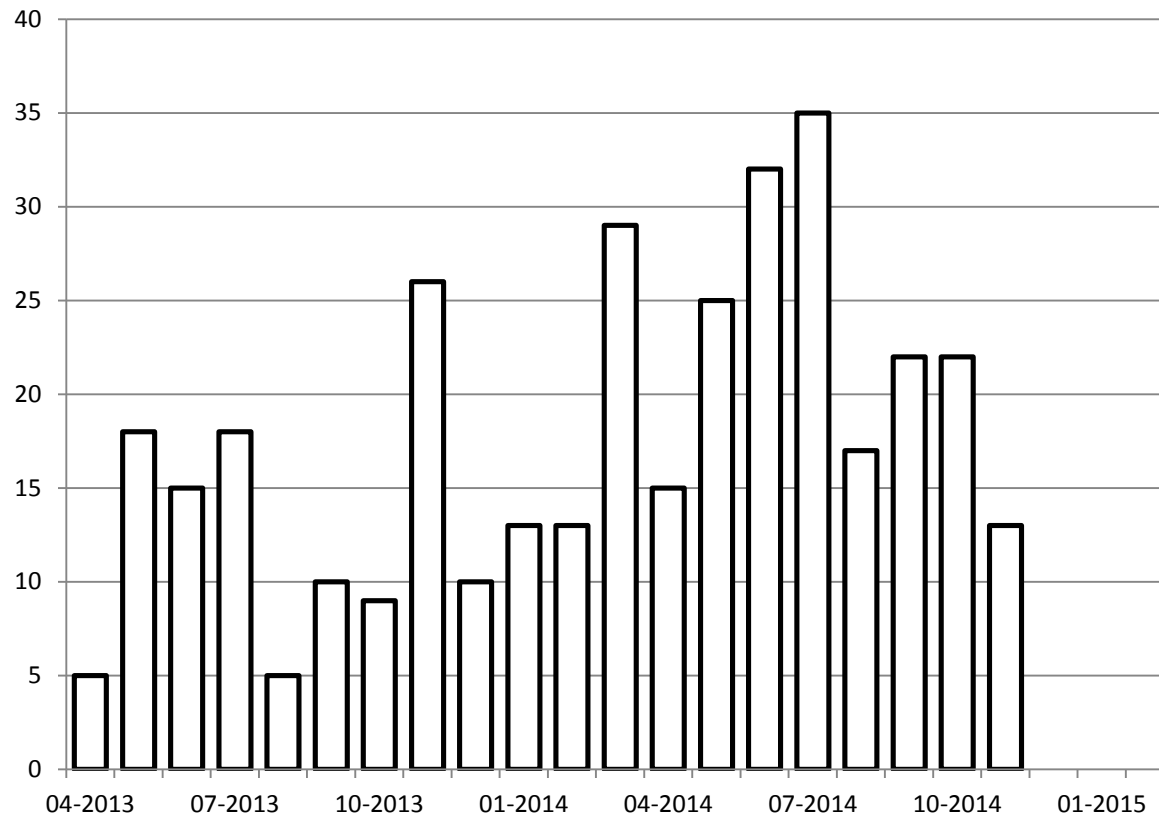
