





**Prospective Research
in Memory Clinics –
An update**

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Potential conflict of interests

- **Advisor, consultant, remunerated speaker and/or investigator for:**
 - Parke-Davis, Eisai, Pfizer, Sanofi, Servier
 - Janssen, Lilly, Hoechst-Marion-Roussel,
 - Lundbeck, Novartis, AstraZenica
 - Neotherapeutics, Cromedica, Voyager
- **This study sponsored by Janssen**





Background

World prevalence of dementia¹

- 35.5 million people in 2010
- 65.7 million by 2030
- 115.4 million by 2050
- Double every 20 yrs
- One new person every 7 seconds

World Alzheimer Report, ADI, 2009



Dementia in Australia

- 21 million people
- 13% ≥ 65; 2.2% ≥ 80
- 2009 ≅ 245,000 with dementia
- 2050 ≅ 1.13 million



Access Economics (2009) *Front of Mind*



Variables associated with more rapid decline

- Younger age at onset
- Severity
- Type of dementia
- Behavioural and psychological symptoms of dementia (BPSD)
- Physical co-morbidity
- Extra-pyramidal features
- Antipsychotic medication







Methods

Prospective Research in Memory Clinics (PRIME) study


- Ongoing non-prescriptive longitudinal (3 years) study
- 970 participants with MCI or dementia
- 9 sites across Australia
- → patient cohort to generate hypotheses, identify and measure predictors and outcomes



The PRIME NINE



- Prince of Wales Hospital
- The Queen Elizabeth Hospital
- St George's Hospital
- Austin Health Repatriation Hospital
- Hornsby Ku-Ring-Gai Hospital
- Fremantle Hospital
- The Prince Charles Hospital
- Rankin Park Hospital
- Geelong Private Hospital



Study design



- Patients were assessed at one of nine memory clinics
- → recruited into study
- → 3, 6, 12, 18, 24 and 36 months follow ups
- No particular medications mandatory to participate



Aims

- Describe natural history of MCI and dementia patients
- Compare rates of change by diagnostic group
- Examine predictors of decline over six months



Participants - Inclusion



- Diagnosis of dementia (DSM-IV) or MCI (Petersen criteria)
- Community dwelling (<40hrs/wk nursing care)
- Carer available
- Fluent in English
- Written informed consent or legal guardian/proxy



Exclusion criteria

- Concomitant life-threatening illness
- MCI patients on ChEIs
- Patients who were participating in a clinical trial (phase I, II, or III)
- ... (though they could go in a clinical trial *after* enrolment into PRIME)



Instruments and measures


- Demographic data
- MMSE
- ADAS-cog
- CDR
- NPI
- SMAF
- Clock Drawing Test
- Zarit Burden Interview
- Health Care Utilisation



Statistical analyses

- Differences between sub-samples (i.e. diagnostic groups) → ANOVA, Fisher's exact test
- Predictors of decline → ANCOVA





Results


Results

N= 970


MCI n=190	AD (YO) n=118	AD (LO) n=405	Mix n=129	VaD n=51	FTD n=31	Other n=46
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6 month


MCI n=173	AD (YO) n=111	AD (LO) n=362	Mix n=116	VaD n=47	FTD n=28	Other n=41
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Baseline characteristics

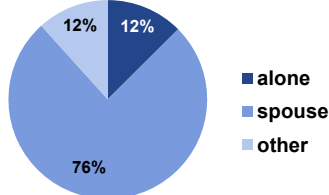


- N=970 enrolled, data analysed for n=967
- Mean age at baseline: 77.6 (SD: 7.4)
- 52.7% male



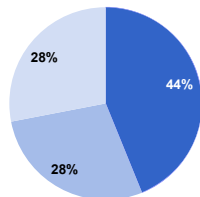
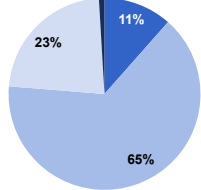
Patients living arrangement at baseline

- 943 (97.5%) were living at home
- Most participants were living together with their spouse



