

# How can we use evidence from our current searches to help improve our future searches?

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**Introduction:**

## **Evidence Synthesis Team**




**Health and Social Care  
Delivery Research**

## **Systematic Reviews**

Research | [Open access](#) | Published: 19 May 2025

## Place-based approaches to improve the mental health and wellbeing of children and young people: a rapid realist review

[Anna March](#), [Kate Allen](#), [Karuna Davies](#), [Julie Harris](#), [Alison Bethel](#), [Laura Kennedy](#), [Tamanna Malhotra](#), [Rachael Stemp](#), [Bianca Alexandrescu](#), [Tim Hobbs](#), [Peter Fonagy](#), [Steve Pilling](#) & [Vashti Berry](#) 

[Systematic Reviews](#) **14**, Article number: 115 (2025) | [Cite this article](#)

**2123** Accesses | **1** Citations | **3** Altmetric | [Metrics](#)

### Abstract

[Environmental Evidence](#) **11**, Article number: 6 (2024) | [Cite this article](#)

**13k** Accesses | **69** Citations | **133** Altmetric | [Metrics](#)

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**Sections**

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[Abstract](#)

[Background](#)

[Methods](#)

[Results](#)

[Discussion](#)

[Conclusions](#)



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# SR Searching

- Comprehensive
- Transparent
- Reproducible
  
- Guidance/Guidelines
- PRISMA-S
- Search archives



# Sample Search

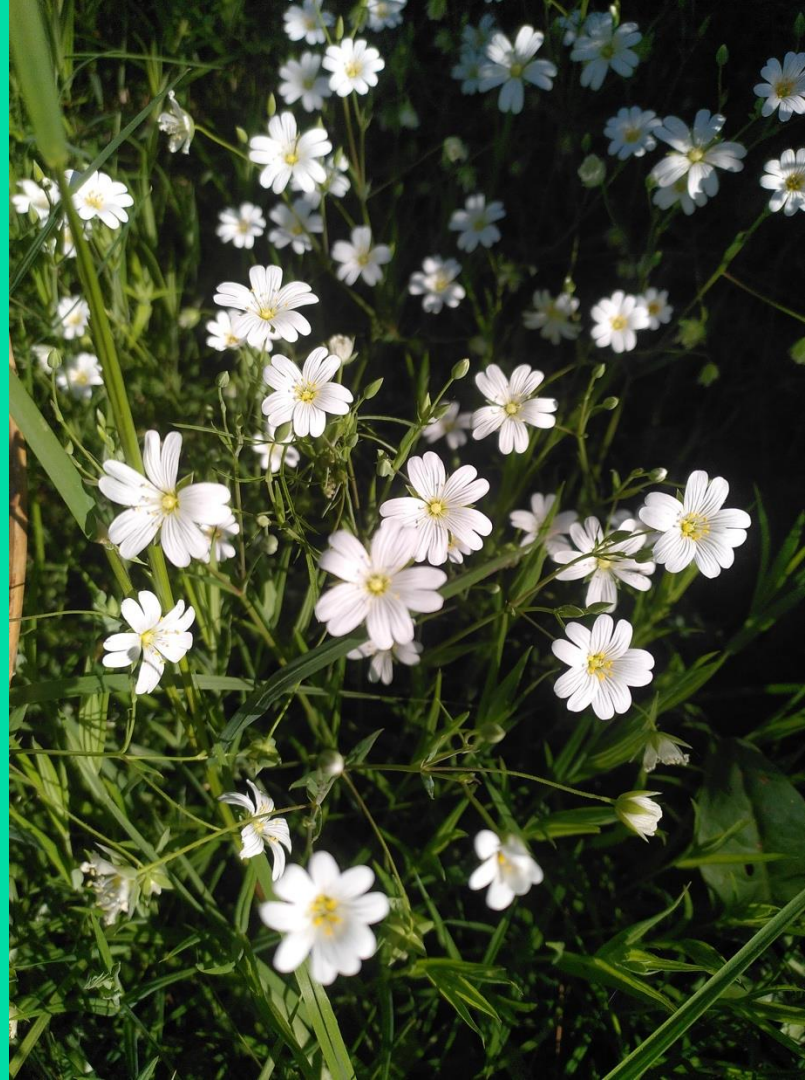
- 1 dement\*.tw. (155952)
- 2 Alzheimer\*.tw. (201118)
- 3 (cognit\* or memory).tw (795420)
- 4 (impair\* or declin\* or disorder\* or disturb\* or defect\* or confus\*).tw. (3453751)
- 5 ((cognit\* or memory) adj2 (impair\* or declin\* or disorder\* or disturb\* or defect\* or confus\*)).tw. (176756)
- 6 exp Dementia/ (220674)
- 7 1 or 2 or 3 or 4 or 5 or 6 (4071437)
- 8 (care adj1 (home\* or setting\* or residence\* or unit\*)).tw. (271062)
- 9 ("long term" adj2 care).tw. (30752)
- 10 Communal care.tw. (38)
- 11 (elderly adj1 care).tw. (2086)
- 12 Institution\* care.tw. (2569)
- 13 (Residential adj2 (care or unit or home)).tw. (7337)
- 14 Nursing home\*.tw. (36950)
- 15 care facilit\*.tw. (30584)
- 16 or/8-15 (350657)
- 17 7 and 16 (56598)
- 18 Garden\*.tw. (17906)
- 19 External space\*.tw. (374)
- 20 (outdoor\* adj2 space\*).tw. (653)
- 21 (open\* adj2 space\*).tw. (2979)
- 22 (outside adj2 space\*).tw. (342)
- 23 Gardens/ (704)
- 24 or/18-23 (22174)
- 25 17 and 24 (89)



