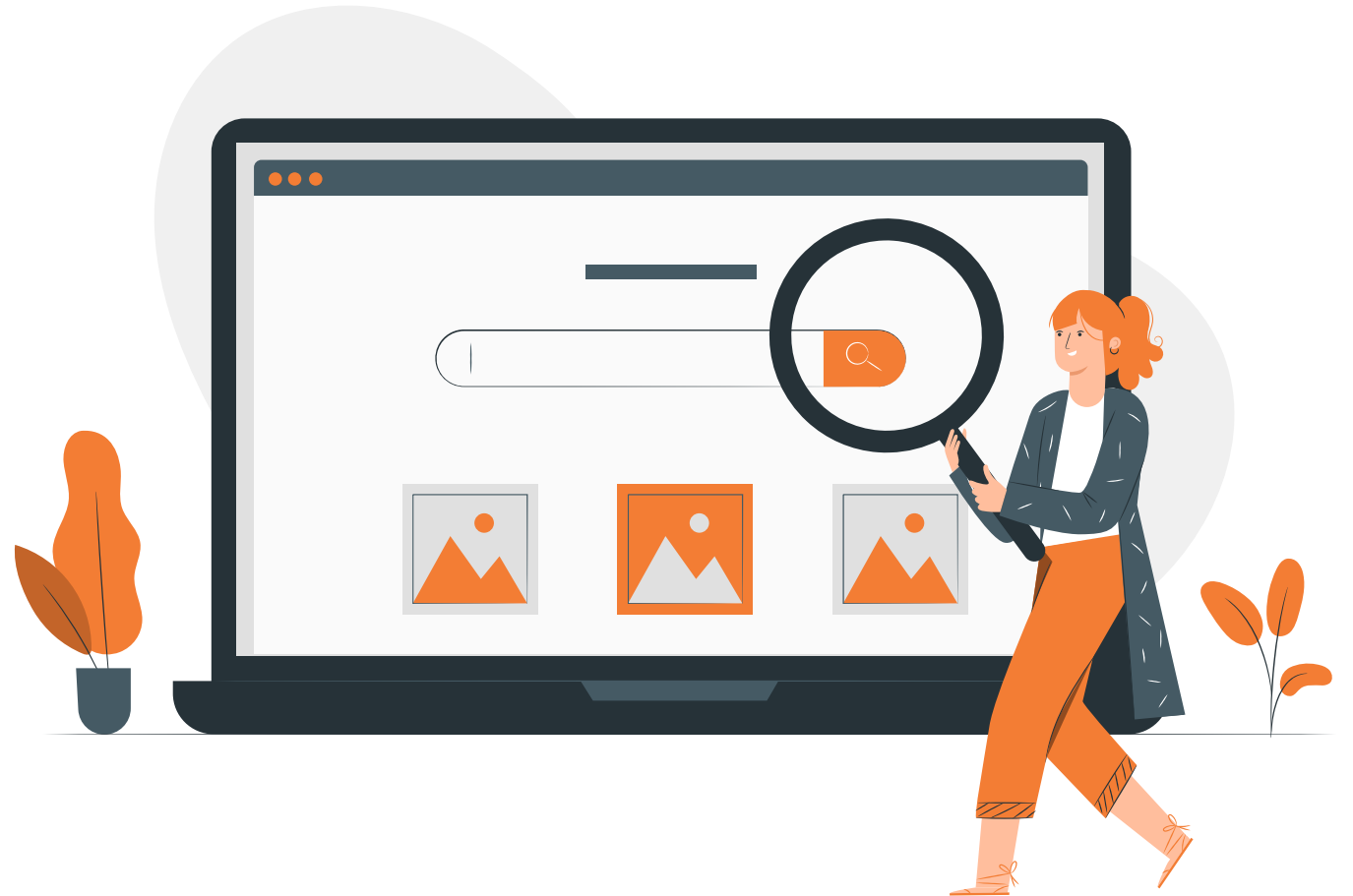


Image made by [Freepik](https://www.storyset.com) from [www.storyset.com](https://www.storyset.com)

# Reference Management Systems

Reference management tool	RefWorks	EndNote	Mendeley	Zotero
<b>Who can use?</b>	Staff, students, and alumni.	Staff and postgraduate students.	Staff and students.	Staff and students.
<b>Access</b>	Web-based. Access from anywhere with internet. <a href="#">RefWorks</a> .	Desktop. Can sync with EndNote Web. Additional database <a href="#">filters</a> , connection <a href="#">files</a> and output <a href="#">styles</a> can be downloaded from the EndNote <a href="#">Download</a> page.	Desktop. Can sync with Mendeley web account. When creating your account click 'Continue.' Do not click 'Sign in via your institution, organization or Athens' as you won't be able to use Mendeley Desktop.	Web-based and Desktop versions. Can sync with Zotero web account.
<b>Cost</b>	Free to staff and students.	Home use - \$7 (Staff and Postgraduates only).	Free	Free