Levels of education and occupation of total sample

Education Occupation

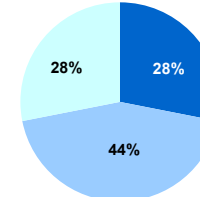
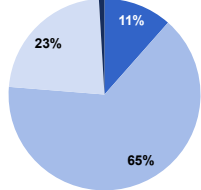


- primary school
- high school/ post secondary
- university
- other
- clerical/ skilled
- management/ professional
- other



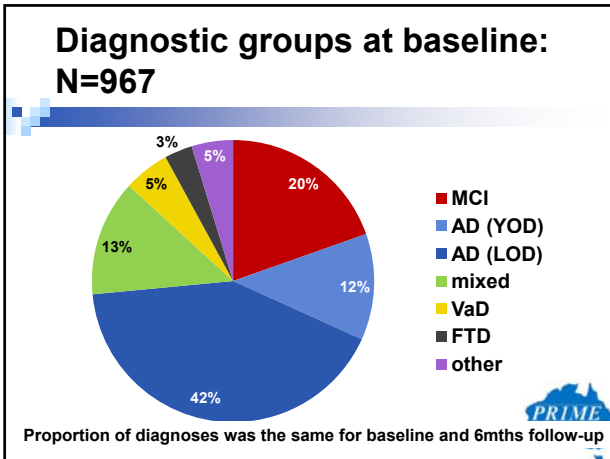
Levels of education and occupation of total sample

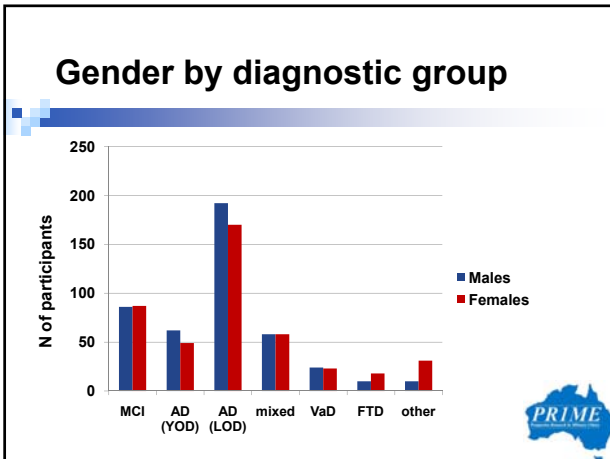
Education Occupation

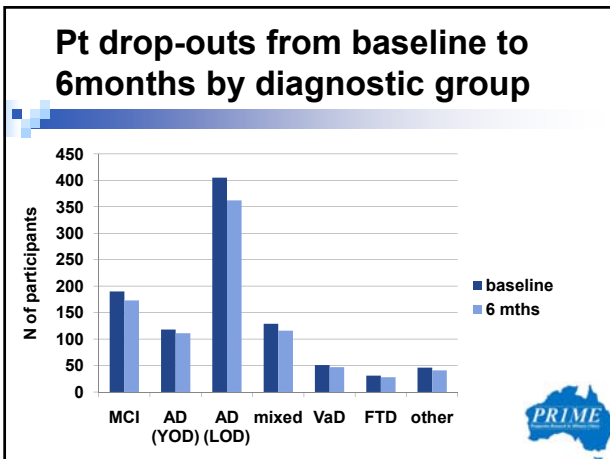


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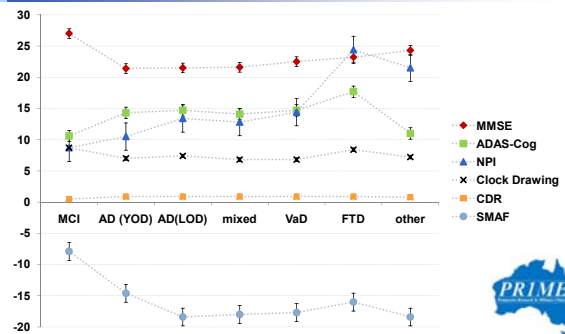


