Librarian-mediated literature searches for systematic reviews at Erasmus MC: Much faster but with equal quality

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EAHIL – Sevilla ES – Jun 2016

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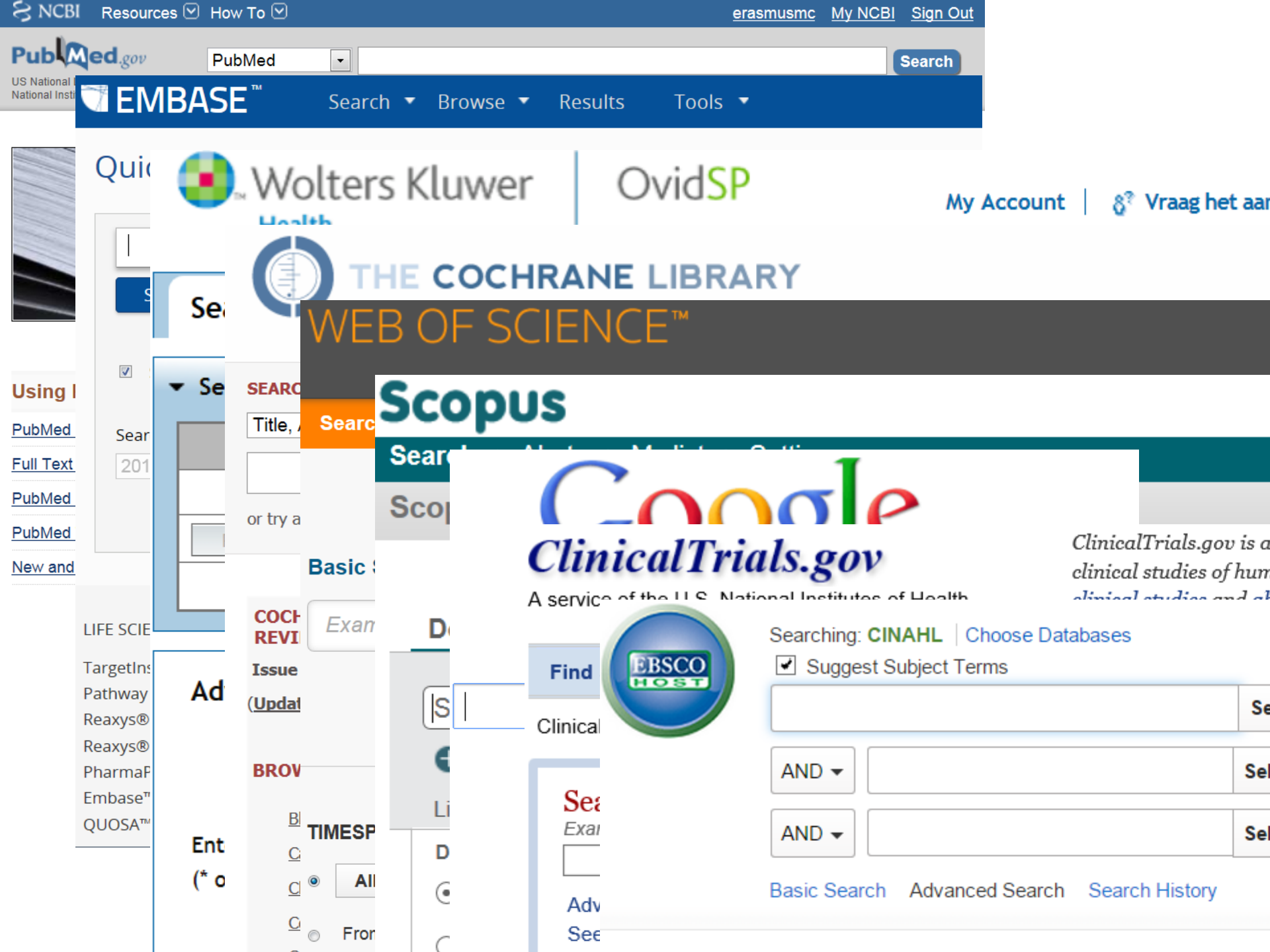
33 diabet*.mp. (471059)
34 asthma*.mp. (140539)
35 (brain adj5 (trauma* or injur*)).mp. (68497)
36 (bowel* adj5 inflammatory adj5 (condition* or disease* or illness*)).mp. (31393)
37 (sickle cell adj5 (disease* or disorder* or anemia*)).mp. (19955)
38 ((skin adj5 (disease* or disorder*)) or eczema*).mp. (105706)
39 ((gynecologic* or gynaecologic*) adj5 (disease* or disorder*)).mp. (5081)
40 dysmenorrh*.mp. (5152)
41 endometriosis.mp. (20182)
42 Chronic Disease/ (219791)
43 ((chronic* or longterm or long-term) adj5 (condition* or ill* or disease*)).mp. (418976)
44 or/18-43 (5469388)
45 randomized controlled trial.pt. (376608)
46 controlled clinical trial.pt. (88576)
47 randomized.ab. (297316)
48 placebo.ab. (155203)
49 drug therapy.fs. (1708731)
50 randomly.ab. (214956)
51 trial.ab. (308738)
52 groups.ab. (1366808)
53 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 (3363144)
54 exp animals/ not humans.sh. (3954113)
55 53 not 54 (2885271)
56 7 and 12 and 17 and 44 and 55 (1119)