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# Questions

1. When the SR has been completed, what would you find interesting to know about your searches? (word cloud)
2. Do you do any evaluation of your searches for systematic reviews? (Yes/No)





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## Got me thinking...

- Some great research out there on optimal database combinations
- Which search in which databases found:
  - included papers
  - unique papers
  - no papers
- Which supplementary search methods were most effective



	A	B	C	D	E	F	G	H	I	J	K
1	<b>Project</b>										
2	<b>Included references</b>	<b>Study type</b>	<b>Format</b>	<b>Database searches</b>			<b>Supplementary searches</b>				
3				<i>d/b 1</i>	<i>d/b 2</i>	<i>d/b 3</i>	<i>fcs</i>	<i>bcs</i>	<i>hs</i>	<i>wss</i>	<i>org</i>
4	Included ref 1										

	A	B	C	D	E	F	G	H	I	J	K
12	Included refs										
13	No. included refs			0	0	0					
14	No. unique refs										
15	Yield										
16	No. refs screened										
17	Sensitivity										
18	Precision										
19	No. database searches carried out =										
20	Sum of yields =										
21	No. refs screened at Ti&Ab =										
22	No. refs screened at FT =										
23	No. of included refs from searching =										
24	Total no. of included refs =										



<i>HS&amp;DR Remote monitoring for long-term physical health conditions</i>														
Included references	Format	Database searches (Mar 2022, re-run Oct 2022)											Supplem searches	
		CDSR	CINAHL	Embase	Epist	GSch	Medlin	OT-Seeke	Pedro	PQDT	Scopus	WoS	fcs	bcs
Alotaibi, S., et al. 2020	<i>jnl</i>		x	x	x	x	x					x	x	
Althobiani, M. A., et al. 2021	<i>jnl</i>						x							
Aronow, W. S. and Shamliyan, T. A. 2018	<i>jnl</i>		x	x			x					x	x	
Auener, S. L., et al. 2021	<i>jnl</i>		x	x	x		x					x	x	
Barken, T. L., et al. 2019	<i>jnl</i>													x
Batalik, L., et al. 2020	<i>jnl</i>													



# CiteSource: <https://litrev.shinyapps.io/CiteSource/>

CiteSource **Home** File upload Deduplicate Visualise Tables Export

About

Use Cases

User Guide

## About CiteSource

CiteSource is an R package and accompanying Shiny web application designed to support evidence data-driven decision-making during search strategy development. CiteSource also allows users to analyze and report on the impact of information sources and search methods.

