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Cochrane and systematic reviews

Jenny McCleery

Joint Co-ordinating editor

Cochrane dementia and cognitive improvement group

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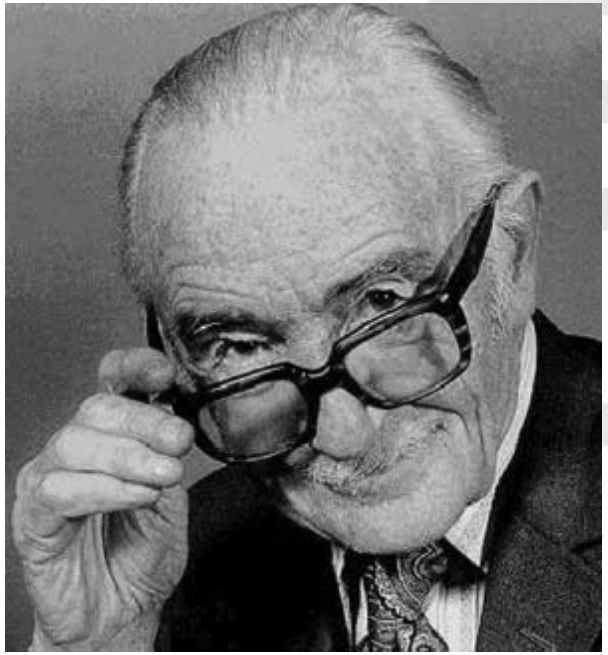
What is a systematic review?

Archie Cochrane (1909-1988)

In medicine, we don't have evidence for most of what we do

Some things we do are probably harmful



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What is a systematic review?

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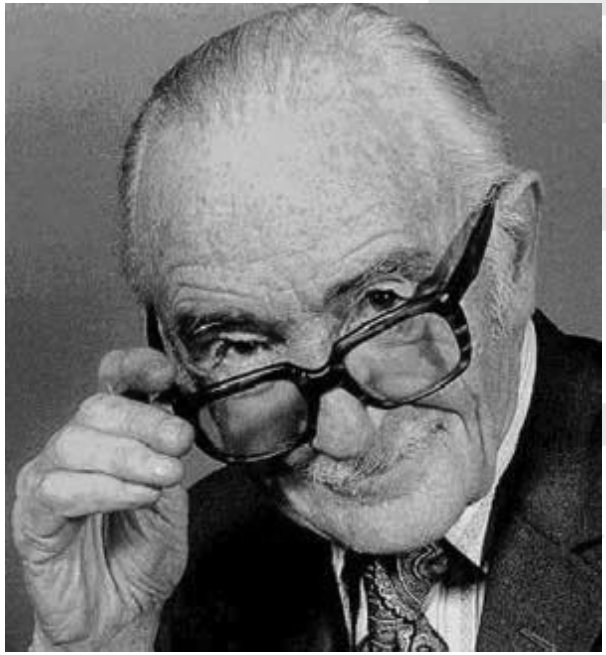
Some things we do are probably harmful

We need **"a critical summary, adapted periodically, of all … relevant, randomised controlled trials"**



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Started in perinatal medicine in 1980s

1. Computerised register of RCTs
2. Methods to combine data from different trials to create overall estimates of effects
3. An international collaboration to prepare and maintain the “critical summaries” (systematic reviews) of the RCTs in the register


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Cochrane
Iberoamérica


Cochrane
Dementia and
Cognitive Improvement


Cochrane
Nordic


Cochrane
Vascular


Cochrane
Campbell
Collaboration
Global Ageing Partnership


Cochrane
Methods


Cochrane
Children and Families


Cochrane Methods
Comparing Multiple
Interventions


Cochrane Methods
Screening and Diagnosis


Cochrane Methods
Prognosis

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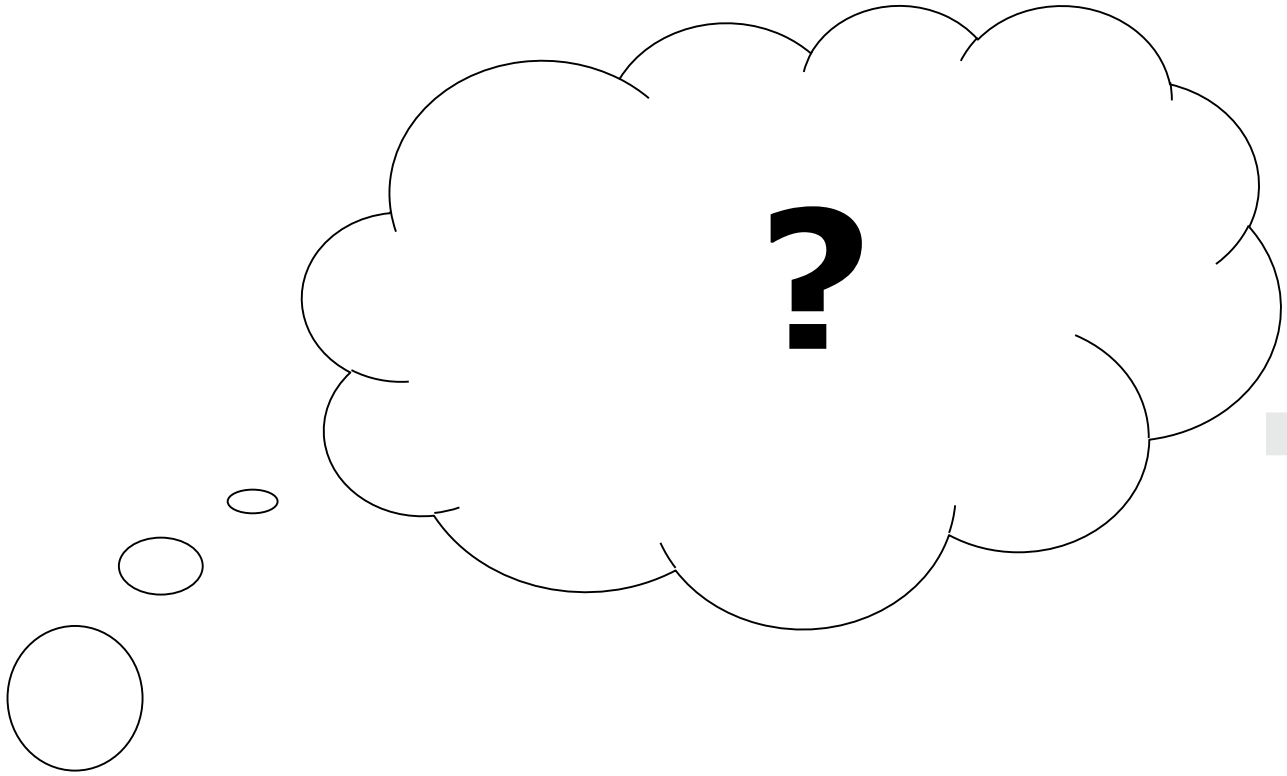
Writing (or reading) a systematic review – start with a question



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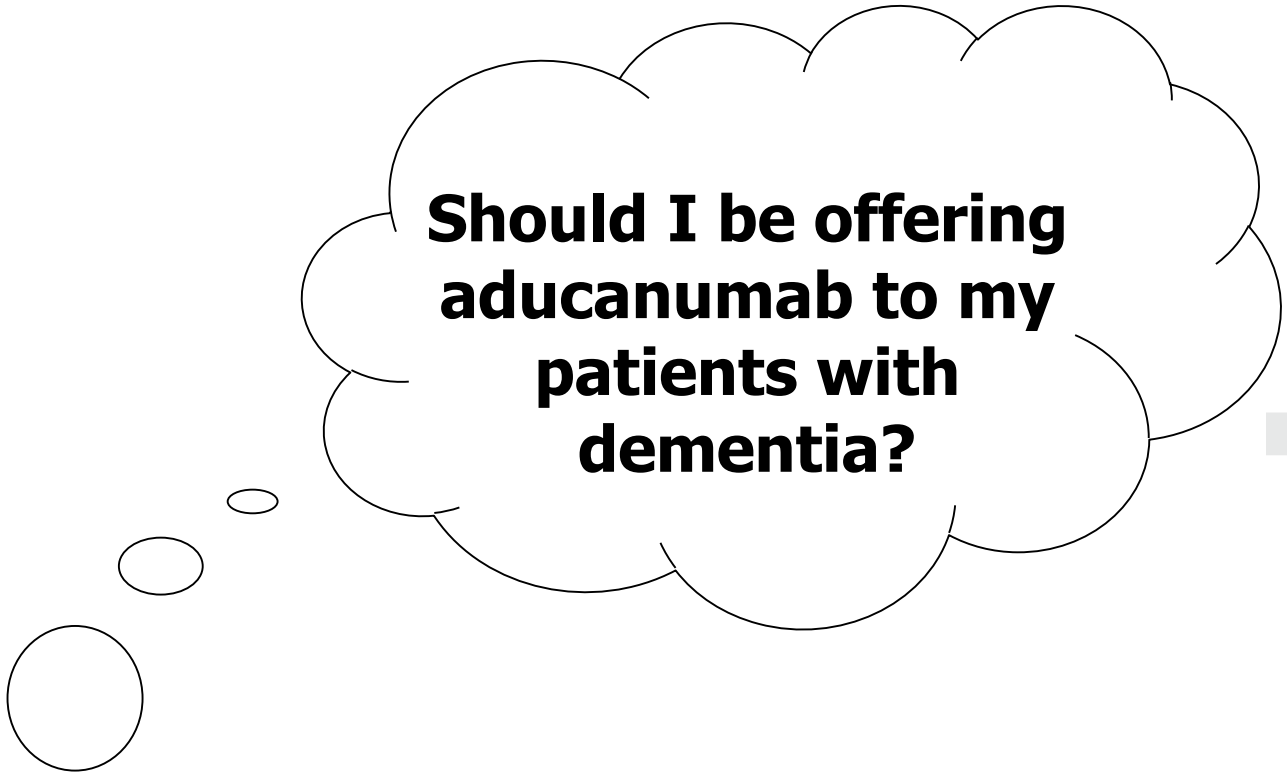
What do I want to know?