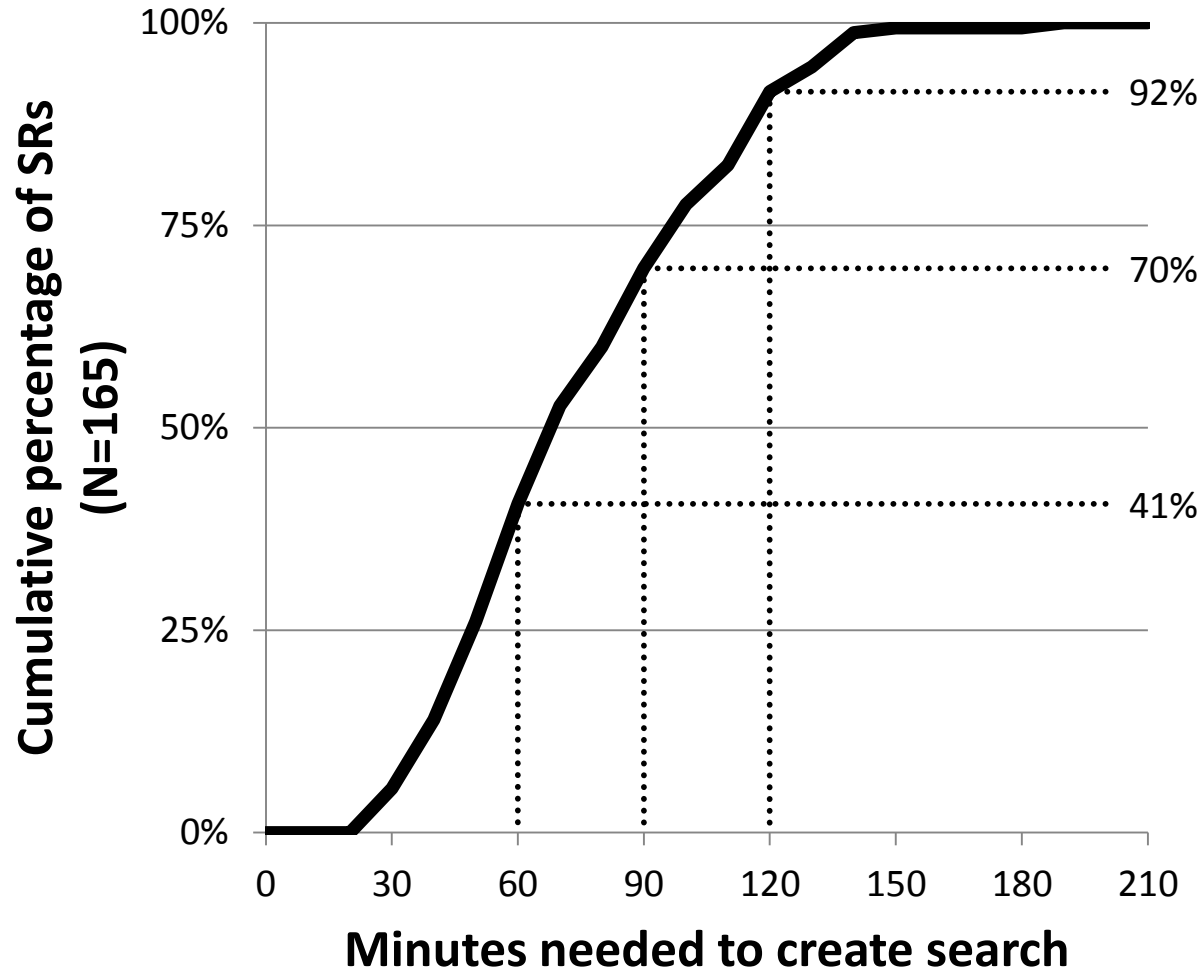


