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The Three Country Study: Effects of counselling spouses of people with Alzheimer's disease on caregiver depression and patient institutionalisation and mortality.





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BACKGROUND

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Cost of Care

- Cost of care is immense
 - Institutional care attributes for majority of costs¹
 - Family caregivers (CG)
 - Main source of care
 - Keep patients at home
 - Experience high levels of burden²


¹Knapp et al (2007); ²Brodaty & Green (2000)

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Family Caregiving





- CGs experience ↑ levels of burden¹ & depression
- CGs have poorer physical health¹

¹ Brodaty & Green (2000)

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INTERVENTION

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The Three Country Study (3CS)



Investigator initiated study
Sponsored by Pfizer International Inc



Prof M Brodaty, Sydney




Prof M Mittelman, New York



Manchester

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New York University Caregiver Intervention (NYUCI)¹

- Individual + family counseling
 - Education about AD
 - Information about available resources
 - Management of problem behaviours etc

¹Mittelman et al (1995)

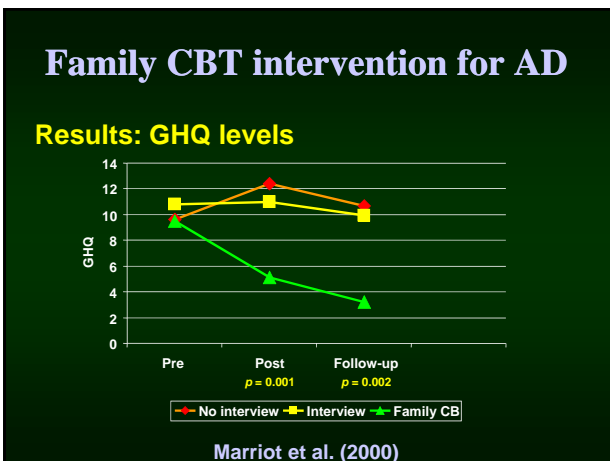
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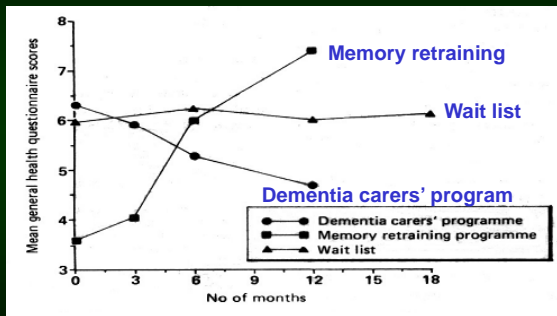
Findings from NYU, Sydney and Manchester caregiver interventions

- ↓ CG depression ^{1,3,5,6,7}
- ↓ Rate and delay of NHPs ^{2,4,5}
- ↑ CG skills to manage problem behaviours ³
- Delay death of patients ⁵

¹Mittelman et al (1995); ²(1996); ³(2004); ⁴(2006); ⁵Brody & Gresham (1989); ⁶Brody et al (1997); ⁷Marriott et al (2000)



The Dementia CGs' Program Results: GHQ



Brodaty and Gresham (1989)

Dementia Carers Program: survival at home over 7 years

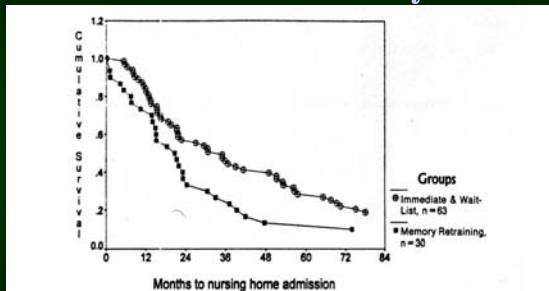
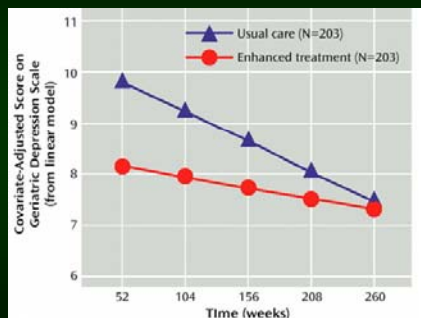


Figure 2. Kaplan-Meier survival functions for nursing home admission comparing the combined training groups with the memory retraining group.

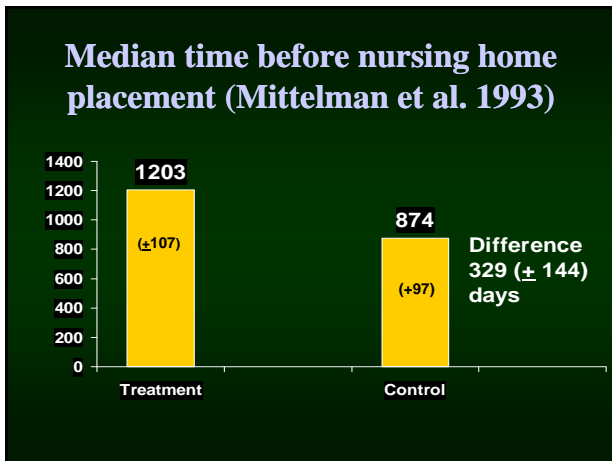
(Odds ratio 5.03, 1.73- 14.7)

Sustained benefits of the NYU Spouse-Caregiver Intervention on Symptoms of Depression¹

Five year follow-up



¹Mittelman et al. (2004)



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METHODS


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Aims of the Study

- To investigate effects of intervention on
 - Caregiver Depression
 - Time until NHP and
 - Time until death in patients with AD taking donepezil
- Further
 - Do times to NHP and death differ by country?