Structure the question: PICO for interventions

P – Participants (Patients with dementia? With dementia due to AD? With mild dementia due to AD? With mild dementia due to AD and positive amyloid markers?)

I – Intervention (Low or high dose aducanumab?)

C – Comparison (Placebo? Placebo and a cholinesterase inhibitor?)

O – Outcomes (Cognition? Function? Cognition and function combined? Which scales? Which harms?)

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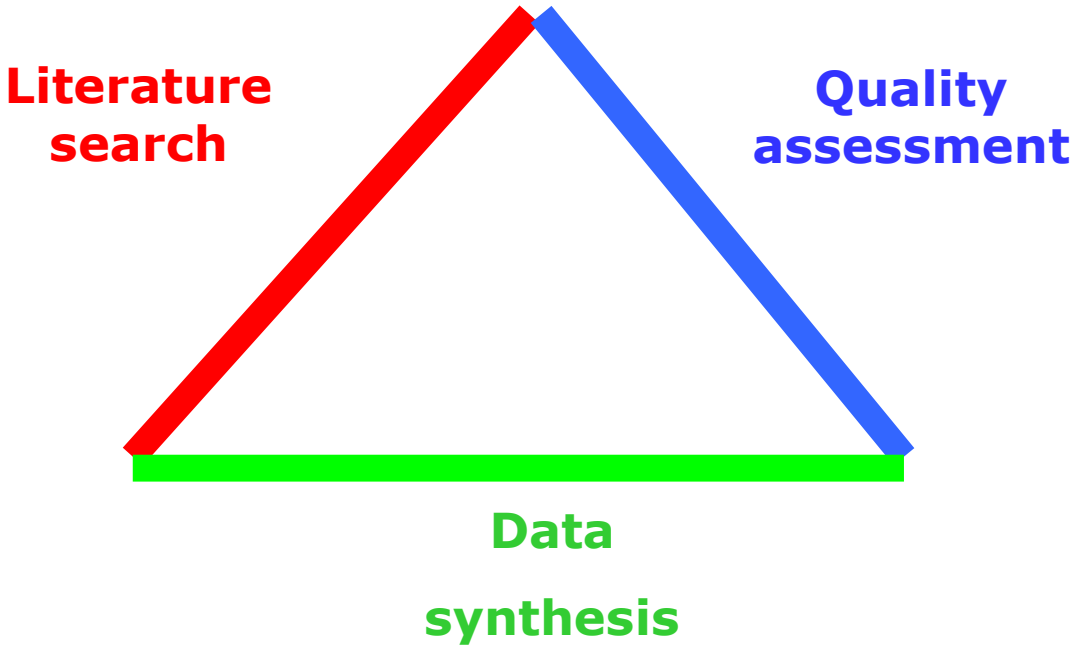
Process of a systematic review



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Literature search

On 27 Jan 2020, PubMed included >30 million citations & abstracts

In the 10 years to 31 Dec 2019, an average of nearly 1 million new records were added to PubMed each year

Cochrane's Central Register of Controlled Trials is a highly concentrated source of reports of RCTs

Cochrane is pioneering the use of 'crowd' methods and machine-learning to identify RCTs

Quality assessment

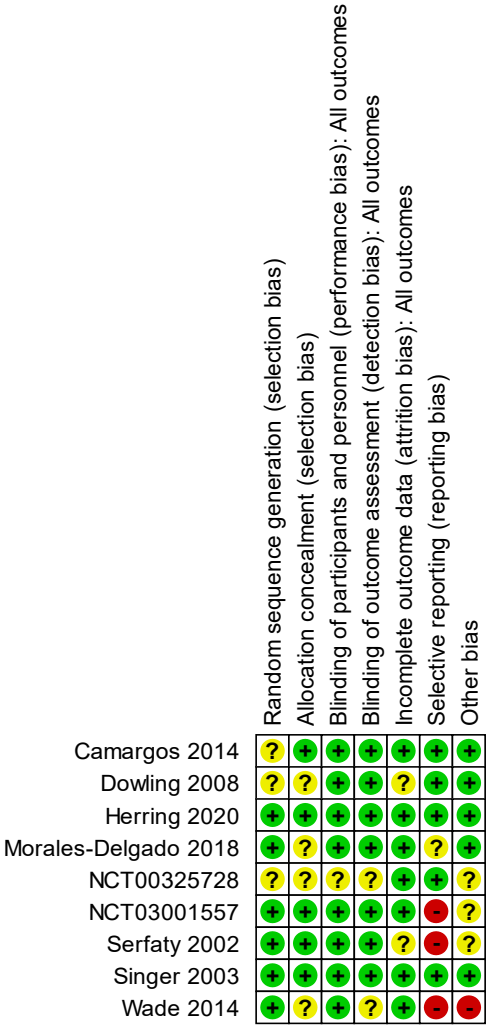
An essential part of a good systematic review

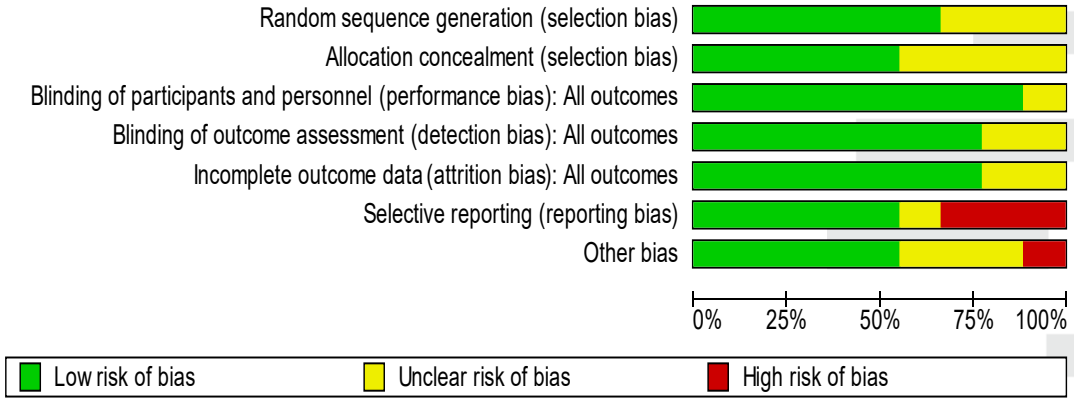
Cochrane Risk of Bias tool – risk of bias in individual RCTs

- Selection bias (random sequence generation, allocation concealment)
- Performance bias (blinding of participants and study personnel)
- Detection bias (blinding of outcome assessors)
- Attrition bias (incomplete outcome data)
- Reporting bias (selective outcome reporting)
- Other biases

Different quality assessment tools for other study types (e.g. QUADAS-2 for diagnostic test accuracy studies to assess risk of bias and external validity)

Risk of bias assessment: Pharmacotherapies for sleep disturbances in dementia





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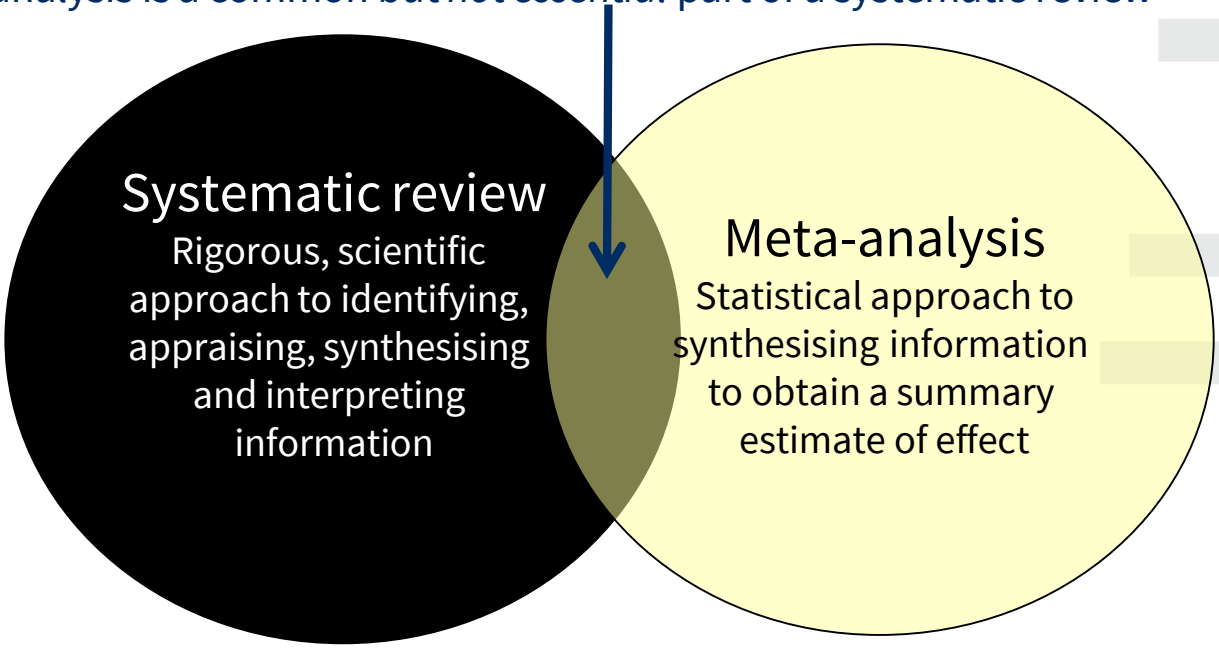
Data synthesis

Meta-analysis is a common but *not essential* part of a systematic review



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Interpreting results

How confident can I be that this review gives me the right answer to my question?