Systematic review searches performed



Time needed to search



Major problems with systematic searching

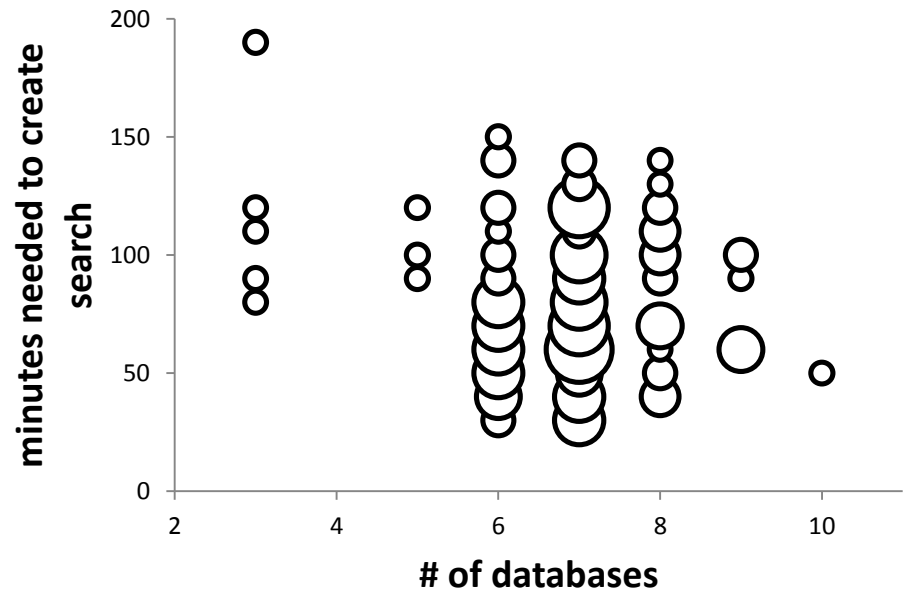
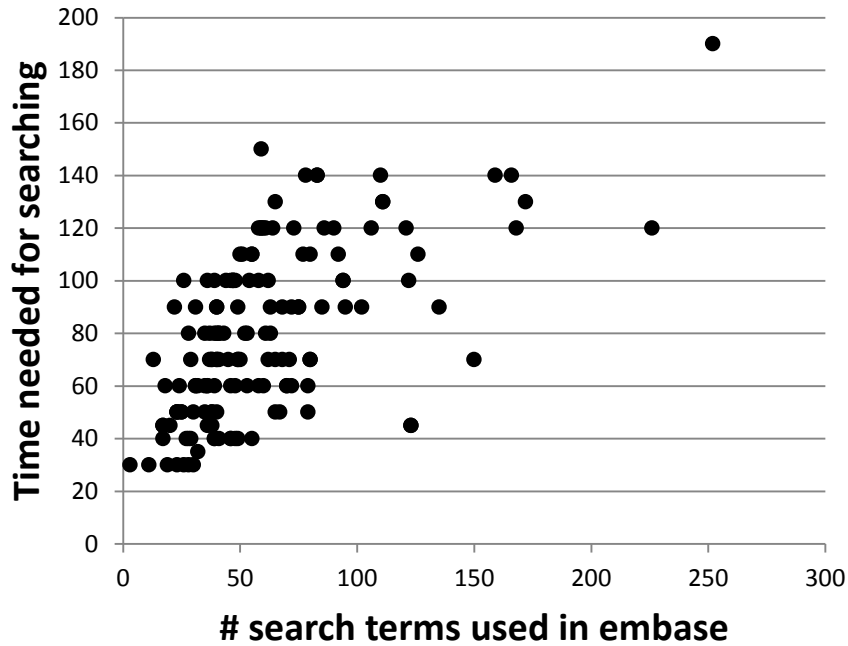
Term completeness

- the right terms to describe the topic
- enough terms to be sensitive
- not too much terms to lose precision

Translation to other databases

- different syntax
- different thesaurus terms
- different number of thesaurus terms