CiteSource was developed as part of the [Evidence Synthesis Hackathon](#) initiative.

### Key Features:

- ▶ **Flexible Metadata for Provenance Tracking:**
- ▶ **Advanced Deduplication & Intelligent Merging:**
- ▶ **Data-Driven Analysis & Visualization:**
- ▶ **Enhanced Reporting & Transparent Export:**



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	<b>HS&amp;DR Remote monitoring for long-term physical health conditions</b>																
2	Included references	Format	Database searches (Mar 2022, re-run Oct 2022)													Supplem searches	
3			CDSR	CINAHL	Embase	Epist	GSch	Medline	OT-Seeker	Pedro	PQDT	Prospero	Scopus	WoS	No dbases ref foun	fcs	bcs
4	Alotaibi, S., et al. 2020	jnl		x	x	x	x	x					x	x	7		
5	Althobiani, M. A., et al. 2021	jnl			y	z		x							1		
6	Aronow, W. S. and Shamlivan, T. A. 2018	jnl		x	x	z		x					x	x	5		
7	Auener, S. L., et al. 2021	jnl		x	x	x		x					x	x	6		
8	Barken, T. L., et al. 2019	jnl			z	n		z							0		x
9	Batalik, L., et al. 2020	jnl			z	n		z				x			1		
10	Bauce, K., et al. 2018	jnl		x	z	n		z							1		
11	Blok, S., et al. 2021	jnl			z	x		z							1		



# Extra care housing systematic review



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- 7 databases searched (WoS included as one)
- Backwards and forwards citation searching
- Website searching
  
- 98 included articles:
  - 59 journal articles
  - 39 grey literature (reports and theses)