GRADE – overall certainty of the evidence related to each outcome

- Risk of bias in included studies
- Imprecision of results
- Inconsistency between studies
- Indirectness in relation to question
- Publication bias

Critical for interpretation of results

Interpreting results

- Endovascular thrombectomy for acute ischaemic stroke:

"Treatment increased the chance of achieving a good functional outcome, defined as a modified Rankin Scale score of 0 to 2: risk ratio (RR) 1.50 (95% confidence interval (CI) 1.37 to 1.63; 3715 participants, 18 RCTs; ***high-certainty evidence***)."

[Roaldsen et al. Endovascular thrombectomy and intra-arterial interventions for acute ischaemic stroke. Cochrane Database of Systematic Reviews 2021, Issue 6. Art. No.: CD007574. DOI: 10.1002/14651858.CD007574.pub3. Accessed 27 June 2021]

- Discontinuing cholinesterase inhibitors:
- "Compared to continuing cholinesterase inhibitors, discontinuing treatment may be associated with worse cognitive function in the short term (standardised mean difference (SMD) -0.42, 95% confidence interval (CI) -0.64 to -0.21; 4 studies; ***low certainty***), but the effect in the medium term is very uncertain (SMD -0.40, 95% CI -0.87 to 0.07; 3 studies; ***very low certainty***).
- [Parsons et al. Withdrawal or continuation of cholinesterase inhibitors or memantine or both, in people with dementia. CochraneDatabase of Systematic Reviews 2021, Issue 2. Art. No.: CD009081. DOI: 10.1002/14651858.CD009081.pub2. Accessed 27 June 2021]

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A warning .....

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John Ionnadis (2016) – "The Mass Production of Redundant, Misleading, and Conflicted Systematic Reviews and Meta-analyses"

The Millbank Quarterly, 94 (3), 485-514

Annual publications between 1991 and 2014 increased 2,728% for systematic reviews and 2,635% for meta-analyses versus only 153% for all PubMed-indexed items. Currently, probably more systematic reviews of trials than new randomized trials are published annually.

Most topics addressed by meta-analyses of randomized trials have overlapping, redundant meta-analyses ….. Some fields produce massive numbers of meta-analyses; for example, 185 meta-analyses of antidepressants for depression were published between 2007 and 2014. These meta-analyses are often produced either by industry employees or by authors with industry ties and results are aligned with sponsor interests.

Many … meta-analyses have serious flaws. Of the remaining, most have weak or insufficient evidence to inform decision making. Few systematic reviews and meta-analyses are both non-misleading and useful.

Conclusions: The production of systematic reviews and meta-analyses has reached epidemic proportions. Possibly, the large majority of produced systematic reviews and meta-analyses are *unnecessary*, *misleading*, and/or *conflicted*.

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Cochrane systematic reviews and meta-analyses

- Conflicted?

No, robust conflict of interest policy.

- Misleading?

No, we hope not, rigorous methods and quality control.

- Unnecessary?

Maybe some. Increasing emphasis on prioritisation.

Cochrane Dementia Greatest Hits

(some of them)

Terry Quinn,
Co-ordinating Editor Cochrane Dementia
@CochraneDCIG
@DrTerryQuinn

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COCHRANE

7,500 reviews

14 languages

53 review groups

30,000 volunteers

7.89 CDSR Impact factor 2019

Figure 3: Average number of Full Text Accesses received by Cochrane Review Groups in 2019

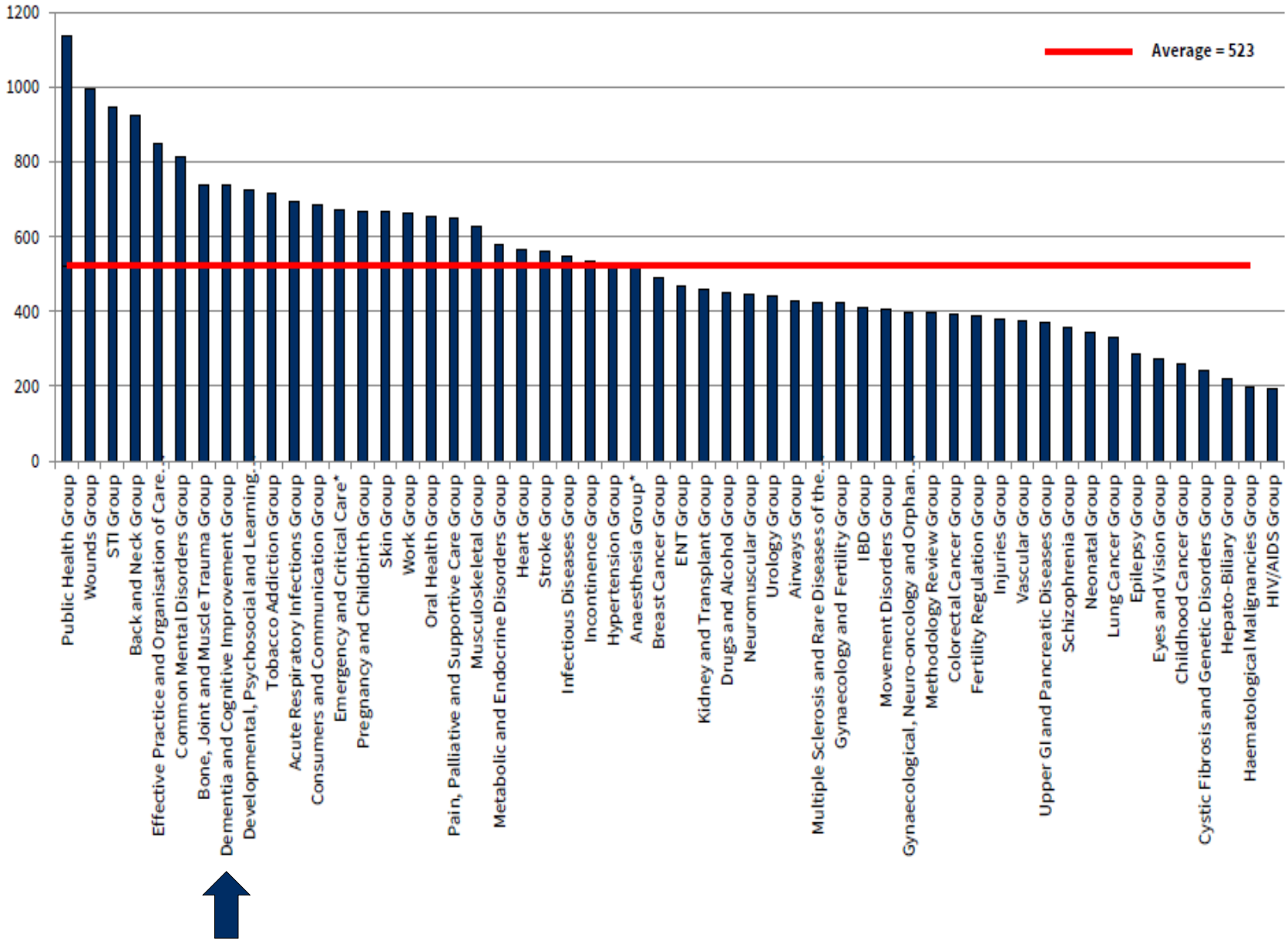

Figure 5: Average number of guideline cites to reviews (published anytime) for each Cochrane Review Group