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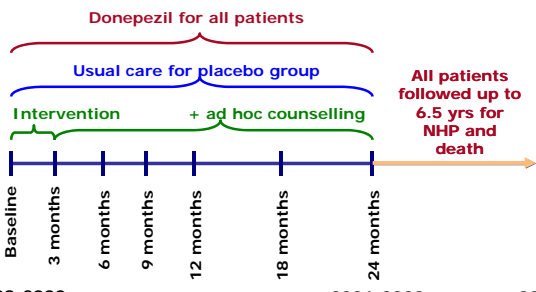
Our Sample

- Patients with AD and their spouses (+ additional family members)
- N = 158 dyads
 - AUS: 52
 - USA: 52
 - UK: 54
 - 50% in each country randomly assigned to intervention or placebo

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Design




Timeline: 1999-2000 (Baseline), 3 months, 6 months, 9 months, 12 months, 18 months, 24 months, 2001-2002, 2007.

Interventions: Donepezil for all patients; Usual care for placebo group; Intervention + ad hoc counselling.

Follow-up: All patients followed up to 6.5 yrs for NHP and death.



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Observation Period

- Total
 - AUS: 8.7 yrs
 - USA: 8.1 yrs
 - UK: 8.4 yrs
- Average per patient: 5.4 yrs



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Collected Data

- Demographics for patients & CGs
- MMSE
- GDS (=dementia severity)
- ADAS-Cog (=cognitive functioning)
- ADCS-ADL (=activities of daily living)
- Revised Memory and Behavior Problems Checklist (=BPSD)
- Patient physical health rated by CG
- BDI (=CG depression)



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Statistical Analyses


- Multilevel growth curve analyses
 - To estimate longitudinal change of depression
- Cox Proportional Hazard models
 - For time until NHP and until death

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RESULTS

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Baseline Characteristics

Patients' age: M (SD)	73.8 (7.5)
Patients' gender	67 males, 68 females
MMSE: M (SD)	20.3 (5.6)
ADCS-ADL: M (SD)	55.3 (13.32)
ADAS-Cog: M (SD)	25.8 (11.40)
GDS: M (SD)	4.4 (0.53)
Patients' physical health: M (SD)	5.7 (1.51)
CGs' age: M (SD)	71.3 (8.2)
CG depression: M (SD)	8.7 (6.53)

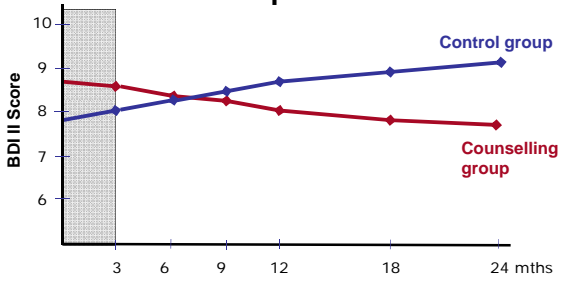
Difference by country for ADAS-Cog (UK < US = AUS) and ADCS-ADL (UK > US)

no difference by treatment group

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Results on CG depression



Time (mths)	Control group	Counselling group
3	8.0	8.8
6	8.2	8.4
9	8.5	8.2
12	8.8	8.0
18	9.0	7.8
24	9.2	7.8