NCBI
Resources
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Suggest Subject Terms
AND
AND
Basic Search
Advanced Search
Search History
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PubMed
Full Text
PubMed
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LIFE SCIE
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Pathway
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PharmaP
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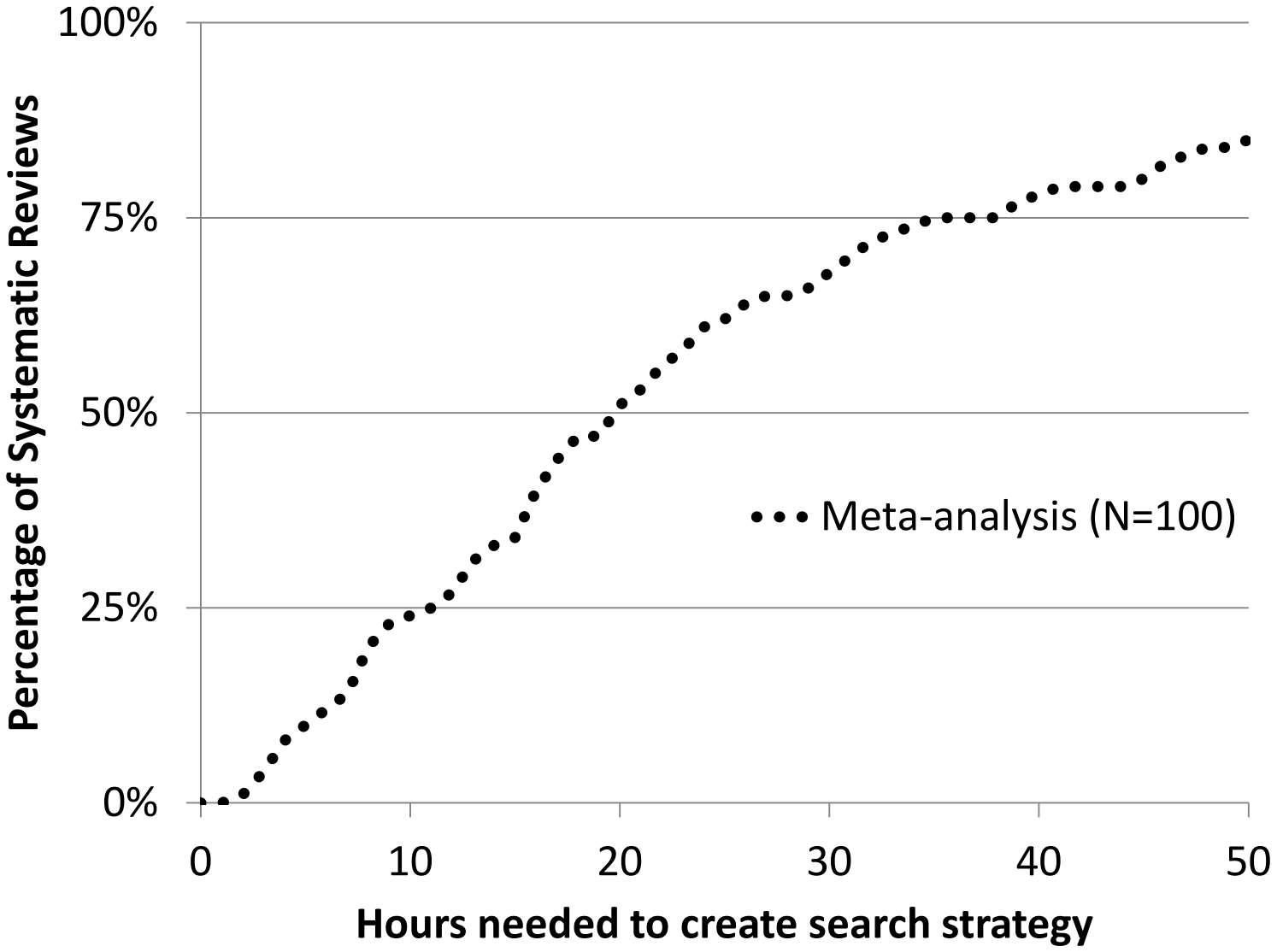
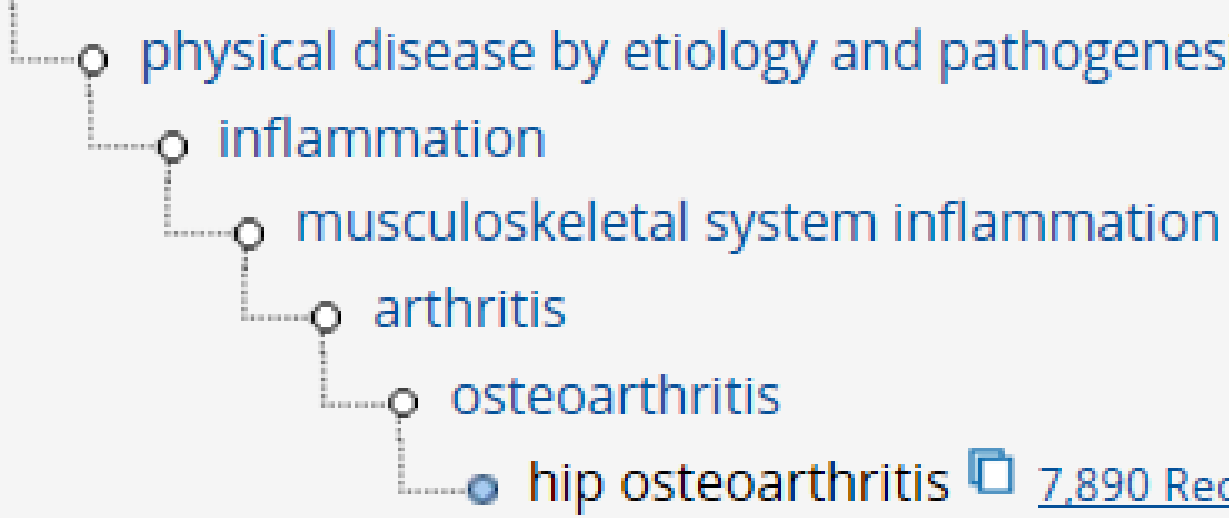
Clinical



Allen, 1999 ; Gann, 2013; Saleh, 2014 and unpublished data

A new search method



Basic Query

Synonyms

arthrosis, hip; arthrosis, hip joint; cox arthrosis; coxartherosis; coxarthroses; coxarthrosis; hip arthrosis; hip joint arthrosis; hip osteo-arthritis; hip osteo-arthrosis; hip osteoarthrosis; malum coxae senilis; osteoarthritis, hip

('hip osteoarthritis'/exp OR (coxarth* OR ((hip OR cox) NEAR/3 (arthros* OR arthrit* OR osteoarth*))):ab,ti)

Basic Query – 494 hits

('hip osteoarthritis'/exp OR (Coxarthros* OR ((hip OR cox) NEAR/3 (arthrit* OR arthros* OR osteoarthr*))):ab,ti) AND ('kinesiotherapy'/exp OR (kinesiotherap* OR kinesitherap* OR ((exercise) NEAR/3 (technique* OR treat* OR therap*))):ab,ti)

Optimization

('hip osteoarthritis'/exp OR (Coxarthros* OR ((hip OR cox) NEAR/3 (arthrit* OR arthros* OR osteoarthr*))):ab,ti) AND ('kinesiotherapy'/exp **NOT** (kinesiotherap* OR kinesitherap* OR ((exercise) NEAR/3 (technique* OR treat* OR therap*))):ab,ti)

Embase Abstract Index Terms View Full Text

There are many reports on long-term outcomes of invasive therapy for coxarthrosis, but few on outcome of prolonged conservative therapy. We were able to follow the clinical course of end-stage coxarthrosis treated conservatively in two patients, in whom prolonged conservative therapy achieved clinical improvement comparable to that achieved by invasive therapy. The Hip Joint Function chart prepared by the Japanese Orthopaedic Association was used for the evaluation. Although the range of motion was not extended, alleviation of pain led to an increased ability to walk and enhanced activities of daily living, giving rise to overall clinical improvement. These two case studies suggest that conservative therapy may be effective even for patients with conditions for which invasive therapy might be thought necessary. The role of physiotherapy may increase if after careful assessment of whether it is effective, conservative therapy is indicated in future in cases when it has not been considered previously.

3 Coxarthrosis and physical work load

Vingard E., Hogstedt C., Alfredsson L., Fellenius E., Goldie I., Koster M.

