How effective are primary care-led models of post-diagnostic dementia care? A systematic review

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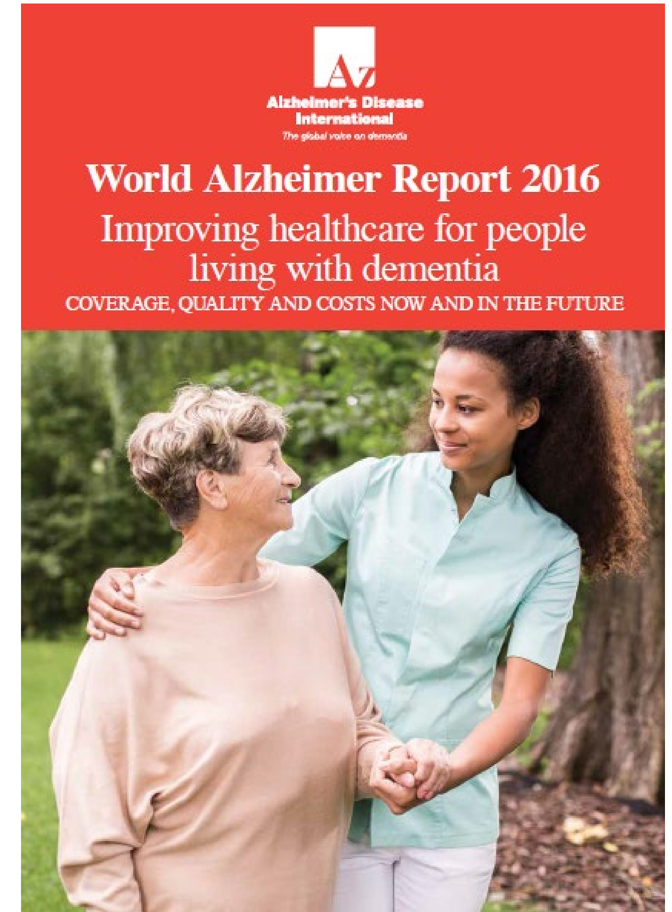
Dementia

- ~43.8 million people globally live with dementia[1] (2016 figures) – projected to double every 20 yrs
- Dementia is a syndrome with a range of cognitive, psychological and behavioural symptoms which progressively impair activities of daily living
- Estimated global costs are US$ 818billion
  - 20% direct medical care
  - 40% social care
  - 40% informal care
- Post diagnostic dementia support:
  - initial treatment e.g. caregiver wellbeing and support
  - ongoing and continuing care e.g. management of behavioural and psychological symptoms
  - end of life care

[1]Nichols et al. *Lancet Neurol*. 2019;18(1):88-106. doi:10.1016/S1474-4422(18)30403-4 [2]Prince et al. *World Alzheimer Report 2015. London, UK*.

Role of primary care

- Primary care is **first-contact** care that is **accessible, continued, comprehensive** and **coordinated**[1]
- World Alzheimer Report 2016: recommends a task shifted model, moving to primary and community-based care
- Potentially greater capacity, care closer to home, closer community service links and better long term condition management
- How should this best be delivered? Who should be involved?
- Rapidly evolving field



[1]World Health Organisation. http://www.euro.who.int/en/health-topics/Health-systems/primary-health-care/main-terminology. Accessed 7/2/19.

Aim

to assess the effectiveness and cost-effectiveness of primary care-led models of post-diagnostic dementia care

