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EDITORIAL

Welcome to the North West Dementia Centre *Mental Health in Old Age Bulletin*. The overarching aim of the *Bulletin* is to provide a summary of topical and important areas of the treatment and care of mental health problems in older people, particularly in relation to dementia. This will be achieved by articles which:

- Summarise newly-published research
- Synthesise evidence in specific areas of practice
- Highlight the implications of current policy and guidelines
- Assimilate diverse threads of new and existing research
- Appraise longer-term implications of current initiatives

CURRENT KEY ISSUES

In this section, we aim to concentrate on information which has been published and from which we can say, therefore, has passed a degree of scientific scrutiny.

The Alzheimer Vaccine Trial

The description of the first patient to come to post mortem after being on the Alzheimer vaccine trial is described in Naturemedicine (Nicoll *et al*., 2003). The autopsy was a woman who had received a series of five injections of AN1792 A-beta-42 Peptide Vaccine. Apparently, the patient had the side effects after the first four injections, but six weeks after the fifth (42 weeks after treatment had started) she suffered from dizzy spells, from drowsiness and unstable gait, and fever. An MRI scan suggested inflammation of the brain and she was started on dexamethazone. She remained stable until she died nine months later. At post mortem, there were very few amyloid plaques in her neo-cortex, i.e. the temporal lobe, parietal, frontal and occipital lobes. However, substantial numbers of plaques were found in the cerebellum and basal ganglia, regions usually affected at the later stages of disease. The other main histological features of Alzheimer's disease, the neurofibrillary tangle, was unaffected by the vaccination. Also, the accumulation of A-beta in blood vessels (cerebral amyloid angiopathy) was unchanged. There was evidence that lymphocytes had infiltrated the membrane coverings in areas particularly where cerebral amyloid angiopathy was present. In an accompanying editorial, Greenberg *et al* summarised the findings as confirming "an astonishingly powerful effect of the vaccination", emphasising the striking parallels with a rare syndrome of spontaneous cerebral amyloid angiopathy which gives rise to similar symptoms. One interpretation of the patient's pathology is that the vaccination triggered an inflammatory response not only against the amyloid containing plaques within the brain but also vascular amyloid, resulting in abnormalities of cerebral blood circulation which may explain the clinical changes. As the authors state, because neurofibrillary tangles and neurophil threads are closely associated with cognitive impairment in Alzheimer's disease, their continued presence, even after powerful large scale amyloid removal suggests that specific therapy may not clear up much of the damage that already exists, raising the possibility that treatment should perhaps be given at an even earlier stage, something which modern neuroimaging has made possible. Also, if T-cell mediated cell immunity is the cause of the side effects, then some methods to minimise this might be considered.

Nicholl, J., Wilkinson, D., Holmes, C., Steart, P. *et al.* (2003) Neuropathology of human Alzheimer's disease after immunisation with amyloid-beta peptide: a case report. *Nature Medicine* 9 (4), pp.448-452.

Cholinesterase Drugs and the Treatment of BPSD

Cholinesterase drugs are the primary treatment for the cognitive symptoms of Alzheimer's disease, and cholinergic dysfunction is associated with a host of abnormalities, including disorders of cognitive function, psychological symptoms and behavioural disturbances (BPSD) and problems with activities of daily living. Trinh *et al*., (2003) reported a meta-analysis of a study looking at the effects of cholinesterase drugs on the treatment of BPSD and functional impairment in Alzheimer's disease. A systematic review and meta-analysis was carried out to quantify the efficacy of the cholinesterase inhibitors. A literature search of trials revealed two parallel groups or cross-over randomised double blind placebo controlled trials of outpatients diagnosed as having mild to moderate Alzheimer's disease who had been treated for at least a month. Sixteen trials included assessment of BPSD and eight ADL. BPSD was assessed using the Neuropsychiatric Inventory and the non-cognitive section of the Alzheimer's disease assessment scales. Functional activity was assessed using a basic ADL scale and an instrumental activities of daily living scale. For BPSD, ten trials included the ADAS Non-Cog, and six included the Neuropsychiatric Inventory. Compared to placebo, patients randomised to cholinesterase inhibitors improved 1.72 points on the NPI (95% confidence intervals, 0.87 to 2.57, and 0.03 points on the ADAS Non-Cog confidence intervals 0.00 to 0.05 points). For functional outcomes, fourteen trials used a standard ADL scale, and thirteen trials specifically used instrumental activities of daily living scales. Compared with placebo, patients randomised to cholinesterase inhibitors improved 0.1 standard deviations on the ADL scales (confidence intervals 0.00 to 0.19), and 0.00 standard deviations on the instrumental activities of daily living scale (confidence intervals 0.01 to 0.17 standard deviations). There was no difference in efficacy among the various cholinesterase inhibitors used – these were metrifonate, galantamine, donepezil, tacrine, velnacrine, and phystostigmine.