Baseline characteristics: Between Dx group comparisons

- No marked differences between diagnostic groups
- Except for higher NPI scores in FTD
- Dementia severity mild on average (CDR)
- MCI pts < impaired than dementia pts



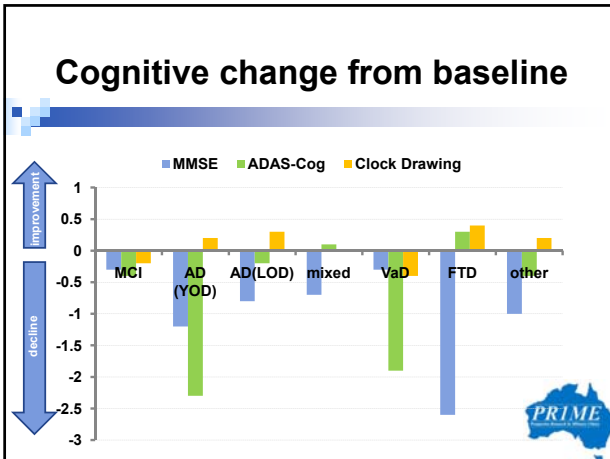
Baseline characteristics by diagnostic group

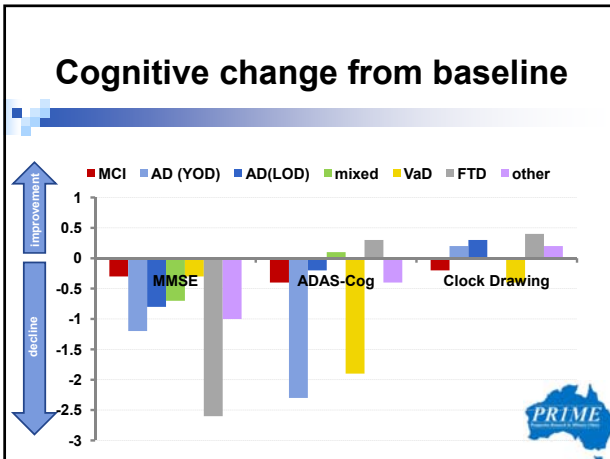


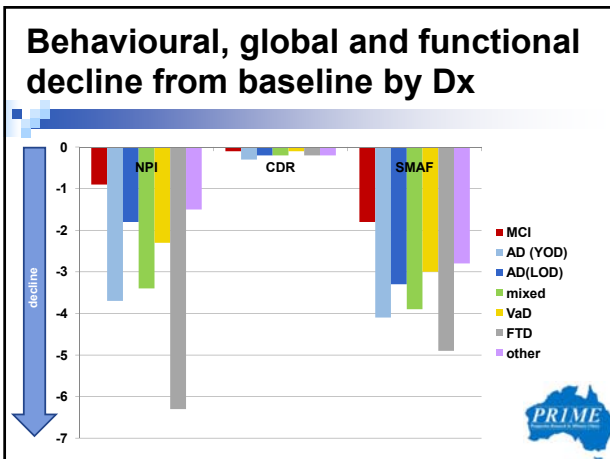
Rates of change from baseline to 6 months follow up

