Submission by the Australian Psychological Society to the Department of Health and Ageing

Review of PBS Anti-Dementia Drugs to Treat Alzheimer's Disease

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Introduction

The Australian Psychological Society (APS) thanks the Department of Health and Ageing for the opportunity to respond to its Review of Pharmaceutical Benefits (PBS) anti-dementia drugs to treat Alzheimer's Disease.

The APS is the largest professional organisation for psychologists representing over 20,000 members. The APS has a long history of working collaboratively with the Australian Government to help address major social, emotional and health issues for local communities and a strong interest in the prevention, diagnosis, treatment and self-management of dementia of all types.

This interest is evidenced by the APS's recent submission and presentation to the Standing Committee on Health and Ageing's inquiry into Dementia: Early Diagnosis and Intervention; the APS's 2012 budget submission which focused on aged care and providing evidence-based psychological interventions in Residential Aged Care Facilities; the APS's response to Health Workforce Australia's Consultation Paper on a Health Professional Prescribing Pathway in Australia; and the 2010/2011 Productivity Commission's Inquiry into Caring for Older Australians.

As such, the Department's review of the anti-dementia drugs is one of particular interest to the APS. Its particular focus for this review is on Statement B of the Terms of Reference: *Review whether the two point improvement in Mini Mental State Examination (MMSE) continues to be an adequate surrogate for measuring improvement in patients with dementia treatment with these medicines; and are there other more reliable measures of patient relevant outcomes.*

The APS also makes a brief comment regarding Statement C: *Investigate if there is more recent evidence on safety and efficacy of these medicines that would inform the PBAC about their cost effectiveness.*

Summary

The APS contends the following:

- The MMSE is not a global diagnostic measure of cognition;
- The MMSE is insensitive to mild cognitive change which strongly relates to early presentations of dementia;
- The MMSE cannot accurately measure change within a period of less than 3 years;
- The MMSE is currently being poorly administered and misinterpreted;
- The Government should steer away from the MMSE and utilise a more sensitive and psychometrically sound tool combined with informant questionnaires;
- Single cognitive screening tools should not be used in isolation and should be linked with informant questionnaires that in combination are most sensitive in identifying cognitive impairment;
- While funding to upskill clinicians in another tool is a barrier to change, the Government must place this against the fact that the MMSE is currently inaccurately determining the continuation and/or discontinuation of costly medications and treatment regimes;

- Guidelines must be developed to ensure that co-prescribing of anticholinergic drugs (ACDs) and cholinesterase inhibitors (CEIs) is prevented.

Introduction

The APS appreciates the necessity for a judgement regarding Alzheimer's Disease medications that are deemed appropriate interventions for patients. However, the reliance on the MMSE as a global measure of cognitive change is problematic and ultimately inappropriate as the MMSE was not designed to be used in this manner, as discussed below.

Limitations of the MMSE as a Global Measure of Cognitive Function

The MMSE has unfortunately become the erroneously termed "gold standard" and most popular measure of global cognitive function in Australia. The MMSE was initially developed by Folstein and colleagues in 1975 as a multi-dimensional screening tool capable of identifying the cognitive areas of:

- Orientation
- Registration
- Short-term memory
- Attention
- Calculation
- Visuo-construction
- Praxis (learned motor skills)

These areas, although important and relevant to Alzheimer's Disease, are not the only functions affected by Alzheimer's Disease (e.g., behavioural changes). The Government must appreciate that the MMSE is a screening tool, not a diagnostic one, and as such is only capable of identifying areas of cognition that may be relevant to disorders. A single diagnostic tool (one that is capable of diagnosing a condition) is not available for neuro-degenerative conditions such as Alzheimer's disease as diagnosis requires the interpretation of screening tools combined with other forms of information such as clinical judgment. As such, the MMSE is not a diagnostic tool, is not a measure of a global cognition and is too simplistic to be solely relied upon to measure cognitive change in people with Alzheimer's Disease.

Two major limitations of the MMSE are that:

- It is insensitive to mild cognitive impairment (Galasko et al., 1990; Ihl et al., 1992) and thus insensitive to mild cognitive change.
- It is incapable of measuring change that is assessed within a period of less than 3 years (Clark et al., 1999).

