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THE AUSTRALIAN NATIONAL UNIVERSITY

NATIONAL HEALTH & MEDICAL RESEARCH COUNCIL

Social Psychiatry Research Unit

ANNUAL REPORT FOR 1990

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INTRODUCTION

Since its establishment 16 years ago by the National Health and Medical Research Council, the Unit has pursued a programme of research in social psychiatry and psychiatric epidemiology. Its aims have been to conduct work of a high scientific standard in this field, using the opportunity for continuity of effort; and to contribute to the promotion of research on mental disorders in Australia. In November 1983, the World Health Organization designated the Unit Collaborating Centre for the Epidemiology of Mental Disorders. As such, its objects have been to contribute to the training of individuals in the epidemiology of mental disorders; to develop standardized case-finding instruments for field use, including methods for screening; and to design and conduct cross-national studies, using a common method. The Unit's period as a WHO Collaborating Centre was terminated by the Regional Office for the Western Pacific (Dr S.T. Han) during 1990. The scientific work of the Unit continues unaltered.

The Unit is funded by the National Health and Medical Research Council in a grant to The Australian National University. In recent years, the programme of work has focussed largely on the epidemiology of mental disorders in later life. This has come about because of the social and public health relevance of such disorders, and the scientific opportunities in this area. The Unit maintains its interest in the epidemiology of common psychological symptoms, particularly depression.

PROGRAMME OF WORK IN 1990

1. **A Case-Control Study of Alzheimer's Disease** (Henderson,Jorm,Korten)

As we reported in 1989, this is a collaborative study, planned and conducted with the Department of Geriatric Medicine, University of Sydney (Professor G.A. Broe, Repatriation General Hospital, Concord). The study was undertaken on the grounds that the case-control method is an efficient way of identifying risk factors in a clinical sample, being considerably less costly than a general population survey; and that it seemed possible to conduct a study of satisfactory quality by combining the complementary resources of the Department of Geriatric Medicine in Sydney and the Unit in Canberra. The design of the study, including development of an exposure interview for relatives and piloting of the procedure, took almost two years to accomplish.

The aims were to conduct the study on a larger series of cases of Alzheimer's disease (AD) than previously reported, to do so in an Australian population where exposures may be different from the USA or Europe, to pay particular attention to rigorous case definition using both early and late onset cases, and to use a control group derived from the same population as the index cases.

We sought to obtain all cases of dementia living in the community within the geographic area around a veterans' hospital in Sydney and attending their GPs during the study period. One hundred and seventy persons presenting at the dementia clinic at the two hospitals were diagnosed as having probable AD by the NINCDS-ADRDA research criteria.

Controls were recruited where practicable from the same or a neighbouring general practice, and were matched for gender and age. A Risk Factor Interview lasting about two hours was developed, covering a very wide range of exposures. This was administered by trained lay interviewers to the informants, who were invariably close relatives. Both the informants and interviewers were kept blind to the central purpose of the study.

The cases consisted of 63 men and 107 women, of whom 83 were "probable AD" and 87 "possible AD". The age range of cases was 52 to 96 years. Matching of controls was such that the age difference was one year or less for 63%, and three years for 93% of the sample.

Findings. These are reported in some detail in a paper now published in *Neurology* (Broe et al., 1990). The analysis has identified four risk factors for Alzheimer's disease: a history of dementia, probable AD, or Down's syndrome in a first-degree relative, and underactivity both in the recent and more distant past. Previously reported or suggested associations such as head injury, starvation, thyroid disease, analgesics, antacid use (aluminium exposure), alcohol abuse, smoking and left-handedness were not supported by this case-control study.

Environmental Risk Factors for Alzheimer's Disease. This is a further analysis of the same data. We have considered only environmental risk factors, and their relation to age of onset and to familial or sporadic types of AD. Early-onset cases were defined as cases where the onset was judged from the history obtained from the informant to have been up to the age of 70 years. Late-onset cases were those in whom the onset had been above 70 years. For the familial/sporadic distinction, a case in which one or more first degree relatives were considered likely to have had AD or a mixed condition was taken to be familial. The others were taken to be sporadic.