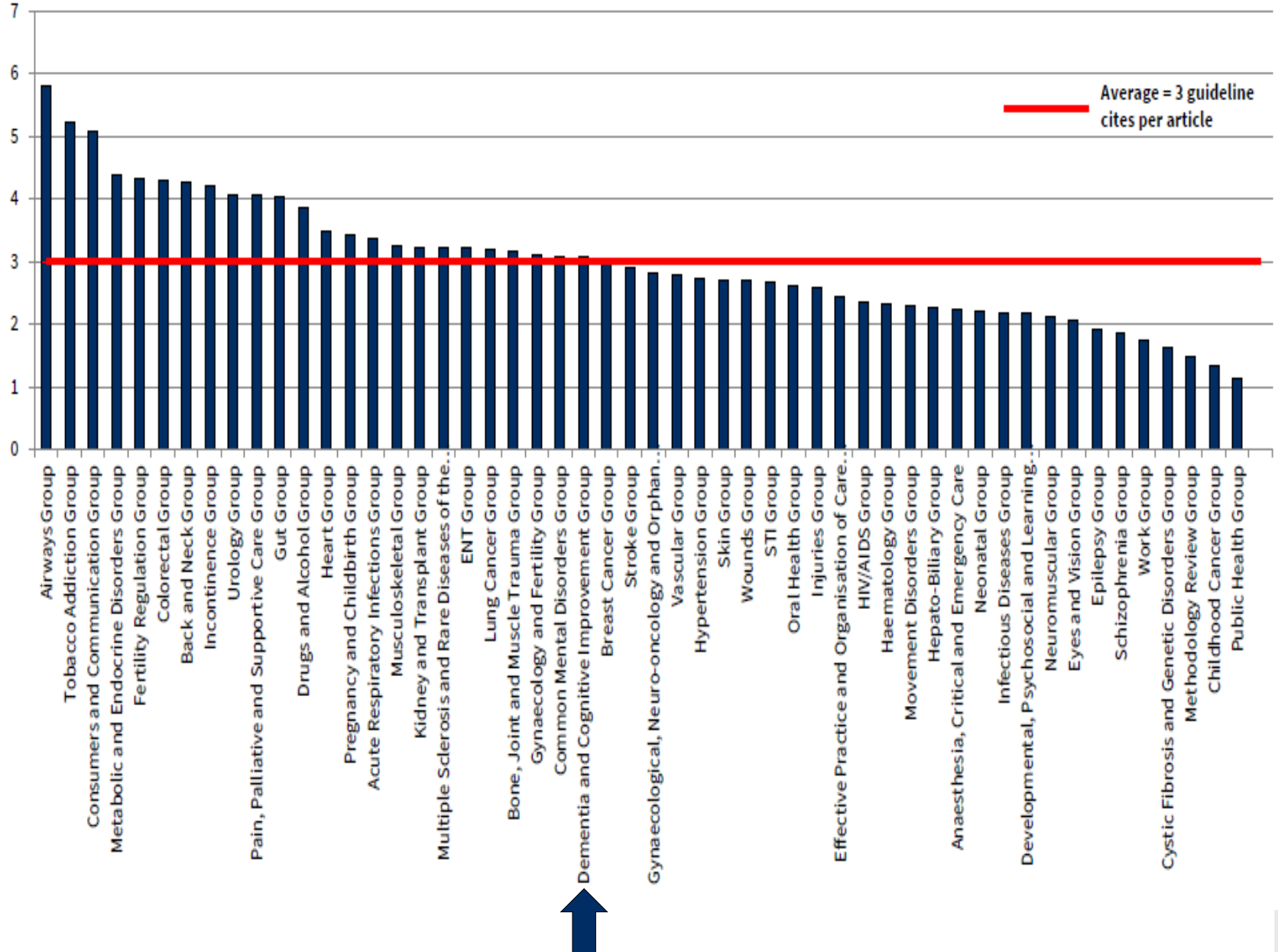

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Table 9: Top 10 Altmetric scores for reviews published in 2019

Score	Review title	CD Number	Publication date	CRG	CCA number	B	T	N	F	W	M
774	Exercise for preventing falls in older people living in the community	CD012424.pub2	Jan-2019	Bone, Joint and Muscle Trauma Group	2469	6	949	29	17	0	355
641	General health checks in adults for reducing morbidity and mortality from disease	CD009009.pub3	Jan-2019	Effective Practice and Organisation of Care Group	1598	4	1058	3	11	0	105
420	Constraint-induced movement therapy in children with unilateral cerebral palsy	CD004149.pub3	Apr-2019	Developmental, Psychosocial and Learning Problems Group	-	0	99	44	1	1	141
355	Environmental interventions to reduce the consumption of sugar-sweetened beverages and their effects on health	CD012292.pub2	Jun-2019	Public Health Group	-	4	246	26	10	1	269
307	Different doses, durations and modes of delivery of nicotine replacement therapy for smoking cessation	CD013308	Apr-2019	Tobacco Addiction Group	2626	8	226	28	8	2	91
304	Incentives for smoking cessation	CD004307.pub6	Jul-2019	Tobacco Addiction Group	1533	3	165	30	2	1	194
290	Paracetamol versus placebo for knee and hip osteoarthritis	CD013273	Feb-2019	Musculoskeletal Group	2520	2	467	2	7	1	110
224	Mediterranean-style diet for the primary and secondary prevention of cardiovascular disease	CD009825.pub3	Mar-2019	Heart Group	2536	4	347	2	5	2	224
211	Memantine for dementia	CD003154.pub6	Mar-2019	Dementia and Cognitive Improvement Group	2645	0	367	1	2	2	403
147	C-reactive protein for diagnosing late-onset infection in newborn infants	CD012126.pub2	Jan-2019	Neonatal Group	-	1	291	0	6	0	64

B=Bloggers T=Tweeters N=News outlets F=Facebook mentions W=Wikipedia pages M=Mendeley readers

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Reviews of drugs

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Tacrine for Alzheimer's disease (Review)

Qizilbash N, Birks J, López Arrieta J, Lewington S, Szeto S

Qizilbash N, Birks J, López Arrieta J, Lewington S, Szeto S.
Tacrine for Alzheimer's disease.
Cochrane Database of Systematic Reviews 1999, Issue 1. Art. No.: CD000202.
DOI: 10.1002/14651858.CD000202.

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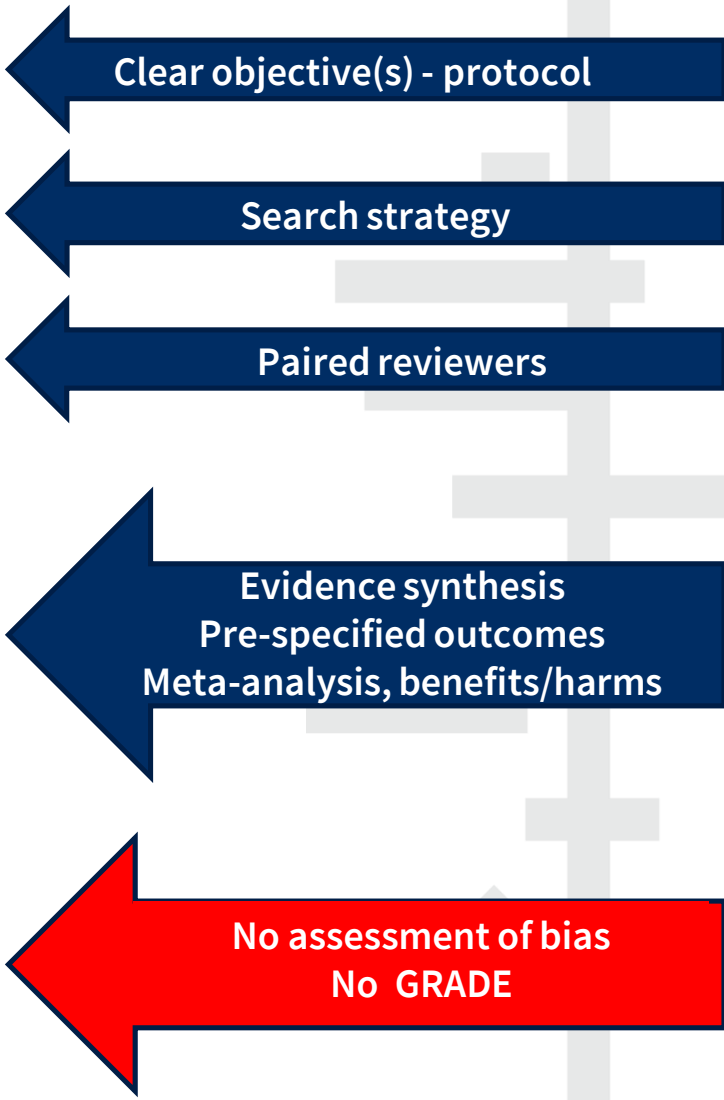
Objectives: To determine the clinical efficacy of tacrine for the symptoms of Alzheimer's disease.

Search strategy: The Cochrane Dementia Group Register of Clinical Trials was searched using the terms 'tacrine', 'tetrahydroaminoacridine' and 'THA' (see the Group's search strategy for full details).

Selection criteria: All unconfounded, double-blind, randomized trials in which treatment with tacrine was administered for more than a day and compared to placebo in patients with dementia of the Alzheimer's type.

Data collection and analysis: Data were extracted independently by two reviewers, pooled if appropriate and possible, and the pooled odds ratios (95%CI) or the average differences (95%CI) were estimated. Where possible, intention-to-treat data were used.

Main results: This review produced no clear results. The results were compatible with tacrine producing improvement, no change or even harm for those with Alzheimer's disease. It was not possible to use many of the published results in a combined analysis. For measures of overall clinical improvement, the intention-to-treat analyses failed to detect any difference between tacrine and placebo (OR 0.87; 95%CI 0.61 - 1.23). Behavioural disturbance, as measured by the Alzheimer's Disease Assessment Scale-noncognitive, failed to detect any difference between tacrine and placebo (SMD -0.04; 95%CI -0.52 - 0.43). For cognition function, the effect of tacrine was not statistically significantly different from placebo for the MiniMental State Examination score (0-30; high =good) (SMD 0.14; 95%CI -0.02 - 0.30) and was barely statistically significantly in favour of treatment for the Alzheimer's Disease Assessment Scale-cognitive scale (SMD -0.22; 95%CI -0.32 - -0.13). Adverse events were not reported in a systematic way in the different trials, making formal comparison difficult. Raised serum liver enzymes was the major reason for withdrawal. The odds ratio for withdrawal due to an adverse event was significantly different from one, the control group experienced fewer events (OR 5.7; 95%CI 4.1-7.9). Gastrointestinal side effects (diarrhoea, anorexia, dyspepsia and abdominal pain) were the other major cause of adverse events and for withdrawal, and the odds ratio for withdrawal was also significantly different from one in favour of the control group (OR 3.8; 95%CI 2.8-5.1). No deaths were reported in any of the studies during the trial period, up to six months.