Scandinavian Journal of Work, Environment and Health 1991 17:2 (104-109) Cited by: 68

Embase MEDLINE Abstract Index Terms

4 Physical and physiotherapeutic measures to restore function in coxarthrosis

Neff G.

Munchener Medizinische Wochenschrift 1978 120:25 (869-873) Cited by: 0

Embase MEDLINE Abstract Index Terms

Early preventive measures such as positioning in extension or abduction, possibly with prolonged extension and in more advanced and chronic changes the use of heat, particularly in the form of steam and 'Schlingentisch' therapy in addition to isometric stretching and general physical exercises both dry and in warm springs are particularly emphasized among the possibilities for physical and physiotherapeutic treatment of coxarthrosis. Physical and physiotherapeutic measures are also of importance before and after operation for arthrosis of the hip joint from the point of view of restoration of function. The wheel-chair and other aids to ergotherapy are included in this. The treatment must be followed in its entirety, hand in hand with skilled internal medical care whatever the condition of the individual.

5 Immediate efficacy of neuromuscular exercise in patients with severe osteoarthritis of the hip or knee: A secondary analysis from a randomized controlled trial

Villadsen A., Overgaard S., Holsgaard-Larsen A., Christensen R., Roos E.M.

Journal of Rheumatology 2014 41:7 (1385-1394) Cited by: 13

Embase MEDLINE Abstract Index Terms View Full Text

Objective. Knowledge about the effects of exercise in severe and endstage osteoarthritis (OA) is limited. The aim was to evaluate the efficacy of a neuromuscular exercise program in patients with clinically severe hip or knee OA. Methods. This was a randomized controlled assessor-

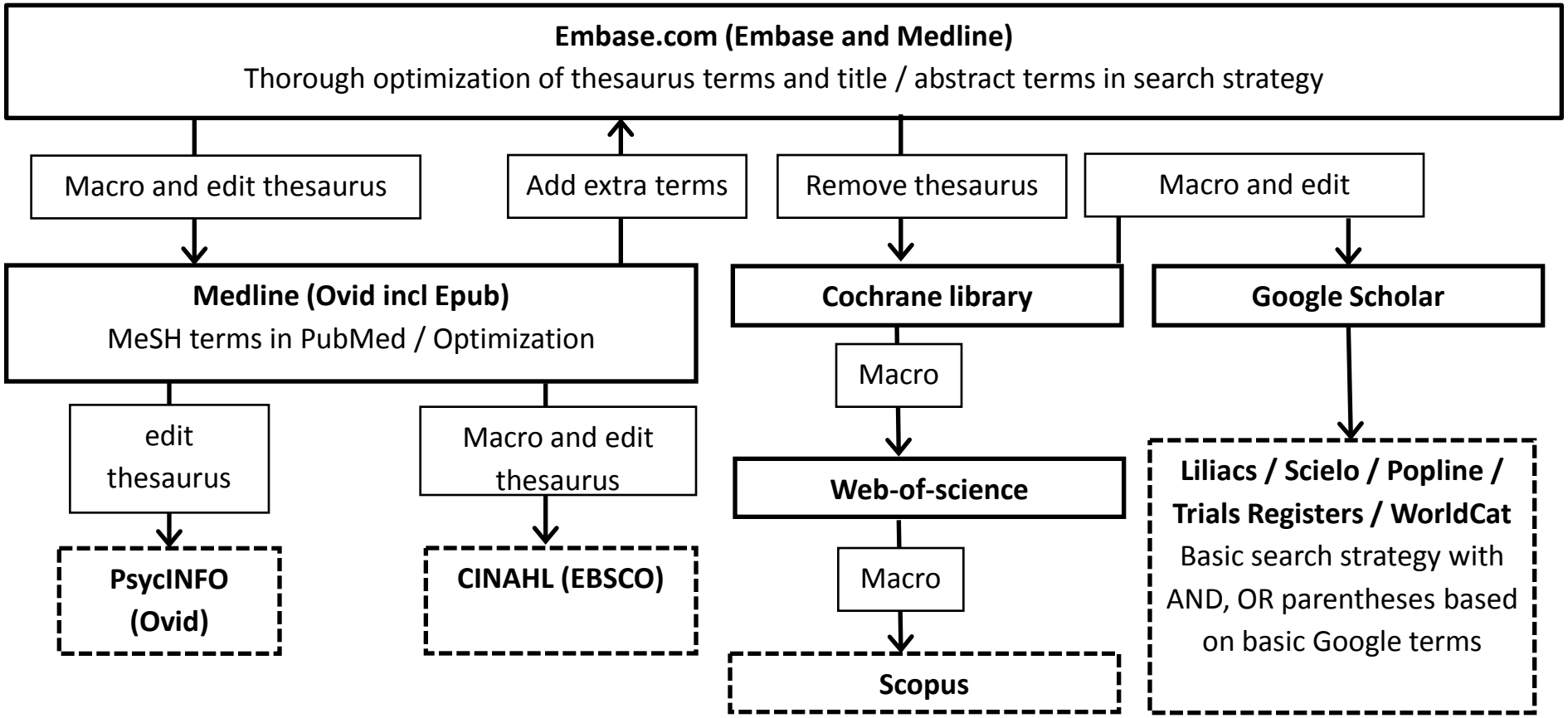
1141 hits

('hip osteoarthritis'/exp OR (Coxarthros* OR 'malum coxae sinilis' OR ((hip OR cox) NEAR/3 (arthrit* OR arthros* OR osteoarthr*))):ab,ti) AND ('kinesiotherapy'/exp OR (kinesiotherap* OR kinesitherap* **OR exercise*** OR ((**conservative***) NEAR/3 (technique* OR treat* OR therap*)) **OR physiotherap***):ab,ti)

Optimized – 3241 hits

('hip osteoarthritis'/exp OR (Coxarthros* OR ((hip OR cox) NEAR/4 (arthrit* OR arthros* OR osteoarthr* OR oa))):ab,ti) AND ('kinesiotherapy'/exp OR Kinesiology/exp OR walking/exp OR physiotherapy/exp OR 'conservative treatment'/exp OR physiotherapist/exp OR 'manipulative medicine'/exp OR exercise/exp OR 'movement (physiology)'/exp OR (kinesiotherap* OR kinesitherap* OR exercise OR ((motion OR conservative OR manual OR manipulat*) NEAR/3 (technique* OR treat* OR therap*)) OR Chiropract* OR physiotherap*):ab,ti)

Translating the strategy between databases



Acl reconstruction vascular complication

Embase.com	328	327
Medline (ovidSP)	211	70
Web of science	166	77
Cinahl	38	16
Cochrane	16	2
PubMed publisher	20	19
Google scholar	100	58
Total	**879**	**569**