Although there has been evidence that earlier-onset is associated with a family history of dementia, no such association was found in the present series.

Odds ratios for matched pairs were calculated. The analysis of the relationship between age of onset and an exposure was carried out in two stages. First, the significance of any confounding effect of age of onset (as a continuous variable) on the risk of AD was tested for each exposure in turn. Second, to explore the possibility of a summative effect involving multiple environmental exposures, a scale was constructed with each exposure being given one point. The correlation between this scale and age of onset was calculated separately for cases and controls, and tested for a significant difference.

The analysis of the relationship between an exposure and a family history of dementia was similarly analyzed in two stages. Firstly, differences between the odds ratios for familial and sporadic cases were tested for each exposure in turn. Then, summative effects were analyzed by comparing the difference in number of environmental exposures for familial case control pairs with those of sporadic case-control pairs.

Later-onset AD was found to be associated with starvation/malnutrition and with nose-picking. Earlier-onset AD was associated with physical

underactivity more than ten years before assessment. Sporadic AD was associated with starvation/malnutrition and with head injury. No evidence of a summative effect of environmental insults was detected. The associations identified in this study are set out in the following table.

	Head Injury	Underactivity	Starvation	Nose-picking
Earlier-onset		+		
Later-onset			+	+
Sporadic	+		+	
Familial				

These findings are of considerable interest, and require careful interpretation. They certainly call for replication in other series, and by other research designs.

A good illustration of this, which is a logical development from our case-control study, is the investigation being prepared by Broe, Jorm and others, who will investigate the incidence of Alzheimer's disease or cognitive impairment in Australian servicemen who were prisoners of war of the Japanese compared to control ex-servicemen. The aim of this study is to evaluate the hypothesis that a history of malnutrition is a risk factor for Alzheimer's disease or other cognitive disorders.

2) **The Canberra Interview for the Elderly (CIE)** (All Staff)

After a period of considerable effort, the Unit has finalized the text and coding for this new instrument. It allows diagnoses to be made both by ICD-10 research criteria and by DSM-III-R. Because the interview is fully specified and scripted, it can be administered by a lay interviewer after training. The content covers dementia, cognitive impairment short of dementia, depressive disorders, disability in daily life, social functioning, social support and recent use of services. The CIE is in two parts: an interview with the respondent, including an examination of cognitive performance; and an interview with an informant, who is usually a close relative.

After a particularly taxing period of developmental work, the Unit has now prepared error-free algorithms for both the ICD-10 and DSM-III-R diagnoses of dementia and depression.

During 1990, a reliability study of the CIE was conducted with Professor G.A. Broe and his colleagues at Repatriation General Hospital, Concord. Seventy elderly patients and their informants were examined by a trained lay interviewer, and the process repeated by a second interviewer a few days later. We also considered the clinical diagnosis made by the attending clinician, in relation to the diagnosis generated by the CIE and its associated algorithms. The findings were that responses to individual items of the interview were highly reliable. Test-retest agreement at the diagnostic level and for subcomponents of diagnoses were generally moderate. This is due presumably to the nonlinear manner in which items must be combined to satisfy diagnostic criteria. Agreement between the CIE and clinician was also moderate, consistent with the test-retest agreement. Attempts were made to identify the source of discrepancies. In many cases they were associated with changes in the condition of the respondent. It was concluded that the reliability and validity of the CIE is at least equal to other comparable lay administered schedules such as the DIS.

3. **A Longitudinal Study of a General Population Sample of the Elderly** (All Staff)

The field work for this study is now well under way. The aims are to study the epidemiology of cognitive decline, dementia and depression over time - for at least five years; and to identify factors influencing the course of such conditions. Close attention is being paid to social factors, including social support. Detailed measures are made of disability in daily life. The sample is of persons aged 70 years and over living in the community in Canberra and Queanbeyan. This study uses the Canberra Interview for the Elderly, this instrument having been developed specifically for this task.