The results indicated that cholinesterase inhibitors have a modest benefit on BPSD and functional outcomes in patients with Alzheimer's disease, and emphasise that future research should concentrate on how such improvements can be translated into longer quality of life improvements (Wilson *et al*., 2002).

Trinh, N., Hoblyn, J., Mohanty, S., Yaffe, K. *et al.* (2003) Efficacy of cholinesterase inhibitors in the treatment of neuropsychiatric symptoms and functional impairment of Alzheimer's disease: a meta-analysis. *Journal of the American Medical Association* 289, pp.210-216.

Cognitive Stimulation

It is known that taking part in cognitive stimulating activities may be associated with a lowered risk of Alzheimer's disease, but evidence for this hypothesis is lacking. A community in Chicago of people over the age of 65 were asked to take part in an interview rating frequency of participation in seven cognitive activities (e.g. reading a newspaper) and nine physical activities (e.g. walking for exercise), from which composite measures of cognitive and physical activity frequency were derived. Initially, 6,158 people were assessed, and four years later, 1,249 of those judged free of Alzheimer's disease were sampled, with a detailed clinical evaluation of incident disease, and 74% (842) took part in this. The composite measure of cognitive activity ranged from 1.28 to 4.71, with higher scores indicating more frequent activity. 139 people satisfied standard criteria for Alzheimer's disease. In a logistic regression model adjusted for age, education, sex, race, and possession of apolipoprotein E4 allele, a one point increase in cognitive activity score was associated with a 64% reduction in the risk of AD (odds ratio 0.36, confidence intervals 0.20 to 0.65). By contrast, weekly hours of physical activity was not related to disease risk. Education was associated with risk of Alzheimer's disease, and a similar trend was present for occupation, but these effects were substantially reduced when cognitive activity was added to the model. In conclusion, the frequency of participation in cognitively stimulating activities was found to be associated with lower risk of Alzheimer's disease and may partially explain the association of educational and occupational attainment with disease risk (Wilson *et al.*, 2002).

Wilson, R., Bennett, D., Bienas, J., Aggawal, N. *et al.* (2002) Cognitive activity and incident AD in a population based sample of older persons. *Neurology* 59, pp.1910-1914.

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Variations in Old Age Psychiatry Services

Specialist old age psychiatry services play a central role in the support of older people with mental health problems, particularly depression and dementia. However, there is relatively little evidence on patterns of service provision and models of care (Dening, 1992). In part, this reflects the fact that old age psychiatry is a relatively young speciality, only receiving official status in 1989. Although broad principles and guidelines have been issued by the Royal College of Psychiatrists, no clear blueprint for the development of old age psychiatry has been developed, reflecting differences in service mix, resource levels, unique local history and context. Little is known about patterns of variation in professional practice, the extent of community-based working and the degree of service integration, particularly with social care, key themes of government policy. The study described the current pattern of service arrangements in England and Northern Ireland (Challis *et al.*, 2002). It investigated the range of old age psychiatry services in three key domains: professional practice, such as multi-

disciplinary working; extent of community orientation; and degree of integration with primary care and social care.

The data provide a unique picture of the current configuration of old age psychiatry services in the UK. There appeared to be substantial variation on all three domains of comparison. In particular, there was marked variation in the deployment and use of professional staff in old age psychiatry, ranging from, on the one hand, from open access to multi-disciplinary assessment to, on the other, services only accessible by clinician referral. Patterns of linkage with primary care were likewise variable with only half of services providing the types of support recommended by the Audit Commission. Community orientation was evident in support to care homes and assessment practices. Links between health and social care appeared strongest in terms of liaison and training. There was less evidence of more formal integration through shared management of staff or for links with intensive home support for those with dementia. Further work will explore the ways in which the integrated health and social care system in Northern Ireland is reflected in different patterns of working.

References

Challis, D., Reilly, S., Hughes, J., Burns, A. *et al.* (2002) Policy, organisation and practice of specialist old age psychiatry in England. *International Journal of Geriatric Psychiatry,* 17, pp.315-325.

Dening, T. (1992) Community psychiatry of old age: a UK perspective. *International Journal of Geriatric Psychiatry,* 7, pp.757-766.