# Extra care housing systematic review

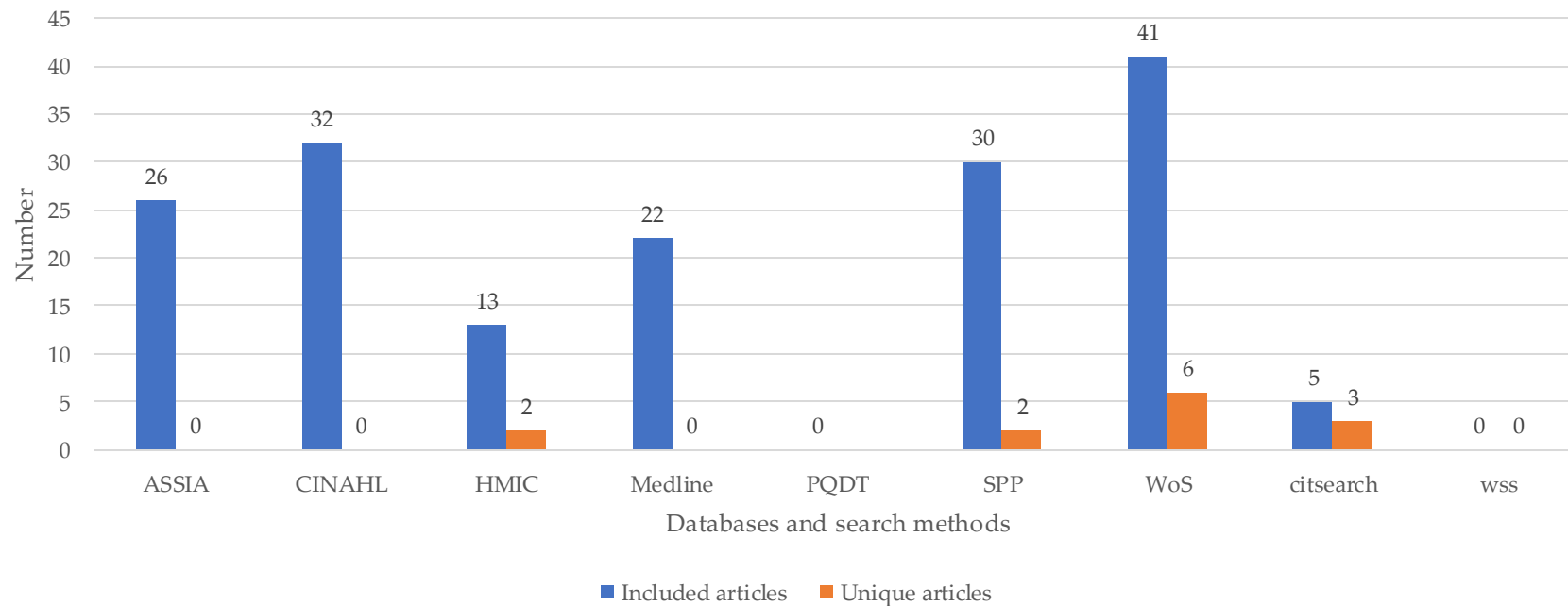


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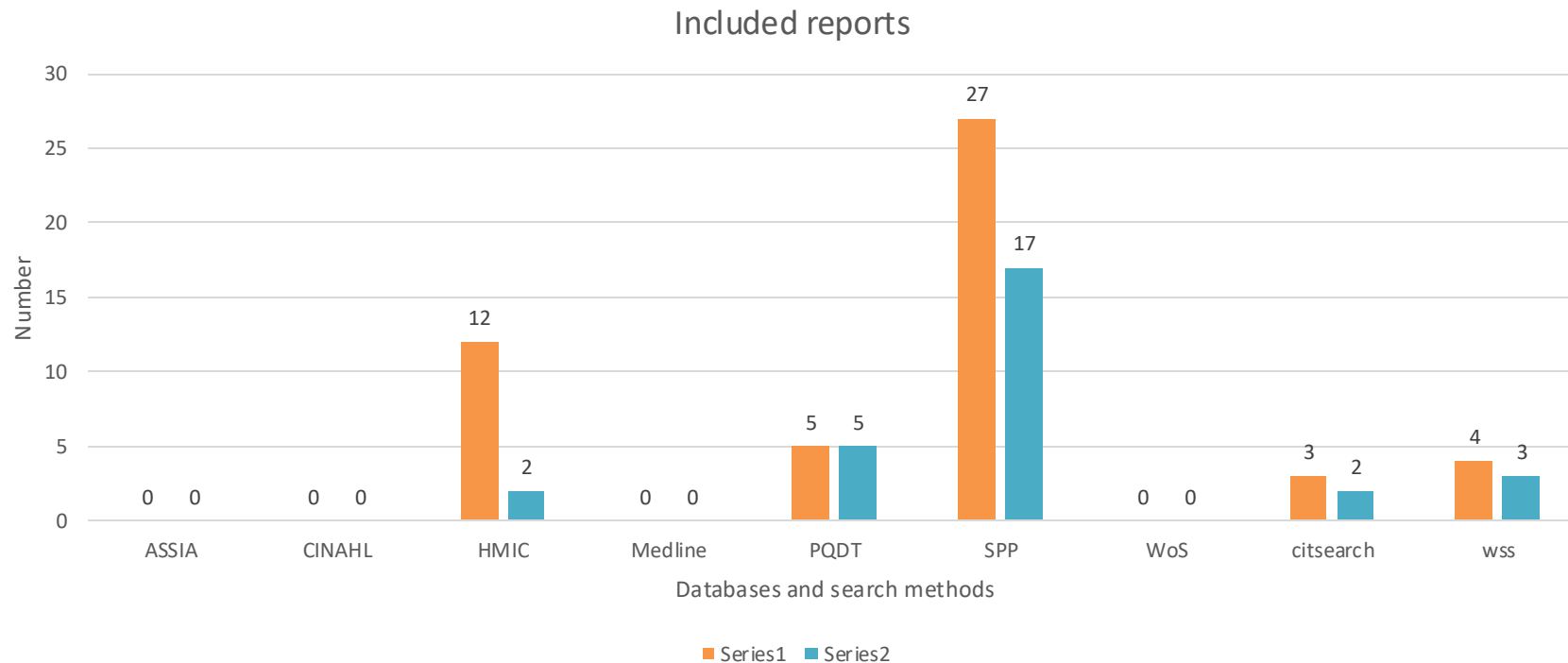
- All databases searched retrieved included articles
- Of the 98 included articles:
  - 34 were reports
  - 5 were theses
- The 34 reports were retrieved from SPP or HMIC

