Response to the UK National Screening Committee consultation: 
Appraisal Screening for Alzheimer’s Disease

The British Psychological Society thanks the UK National Screening Committee for the 
opportunity to respond to this consultation.

The British Psychological Society (“the Society”), incorporated by Royal Charter, is the 
learned and professional body for psychologists in the United Kingdom. The Society is a 
registered charity with a total membership of almost 50,000.

Under its Royal Charter, the objective of the Society is “to promote the advancement and 
diffusion of the knowledge of psychology pure and applied and especially to promote the 
efficiency and usefulness of members by setting up a high standard of professional education 
and knowledge”.

The Society is committed to providing and disseminating evidence-based expertise and 
advice, engaging with policy and decision makers, and promoting the highest standards in 
learning and teaching, professional practice and research. The Society is an examining body 
granting certificates and diplomas in specialist areas of professional applied psychology.

We are content for our response, as well as our name and address, to be made public. We 
are also content for the UK National Screening Committee to contact us in the future in 
relation to this consultation response. Please direct all queries to:-

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Manager’s Faculty and its Faculty for Psychologists’ Working with Older People; and Dr John 
Kelly CPsychol AFBPsS. We hope you find our comments useful.

Dr C A Allan, CPsychol, CSci, AFBPsS
Chair, Professional Practice Board

Alzheimer’s Screening
British Psychological Society response, March 2010
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Introductory Comments

The UK National Screening Committee consultation document, ‘Appraisal for screening for Alzheimer’s disease’ evaluates the effectiveness and appropriateness of a screening programme for the most common cause of dementia: Alzheimer’s disease (AD). The consultation document suggests that screening for AD in people in the early stages of the disease could be achieved by screening for intellectual impairment, but concludes that, in the absence of a cure for AD, such screening is unwarranted.

Although, the Society agrees that there is no clear evidence for the utility of population screening for AD, it disagrees that there is insufficient evidence for the utility of screening for AD in people at risk of, or suspected of having, dementia. Such screening is likely to identify individuals who have intellectual impairment caused not only by AD, but also by other neurodegenerative disorders and/or potentially reversible conditions. Therefore, any such screening should only form the first stage of a clear diagnostic pathway, to be entered into collaboratively with the patient’s consent.

The possible benefits of such a process include possibly identifying individuals whose intellectual impairment may be reversed or arrested, and identifying individuals with neurodegenerative disease (such as AD), who may benefit from the wide range of evidence-based medical, psychological and social interventions that are available. Such interventions have been shown to optimise function and minimise the secondary effects of the condition.

Comments Relating to Specific Points Raised in the Consultation

The following numbered points correspond to those in the consultation document.

Point 2.1

Dementia is a generic term used to describe a loss of intellectual, social and practical functioning. There are a number of other neurodegenerative disorders that can also cause dementia, such as vascular dementia (VaD), frontotemporal dementia (FTD) syndromes and Lewy body dementia. Although AD is the most common cause of dementia, it is increasingly recognised that there is considerable overlap with VaD in both its risk factors (Helzner et al., 2009) and neuropathology (Iadecola, 2004). Many of these risk factors (e.g. high blood pressure, diabetes) may be reduced if managed properly. Moreover, there are many other treatable and potentially reversible causes of dementia, such as mood disorder, normal pressure hydrocephalus and nutritional deficiency states (Hodges, 2007).

There have been several studies suggesting that some medical therapies, such as nonsteroidal anti-inflammatory drugs and anti-hypertensives, may be useful in preventing the onset of AD in those with vascular risk factors (Haan & Wallace, 2004). There is also growing evidence that the existing medical therapies, acetylcholinesterase inhibitors and memantine, may not only provide symptomatic relief (Birks et al., 2009), but also affect disease progression (Hashimoto et al., 2005; Unger et al., 2006). Moreover, it is important to note that there are many psychological and social interventions for people at risk of dementia, and with dementia, which have been found to be useful in reducing everyday memory failures (e.g. Kinsella et al., 2009), and in reducing some of the secondary impact of dementia, such as caregiver burden (e.g. Pinquart & Sörensen, 2006).
Point 2.21

There is considerable evidence to suggest that vascular risk factors, such as obesity, high blood pressure and heart disease, increase the risk of AD (e.g. Luchsinger et al., 2005). These risk factors are extremely important as they are both preventable and modifiable, through smoking cessation, exercise programmes, weight loss, effective cholesterol and blood pressure management, and following a healthy diet.