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CONFERENCE REPORT

New perspectives in dementia therapy: Berlin (13 to 14 December 2002)

Merz Pharmaceutical sponsored a conference on innovations in Alzheimer therapy in Berlin in December 2002 on the occasion of the imminent launch of the anti-Alzheimer drug, memantine. Speakers included Alistair Burns (UK), Harald Hample (Germany), Johannes Kornhuber (Germany), Stephen Ferris (USA), Rafael Blesa (Spain) and Johannes Hallauer (Germany). The epidemiology of Alzheimer's disease was emphasised by Alistair Burns, noting that "the prevalence of Alzheimer's disease increases with population age, with the rate doubling approximately every five years". With regard to diagnosis, Harald Hample noted that "promising new diagnostic markers for Alzheimer's disease can be derived particularly from structural neuroimaging and cerebrospinal fluid analysis". The topic of NMDA protection and the role of memantine was highlighted by Johannes Kornhuber "Memantine effectively mediates cell signalling and provides meaningful cognitive improvement and neuroprotection". Treatment aspects of dementia were summarised by Stephen Ferris. He concluded that "memantine is an effective, safe

and well-tolerated treatment for dementia" (Reisberg *et al.*, 2003). Rafael Blesa outlined the effects of memantine in people with vascular dementia, outlining two studies – one centred in the UK and one in France. The implication, according to Professor Blesa, was that "memantine is the first drug to demonstrate cognitive benefit in mild to moderate vascular dementia.

Teisberg, B., Doody, R., Stoffler, A., Ferris, F. *et al.* (2003) Memantine in moderate to severe Alzheimer's disease. *New England Journal of Medicine* 348 (14), pp.1333-1341.

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BOOK REVIEW

Caring with confidence: A handbook for training in dementia care for nursing and care assistants in continuing care homes.

Reba Bhaduri (ed), (2002) *Caring with confidence: A handbook for training in dementia care for nursing and care assistants in continuing care homes.* PSSRU, University of Manchester 115pp £13.50

This book is a timely addition to the menu of resources for professional carers working in dementia care settings. It is beautifully presented and offers the reader a clear and cogent consideration of the nature, impact and care implications of the condition. As the title indicates, it is aimed specifically at nursing care assistants in continuing care homes to assist the provision of high-quality care. To this end, six separate modules of information are provided which can be considered as self contained units or the whole package could be used as part of a wider training programme. The modules address the nature and presentation of dementia syndromes, communication issues, daily care activities, challenging and aggressive behaviours, abuse and involving families and informal carers.

A significant strength is that these topics have been derived following a training needs analysis whereby managers and practitioners in continuing care homes were asked to identify areas that they saw as priorities for care and education. As a consequence, users should gain a sense of the high relevance and potential impact in practice that this resource offers.

Information on each area, case scenarios, quizzes, tips for good practice, and training exercises are provided. The level of information is good as would be expected by the impressive cast of advisors notable for their track record in dementia care that have contributed. The many complexities found in practice are recognised and addressed in a manner which will be helpful in promoting educational development and indeed confidence, both within and beyond the target group. A particular strength, and welcome inclusion, are the training exercises which provide an opportunity to consider the implications and application of learnt concepts. The

utility of this approach, however, lies in an organisation's willingness to provide time and resources to facilitate such reflection. In as much, this publication provides relevant, comprehensive and evidence based material for one half of the equation. The challenge now is for those responsible for delivering quality care to take this material into the practice arena.

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WEB PAGE REVIEWS

Alzheimer's

With the power of Google, some 2,300,000 sites were identified in 0.06 seconds. In future bulletins, we will concentrate on specific web sites in more detail. Web pages are inevitably dominated by the various Alzheimer organisations around the world. The Alzheimer Europe website, www.alzheimer-europe.org, provides a lot of information on a number of aspects about Alzheimer's disease in Europe – Alzheimer Europe is a non-governmental organisation whose aims are raising awareness of all forms of dementia through coordination and cooperation between Alzheimer and related diseases' organisations in Europe, as well as organising support for sufferers of the disease and their carers. A very neat scrolling system makes it easy to gain information easily. Lists of projects and members sit side by side with information on the prevalence of Alzheimer's disease in Europe, tips for carers and legal rights. A list of events and publications are also available.

A link on the Alzheimer Europe website is to the European Alzheimer's Disease Consortium. This is a fully functioning network of European centres of excellence, working in the field of Alzheimer's disease, providing a setting in which to increase basic scientific understanding of and to develop ways to prevent, slow or ameliorate the primary and secondary symptoms of Alzheimer's disease. This is achieved by facilitating a large Europe-wide research study, assisted by funding from the European Commission but retaining the privilege of complete independence and autonomy from the pharmaceutical industry whilst maintaining close working links within it. Two current projects are described – the ICTA study (Impact of Treatment with Anticholinesterase Inhibitors on Europeans with Alzheimer's disease) – a prospective two-year observational study which coordinates the centralisation of a patient database. The primary objective is to take advantage of the differences in prescription rates across Europe in order to examine whether long-term treatment with acetylcholinesterase modifies the rate of change in patients with Alzheimer's disease in Europe.