We anticipate that the longitudinal study will yield information of value for a better understanding of the aetiology of depression, and of dementia. It will also yield useful information on the need for, and utilization of services for elderly.

4. **Trial of THA-plus-lecithin in Alzheimer's disease** (Jorm and Christensen)

The trial of THA-plus-lecithin in Alzheimer's disease has progressed rapidly in 1990. Already 35 patients have entered the trial at Concord Hospital. Ten are currently participating in the dose-finding phase, 13 currently participating in the double blind phase and 12 patients have completed all phases over the 12 months. A preliminary report on the performance of dementia patients compared to healthy controls or tests thought to be 'sensitive' and 'insensitive' to cholinergic depletion was presented by Maltby at the 15th Annual Brain Impairment Conference in Newcastle. Intake of patients to the programme is expected to be completed by the end of 1990.

5. **The Study of Élite-Elderly Subjects** (Christensen and Henderson)

The cross-sectional phase of this study is now completed. The study aimed to evaluate the role of high intelligence and education in 'protecting' against the efforts of age-related intellectual decline. Thirty Fellows from the Academies of Science, Humanities and Social Science were compared with age-matched men from blue-collar occupations, young PhD students from The Australian National University and trade students from The Department of Technical and Further Education.

Two major findings emerged from the study. First, with the exception of one test, (the Similarities Subtest of the Wechsler Adult Intelligence Scale) the rate of decline for the high and low ability group was the same. The findings indicated that while intelligence determines the level of intellectual and cognitive performance, such that those with high ability maintain their initial advantage over their less able peers, the rate at which abilities decline is the same for all people, irrespective of initial ability.

The second major finding was that there were marked declines in the performance of the high ability group relative to Doctor of Philosophy students on many of the tests. Although the Academicians performed better on the verbal categorisation and vocabulary tasks than did the PhD students, they performed more poorly on inferential thinking, visuo-spatial reasoning and perceptual motor speed. They performed significantly worse than did the young trade students on tests of perceptual motor speed.

It was concluded that there was only slight evidence of 'compensation' for, or 'protection' from, 'age related' changes in intellectual performance with age in highly educated subjects.

Preparation for a second follow-up study is nearing completion and will be conducted before the longitudinal phase, which is due to start in 1992. The second study aims to examine the performance of the four groups on tests that are "ecologically valid" and likely to reflect the cognitive abilities of older subjects as they manifest in natural contexts.

6. **The Prevalence of Depression Among Nursing Home Residents** (Phillips)

Results of this study may be summarised as follows, referring to 165 residents who completed the CIE depression section. Eighty-two per cent of residents reported one or more DSM-III-R depressive symptoms, and 91 per cent reported one or more ICD-10 symptoms. The two-week prevalence of DSM-III-R Major Depressive Episode was 9.7 per cent (16 cases). When ICD-10 criteria were applied, the two-week prevalence of Severe Depressive Episode was 6.1 per cent (10 cases); of Moderate Depressive Episode, 6.7 per cent (11 cases); and of Mild Depressive Episode, 6.7 per cent (11 cases). The extent of depression was also assessed by the Director of Nursing of each home; and they identified 11 per cent of the sample as severely depressed, but specificity of these diagnoses in comparison with CIE algorithm was 0.32. Of 35 cases with a depressive disorder, 10 were taking antidepressants, and 6 of the 18 residents considered severely depressed by Directors of Nursing had not been prescribed psychotropic medication. Finally, in examining the relationship between the environment and depressive symptoms, it was found that Cohesion, Self-Exploration and Resident Influence as perceived by the staff made a significant contribution to variance in depressive symptoms, but physical attractiveness of the home and frequency of visits by family and friends did not contribute significantly to the overall equation.

These results are being followed up to investigate the relationship between depression, the nursing home environment and mortality.