# Extra care housing systematic review

## Included Journal Articles



# Extra care housing systematic review



# Extra care housing systematic review



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35 Qualitative studies

28 Quantitative

21 Mixed

14 Other

• Qualitative studies:

SPP: 20 (4 unique)

WoS: 17 (2 unique)

CINAHL: 13 (0 unique)

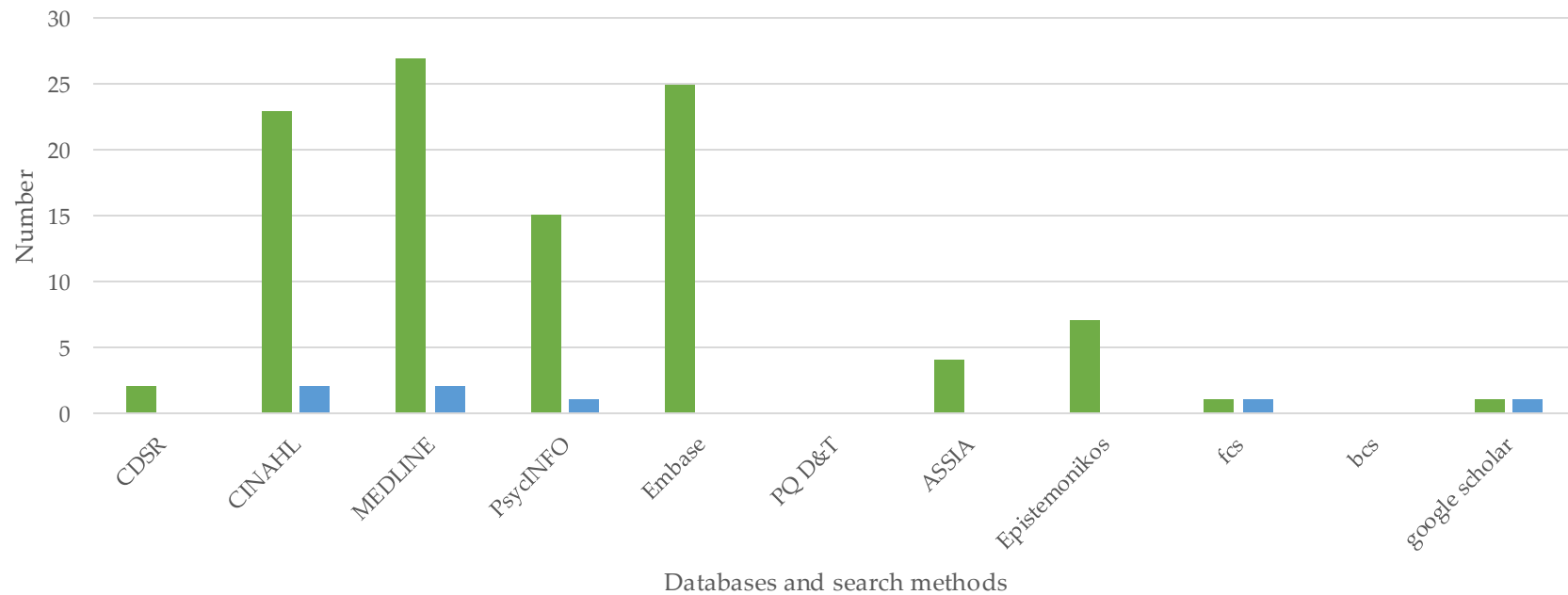
9/35 were reports

# Peer support evidence and gap map



- RCTs and SRs and economic evaluations
- For SRs:
  - 8 databases searched
  - Total number of included articles = 32
  - Number of articles retrieved by database searches = 30