Embase.com 328

('anterior cruciate ligament reconstruction'/exp OR 'anterior cruciate ligament injury'/exp/dm_su OR 'anterior cruciate ligament'/exp/dm_su OR 'anterior cruciate ligament rupture'/exp/dm_su OR ('anterior cruciate ligament'/exp AND ('ligament injury'/exp/dm_su OR 'ligament surgery'/exp OR 'knee ligament surgery'/de OR 'knee arthroscopy'/exp)) OR ((anterior NEAR/6 ligament* NEAR/6 (reconstruct* OR surg* OR repair*)) OR (acl NEAR/3 (reconstruct* OR surg* OR repair*))):ab,ti) AND ('blood vessel injury'/exp OR 'vascular disease'/exp OR hemarthrosis/exp OR 'anterior tibial syndrome'/exp OR (((vessel* OR arter* OR vein* OR vascul*) NEAR/3 (damage* OR injur* OR complication* OR trauma OR accident* OR lesion* OR disease*)) OR embolism OR thrombo* OR claudicat* OR aneurism* OR ischem* OR ischaem* OR extravasat* OR reperfusion* OR hemarthros* OR haemarthros* OR phlebothrombo* OR ((compartment* OR 'anterior tibial') NEAR/3 syndrome*)):ab,ti)

Medline (ovidSP) 211

(exp anterior cruciate ligament reconstruction/ OR anterior cruciate ligament/su OR (anterior cruciate ligament/ AND (arthroscopy/)) OR ((anterior ADJ6 ligament* ADJ6 (reconstruct* OR surg* OR repair*)) OR (acl ADJ3 (reconstruct* OR surg* OR repair*))).ab,ti.) AND (exp vascular diseases/ OR exp Blood Vessels/in OR hemarthrosis/ OR Anterior Compartment Syndrome/ OR (((vessel* OR arter* OR vein* OR vascul*) ADJ3 (damage* OR injur* OR complication* OR trauma OR accident* OR lesion* OR disease*)) OR embolism OR thrombo* OR claudicat* OR aneurism* OR ischem* OR ischaem* OR extravasat* OR reperfusion* OR hemarthros* OR haemarthros* OR phlebothrombo* OR ((compartment* OR anterior tibial) ADJ3 syndrome*)).ab,ti.)

Cochrane 16

(((anterior NEAR/6 ligament* NEAR/6 (reconstruct* OR surg* OR repair*)) OR (acl NEAR/3 (reconstruct* OR surg* OR repair*))):ab,ti) AND ((((vessel* OR arter* OR vein* OR vascul*) NEAR/3 (damage* OR injur* OR complication* OR trauma OR accident* OR lesion* OR disease*)) OR embolism OR thrombo* OR claudicat* OR aneurism* OR ischem* OR ischaem* OR extravasat* OR reperfusion* OR hemarthros* OR haemarthros* OR phlebothrombo* OR ((compartment* OR 'anterior tibial') NEAR/3 syndrome*)):ab,ti)

Web of science 166

TS=((((anterior NEAR/6 ligament* NEAR/6 (reconstruct* OR surg* OR repair*)) OR (acl NEAR/3 (reconstruct* OR surg* OR repair*)))) AND ((((vessel* OR arter* OR vein* OR vascul*) NEAR/3 (damage* OR injur* OR complication* OR trauma OR accident* OR lesion* OR disease*)) OR embolism OR thrombo* OR claudicat* OR aneurism* OR ischem* OR ischaem* OR extravasat* OR reperfusion* OR hemarthros* OR haemarthros* OR phlebothrombo* OR ((compartment* OR "anterior tibial") NEAR/3 syndrome*))))

Cinahl 38

(MH "anterior cruciate ligament reconstruction+" OR MH "anterior cruciate ligament+"/su OR (MH "anterior cruciate ligament+" AND (MH arthroscopy+)) OR ((anterior N6 ligament* N6 (reconstruct* OR surg* OR repair*)) OR (acl N3 (reconstruct* OR surg* OR repair*)))) AND (MH "vascular diseases+" OR MH "Blood Vessels+"/in OR MH hemarthrosis+ OR MH "Anterior Compartment Syndrome+" OR (((vessel* OR arter* OR vein* OR vascul*) N3 (damage* OR injur* OR complication* OR trauma OR accident* OR lesion* OR disease*)) OR embolism OR thrombo* OR claudicat* OR aneurism* OR ischem* OR ischaem* OR extravasat* OR reperfusion* OR hemarthros* OR haemarthros* OR phlebothrombo* OR ((compartment* OR anterior tibial) N3 syndrome*)))

PubMed publisher 20

(anterior cruciate ligament reconstruction[mh] OR anterior cruciate ligament[mh]su OR (anterior cruciate ligament[mh] AND (arthroscopy[mh])) OR ((anterior AND ligament*[tiab] AND (reconstruct*[tiab] OR surg*[tiab] OR repair*[tiab])) OR (acl AND (reconstruct*[tiab] OR surg*[tiab] OR repair*[tiab])))) AND (vascular diseases[mh] OR Blood Vessels[mh]in OR hemarthrosis[mh] OR Anterior Compartment Syndrome[mh] OR (((vessel*[tiab] OR artery[tiab] OR arterial*[tiab] OR arteries*[tiab] OR vein*[tiab] OR vascul*[tiab]) AND (damage*[tiab] OR injur*[tiab] OR complication*[tiab] OR trauma OR accident*[tiab] OR lesion*[tiab] OR disease*[tiab])) OR embolism OR thrombos*[tiab] OR thromboem*[tiab] OR thrombot*[tiab] OR thrombo[tiab] OR claudicat*[tiab] OR aneurism*[tiab] OR ischem*[tiab] OR ischaem*[tiab] OR extravasat*[tiab] OR reperfusion*[tiab] OR hemarthros*[tiab] OR haemarthros*[tiab] OR phlebothrombo*[tiab] OR ((compartment*[tiab] OR anterior tibial) AND syndrome*[tiab]))) AND publisher[sb]

Google scholar

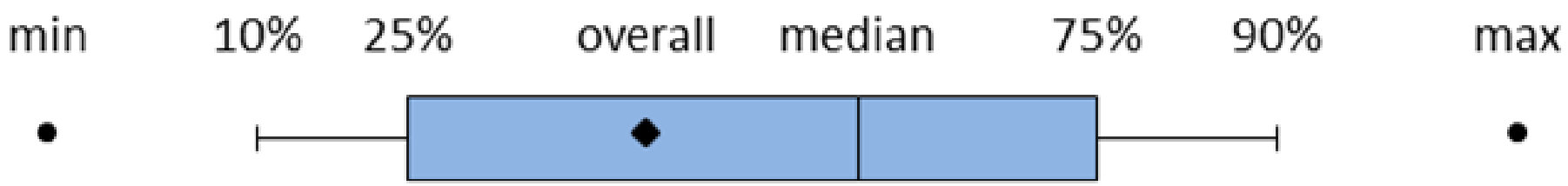
"anterior * ligament reconstruction|surgery|repair"|"acl reconstruction|surgery|repair" "vessel|artery|arterial|arteries|veins|vascular damage|injury|complications"|embolism|thrombosis|aneurism|ischemia|ischaemia|hemarthrosis|"compartment syndrome"

Do the results differ from controls?