The other study described is DESCRIPA (Development of Screening Guidelines and Diagnostic Criteria for Pre-dementia Alzheimer's Disease). The primary goal of the project is to perform a concerted action in order to reach an evidence-based European consensus on the identification of subjects with Alzheimer's disease in the pre-dementia stage.

Special interest groups with EADC include therapeutics, neuroimaging, genetics, cognitive assessment, data management, behaviour problems, and basic research. Interestingly, searching with “Alzheimer’s”, some 220,000 sites were identified, which took Google 0.3 seconds. A slightly different list emerges, including a sponsored link (youngagain.com), which purports to provide a guide on preventing Alzheimer’s disease. It is actually a website which hosts a myriad of advice for preventing most things. The site states clearly there is no known cure for Alzheimer’s disease, and emphasises some of the potentially beneficial treatments. For example, antioxidants apparently prevent slow dementia and, conveniently, preparations are available for sale. Among those given special attention are phosphatidyserine, acetyl-L-carnitine, vitamin B complex, natural progesterone cream, pregnenolone, melatonin, gingko biloba, the ubiquitous coenzyme Q10, S-adenosylmethionine, corcumin (an extract of the tumeric root from which Indian curry is derived), glutamine, quercetine (one of nature’s most powerful anti-inflammatories, and anything that cuts down cholesterol. www.alzcentral.com is another sponsored link. The current highlights include:

- Hormone use to raise dementia risk
- Baby boomers fuelling a dementia epidemic
- College heads to a bug paradise in the quest for new medicines
- Caregivers at increased risk of developing heart disease
- Shopping may help keep body, mind in shape
- Clue to old age memory loss
- An introduction to genetics and genetic testing
- Alzheimer’s vaccine shows promise
- Lithium eyed as Alzheimer’s treatment
- Alzheimer’s: How close is a cure
- Shock therapy making comeback
- Culture genes found to play a role in Alzheimer’s
- Misbehaving molecules in ALS
- Early depression linked to Alzheimer’s in US study
- Diet is clue to Alzheimer’s disease

Any of these articles is worth a look in more detail.

On logging on to “Alzheimer” again, I found that another 30,000 websites had been added in the last thirty minutes or so, which took a further 0.01 seconds to search!

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Developments in other countries

One of the consequences of an ageing population in many developed countries is the fascinating similarity of the policies concerning long term care of older people and the kinds of service configurations that are being sought. For those working in the UK it is helpful to look at developments and initiatives in Australia, particularly

given the great similarity of the factors producing very similar policy reforms in the two countries. A key feature is that the reforms commenced some six or seven years earlier in Australia, so it is instructive to look at developments there. There is a summary of the developments in services for older people in Challis *et al*. (1995).

However, one difficulty is that much of the relevant material is not published or available from the usual sources. Fortunately there are a number of sources where material such as government funded research reports, policy documents and reviews can be obtained. A useful starting point is the Australian Department of Health www.health.gov.au/ageing.htm.

Entering the section marked as relating to Ageing on this website provides easy access to policy, research and reviews material, information about ageing and community care services. For example there are reports on the Aged care assessment programme available to download. This material provides interesting background on the role of more specialised assessment prior to placement in nursing and residential homes in Australia. This is highly relevant to Old Age Mental Health Services in England with the stipulation in the Single Assessment Process Guidance (DoH, 2002) that specialist services should be involved in assessment before care home placement in England.

There are other reports such as an intervention programme for addressing depression in care homes; links to the very useful Australian Government Publishing Service website where other reports can be obtained and also a useful link to the Australian Institute of Health and Welfare website which has information on recent research on ageing, and documents recent and forthcoming journal articles, reports and books by Institute staff on ageing and ageing related issues.

Challis, D., Darton, R., Johnson, L., Stone, R., & Traske, K. (1995) *Care management and health care of older people.* Aldershot, Ashgate.

Department of Health (2002) *Health* g*uidance on the single assessment process for older people* (LAC (2002)1).

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YOUR PROBLEMS ANSWERED

The rationale for this column is for people to present problems or difficulties they have had in their professional lives and invite comment and advice from others. We would welcome any submissions. Obviously, there needs to be a standard disclaimer statement. For instance, if clinical cases are being discussed, details should be kept completely anonymous. If aspects of professional work are being commented upon, the anonymity of those involved should be respected.