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Memantine for dementia (Review)

McShane R, Westby MJ, Roberts E, Minakaran N, Schneider L, Farrimond LE, Maayan N, Ware J, Debarros J

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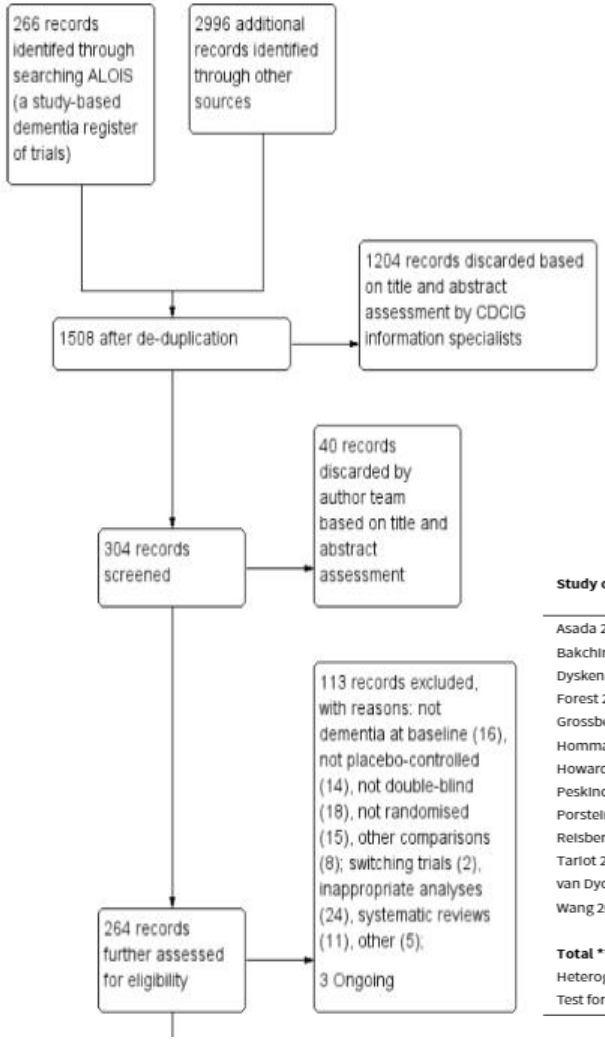
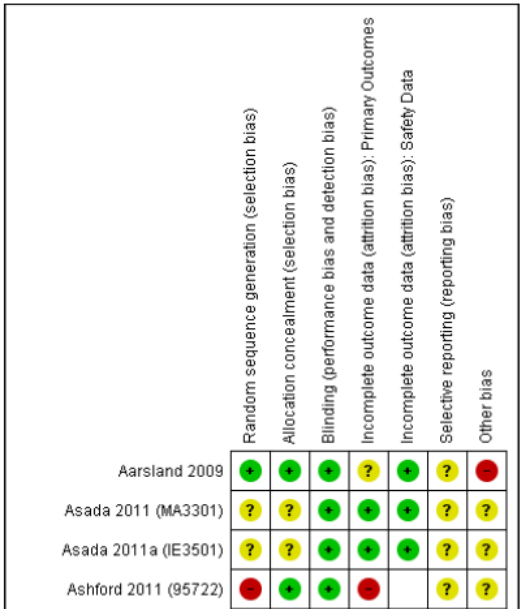
Figure 1. Study flow diagram of studies identified

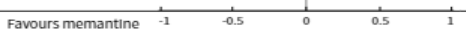




Study or subgroup	Memantine N	Memantine Mean(SD)	Placebo N	Placebo Mean(SD)	Std. Mean Difference Fixed, 95% CI	Weight	Std. Mean Difference Fixed, 95% CI
Asada 2011a (IE3501)	190	4.5 (1.1)	177	4.6 (1)		13.33%	-0.11[-0.31,0.1]
Bakchine 2008 (99679) SG	145	4.2 (1.1)	65	4.4 (1.2)		6.52%	-0.14[-0.43,0.15]
Dysken 2014 SG	50	0 (0)	63	0 (0)			Not estimable
Forest 2006 (MD-22)	131	3.6 (1.4)	129	3.8 (1.3)		9.44%	-0.15[-0.4,0.09]
Grossberg 2008 (MD-50)	269	3.8 (1.1)	272	4.1 (1.2)		19.53%	-0.26[-0.43,-0.09]
Homma 2007 (IE2101)	84	4.4 (1.6)	87	4.7 (1.3)		6.19%	-0.22[-0.52,0.08]
Howard 2012 (DOMINO-AD)	77	0 (0)	66	0 (0)			Not estimable
Peskind 2004 (MD-10) SG	106	4.4 (1)	116	4.7 (1.1)		7.97%	-0.31[-0.57,-0.04]
Porsteinsson 2008(MD-12)S	135	4.5 (1)	125	4.5 (1)		9.45%	-0.04[-0.28,0.2]
Reisberg 2003 (9605)	97	4.4 (1.1)	84	4.7 (1.1)		6.5%	-0.27[-0.56,0.03]
Tariot 2004 (MD-02)	172	4.4 (1.1)	152	4.6 (1.1)		11.67%	-0.24[-0.46,-0.02]
van Dyck 2007 (MD-01)	134	4.3 (1.1)	127	4.6 (1)		9.4%	-0.28[-0.53,-0.04]
Wang 2013	13	0 (0)	13	0 (0)			Not estimable
Total ***	**1603**		**1476**			**100%**	**-0.2[-0.28,-0.13]**

Heterogeneity: Tau²=0; Chi²=4.7, df=9(P=0.86); I²=0%

Test for overall effect: Z=5.32(P<0.0001)



SUMMARY OF FINDINGS

Summary of findings for the main comparison. Moderate-to-severe AD, six to seven months

Memantine 20 mg or equivalent compared to placebo for moderate-to-severe Alzheimer's disease (AD) 24- to 30-week data. OC

Population: Alzheimer's disease (AD), moderate-to-severe
Intervention: memantine 20 mg or equivalent
Comparison: placebo

Continuous outcomes	Score with placebo (median)	Mean improvement in change score between memantine and placebo	SMD (95% CI) meta-analysis findings	№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
Clinical Global (CIBIC+) 7-point Likert scale	Median CIBIC+ score was 4.60 [3] (i.e. deterioration with time)	MD: 0.21 (0.14 to 0.30)	-0.20 (-0.28 to -0.13)	2797 (10 RCTs)	⊕⊕⊕⊕ HIGH	SMD as a negative outcome (Analysis 1.1) Converted to CIBIC+ scale; median SD(pooled) = 1.06.
Cognitive Function (SIB) 100-point scale	Median SIB score at baseline: 75.2. Median change from baseline (positive scale): -2.4 [4] (i.e. deterioration with time)	MD: 3.11 (2.42 to 3.92)	-0.27 (-0.34 to -0.21)	3337 (13 RCTs)	⊕⊕⊕⊕ HIGH	SMD as a negative outcome (Analysis 1.2). Converted to SIB scale (and scale direction inverted); median SD (pooled) = 11.53.
Functional performance on activities of daily living: ADCS-ADL19 54-point scale	Median ADCS-ADL19 score at baseline: 33.2 Median change from baseline (positive scale): -2.8 [5] (i.e. deterioration with time)	MD: 1.09 (0.62 to 1.64)	-0.16 (-0.24 to -0.09)	2687 (11 RCTs)	⊕⊕⊕⊕ HIGH [1]	SMD for decline in ADL (a negative outcome) (Analysis 1.3). Converted to ADCS-ADL19 scale (and scale direction inverted); median SD(pooled) = 6.84.

Memantine as a treatment for dementia

Published:
20 March 2019

Authors:
McShane R, Westby MJ, Roberts E, Minakaran N, Schneider L, Farrimond LE, Maayan N, Ware J, Debarros J

Primary Review Group:
Dementia and Cognitive Improvement Group

Review question

We reviewed the evidence on memantine, which is one of the main drugs for treating people with dementia. We wanted to find out if memantine can slow down the course of dementia and if it is harmful in any way. We also wanted to know if adding memantine to other dementia drugs gives an extra effect.

Background

The commonest type of dementia is Alzheimer's disease (AD), followed by vascular dementia. About one or two people in 100 have AD at age 65, and this rate doubles every five years. Dementia involves loss of memory, difficulty thinking and often changes in mood and behaviour.

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Cholinesterase inhibitors for vascular dementia and other vascular cognitive impairments: a network meta-analysis (Review)

Battle CE, Abdul-Rahim AH, Shenkin SD, Hewitt J, Quinn TJ

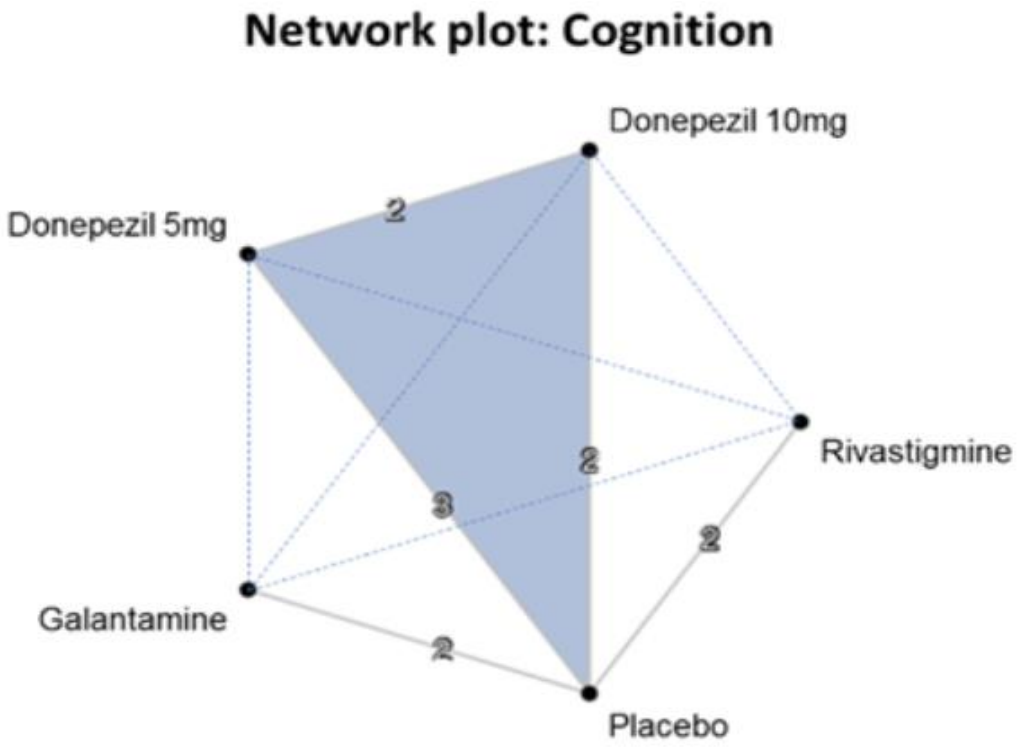
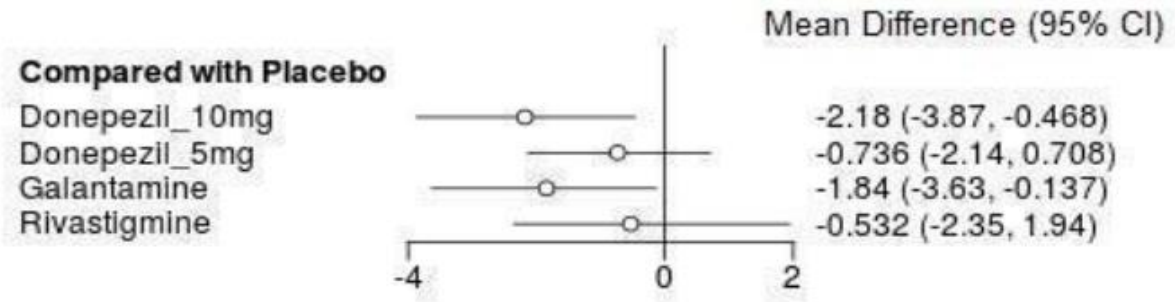