58 published systematic reviews created with this method

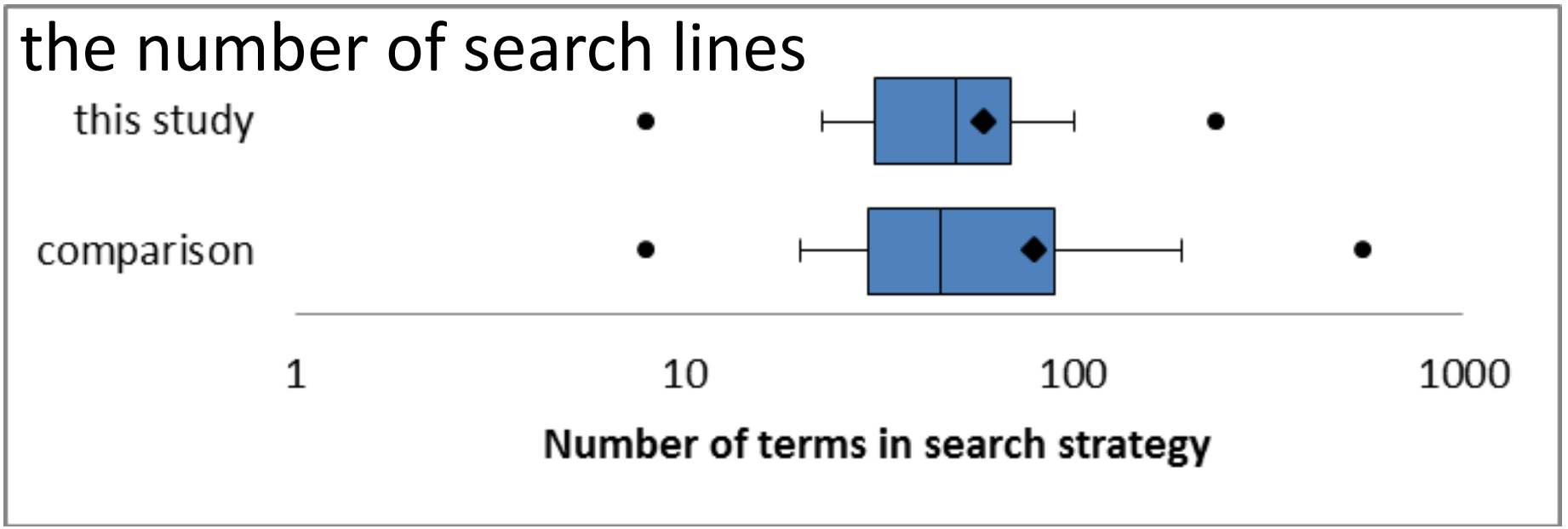
Control group: 94 systematic reviews published in 2014 from other Dutch university hospitals that reported librarian help

Legend



Complexity of the search

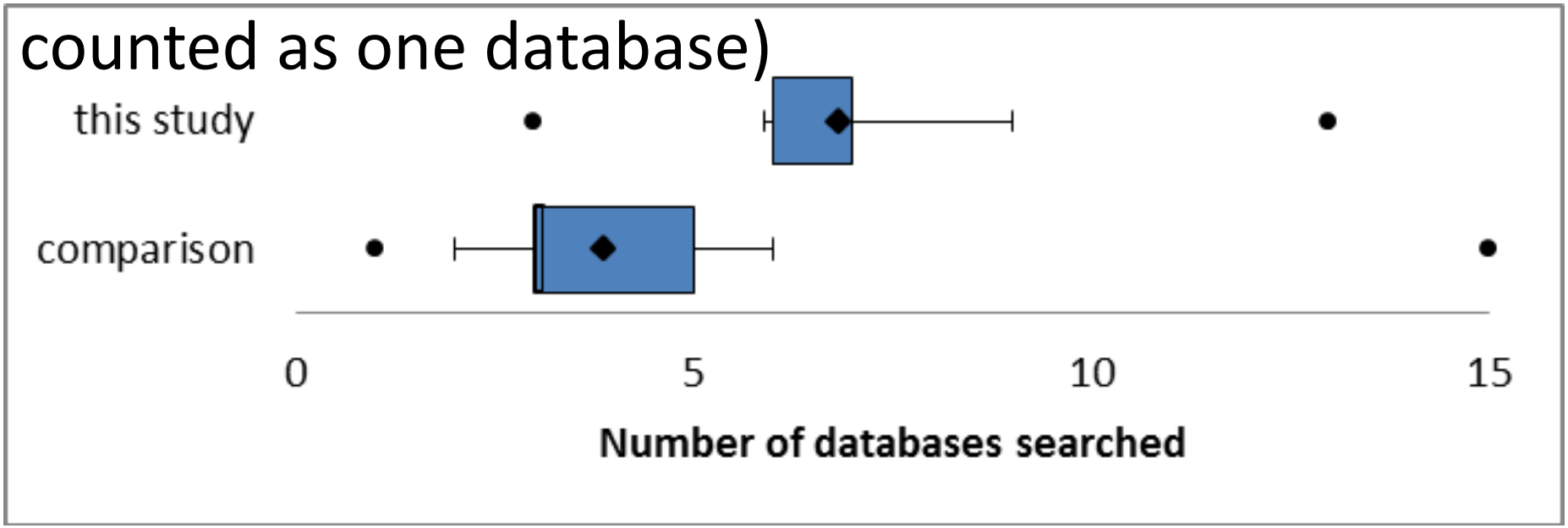
The number of Boolean operators combined with the number of search lines