7. **Collaborative Reanalysis of Case-Control Studies of Alzheimer's Disease** (Jorm and Korten)

Two staff from the Unit participated in a EURODEM Workshop on Risk Factors for Alzheimer's Disease held in Rotterdam. This Workshop

brought together representatives from 11 case-control studies who collaborated the pool data from the studies to allow a more definitive assessment of risk factors. Jorm took primary responsibility for the reanalysis of data on the association between psychiatric history and Alzheimer's disease. The results of the reanalyses are to be published in a special issue of the *International Journal of Epidemiology* in 1991.

8. **Care of the Elderly in the Community** (Bowers)

In the 1989 Annual Report, we reported on a study of the detection of dementia and depression in elderly patients by 11 GPs. This study has been extended to a broader sample of 36 GPs who were assessed for how much knowledge they have of these disorders. They were found to have a limited knowledge of the signs and symptoms of dementia and depression. Furthermore, almost 60 per cent of the GPs did not know that Alzheimer's disease is the most common dementing disorder. Ms Bowers is writing up this work for a PhD thesis.

9. **A Scale to Measure Well-Being in the Elderly** (Mackinnon)

Numerous self-report techniques have been proposed to measure well-being and life satisfaction. The psychometric properties of many of these instruments have not been thoroughly investigated, particularly with respect to their application in elderly populations. Items were developed and selected from existing scales to attempt to measure general well-being, satisfaction with later life and a number of defensive styles it was believed might influence self reports of satisfaction. These scales were piloted on a community-dwelling sample of elderly respondents living in Melbourne. Analyses of these data are proceeding.

10. **The Interaction of 'Care' and 'Protection' as Risk Factors in Depression** (Mackinnon)

The relationship between reports of poor parenting experiences and subsequent development of depression in adulthood is well established. A logistic regression model was developed to examine the hypothesis that the interaction of low care and high protection (as measured by the Parental Bonding Instrument) was particularly associated with major depression and dysthymia. The results suggested that reports of caring are the most

important risk factor, with little evidence that protection, or the interaction of the two variables adds significantly to risk.

11. **"The Problem of Dementia in Australia"** (Jorm & Henderson, Department of Community Services and Health)

At the request of the Department, we have revised this small book. It is particularly gratifying to learn of its high penetration throughout Australia in settings where it is reportedly found to be useful. The coverage includes: the nature of dementia; the prevalence and incidence of dementia; risk factors; assessment of persons suffering from dementia; management; community care for dementia sufferers; residential care; and suggested further reading.

12. **Unit Report for *Psychological Medicine* for the period 1975-90**

The Editor of *Psychological Medicine*, invited a report of the Unit's scientific work since its inception in 1975. This has proved to be a particularly rewarding document to assemble. The course of the Unit's work over the years is described, and all its publications listed.

13. **Assessment of Grant Applications, Papers and Theses**

During 1990, Unit staff assessed 35 research grant applications and 8 theses. Twenty-two papers were assessed for publication in overseas and Australian journals.

VISITORS TO THE UNIT

The Unit had pleasure in welcoming the following visitors in 1990:

Professor Brian Everitt, Biometrics Unit, Institute of Psychiatry, London.
Professor Julian Leff, MRC Social & Community Psychiatry Unit, Institute of Psychiatry, London.
Professor Andrew Sims, University of Leeds, President, Royal College of Psychiatrists, U.K.
Dr Keith Fleming, Geriatrician, Woden Valley Hospital, ACT.
Dr Mark Radford, Hokkaido University, Japan.
Ms Angela Cook, Brandeis University, Boston, Mass.
Dr Margaret Fisher, Warneford Hospital, Oxford.
Professor Bruce Singh, NH&MRC Schizophrenia Research Unit, Melbourne.
Dr Helen Herrman, Director, Psychiatric Epidemiology & Services Evaluation Unit, Monash University, Melbourne.
Dr Liz Haggard, Southern Derbyshire Health Authority, Derby, U.K.
Ms Gunilla Ernberg, Global Programme on AIDS, WHO, Geneva, Switzerland.
Professor George Maxwell, Department of Pediatrics, University of the United Arab Emirates.
Professor Leon Eisenberg, Department of Social Medicine, Harvard Medical School, Boston.
Dr Carola Eisenberg, Director, International Program for Students, Harvard University, Boston.
Dr Geoffrey Cubis, Faculty of Medicine, University of Newcastle, NSW.
Dr David Share, School of Education, University of Haifa, Israel.
Professor John Cooper, University of Nottingham Medical School, U.K.
Dr Zaven S Khachaturian, National Institute on Aging, Bethesda, Maryland, USA.
Professor Vaughan Carr, Faculty of Medicine, Newcastle University, NSW.
Dr Dick Lefroy, Queen Elizabeth II Medical Centre, Nedlands, WA.
Ms Jennifer Page, Queen Elizabeth II Medical Centre, Nedlands, WA.
Professor Colin Masters, Dept of Pathology, University of Melbourne.
Professor Assen Jablensky, President, Medical Academy of Bulgaria, Sophia, Bulgaria.
Dr Norman Sartorius, Director, Division of Mental Health, World Health Organization, Geneva.

PUBLICATIONS IN 1990

Henderson, A.S. (1990) The social psychiatry of later life. 1989 Eli Lilly Lecture, Royal College of Psychiatrists, London, *British Journal of Psychiatry*, 156, 645-653.

Jorm, A.F. & Duncan-Jones, P. (1990) Neurotic symptoms and subjective well-being in a community sample: different sides of the same coin? *Psychological Medicine*, 20, 647-654.

Henderson, A.S. (1990) Epidemiology of dementia disorders. In: R.J. Wurtman, S. Corkin, J.H. Growdon & E. Ritter Walker (Eds.) *Alzheimer's Disease (Advances in Neurology*, 51, 15-25. New York: Raven Press.

Jorm, A.F. (1990). Some pitfalls in data analysis. In: R.J. Wurtman, S. Corkin, J.H. Growdon & E. Ritter Walker (Eds.) *Alzheimer's Disease (Advances in Neurology)*, 51, 35-39. New York: Raven Press.

Goldberg, D., Bridges, K., Cook, D., Evans, B., & Grayson, G. (1990) The influence of social factors on common mental disorders: destabilisation and restitution. *British Journal of Psychiatry*, 156, 704-713.

Henderson, A.S. (1990) Co-occurrence of affective and cognitive symptoms: The epidemiological evidence. *Dementia*. 1: 119-123.

Henderson, A.S. (1990) Co-occurrence of affective and cognitive symptoms: The epidemiological evidence. In: Hasegawa K. & Homma, A. (eds.) *Psychogeriatrics: Biomedical and Social Advances*. Excerpta Medica, Tokyo, pp. 340-343.

Grayson, D.A., Goldberg, D.P., Bridges, K. and Cook, D. (1990) The validity of diagnostic systems for common mental disorders. *Psychological Medicine*, 20, 1, 209-218.

Bowers, J., Jorm, A.F., Henderson, A.S. and Harris, P. (1990) General practitioners' detection of depression and dementia in elderly patients. *Medical Journal of Australia*, 153, 192-196.

Henderson, A.S. & Jorm, A.F. (1990) Do mental health surveys disturb? *Psychological Medicine*, 20, 721-724.

Andrews, G., Stewart, G., Morris-Yates, A., Holt, P. & Henderson, S. (1990) Evidence for a general neurotic syndrome. *British Journal of Psychiatry*, 157, 6-12.

Wells, Y.D., Jorm, A.F., Jordan, F., Lefroy, R. (1990) Effects on care-givers of special day care programmes for dementia sufferers. *Australian & New Zealand Journal of Psychiatry*, 24, 82-90.