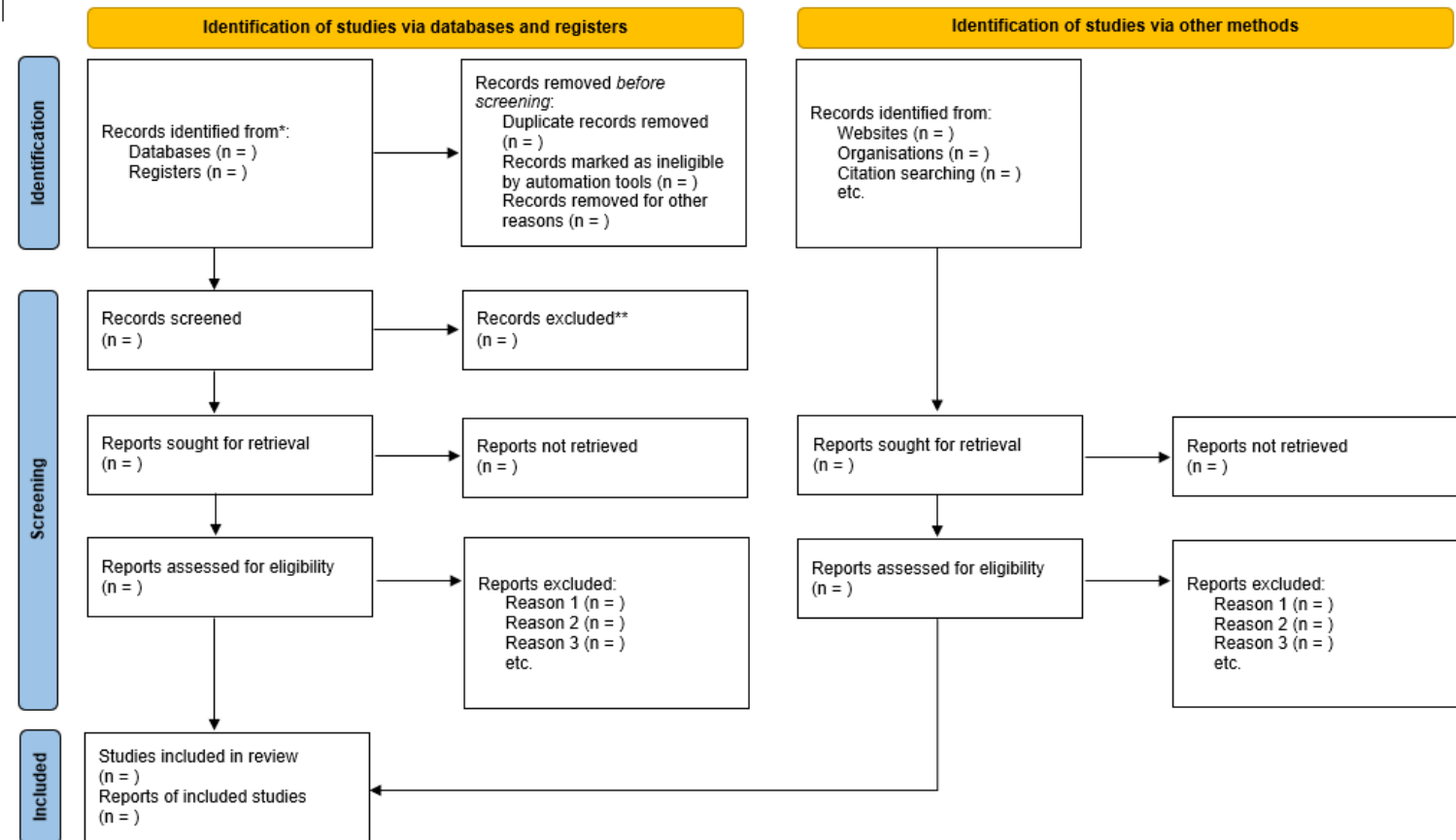
Find out more through our Learning Essentials page: <https://learningessentials.auckland.ac.nz/referencing/reference-management-tools/>

# PRISMA Diagram

## PRISMA Statement

- enhance systematic review and meta-analysis reporting quality
- 27-item checklist and a four-phase flow diagram for improved reporting

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources



\*Consider, if feasible to do so, reporting the number of records identified from each database or register searched (rather than the total number across all databases/registers).