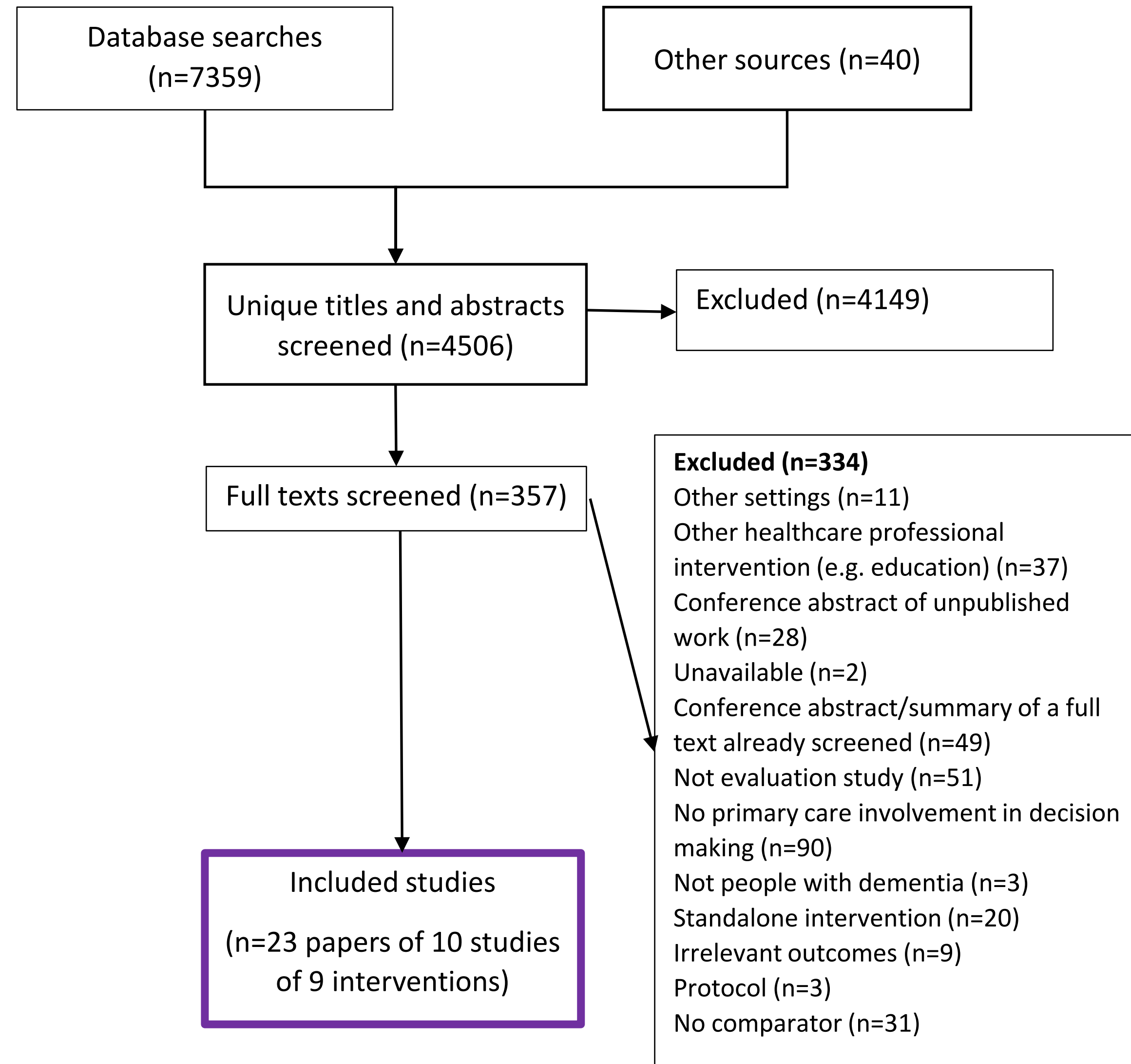
Methods

- Searches of MEDLINE, PsychoINFO, EMBASE, Web of Science and CINAHL (inception-Mar 2019)
- Reference list screening, citation tracking, ethos and trials register searches
- Inclusion criteria:
  - ❑ People with dementia and caregivers at any stage
  - ❑ Models of care where one or more members of a primary care team **led** or **was substantially involved** in **care plan decision making**
  - ❑ Compared to usual care or other management models
  - ❑ Person with dementia and caregiver outcomes (e.g. quality of life, functioning), service use, costs, cost-effectiveness.
  - ❑ RCTs, non-randomised intervention studies, economic evaluations