Figure 5. Forest plot (Bayesian model) network meta-analysis results: Cognition.



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Withdrawal versus continuation of long-term antipsychotic drug use for behavioural and psychological symptoms in older people with dementia (Review)

Van Leeuwen E, Petrovic M, van Driel ML, De Sutter AIM, Vander Stichele R, Declercq T, Christiaens T

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Antihypertensive withdrawal for the prevention of cognitive decline (Review)

Jongstra S, Harrison JK, Quinn TJ, Richard E

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Non-drug Reviews

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Aromatherapy for dementia (Review)

Ball EL, Owen-Booth B, Gray A, Shenkin SD, Hewitt J, McCleery J

Summary of findings 1. Aromatherapy versus control (placebo aromatherapy / no intervention) for dementia

Aromatherapy versus control (placebo aromatherapy / no intervention) for dementia

Patient or population: Dementia
Setting: Care facilities or hospital wards
Intervention: Aromatherapy
Comparison: Control (placebo aromatherapy / no intervention)

Outcomes	Impact	№ of participants (studies)	Certainty of the evidence (GRADE)
Agitation assessed with: CMAI, PAS, individual study assessment tools follow up: range 1 to 12 weeks	5 trials provided either no usable data or data in which our confidence was very low. Of the remaining 5 trials, 4 reported no statistically significant effect on agitation and 1 reported a significant benefit.	593 (10 RCTs)	⊕⊖⊖⊖ VERY LOW [1 2 3 4]
Overall behavioural and psychological symptoms assessed with: NPI follow up: range 2 to 12 weeks	3 trials provided either no useable data or data in which our confidence was very low. Of the remaining 5 trials, 4 trials reported a significant reduction in overall behavioural and psychological symptoms and 1 trial did not find a significant effect of aromatherapy.	346 (8 RCTs)	⊕⊖⊖⊖ VERY LOW [1 3 4 5]
Adverse effects follow up: range 1 to 12 weeks	Adverse effects were reported in only 4 of 12 trials. None reported any adverse effects.	206 (4 RCTs)	⊕⊖⊖⊖ VERY LOW [3 4]
Quality of life assessed with: Blau Quality of Life, Dementia Care Mapping follow up: range 4 to 12 weeks	1 trial reported a significant beneficial effect of aromatherapy on quality of life. The other trial did not find any significant effect of aromatherapy on quality of life.	134 (2 RCTs)	⊕⊖⊖⊖ VERY LOW [1 3 4 6 7]
Mood assessed with: CSDD-C, PG-CARS follow up: range 1 to 9 weeks	1 trial reported no significant effect of aromatherapy on mood. The other trial reported a statistically significant beneficial effect of aromatherapy on depressive symptoms.	120 (2 RCTs)	⊕⊖⊖⊖ VERY LOW [1 3 4 8]
Sleep	1 trial provided no useable data.	21 (1 RCT)	-
Activities of daily living assessed with: Barthel Index for Activities of Daily Living, follow up: 12 weeks	1 trial provided no useable data. 1 trial found no significant effect of aromatherapy on activities of daily living.	91 (2 RCTs)	⊕⊖⊖⊖ VERY LOW [3 4 10]

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Interventions for preventing delirium in hospitalised non-ICU patients (Review)

Siddiqi N, Harrison JK, Clegg A, Teale EA, Young J, Taylor J, Simpkins SA

SUMMARY OF FINDINGS

Summary of findings for the main comparison. A multi-component delirium prevention intervention compared to usual care for hospitalised non-ICU patients

Multi-component delirium prevention intervention compared to usual care for hospitalised non-ICU patients

Intervention: A multi-component delirium prevention intervention versus usual care

Outcomes	Illustrative comparative risks* (95% CI)		Relative effect (95% CI)	No of Participants (studies)	Quality of the evidence (GRADE)	Comments
	Assumed risk	Corresponding risk				
		A multi-component delirium prevention intervention				
Incidence of delirium validated instruments[1]	**209 per 1000** [2]	**144 per 1000** (123 to 172)	**RR 0.69** (0.59 to 0.81)	1950 (7 studies[3])	⊖⊖⊖⊖ **moderate** 4,5,6	
Duration of delirium (days)	The mean duration of delirium in the control groups ranged from **2.1 to 10.2 days**	The mean duration of delirium in the intervention groups was **1.16 days shorter** (2.96 shorter to 0.64 longer)		244 (4 studies)	⊖⊖⊖⊖ **very low** 4,6,7,8,9	
Severity of delirium DRS-R-98 and CAM-S[10]		The standardised mean severity of delirium in the intervention groups was **1.04 standard deviations lower** (1.65 to 0.43 lower)[11]		67 (2 studies)	⊖⊖⊖⊖ **low** 4,12	
Length of admission Days	The mean length of admission in the control groups ranged from **5 to 38 days**	The mean length of admission in the intervention groups was **0.01 days longer** (0.48 days shorter to 0.51 days longer)		1920 (6 studies)	⊖⊖⊖⊖ **moderate** 4,6,7	

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AD-8 for detection of dementia across a variety of healthcare settings (Review)

Hendry K, Green C, McShane R, Noel-Storr AH, Stott DJ, Anwer S, Sutton AJ, Burton JK, Quinn TJ

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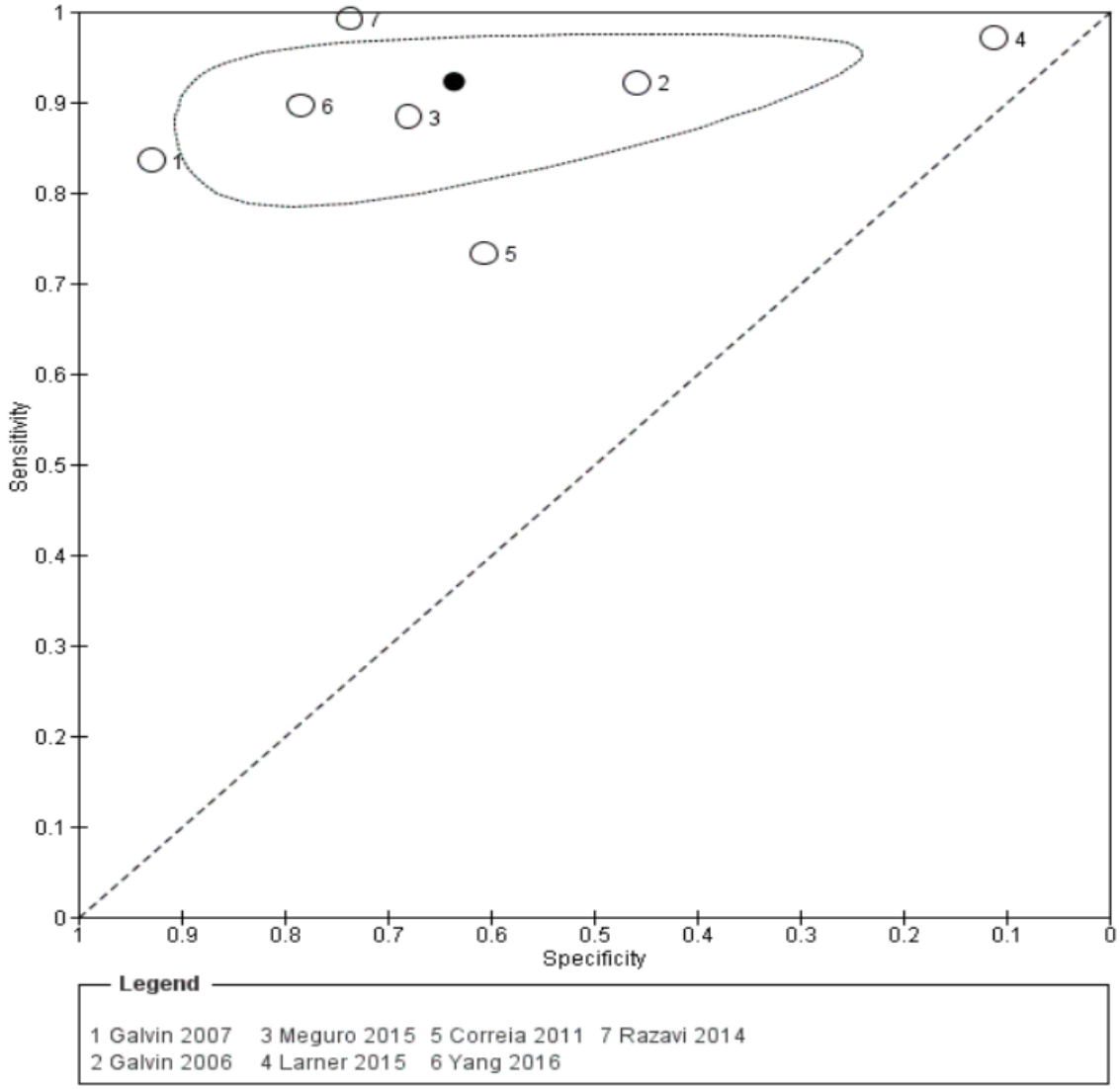
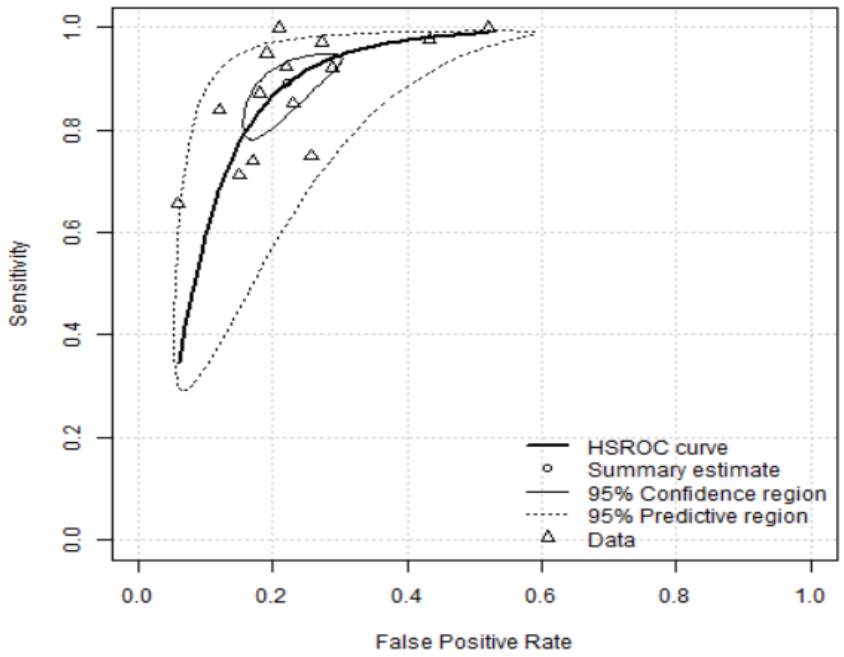
Figure 3. Summary ROC plot of AD-8 informant cut-off score 2. The dark point is a summary point, the other points individual studies; the broken line represents 95% confidence region.