	median	average
This study	50	59
Comparison	46	80

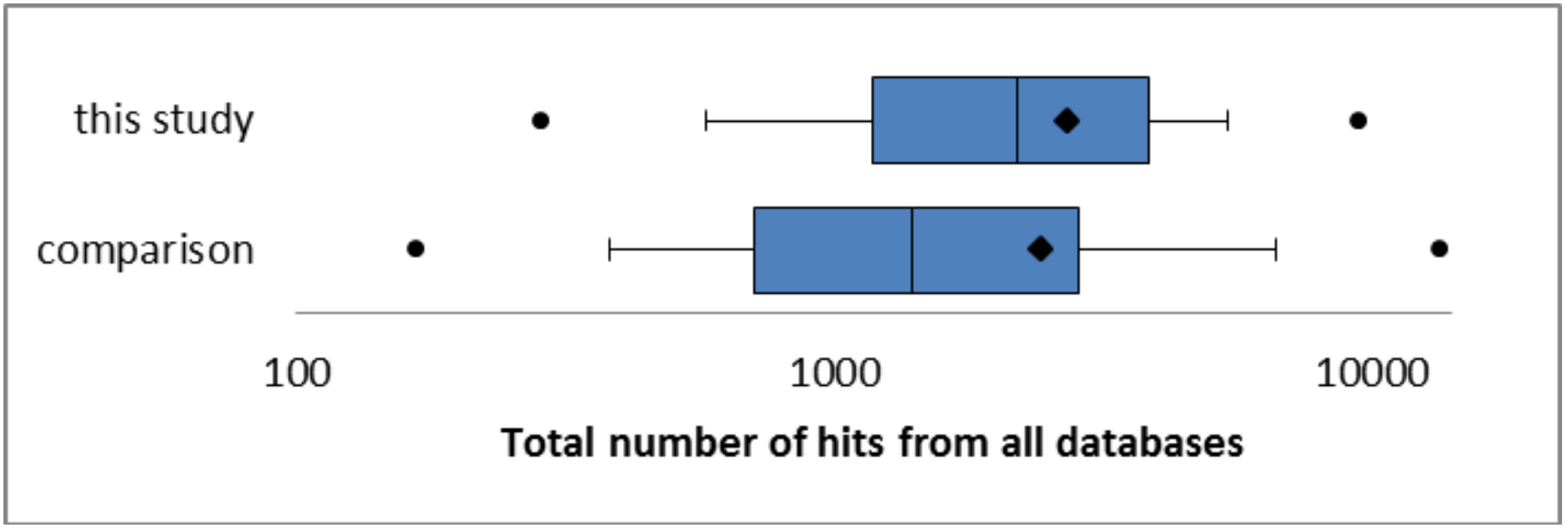
Number of databases used

(multiple databases within Cochrane library counted as one database)



Number of articles retrieved

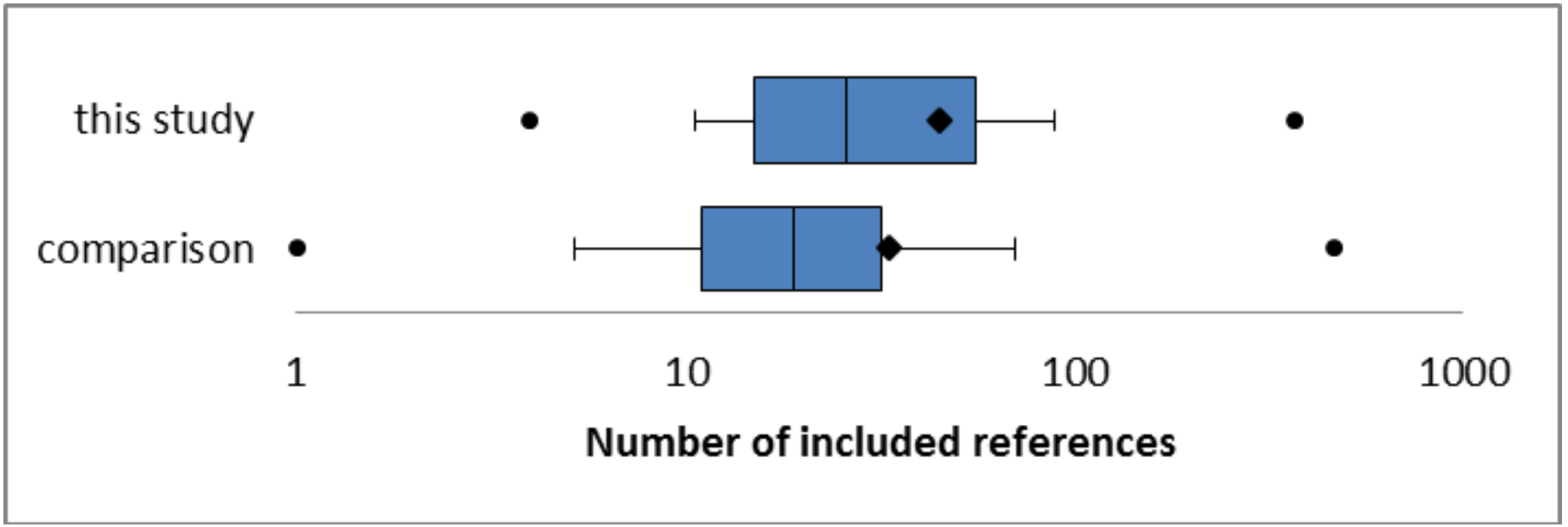
(after deduplication)



	median	average
This study	2186	2721
Comparison	1399	2434

Number of references included

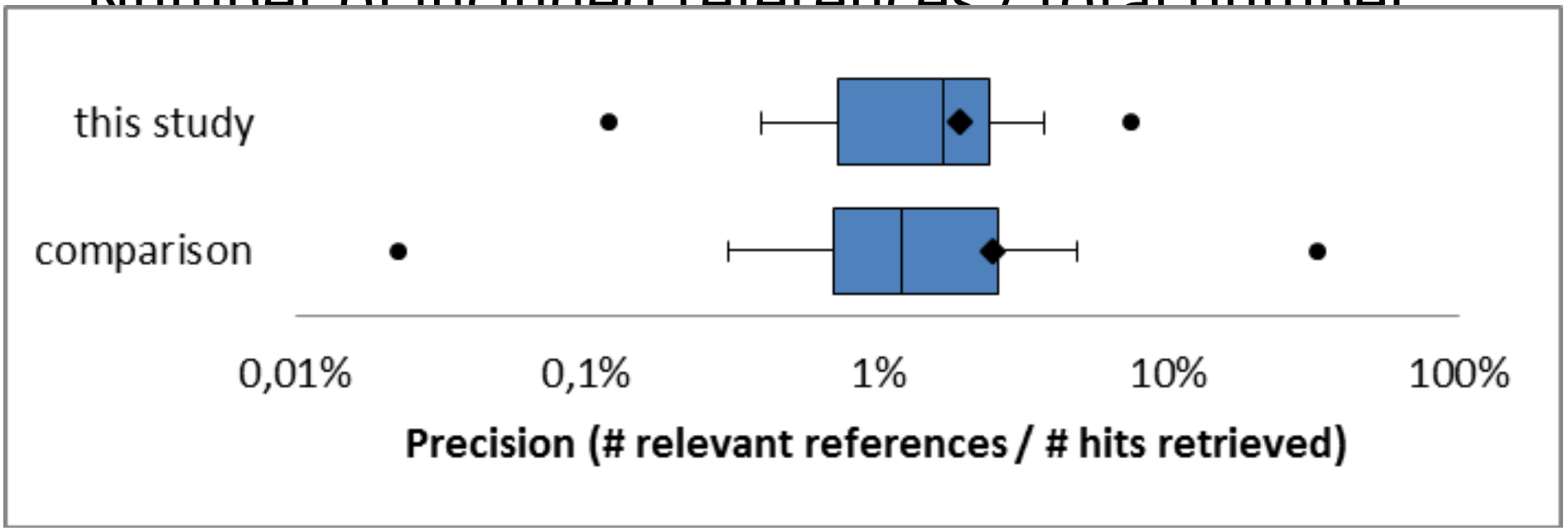
Found in the databases or from other sources