Point 2.24

AD is typically characterised by the onset of episodic memory impairment followed by dysfunction in various other aspects of cognitive functioning, such as language, attention, executive and visuo-spatial functioning. There is some evidence of AD subtypes, including parietal/posterior (Ross et al., 1996), aphasic (Knibb et al., 2006), and frontal (von Gunten et al., 2006), which initially present with impairment in functions other than episodic memory. Non-cognitive features, such as emotional regulation and practical skills, also tend to deteriorate over time.

Recently, the term ‘Mild Cognitive Impairment’ (MCI) has been used to describe the first stage of AD, when there are cognitive deficits in the absence of significant functional decline (Ancelin et al., 2006). These cognitive deficits are usually circumscribed to memory (Petersen et al., 1999), but it is increasingly recognised that MCI is a heterogeneous disorder, with multiple subtypes, such as MCI-amnestic type and MCI–multiple cognitive deficits type (Lopez et al., 2006). Around 30% of people with MCI-amnestic type convert to AD within three years, and this risk of conversion is increased to around 50% in MCI–multiple cognitive deficits type (Tabert et al., 2006). However, MCI diagnosis contains both true positives (individuals who will progress to dementia) and false positives (individuals whose deficits/weaknesses remain stable, or even improve), making it difficult to determine individual prognosis (Brooks et al., 2008).

Point 3.11

Whilst it is recognised that it is possible that certain biomarkers, such as cerebral spinal fluid, may be useful diagnostically in the pre-symptomatic stage, it should be acknowledged that obtaining cerebral spinal fluid through lumbar punctures is not itself without risk, and can cause pain and discomfort, as well as being a procedure that can be anxiety-provoking.

Point 3.12

It is important to differentiate between screening and diagnosis of AD. As described in the consultation document, the most commonly used test for screening for dementia is the Mini Mental State Examination (MMSE). The MMSE assesses attention and orientation, language, memory and visuo-spatial abilities. However, although this test may be sufficiently sensitive to ‘dementia’, it is neither sufficiently sensitive to AD in its early stages (e.g. Galasko et al., 1990), nor specific to AD. People with many different types of dementia (both neurodegenerative and potentially reversible) may perform poorly on this test. Moreover, as the MMSE does not include any measure of executive functioning, people with mainly dysexecutive symptoms (such as people with frontal subtypes of AD and people with FTD syndromes) may not be identified by this test.

The Addenbrooke’s Cognitive Examination – Revised (ACE-R) (Mathuranath et al., 2000) incorporates the 30 point Mini-Mental Status Examination, but expands it to 100 points and incorporates a measure of executive functioning, namely verbal fluency. The broader scale and the inclusion of this measure of executive functioning makes the ACE-R superior to the MMSE for detecting subtle cognitive dysfunction (and especially executive dysfunction), such as that often found in the early stages of AD. For these reasons, the Scottish Intercollegiate
Guidelines Network (2006) recommended the ACE-R over the MMSE for the initial cognitive testing for dementia.

However, there are sections of the population for which neither of these screening tests is appropriate. For example, these tests are not suitable for assessing cognitive impairment in people from certain ethnic or cultural backgrounds, people with sensory impairment, and people with a pre-existing learning disability. Nevertheless, the risk of dementia is as common, and sometimes more common, in some of these groups of people (e.g. in people with Down’s syndrome). Therefore screening may be useful, but the screening tool should be adapted accordingly, in consultation with the relevant communities.

Following the identification of cognitive deficits upon screening, diagnosis of AD should be made following a thorough assessment consisting of history, cognitive and mental state examination, physical examination and appropriate investigations, such as neuroimaging or neuropsychological assessment. Neuropsychological assessment, using measures of mood, language, attention, memory, executive and visuo-spatial functioning, is particularly useful for verifying the presence of a dementing disorder in people with subtle cognitive dysfunction, for determining the specific subtype of dementia, and for providing a baseline against which any future cognitive change can be measured (National Collaborating Centre for Mental Health, 2007).