META-DTA v2.0

Crsu.shinyapps.io/dta_ma/

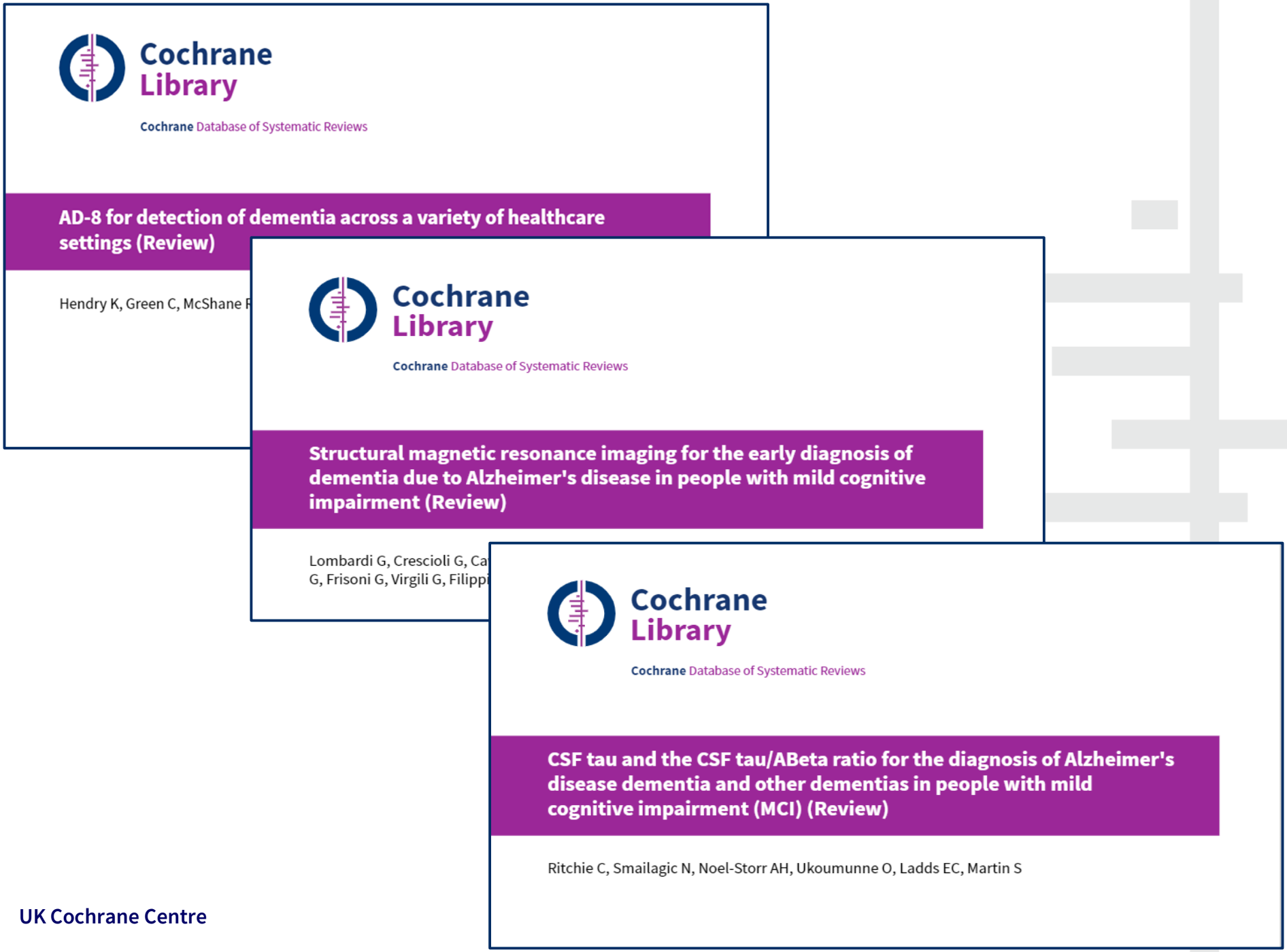


Suzanne Freeman, Clareece Nevill, Amit Patel, Nicola Cooper, Terry Quinn, Alex Sutton

For feedback/questions about this app please contact Alex Sutton at ajs22@leicester.ac.uk

App powered by Rshiny with statistical analyses performed using the package lme4:

https://CRAN.R-project.org/package=lme4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AD-8 for detection of dementia across a variety of healthcare settings (Review)
Hendry K, Green C, McShane R
Cochrane Library
Cochrane Database of Systematic Reviews
Structural magnetic resonance imaging for the early diagnosis of dementia due to Alzheimer's disease in people with mild cognitive impairment (Review)
Lombardi G, Crescioli G, Ca
G, Frisoni G, Virgili G, Filippi
Cochrane Library
Cochrane Database of Systematic Reviews
CSF tau and the CSF tau/ABeta ratio for the diagnosis of Alzheimer's disease dementia and other dementias in people with mild cognitive impairment (MCI) (Review)
Ritchie C, Smailagic N, Noel-Storr AH, Ukoumunne O, Ladds EC, Martin S

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Journal of Clinical Epidemiology 99 (2018) 64–74

Journal of Clinical Epidemiology

ORIGINAL ARTICLE

Network meta-analysis of diagnostic test accuracy studies identifies and ranks the optimal diagnostic tests and thresholds for health care policy and decision-making

Rhiannon K. Owen[a,*], Nicola J. Cooper[a], Terence J. Quinn[b], Rosalind Lees[b], Alex J. Sutton[a]

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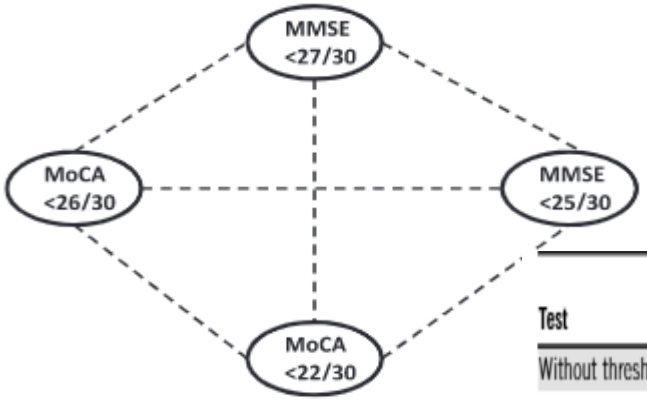
Accepted 7 March 2018; Published online 13 March 2018



Test	Sensitivity (95% CrI)	Specificity (95% CrI)	Rank best sensitivity (95% CrI)	*P* (Best) sensitivity	Rank best specificity (95% CrI)	*P* (Best) specificity
Without threshold constraints						
MMSE <25	0.72 (0.61, 0.82)	0.84 (0.79, 0.89)	4 (3,4)	0	1 (1, 2)	0.97
MMSE <27	0.89 (0.81, 0.95)	0.58 (0.45, 0.70)	2 (2,3)	0.01	3 (3, 3)	0
MoCA <22	0.82 (0.70, 0.91)	0.77 (0.67, 0.85)	3 (2,4)	0	2 (1, 2)	0.03
MoCA <26	0.97 (0.94, 0.99)	0.35 (0.23, 0.48)	1 (1,1)	0.99	4 (4, 4)	0