\*\*If automation tools were used, indicate how many records were excluded by a human and how many were excluded by automation tools.

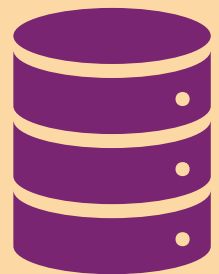
From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71. For more information, visit: <http://www.prisma-statement.org/>

# Handbooks and guides

- [The Cochrane Handbook](#)
- [Joanna Briggs Institute \(JBI\)](#)
- [UoA Systematic Review Guide](#)
- [Monash University Systematic Review LibGuide \(Australia\)](#)



Image made by Freepik from [www.storyset.com](https://www.storyset.com)



# Next steps



# Screening Results

**Two or more** independent reviewers use the **inclusion and exclusion criteria** (established in the **protocol**) to select the relevant studies.

A third reviewer can mediate any disagreements.

There are also tools available to help assist you with the screening process:



# What is critical appraisal?

The process of **assessing and interpreting** evidence by systematically considering its **validity, results and relevance** to an individual's own clinical work.



## Trustworthiness of results

Has the research been conducted in a way that minimizes bias?

Is it trustworthy, has it been funded by an interested party, etc?



## Value and relevance

Are the results applicable to your patient, population, problem? Is it relevant to your research question?

What is the impact and importance of the findings?  
What real-world value does the research hold.

# Abstract Data

## Getting Data for Systematic Review

Use a structured form to note study details.

### Making the Form

- Design it for your research question
- Test it out for improvements

### Finding the Right Balance

- Don't collect too much data; keep it essential

### Customize for Your Review

- Adjust the form based on what you're studying

Reference	Design	Population	Intervention	Outcome Measured	Results—Patient-Reported Outcomes
Davis et al (2015) <sup>9</sup>	Two-group nonrandomized design comparing patients receiving the intervention to those not offered or declining the intervention	1352 Home hospice patients with varying serious illnesses in metropolitan Washington, DC, area in the United States	Proactive outbound phone-based care service to hospice patients from specialists and nurses using a standard call script	Intervention evaluated by intervention acceptance rate, intensity of the intervention, escalations of calls from specialists to nurses, utilization of clinical services, and clinical miles traveled	84% of new home hospice patients accepted TeleCaring. TeleCaring participants had lower utilization of clinical services compared with nonparticipants. Patient satisfaction increased and clinical miles decreased after the implementation of the intervention  TeleCaring is a viable method to proactively identify home hospice patient or caregiver needs and adjust clinical services accordingly
Dhiliwal and Salins (2015) <sup>10</sup>	Case report	2 Indian patients with advanced cancer referred for symptom control and supportive care	WhatsApp—smart phone application allowing sharing of text messages, pictures, and video	Symptom management, satisfaction, ability to die at home	Both patients reported improved symptom management and were able to die at home  Smartphone applications in palliative homecare are a novel cost-effective approach which improves symptom control, helps in continued care at home, prevents unnecessary hospitalization, and improves patient satisfaction
Hebert et al (2006) <sup>11</sup>	Randomized noninferiority trial with 2 groups comparing conventional palliative home care to a combination of conventional and home telehealth	44 Home palliative care patients from 11 rural communities in Alberta, Canada	Combination of conventional care and home telehealth "video-visits" by nurses through the use of videophones at home	Palliative care symptoms: the Edmonton Symptom Assessment Scale (ESAS) and the Palliative Performance Scale (PPS). Quality of Life: the McGill Quality of Life Questionnaire (MQOL). Thematic analysis of interviews and focus groups. Unable to evaluate cost-	There were no significant differences between the groups for palliative care symptoms (ESAS and PPS) and quality of life (MQOL). Clients indicated a higher level of readiness to use the telehealth technology than did the nurses. All patients showed preference to fewer visits but wanted them to be in person  Results suggested a similar quality of care could be delivered via videophones and conventional care

	selection bias	performance bias	detection bias	reporting bias	attrition bias
Lane 2012	+	?	-	+	+
Meyer 2014	+	?	-	-	+
McGowan 2015	?	+	?	?	-
Yamanaka 2016	-	?	-	+	+
Suzuki 2019	+	?	-	-	+