The relationship between subjective assessment of memory and objective memory performance is ambiguous. Subjective reports of memory difficulties and evidence of memory disorder, are correlated with later development of dementia (Treves et al., 2005; Wang et al., 2004 and Geerlings et al., 1999), but while some studies suggest that there is a direct relationship between subjective and objective measures of neuropsychological functioning in dementia, with reduced insight being associated with poorer performance (Zanetti et al., 1999; McDaniel et al., 1995), other studies find no such relationship (Efklides et al., 2002).

Point 3.32

Not only should a test have ecological and face validity for the target population, but it should also be undertaken with the appropriate level of informed consent. People should be made aware of all possible benefits and harms before entering a screening programme for AD. They should also be made aware of the diagnostic process following screening, should screening prove positive.

Boustani et al. (2006) stated that public acceptance of routine dementia screening ranged from 54 to 83%, and found that people in the UK were less concerned about the financial implications of screening than those in the US.

Point 3.4

The diagnostic process should be explained to the individual and entered into collaboratively, with the person’s consent.

Point 4.12

There are many psychological interventions for people with MCI. For example, many local NHS services run ‘making the most of your memory’ courses for people with this diagnosis. Such courses help people learn how to use mnemonic and compensatory strategies in order to help them improve their everyday memory functioning and cope emotionally with their difficulties. Services will generally invite people with MCI for repeat neuropsychological assessment annually, in order to identify those who are converting to AD. These individuals
report that they find it reassuring that they are not forgotten, and appreciate repeat assessments, especially those whose subjective worry about their memory remains high.

Ashford et al. (2006; 2007) describe the various potential benefits and harms for screening for AD in people over 75 years old. The benefits include early detection of possible reversible causes of dementia and the early detection of neurodegenerative conditions. If screening then leads to a likely diagnosis of AD, the psychological and social benefits for this include:

- receiving education on understanding and managing the symptoms of dementia;
- enabling the patient and carer to plan for future while competence remains;
- ensuring safety in driving, cooking and medication compliance.

Early intervention also provides opportunities for effective emotional support, maintenance of social contacts, and reduction in crises caused by relationship tensions. In addition, evidence-based psychological interventions such as cognitive rehabilitation (Kinsella et al., 2009), cognitive stimulation therapy (Spector et al., 2003), supportive psychotherapy groups (Cheston, 2009), reminiscence therapy (Carr, et al., 2009), and cognitive behavioural therapy for people with dementia (Terri & Gallagher-Thompson, 1991) and their carers (Pinquart & Sörensen, 2006), have been found to be efficacious treatments for dementia.

Medical benefits include access to existing medical therapies (acetylcholinesterase inhibitors and memantine), which have been shown to “temporarily improve cognitive dysfunction, temporarily improve function, delay conversion from MCI to AD, decrease development of behaviour problems and delay nursing home placement” (Ashford et al., 2007).

Such benefits are perhaps even more important for people with learning disabilities, who are at increased risk of developing AD at a significantly younger age than the general population (British Psychological Society, 2009), for whom differential diagnosis and compliance with treatments is more complex, and who are more likely to experience a wide range of co-morbid conditions. As they are already more dependent on family or paid carers, this adds further layers of complexity (e.g. shifting from a skill acquisition model to one of maintaining skills, and ensuring staff training to ensure consistency of approach). Thus, people with learning disabilities and their carers should be consulted as to how they can best be included should screening be adopted.

Ashford et al. (2007) also state that early diagnosis is essential for identifying suitable participants for research trials for any future therapy that may become available. Indeed, the Alzheimer’s Association states that, after inadequate funding, the greatest barrier to developing better treatments for AD is the paucity of appropriate research participants. In addition, if screening does identify all individuals with AD, this should allow health, social and voluntary services to plan workforce and service delivery appropriately.

Ashford et al. (2007) also describe the potential harms of screening, which include the clinical error of equating a positive screen with a positive diagnosis of AD; anxiety or emotional toll generated by investigation; and costs of screening.

Point 6

Please see our introductory comments, above.


End.