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MURDERED TIA WRAPPED IN A BLACK BED SHEET AND PUT INSIDE A BAG
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JENNIFER ANISTON ENGAGED ...just a few days before ex-hubby tied knot
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Daily Mail
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DEMENTIA RISK FROM SLEEPING TABLETS
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DAILY DRINK TO BEAT DEMENTIA
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WHY THE QUEEN WILL ALWAYS LOVE HER HOT SO CUDDLY CORGIS
INSIDE 16 PAGES OF GREAT HOLIDAY BARGAINS
LOSE WEIGHT TO BEAT DEMENTIA
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10p
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3P BLOOD PRESSURE PILL BEATS DEMENTIA
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STOP THE FOREIGN AID MADNESS
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DAVID EMANUEL MY SHOCK AS DOCTOR SAID I HAD CANCER
PUZZLES BEST WAY TO FIGHT
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COFFEE FIGHTS ALZHEIMER'S
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HOW BLOOD PRESSURE DRUG BEATS DEMENTIA

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Prognosis research in Cochrane

Fundamental prognosis

What is the natural history of X

Prognostic factor

Is exposure to X associated with development of Y

Prediction models

Can a model that includes a,b,c predict development of X

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Anticholinergic burden (prognostic factor) for prediction of dementia or cognitive decline in older adults with no known cognitive syndrome (Review)

Taylor-Rowan M, Edwards S, Noel-Storr AH, McCleery J, Myint PK, Soiza R, Stewart C, Loke YK, Quinn TJ

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Promoting EBM & Raising Standards

VIEWS & REVIEWS

Reporting standards for studies of diagnostic test accuracy in dementia

The STARDdem Initiative

Anna H. Noel-Storr, MSc
Jenny M. McCleery, MB, BS
Edo Richard, MD
Craig W. Ritchie, MD
Leon Flicker, MD
Sarah J. Cullum, MBChB, MRCPsych, PhD
Daniel Davis, MD
Terence J. Quinn, MD
Chris Hyde, MBBS
Anne W.S. Rutjes, PhD
Nadja Smailagic, MD
Sue Marcus, MSc
Sandra Black, MD
Kaj Blennow, MD
Carol Brayne, MD
Mario Fiorivanti, MD
Julene K. Johnson, PhD
Sascha Köpke, PhD

ABSTRACT

Objective: To prov
dementia disorder

Methods: An inter
impairment (STAR
tivity and specifici
4 rounds of conse
consensus meetin
plement the gener
their use in demer

Results: More than
most risk of inadeq
supplement the ST
reference standard

Conclusion: STAR
checklist is elabor
ders. Its adoption
nostic tests in Alz
standards, and ad

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Neuropsychological tests for the diagnosis of Alzheimer's disease dementia and other dementias: a generic protocol for cross-sectional and delayed-verification studies (Protocol)

Davis DHJ, Creavin ST, Noel-Storr A, Quinn TJ, Smailagic N, Hyde C, Brayne C, McShane R, Cullum S

Age and Ageing 2018; **47:** 349–355
doi: 10.1093/ageing/afy023
Published electronically 8 March 2018

REVIEW OF RESEARCH METHODS

Review of Diagnostic Test Accuracy (DTA) studies in older people

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[2]Institute of Cardiovascular and Medical Sciences, University of Glasgow, UK

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Alzheimer's & Dementia

Volume 9, Issue 3, May 2013, Pages e96-e105

Online Exclusive

Systematic review of the body of evidence for the use of biomarkers in the diagnosis of dementia

Anna H. Noel-Storr [a], Leon Flicker [a, b], Craig W. Ritchie [a, c], Giang Huong Nguyen [d], Tarun Gupta [d], Phillip Wood [e], Josephine Walton [f], Meera Desai [g], Danielle Fraser Solomon [d], Emma Molena [d], Rosemary Worrall [d], Anja Hayen [g], Prateek Choudhary [d], Emma Ladds [d], Krista L. Lanctôt [a, h], Frans R. Verhey [a, i], Jenny M. McCleery [a, j], Gillian E. Mead [a, k] ... Rupert McShane [a, p]

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When is Alzheimer's not dementia—Cochrane commentary on The National Institute on Ageing and Alzheimer's Association Research Framework for Alzheimer's Disease

FREE

Jenny McCleery, Leon Flicker, Edo Richard, Terence J Quinn

Age and Ageing, Volume 48, Issue 2, March 2019, Pages 174–177,
https://doi.org/10.1093/ageing/afy167

Published: 19 March 2019 **Article history**

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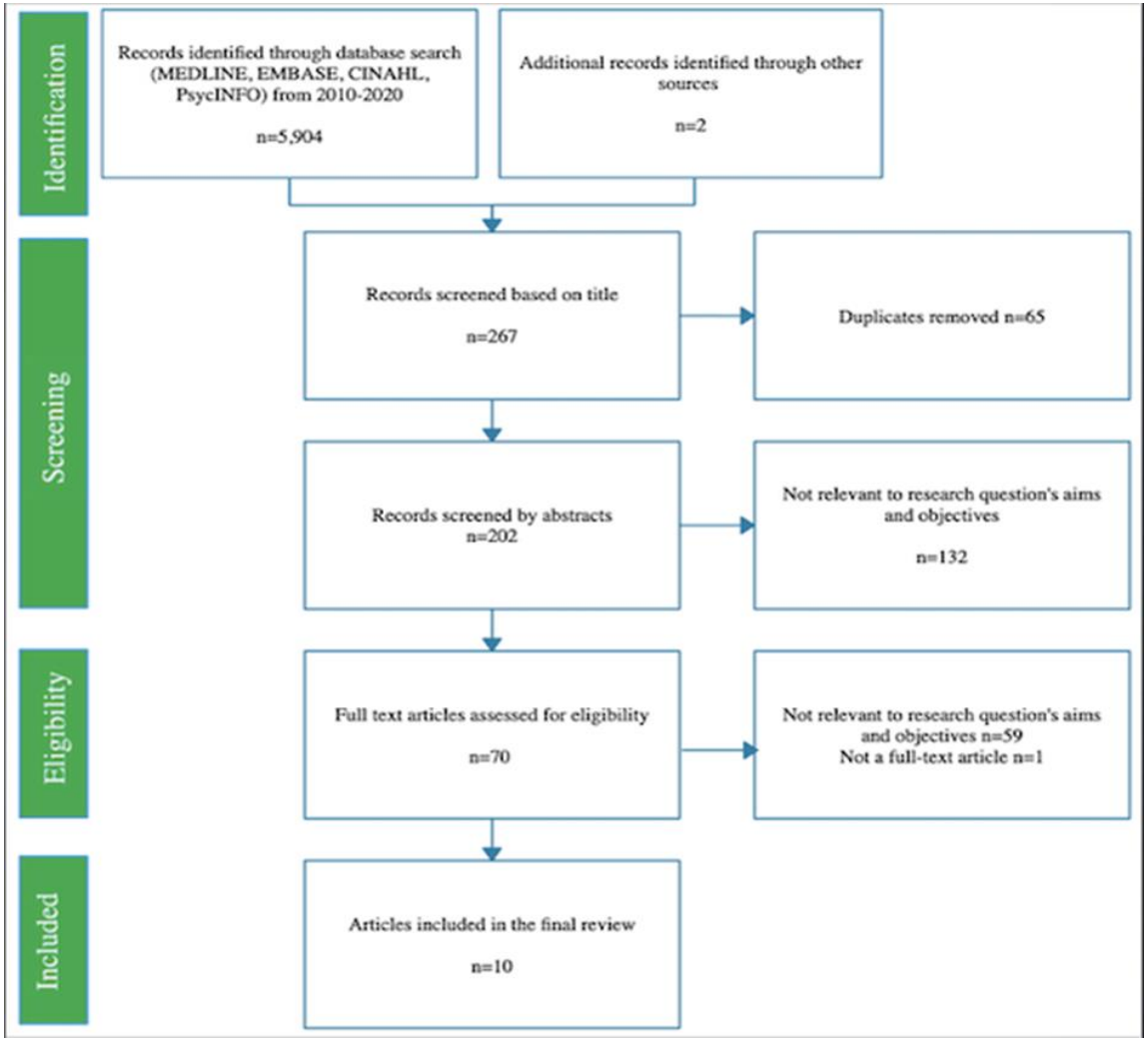
Our next review…..
Prioritisation


Identification
Records identified through database search (MEDLINE, EMBASE, CINAHL, PsycINFO) from 2010-2020
n=5,904
Additional records identified through other sources
n=2
Screening
Records screened based on title
n=267
Duplicates removed n=65
Records screened by abstracts
n=202
Not relevant to research question's aims and objectives
n=132
Eligibility
Full text articles assessed for eligibility
n=70
Not relevant to research question's aims and objectives n=59
Not a full-text article n=1
Included
Articles included in the final review
n=10

Categories	Definition
Prevention	Prevention of dementia and understanding relevant risk factors
Pathology	Understanding disease mechanisms, causes or stages of disease
Diagnosis	Role of identification of the disease and diagnostic tools
Drugs and Interventions	Using drugs and other interventions to manage disease
Support	Supporting people with dementia in daily life and disease management
Caregivers	Addressing the needs of caregivers, and how to support them
Awareness & Education	Educating and raising awareness of dementia and dementia-related issues for people living with dementia, care-givers, lay public and professionals
Research Methods	To improve the design, conduct, reporting and implementation of primary dementia research