Leff, J., Wig, N.N., Bedi, H., Menon, K., Kuipers, L., Korten, A., Ernberg, G., Day, R., Sartorius, N. & Jablensky, A. (1990) Relatives expressed emotion and the course of schizophrenia in Chandigarh. A two-year follow-up of a first-contact sample. *British Journal of Psychiatry*, 156, 351-356.

Mackinnon, A.J., Henderson, A.S., and Andrews, G. (1990) A twin study of the lability of trait neuroticism and neurotic symptoms. *Psychological Medicine*, 20, 581-590.

Mattick, R.P., Andrews, G., Hadzi-Pavlovic, D., and Christensen, H. (1990) The treatment of anxiety states, panic and agoraphobia: a meta-analytic review. *Journal of Nervous and Mental Disease*, 178, 567-576.

Broe, G.A., Henderson, A.S., Creasey, H., McCusker, E., Korten, A.E., Jorm, A.F., Longley, W. & Anthony, J.C. (1990) A case-control study of Alzheimer's disease in Australia. *Neurology*, 40, 1698-1707.

Grayson, D.A. (1990) The matter of scale. *Behavior Genetics*, 20, 81-89.

BOOKS

Braithwaite, V.A. (1990) *Bound to Care.* Allen & Unwin, Sydney.

Jorm, A.F. & Henderson, A.S. (1990) *The Problem of Dementia in Australia.* (revised edition) Department of Community Services & Health, Australian Government Publishing Service, Canberra.

Jorm, A.F. (1990) *The Epidemiology of Alzheimer's Disease and Related Disorders.* London: Chapman & Hall.

IN PRESS

Moran, P.A.P. A problem concerning the mapping of combinations. In *Festchrift for Joe Gani*, Applied Probability Trust.

Hnatiuk, S.H. & Duncan-Jones, P.J. Methodological issues in the study of personality and psychiatric state in rheumatoid arthritis. *International Journal of Psychiatry in Medicine.*

Henderson, A.S. Research Report: 1975-1990. The NH&MRC Social Psychiatry Research Unit, The Australian National University, Canberra. *Psychological Medicine.*

Henderson, A.S. and Hasegawa, K. The epidemiology of dementia and depression in later life. In: Bergener, M., Hasegawa, K., Nishimura, T. & Finkel, S. (eds.) *Transcultural Psychogeriatrics - An Integration of Eastern and Western Concepts and Strategies.* Springer Publishing Company, New York.

Henderson, A.S. The epidemiology of dementia: the current state. Guest Editorial, *European Archives of Psychiatry and Neurological Sciences.*

Jorm, A.F. Cross-national comparisons of the occurrence of Alzheimer's and vascular dementias. *European Archives of Psychiatry and Neurological Sciences.*

Jorm, A.F. The validity of word age-of-acquisition ratings: A longitudinal study of a child's word knowledge. *British Journal of Developmental Psychology.*

Grayson, D.A. Selection effects and unidimensionality in item response theory. *British Journal of Mathematical and Statistical Psychology.*

Henderson, A.S. Social support and depression. Bad Homburg Symposium. Springer Verlag.

Henderson, A.S., Korten, A.E., Jorm, A.F., McCusker, E., Creasey, H. & Broe, G.A. Season of birth in Alzheimer's disease in the Southern Hemisphere. *Psychological Medicine.*

Christensen, H. Subjective memory assessment and test performance in elderly memory complainers, controls, young subjects, and demented patients. *International Journal of Geriatric Psychiatry.*

Christensen, H., Hadzi-Pavlovic, D. & Jacomb, P. The psychometric differentiation of dementia from normal ageing: A quantitative analysis. *Psychological Assessment: A Journal of Consulting and Clinical Psychology.*

Mackinnon, A.J., Henderson, A.S., and Andrews, G. A twin study of the parental bonding instrument. *Acta Psychiatrica Scandinavica.*

Grob, A., Luthi, R., Kaiser, F.G., Flammer, A. and Mackinnon, A.J. Berner Fragebogen zum Wohlbefinden für Jungendliche: Entwicklung und Uberprufung. *Diagnostica.*