## Peer support systematic reviews



# Peer Support Map

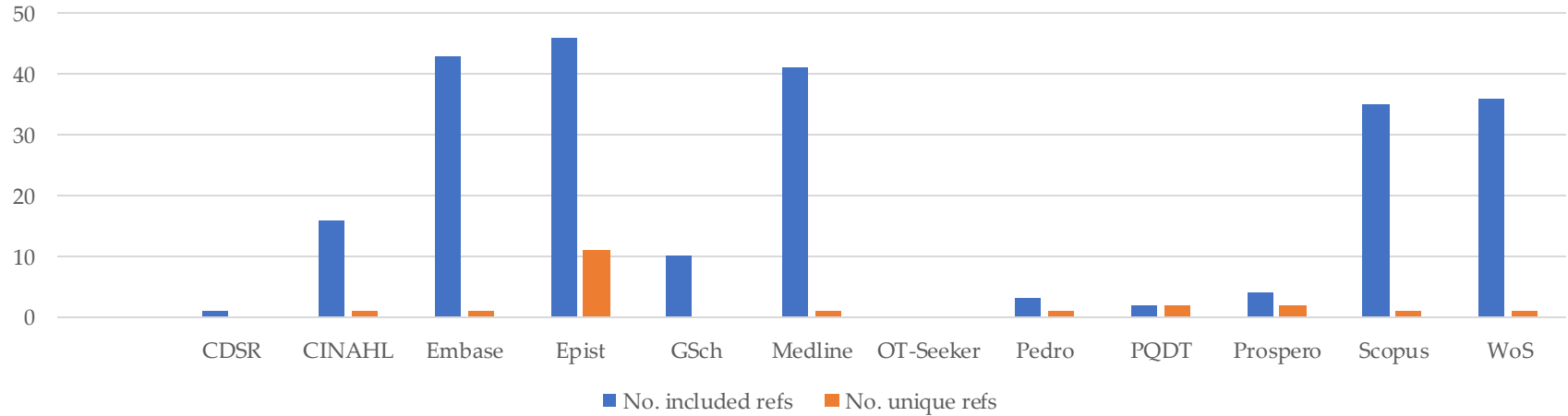
- Searching CINAHL, PsycINFO and Medline would have picked up all of the included articles for systematic reviews(32)
- Maximum number to screen: 2,581 compared to 5,444
- Both references found from supplementary searching were found from re-running the search Medline, PsycINFO and Embase
- All the included references were in Epistemonikos but 20 were not picked up from our search

# Remote Monitoring Map

- Just searching for systematic reviews
- 12 databases searched
- Forwards and backwards citation searching undertaken
- 7,063 screened at title and abstract
  
- Total includes = 74
- Includes from searching = 67

# Number of included refs and unique refs

Included articles



# Remote Monitoring Map

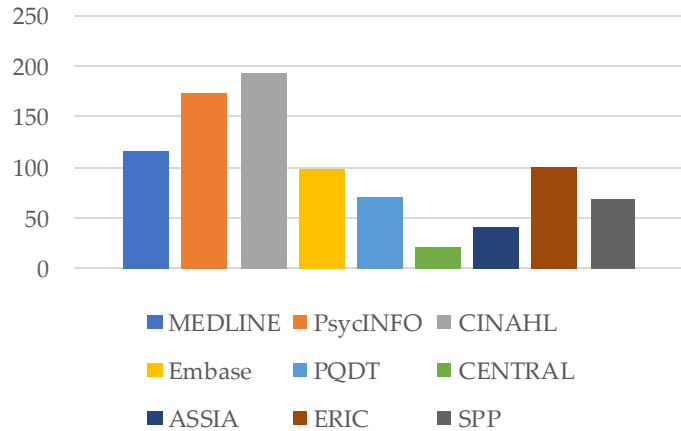
1. Databases which found *unique* references:
  - Cinahl, Embase, Epistemonikos, Medline, Pedro, PQDT, Scopus, WoS
2. Databases where *no included references* were found:
  - CDSR, Google Scholar, OT Seeker
3. **Database combinations** which would pick up all the included references:
  - CINAHL, Embase, Epistemonikos, Medline, Pedro, PQDT, Scopus and WoS. Sum of yields 12124
4. **Search methods combinations** which would pick up all the included references:
  - Databases above and forwards and backwards citation searching