Synthesis

- Quality assessment (Cochrane risk of bias tool, ROBINS-I) by 2 reviewers
- Two authors grouped study interventions independently into models of care – refined through wider team discussions
- Meta-analysis (where possible) or narrative synthesis within each model

Results



Primary care provider (PCP)-led management

PCP-led with specialist consulting support

Models of care

PCP-case management partnership models

Integrated memory clinics

PCP-led management (n=1 RCT[1], moderate quality)

[vs memory clinic]

✓ caregiver anxiety and depression, hospital admissions

× depression, neuropsychiatric symptoms, quality of life, functioning, caregiver mastery

£ ✓ memory clinic costs, × overall cost savings

[1]Meeuwsen *et al.* 2012. *BMJ*. **344**(7859): 1–9. DOI:10.1136/bmj.e3086.

PCP-led with specialist consulting support (n=1 RCT[1], n=1 CCT[2], mixed quality)

[vs usual primary care]

× functioning, quality of life, cognition, caregiver quality of life, caregiver burden, caregiver mastery, moves to long term care

£ × costs (potentially higher neurologist costs).

[1]Menn *et al.* 2012b. *Value Heal*. **15**(6): 851–859. DOI:10.1016/j.jval.2012.06.007.

[2]Kohler *et al.* 2014. *Curr Alzheimer Res*. **11**(6): 538–548. DOI:10.2174/1567205011666140618100727

PCP-case management partnership models (n=3 RCTs[1-3], n=2 CCTs[4-5], mixed quality)

[vs usual primary care]

✓ neuropsychiatric symptoms (MD -6.68 [-9.45, -3.91], N=2, n=414), caregiver burden (SMD -0.43 [-0.83, -0.04], N=3, n=469), distress, coping and mastery

✕ functioning, quality of life, depression, cognition, caregiver depression, moves to long term care (OR 1.37 [0.28, 6.66], N=2, n=560)

£ ✓cost-neutral or cost saving (no societal perspective)

[1]Callahan *et al.* 2006. *JAMA*. **295**(18): 2148–2157.

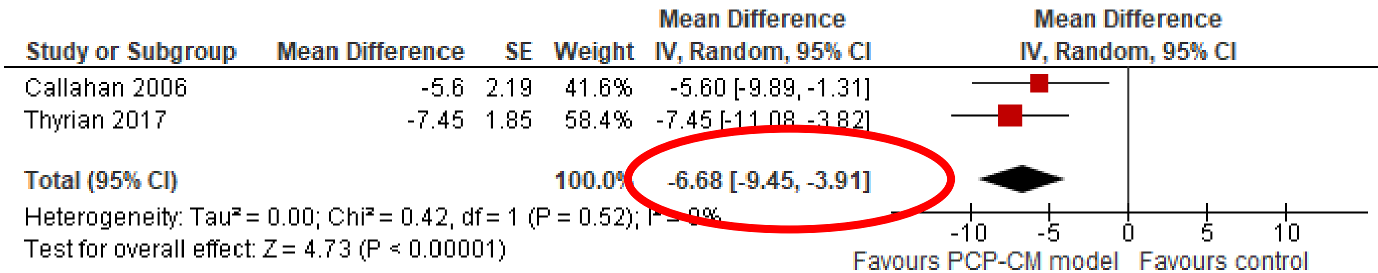
[2]Thyrian *et al.* 2017. *JAMA Psychiatry*. **74**(10): 996–1004..

[3]Mavandadi *et al.* 2017. *Psychological Services*. **14**(1): 102–111.

[4]Jennings *et al.* 2019. *JAMA Intern Med*. **179**(2): 161–166..