These limitations are very concerning as mild cognitive impairment is strongly correlated for some people with early signs of dementia and is considered a pre-clinical state of Alzheimer's Disease (Arnaiz and Almkvist, 2003). As such, other forms of screening tools may be relevant at different stages of the illness progression (e.g., informant questionnaires, clinical judgment) which are capable of recognising minor changes. Secondly, if the MMSE is insensitive to change within a 3 year period, it is certainly not capable of accurately measuring the required two-

point improvement within 6 months, specified as the basis for continuing medication for Alzheimer's Disease under the PBS.

Other limitations of the MMSE include the facts that:

- It overestimates cognitive impairment in people with little education and an underestimation of impairment in people who are highly educated (Uhlmann & Larson, 1991);
- It is affected by age, cultural background, social class and language (Lorentz, Scanlan and Borson, 2002).
- Poor performance has been accounted for due to non-dementia related reasons such as poor vision, poor hearing and consequence of stroke (Rahla et al., 2001).

Therefore despite the MMSE being known as a brief, time-efficient global measure of cognition, in order for the MMSE to function at its optimal level, its scores and cut-offs must be adjusted for education and age and performance must be interpreted in the context of other non-dementia related symptoms. Thus, clinicians are inappropriately administering and interpreting the MMSE unless they are adjusting these scores, which makes the MMSE a much more complex and time consuming tool (Lorentz, Scanlan & Borson, 2002).

Other Reliable Patient Outcome Measures

While some would argue that we currently do not have a practical alternative to the MMSE due to its simple administration and time-efficient use, the facts that the MMSE is not diagnostically accurate, is insensitive to mild cognitive change, cannot detect change within 3 years and is being administered and scored inappropriately cannot be lightly dismissed.

The current evidence suggests that a combination of informant questionnaires (e.g., carer, partner, family) combined with screening tools results in greater sensitivity than either form of information alone (Mackinnon & Mulligan, 1998; Mackinnon et al., 2003). As such, the APS urges the Department to consider informant questionnaires as reliable sources of information regarding cognitive change in people with Alzheimer's Disease.

Furthermore, the MMSE is only one of many cognitive assessments currently available. The Dementia Outcomes Measurement Suite (DOMS; http://www.dementia-assessment.com.au) is a project funded under the Australian Government's National Dementia Initiative which has investigated and identified several appropriate cognitive assessment tools for practitioners.

This review is the Government's opportunity to prevent the MMSE from continuing to be paraded as the diagnostic gold standard for diagnosis and assessment of Alzheimer's Disease. While Government must consider the financial costs associated with supporting clinicians to upskill in a new cognitive assessment tool, the Government must be reminded that the MMSE is currently being inappropriately interpreted to determine the continuation or discontinuation of medications. As such, at a minimum the MMSE must not be used in isolation, or more appropriate should be superseded by a more psychometrically sound instrument with less

measurement error combined with other forms of information (e.g., informant questionnaires).

Mismanagement of Medications

With regard to Statement C of the Terms of Reference, an additional concern of the APS is the mismanaged co-prescribing of cholinesterase inhibitors (CEIs) with anticholinergic drugs (ACDs) reported by Robinson and colleagues (2009). Robinson et al reported that 32% of patients receiving CEIs were receiving ACDs, ultimately resulting in a reduced or non effect of either medication. This is not only a costly error but potentially impacts the quality of life of patients as they are not experiencing the positive effects expected from their medication regime and thus may potentially have their medications discontinued erroneously. The Government must consider developing specific guidelines regarding the co-prescribing of such medications to ensure the medications meet the needs of patients and are not wasting Government funds.

Conclusion

The Government must take this review as its opportunity to correct the long-term erroneous utilisation of the MMSE as the gold standard diagnostic tool for assessing the progression of Alzheimer's Disease and the efficacy of medications. The MMSE was not developed to be used in the current manner and has unacceptably high measurement error, rendering it insensitive to mild cognitive changes which are so important in the management and treatment of Alzheimer's Disease. The Government must consider alternative psychometric measures of cognitive change combined with other forms of information to accurately assess and treat Alzheimer's Disease.

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