# Remote Monitoring Map

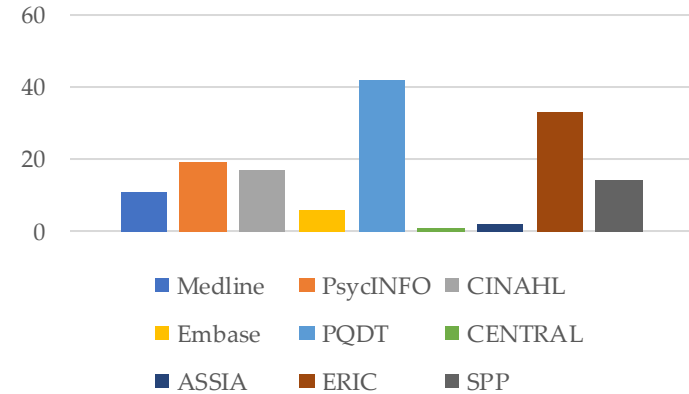
Of the 74 included papers:

- Epistemonikos found 11 unique articles  
these were all in Embase and Medline but our search didn't retrieve them
- 11 included articles were not in Epistemonikos

## Findings from Intergenerational Activities Map SST



Number of includes found by each database



Number of unique studies retrieved by each database

# SSTs

- Two stage SST
- One-page narrative summary
- Complete SST for all systematic reviews
- Have been published in the supplementary files of the published paper

# Questions

Does anyone else do something similar that they would like to share?

Please raise your hand

Any suggestions on how this information could be useful?

Please put suggestions in the chat

# So what?

Specific to the project

- update searches

- further evidence syntheses

- rapid reviews

- living reviews

Individually

- which databases to search

- revise your search strategies

- confirmation of tacit knowledge

- make your work more visible to colleagues

Institutionally

- database subscriptions

Collectively

- searches more evidence-informed/based

- new ISs and Librarians



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# Examples of using them

- Update searches within a review:
  - Older people and physical activity review of reviews
- New systematic review:
  - Recreational exposure to polluted open water and infection
- Update map post publication:
  - Remote monitoring systematic map



# Update searches within a review

Project: Older People and Physical Activity. Review of reviews

	2015	2016	2018	2023
AMED	X	X		
Cochrane: CDSR	X	X	X	
Cochrane: DARE	X	X		
Embase	X	X	X	
Epistemonikos			X	X
Medline	X	X	X	X
PubMed		X		
Sportsdiscus	X	X		
Web of Science	X	X	X	



# Example: new systematic review

TITLE: Recreational exposure to polluted open water and infection

Created a SST using the initial SR results

- Changed the databases to search
- Amended the search strategy

Additional free text terms:

- Seas, seaside
- Ocean
- Recreational, bathing or swimming water

Additional MeSH terms:

- Oceans and Seas
- Bathing Beaches

# Example: update of published map

TITLE: Remote monitoring for long-term physical health conditions: an evidence and gap map