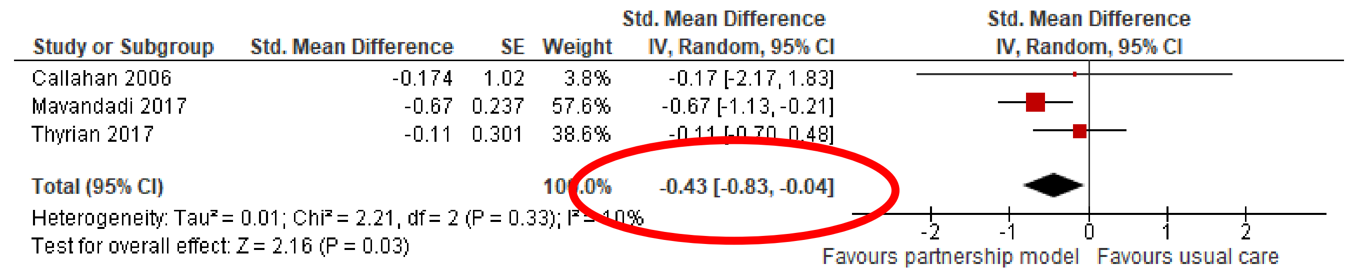
[5]Fortinsky *et al.* 2014. *Res Gerontol Nurs*. **7**(3): 126–137..

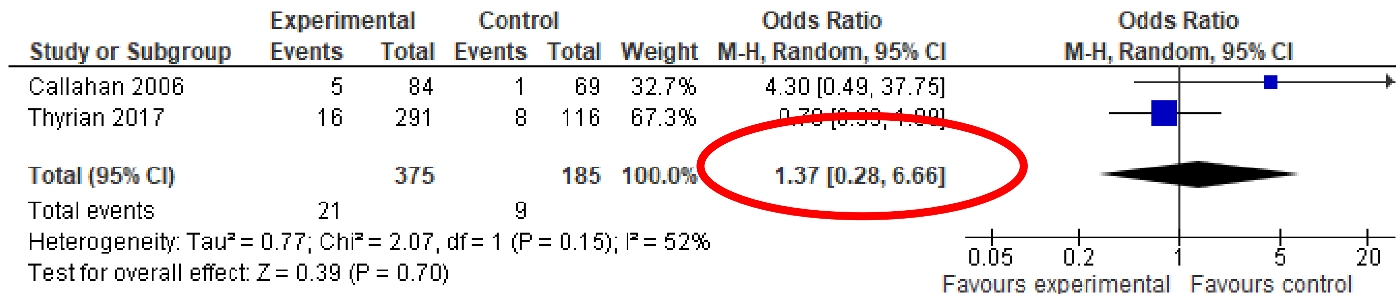
PCP-case management partnership models



A. Meta-analysis: Behavioural and psychological symptoms of dementia as measured by the Neuropsychiatric Inventory (N=2, n=414), compared to usual care.

B. Meta-analysis: caregiver Neuropsychiatric Inventory scores (Callahan n=153, Mavandadi n=75) and BIZA-D (Thyrian, n=241), compared to usual care





C. Meta-analysis: odds of moving to long term care over 12 months, compared to usual care

Integrated memory clinic (n=1 CCT[1], low quality)

[vs memory clinics and usual primary care]

✓ quality of life

× caregiver burden

£ ✓medical costs compared to usual primary care (× societal perspective), ✓cost-effective compared to memory clinics

[1]Saxena *et al.* 2017. *Geriatr Gerontol Int*. : 479–486. DOI:10.1111/ggi.13196.

Limitations

- Inclusion and model classification relied heavily on authors' reporting – possibility of errors
- Models still heterogeneous even within each classification
- Limited data for meta-analysis
- Little good quality evidence

Conclusions

- ✓ Primary care-led models produced similar outcomes to memory clinics.
- ✓ Adding specialist consulting support did not appear to improve outcomes or costs.
- ✓ A case manager closely collaborating with a primary care provider showed promise as a care model compared to usual primary care.
- ✓ Integrated memory clinics may also be promising, particularly in terms of costs.
- ✓ More rigorous evaluation of promising models is needed.

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Questions?

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