Time not depending on # of terms / databases



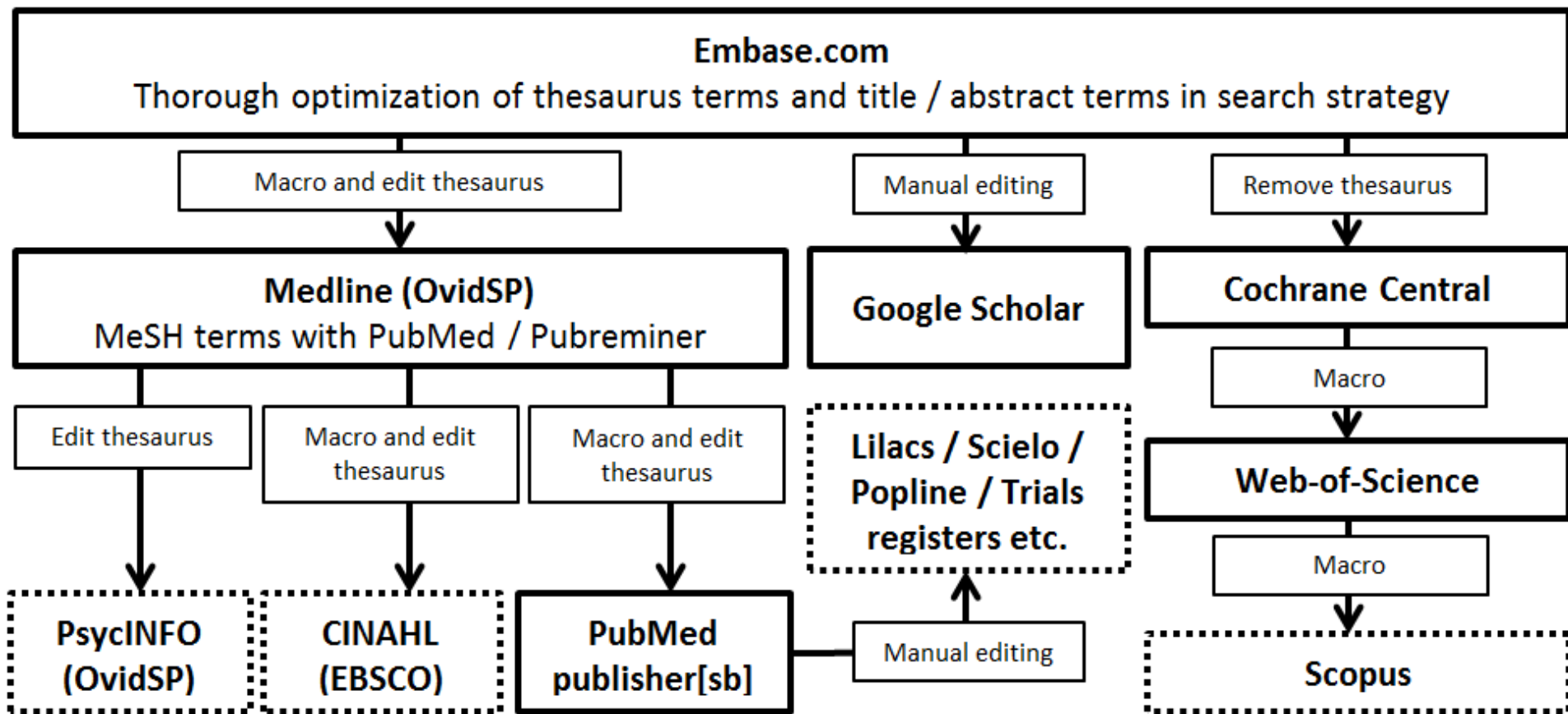
Term completeness

Optimization:

("brassica"[mh] **NOT** (brassica[tiab] OR broccoli[tiab])) AND ("neoplasms"[mh] OR neoplas*[tiab] OR cancer*[tiab])

→ cruciferous vegetable*[tiab]

Translation between databases



Are these searches good enough?

Compared to a random set of 100 recent SRs from PubMed, my searches:

Were more complex	49 terms	15 terms
Used more databases	7	4
Found more includes	43	17
Less extreme # hits	108-10068	9-52046
Precision (50% interval)	1,1% - 3,2%	0,6%-5,1%

'Median' search strategy for an SR

Embase.com	2093	2085
Medline (OvidSP)	1641	787
Web-of-science	1471	709
PubMed (publisher)	49	32
Cochrane	10	0
Google Scholar	200	176
Totaal	5464	3789

Embase.com 2093

('RNA sequence'/de OR 'DNA sequence'/de OR 'gene sequence'/de OR 'gene rearrangement'/de OR (((rna OR mrna OR mirna OR microRNA OR dna OR cdna OR exome OR genom* OR gene OR genes OR 'next-generation') NEAR/6 (sequenc* OR rearrange*)):ab,ti) AND ('colon cancer'/exp OR 'colon tumor'/de OR 'colorectal tumor'/de OR 'rectum tumor'/de OR 'rectum cancer'/exp OR ((colon* OR colorect* OR rect* OR sigmoid) NEAR/3 (cancer* OR neoplas* OR carcino* OR adenocarcino* OR tumo* OR malign*)):ab,ti) AND (prognosis/exp OR 'predictive value'/de OR 'biological marker'/de OR 'tumor marker'/exp OR survival/exp OR Mortality/exp OR (prognos* OR predict* OR marker* OR biomarker* OR surviv* OR Mortalit*):ab,ti)