Jorm, A.F., Henderson, A.S., Kay, D.W.K. & Jacomb, P.A. Mortality in relation to dementia, depression and social integration in an elderly community sample. *International Journal of Geriatric Psychiatry.*

Phillips, C.J. Developing a method of assessing quality of care in nursing homes using key indicators and population norms. *Journal of Aging and Health.*

Hnatiuk, S.H. Experience sampling with elderly persons: an exploration of the method. *International Journal of Aging and Human Development.*

Phillips, C.J. & Henderson, A.S. The prevalence of depression among Australian nursing home residents: results using Draft ICD-10 and DSM-III-R criteria. *Psychological Medicine.*

Christensen, H. & Birrell, P. Explicit and implicit memory in normal ageing. *Psychological Research.*

Jorm, A.F., Scott, R., Cullen, J.S. & Mackinnon, A.J. Performance of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) as a screening test for dementia. *Psychological Medicine.*

CONFERENCE PAPERS AND TALKS

Christensen, H.

Does High Intelligence Protect Against Ageing Declines? Australian Psychology Society, Melbourne, September, 1990.

The Differentiation of Alzheimer Type Dementia from Normal Ageing Declines. XV Conference of ASSBI, Newcastle, October, 1990.

Is Age Kinder to the Initially More Able? A study of eminent Australian academics and scientists. Australian Society for Psychiatric Research, Melbourne, November, 1990.

Henderson, A.S.

National Institute of Mental Health/World Health Organization. Conference on ICD-10 and DSM-IV, Bethesda, MD. February 1990.

Social Support and Depression. Symposium on Social Support, Bad Homburg, FRG, May 1990.

A Case-Control Study of Alzheimer's Disease. Symposium on Social Psychiatry, MRC Unit for Epidemiological Studies in Psychiatry, University of Edinburgh, October 1990.

Jorm, A.F.

The Australian Case-Control Study. First EURODEM Workshop on Risk Factors for Alzheimer's Disease, Erasmus University, Rotterdam.

Alzheimer's Disease. Rotary Club of Harden-Murrumburah, NSW.

Use of National and State-Wide Indicators to Monitor Mental Health. Psychogeriatric Evaluation Seminar, Prince of Wales Hospital, Sydney.

Research on Alzheimer's Disease. CADE Unit, Queanbeyan.

Psychiatric Research Methodology Workshop (run jointly with A.J. MacKinnon) Mont Park Hospital, Melbourne.

Progress with Dementia Research. Australian Association of Voluntary Care Association s Annual Meeting, Hobart.

The Epidemiology of Alzheimer's Disease. Alzheimer's Association National Conference, Perth.

Jorm, A.F.

Psychiatric History. Second EURODEM Workshop on Risk Factors for Alzheimer's Disease, Rotterdam.

Screening for Dementia by Informant Questionnaire. Central Institute of Mental Health, Mannheim.

Performance of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE) as a Screening Test for Dementia. Australian Society for Psychiatric Research, Melbourne.

Mackinnon, A.J.

LISREL VII. Data Analysis Workshop on Latent Variable and Structural Models. Australian National University, February, 1990.

The Genetics of Parental Bonding. "It Runs in the Family IV" Fourth Annual Conference of the NH&MRC Twins Registry, Melbourne, February, 1990.

(jointly with A.F. Jorm) Psychiatric Research Methodology Workshop, Mont Park Hospital, June, 1990.

The Relationship between Dysthymia and Major Depression and Parental Representation in a Community (Twin) Sample. Vulnerability factors in neurosis: What Causes What? Clinical Research Unit for Anxiety Disorders, Sydney, September 1990.

Phillips, C.

Is Staff Turnover Related to Depressive Symptoms Among Nursing Home Residents? SYSSED 90 Conference, Bologna, Italy, April 1990.

The Contribution of the Environment to Depression in the Elderly. Australian Psychology Society, Melbourne, September 1990.