	median	average
This study	26	45
Comparison	19	33

Precision

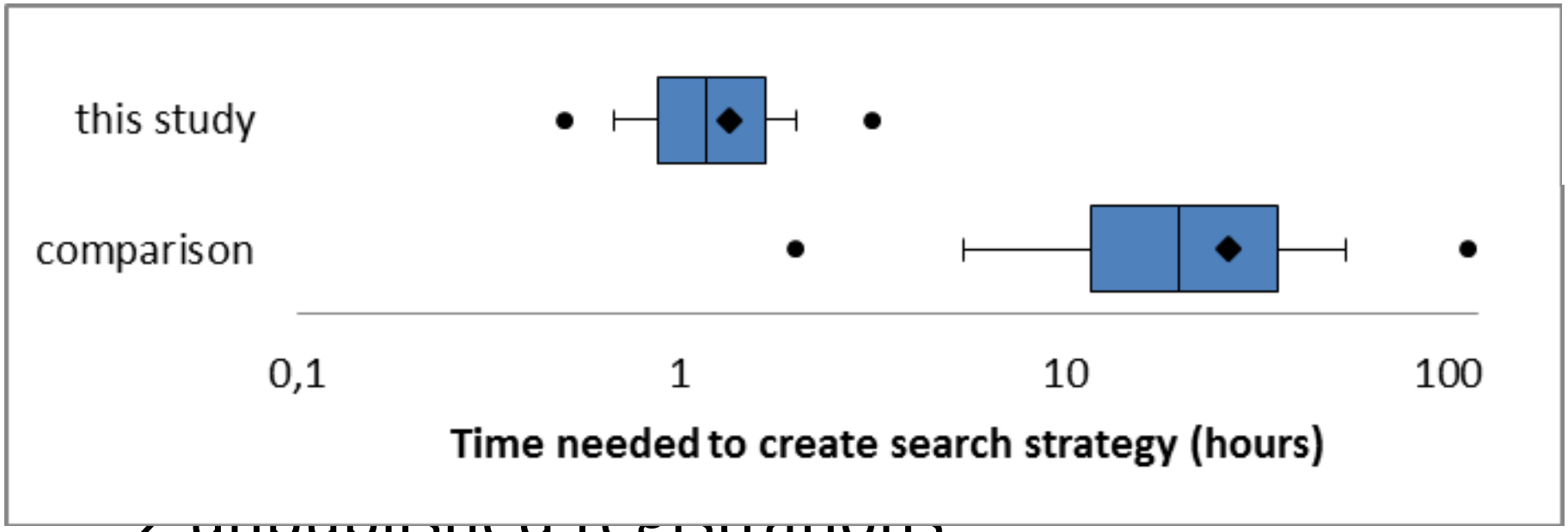
Number of included references / total number