Medline (OvidSP) 1641

("Sequence Analysis, RNA"/ OR exp "Sequence Analysis, DNA"/ OR "gene rearrangement"/ OR (((rna OR mrna OR mirna OR microRNA OR dna OR cdna OR exome OR genom* OR gene OR genes OR "next-generation") ADJ6 (sequenc* OR rearrange*)):ab,ti.) AND ("Colorectal Neoplasms"/ OR exp "Colonic Neoplasms"/ OR "Rectal Neoplasms"/ OR ((colon* OR colorect* OR rect* OR sigmoid) ADJ3 (cancer* OR neoplas* OR carcino* OR adenocarcino* OR tumo* OR malign*)):ab,ti.) AND (prognosis/ OR "Predictive Value of Tests"/ OR exp "biological markers"/ OR Survival/ OR "Disease-Free Survival"/ OR exp Mortality/ OR Mortality.xs. OR (prognos* OR predict* OR marker* OR biomarker* OR surviv* OR Mortalit*):ab,ti.)

Cochrane 10

(((rna OR mrna OR mirna OR microRNA OR dna OR cdna OR exome OR genom* OR gene OR genes OR 'next-generation') NEAR/6 (sequenc* OR rearrange*)):ab,ti) AND (((colon* OR colorect* OR rect* OR sigmoid) NEAR/3 (cancer* OR neoplas* OR carcino* OR adenocarcino* OR tumo* OR malign*)):ab,ti) AND ((prognos* OR predict* OR marker* OR biomarker* OR surviv* OR Mortalit*):ab,ti)

Web-of-science 1471

TS=((((rna OR mrna OR mirna OR microRNA OR dna OR cdna OR exome OR genom* OR gene OR genes OR "next-generation") NEAR/6 (sequenc* OR rearrange*))) AND (((colon* OR colorect* OR rect* OR sigmoid) NEAR/3 (cancer* OR neoplas* OR carcino* OR adenocarcino* OR tumo* OR malign*))) AND ((prognos* OR predict* OR marker* OR biomarker* OR surviv* OR Mortalit*)))

PubMed (publisher) 49

(((rna[tiab] OR mrna[tiab] OR mirna[tiab] OR microRNA[tiab] OR dna[tiab] OR cdna[tiab] OR exome[tiab] OR genom*[tiab] OR gene[tiab] OR genes[tiab] OR next-generation[tiab]) AND (sequenc*[tiab] OR rearrange*[tiab]))) AND (((colon*[tiab] OR colorect*[tiab] OR rect*[tiab] OR sigmoid) AND (cancer*[tiab] OR neoplas*[tiab] OR carcino*[tiab] OR adenocarcino*[tiab] OR tumo*[tiab] OR malign*[tiab]))) AND ((prognos*[tiab] OR predict*[tiab] OR marker*[tiab] OR biomarker*[tiab] OR surviv*[tiab] OR Mortalit*[tiab])) AND publisher[sb])

Google Scholar

"rna|mrna|mirna|microRNA|dna|cdna|exome|genome|gene|genes
sequence|rearrangement" "colonic|colorectal|rectal
cancer|neoplasms|carcinoma|tumor"
prognosis|predictive|marker|biomarker|markers|biomarkers|survival|Mortality

Success factors

The success of our methodology is dependent of a few factors, most of which are controllable)

1. Experience (hardly controllable)
2. Interface choice and database order (habit / management decision)
3. Optimization techniques (shared today)
4. Single-line search strategies (just a habit)
5. Macros (shared today)
6. The researcher immediately providing feedback on the results (just a habit)
7. Good management

Disclaimer for managers

Performing systematic review searches within 2 hours is not the norm, nor is it the goal of this method.

This method helps in creating confidence in searching for SRs, and is aiming at improving overall quality of searching.

Attending a masterclass by some Kenyans does not make amateur marathon runners finish in 2 hours.