- MMSE, SMAF, NPI and clock drawing generally similar







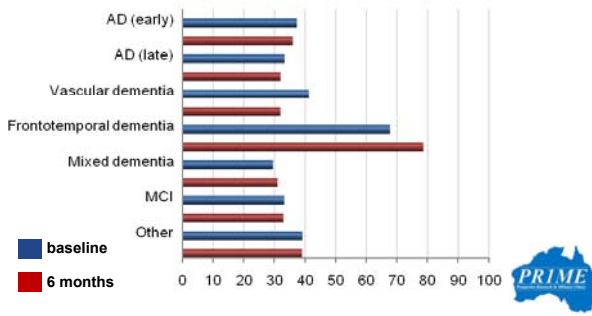


Concomitant psychotropic use

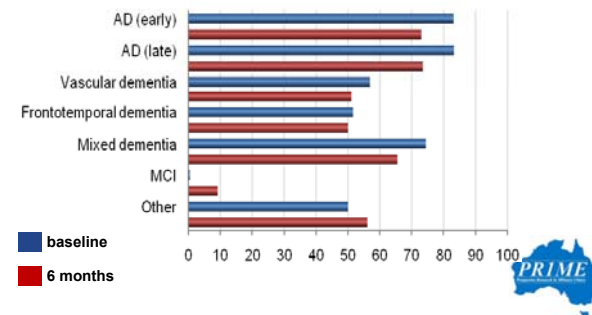
- Psychotropic use stable at about 34%
 - VaD ↓ from 41.2% to 31.9%
 - FTD ↑ from 67.7% to 78.6%
- Memantine used for AD, VaD, FTD and mixed dementia only (4.6%)
- ChEIs use: 62.0% (79.7% of patients with any form of AD)
- High rate of ChEI-use in FTD (51.6%)

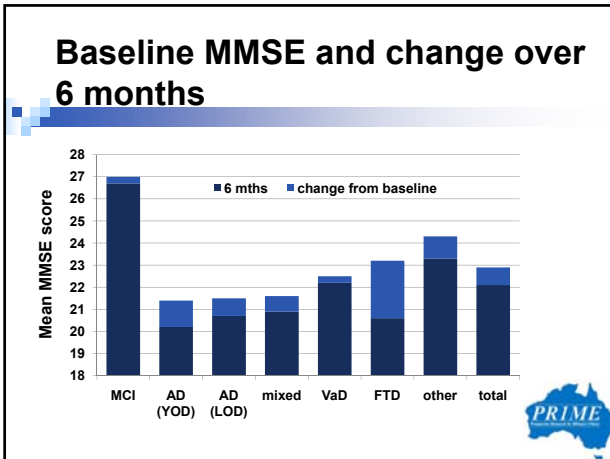


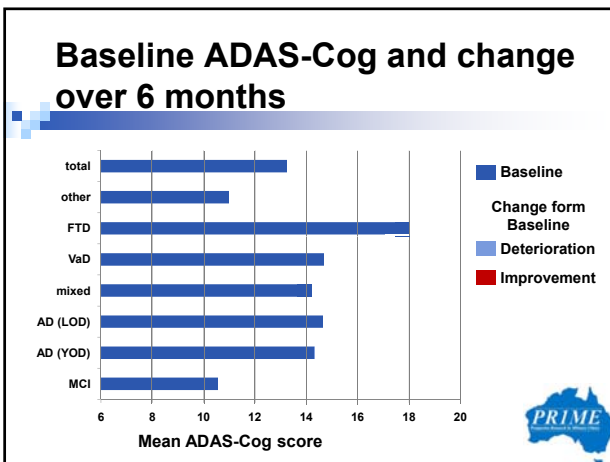
Concomitant psychotropic use at baseline and 6 months



ChEIs use at baseline and 6 months by diagnosis








Predictors of Decline


- Decline = change in MMSE from B/L
- Variables entered: age, gender, NH status at baseline, occupation, level of education, living arrangement, diagnosis, CDR, MMSE, driving status, psychotropic medication use at baseline and NPI
- Significant predictors of decline:
 - being female
 - lower MMSE at baseline



Discussion


Summary

- No diagnostic group was more severely affected than another
- Rate of cognitive decline greater for FTD
- MCI less impaired than dementia groups
- 20% of AD patients *not* treated with ChEIs
- > 50% of FTD patients treated with ChEIs
- Female gender and lower MMSE at baseline predicted cognitive decline



A valuable resource – future...

- Carer burden
- Resource use
- Driving
- B12 levels
- Rates of BPSD and their prognosis
- Rates and predictors of institutionalisation
- ?Autopsy studies – brain donation



Acknowledgments

- Janssen-Cilag Pty Ltd Australia
- Syreon Corporation
- PRIME study group
- Andrea Malcolm



Thank you!



Hope to see you tomorrow at the...