**Risk of bias form.**

# Synthesize and Interpret Results

## Synthesis

Qualitative

Potentially quantitative

Outcomes and  
effects

Methodological / quality  
issues

Level of  
evidence

degree of  
consistency

Treatment outcomes and basis

**Narrative synthesis**

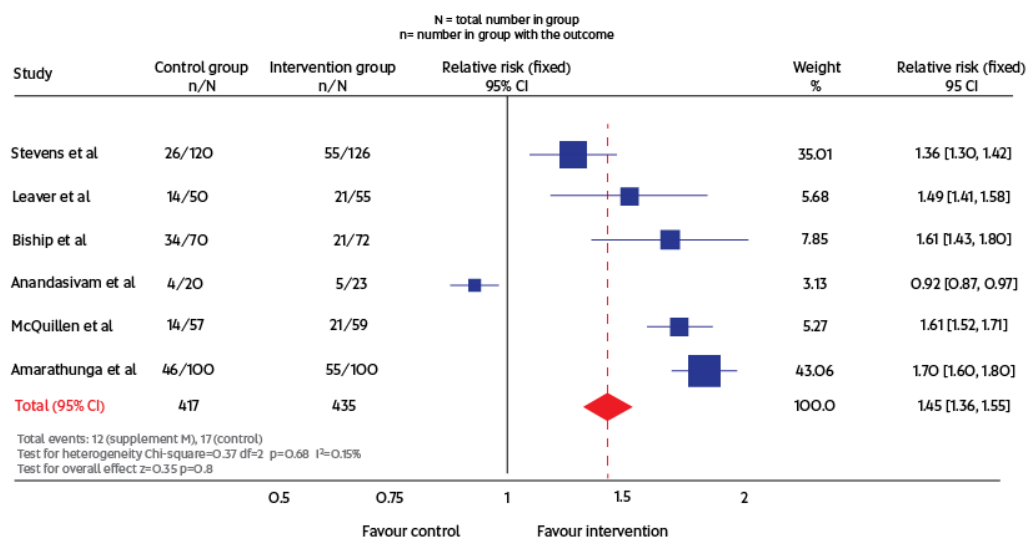
**Meta-analysis**

**Thematic synthesis**

**Qualitative  
comparative analysis**

# Quantitative Data Synthesis

Review: For adult males, how effective are muscle relaxants compared to opioids in the management of back pain?



## Meta-analysis

Statistical techniques used to combine and analyze the results of multiple studies

Feasibility and sensibility depends on data available & team skillset

Clinical and methodological similarity

Consistent study quality

Team has statistical expertise

# Qualitative Data Synthesis

- Text descriptions
- Thematic or content analysis



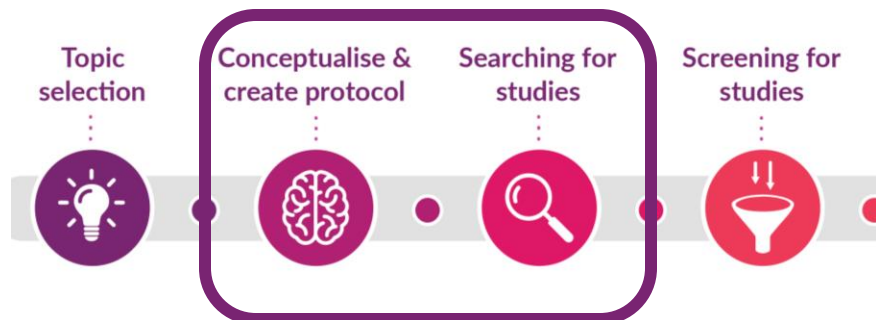
Image made by Freepik  
from [www.storyset.com](http://www.storyset.com)

Thematic analysis	Content analysis
Thematic analysis is a method of qualitative data analysis that can be used with varying research designs	Content analysis is a data analysis method that can be used to analyze both quantitative and qualitative data
Analyses qualitative data	Analyses both qualitative and quantitative data
Helps the researcher create a logical structure for the research	Content data analyzed through content analysis can help to identify frequencies of data
Researcher focuses more on the frequency of the occurrence of various categories	Researcher's focus is on identifying themes and developing the analysis in the most cohesive manner possible

Adapted from [www.pediaa.com](http://www.pediaa.com)

# Need more help?

## Systematic Review support service



Library's [AskUs](#) form

## Online Guides and Resources:

[The Cochrane Handbook](#)

[Joanna Briggs Institute](#) (JBI)

[The PRISMA Checklist](#)

[UoA Systematic Review Guide](#)

## Upcoming workshops

From novice to navigator: An introduction to searching medical databases

**20 August 2024, 12pm (online)**

Using Medline effectively workshop

**22 August 2024, 12pm (online)**

Post graduate workshops



# Reflection

**What one thing did you learn from this workshop?**

**Did we answer all your questions from the start?**





**Thankyou**