Mittelman, Brodaty, Burns (2008) AJGP

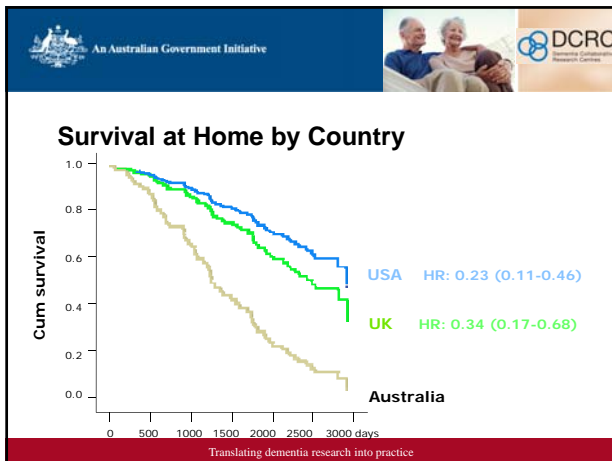
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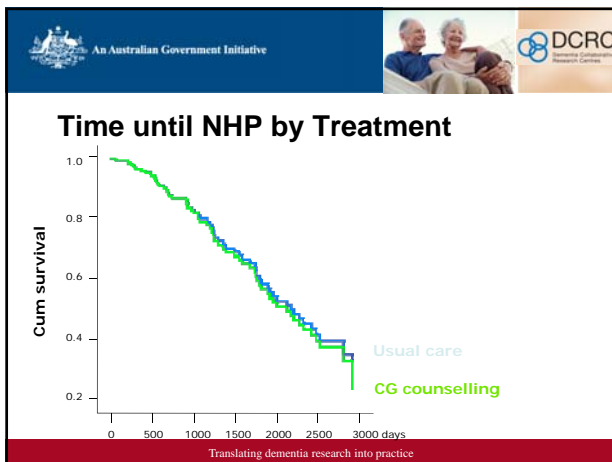
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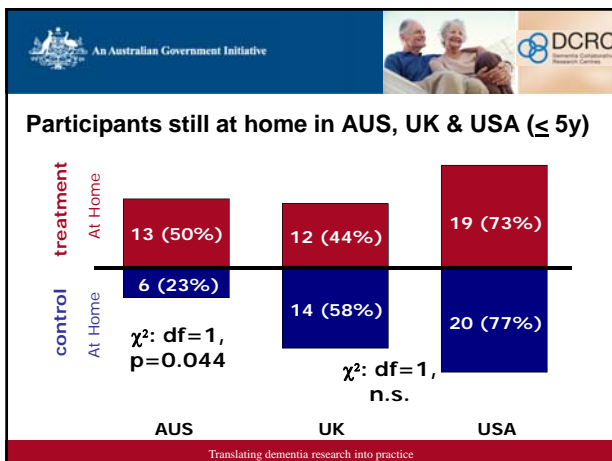
Survival Time until NHP


- Factors associated with ↓ risk:
 - Patients' older age (HR: 0.96, 95% CI: 0.92-0.99)
 - Less ADL impairment at baseline (HR: 0.95, 95% CI: 0.92-0.98)
 - Living in USA (HR: 0.23, 95% CI: 0.11-0.46) and UK (HR: 0.34, 95% CI: 0.17-0.68) vs Australia
- Other variables did not predict time until NHP

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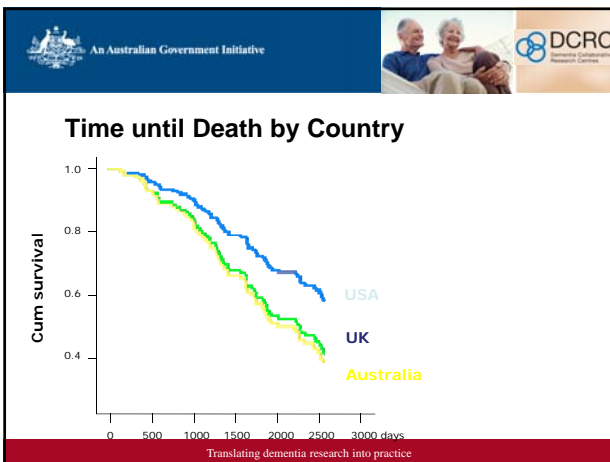


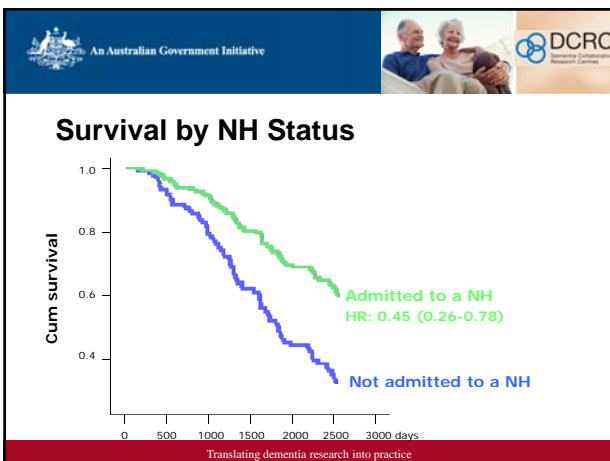
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Survival Time until Death


- Factors associated with ↓ risk:
 - Less ADL impairment at baseline (HR: 0.97, 95% CI: 0.95-0.996)
 - Less cognitive impairment at baseline (ADAS-Cog) (HR: 1.04, 95% CI: 1.02-1.07)
 - Higher depression in CG at baseline (HR: 0.96, 95% CI: 0.92-1.00)
 - NHP (HR: 0.45, 95% CI: 0.26-0.78)
- Other variables did not predict time to death

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CONCLUSIONS

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Conclusions

- **Counselling had lasting effects on decreasing depression in CGs ¹**
- **Overall, counselling did not delay NHP or death in AD patients**
- **Increased NHP in Australia may reflect differences in national health & NH systems**
- **Counselling may delay NHP (Australia), but ...**
- **Future multinational research should take into account these and other possible differences**

¹ Mittelman, Brodaty, Burns (2008) AJGP

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Thank you 

Thank you

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National Dementia Research Forum

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Investigator Initiated Study funded by Pfizer International

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