	median	average
This study	1.7%	1.9%
Comparison	1.2%	2.5%

Time needed to create search strategy

Our data: from start of the reference interview

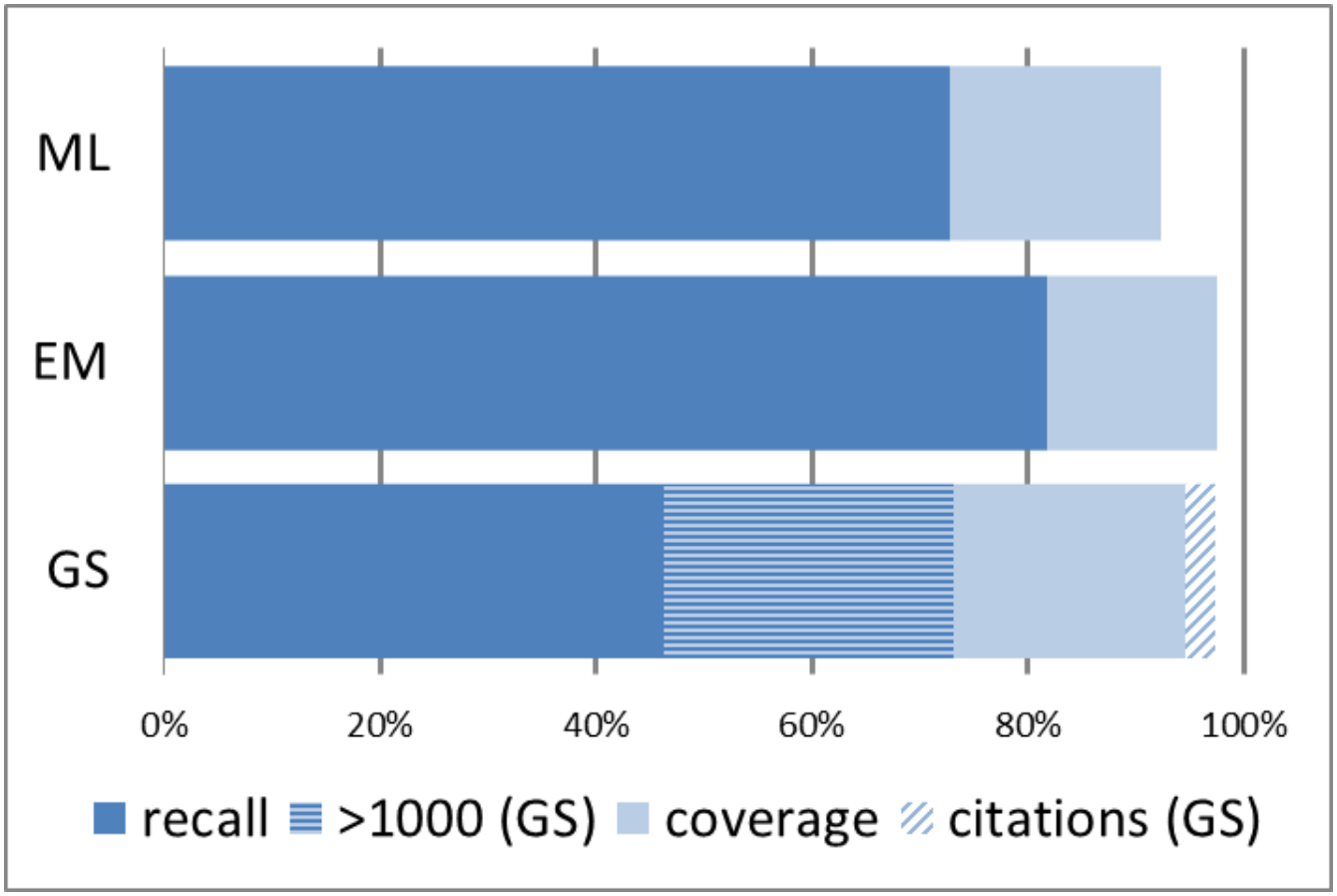


2 unpublished registrations

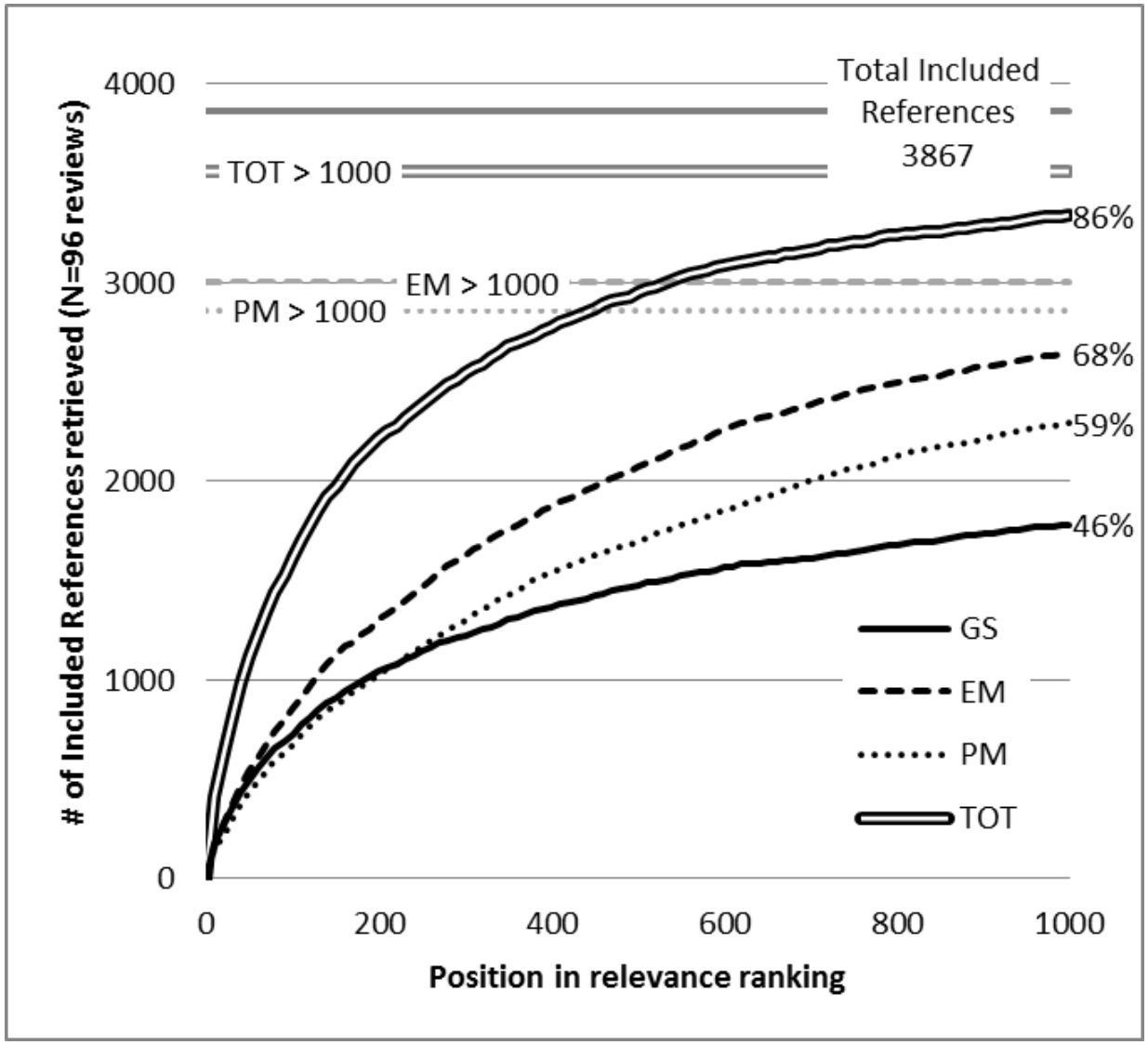
	median	average
This study	1.2 hr	1.3 hr
Comparison	20 hr	27 hr

Success factors / Time savers

- Optimization techniques
- Macros for syntax translation
- Direct feedback by researcher
- Database order and interface choice



Bramer WM, Giustini D, Kramer BMR. Comparing the coverage, recall, and precision of searches for 120 systematic reviews in Embase, MEDLINE, and Google Scholar: a prospective study. Systematic reviews. 2016;5(1):39.


Total Included References 3867
TOT > 1000
EM > 1000
PM > 1000
86%
68%
59%
46%
GS
EM
PM
TOT
# of Included References retrieved (N=96 reviews)
Position in relevance ranking
0
1000
2000
3000
4000
0
200
400
600
800
1000

Success factors / Time savers

- Optimization techniques
- Macros for syntax translation
- Direct feedback by researcher
- Database order and interface choice (Starting in embase.com)
- Single-line search strategies

Single line approach or set numbers?

Well structured?

#1	brassica[mh]
#2	brassica*[tiab]
#3	broccoli[tiab]
#4	#1 OR #2 OR #3
#5	neoplasm[mh]
#6	neoplas*[tiab]
#7	cancer*[tiab]
#8	tumor*[tiab]
#9	#5 OR #6 OR #7 OR #8
#10	#4 AND #9
#11	animals[mh]
#12	humans[mh]
#13	#11 AND #12
#14	#11 NOT #13
#15	#10 NOT #14
#16	**cauliflower*[tiab]**
#17	**#1 OR #2 OR #3 OR #16**
#18	**#17 AND #9**
#19	**#18 NOT #14**

Unstructured?

(brassica[mh] OR brassica*[tiab] OR broccoli[tiab] **OR cauliflower*[tiab]**) AND (neoplasm[mh] OR neoplas*[tiab] OR cancer*[tiab] OR tumor*[tiab])) NOT (animals[mh] NOT humans[mh])

Success factors / Time savers

- Optimization techniques
- Macros for syntax translation
- Direct feedback by researcher
- Database order and interface choice (Starting in embase.com)
- Single-line search strategies
- Create query in Word and paste in database
- Experience (be pro-active)
- Computer literacy

Quality is the norm, not speed!

Method is not a blueprint for speed but for confidence by standardization

Speed can only be a result of experience

By gaining experience and speed more customers can be helped and overall review quality will improve

witter, Inc. [US] twitter.com/MSAMPSO/status/740227999967129601

Em Exp OV Co Scop mail erasmus mail wichor

agina Over Twitter doorzoeken Heb je al een account? Inlo

Margaret Sampson
@MSAMPSO

Volgen

Today I did a #SystematicReview #search of 3 databases, the #dedup and download in 136 min using @wichor Bramer's method - a new PB!

10:04 - 7 jun. 2016

Uitgelichte Tweet

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Gana dinero extra desde casa con encuestas pagadas! Hasta 15€ por encuesta.

Ongoing research

Direct comparison

When can you stop

Contact details

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Slideshare:	www.slideshare.net/wichor