	Term	Retrieved	Priority
1	Remote Sensing Technology/	3	
2	Telemetry/	1	
3	Telemedicine/	17	4
4	Monitoring, ambulatory/	1	
5	Wearable electronic devices/	1	
6	Fitness trackers/	1	
7	((remote* or home* or digital or virtual* or telephon* or smartphone* or phone* or smartwatch* or smart watch* or ambulatory or app or apps or mobile* or device* or location* or GPS or global positioning or acceleromet* or gyroskop* or wearable*) adj5 monitor*).ti.	19	3
8	((remote* or home* or digital or virtual* or telephon* or smartphone* or phone* or smartwatch* or smart watch* or ambulatory or app or apps or mobile* or device* or location* or GPS or global positioning or acceleromet* or gyroskop* or wearable*) adj2 monitor*).ab.	20	2
9	((remote* or digital or home*) adj2 (sensor* or sensing or tracker or tracking)).ti,ab.	1	
10	(remote* adj2 (measurement* or supervision or surveillance)).ti,ab.	0	

# Changes to the search strategy

## **MeSH terms removed**

Remote Sensing Technology/  
Telemetry/  
Monitoring, ambulatory/  
Wearable electronic devices/  
Fitness trackers/

## **Mesh term exploded**

Telemedicine/

## **Terms added:**

continuous glucose monitoring  
telehealth\* or telerehab\* (in the title)  
artificial intelligence

## **Term edited:**

from telemonitoring to telemonit\*



# Evaluation of the peer support topic search strategy: **SRs**

From 119 lines of peer support topic terms:

- Only **18 lines** identified an included SR
- **2 lines** identified unique records not found by another line

# Evaluation of the peer support topic strategies: RCTs

From 55 lines of peer support topic terms:

- 26 lines identified included RCTs
- 11 lines identified unique RCTs not found by another line

# Questions

Does anyone else do something similar that they would like to share?

Please raise your hand

Any suggestions on how to make this easier and quicker

Please put suggestions in the chat

# Links

ESMI IS Youtube:

[https://www.youtube.com/channel/UC7AamQN\\_427Hxxag1MlkCAg](https://www.youtube.com/channel/UC7AamQN_427Hxxag1MlkCAg)

Campbell Information Retrieval Group:

[infospec@campbellcollaboration.org](mailto:infospec@campbellcollaboration.org)

EAHIL

<https://eahil.eu/>

# References

1. RETHLEFSEN, M. et al 2021. PRISMA-S: an extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews. *Systematic Reviews*, 10, 39.
2. Price, A., de Bell, S., Shaw, N., Bethel, A., Anderson, R., & Coon, J. T. (2022). What is the volume, diversity and nature of recent, robust evidence for the use of peer support in health and social care? An evidence and gap map. *Campbell Systematic Reviews*, 18(3), 51. doi:10.1002/cl2.1264
3. de Bell, S., Zhelev, Z., Shaw, N., Bethel, A., Anderson, R., & Thompson Coon, J. (2023). Remote monitoring for long term physical health conditions: an evidence and gap map. *Health Soc Care Deliv Res*, 11(22), 1-74. doi:10.3310/bvvcf6192
4. Whear R, Campbell F, Rogers M, Sutton A, Robinson-Carter E, Sharpe R, Cohen S, Fergy R, Garside R, Kneale D, Melendez-Torres GJ, Thompson-Coon J. What is the effect of intergenerational activities on the wellbeing and mental health of older people?: A systematic review. *Campbell Syst Rev*. 2023 Oct 3;19(4):e1355. doi: 10.1002/cl2.1355. PMID: 37795424; PMCID: PMC10546258.
5. Jones, M. L., Clare Leonard, A. F., Bethel, A., Lamb, E., Gaze, W. H., Taylor, T., . . . Garside, R. (2025). Recreational exposure to polluted open water and infection: A systematic review and meta-analysis protocol. *Environment International*, 200, 109371. doi:https://doi.org/10.1016/j.envint.2025.109371
6. Bethel, A. C., Rogers, M., & Abbott, R. (2021). Use of a search summary table to improve systematic review search methods, results, and efficiency. *Journal of the Medical Library Association*, 109(1), 97-106. doi:10.5195/jmla.2021.809



Thank you for listening

