



National Prescribing Service Limited



## **Case study 54 report: Caring for patients with Alzheimer's disease**

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This case study was published with *NPS News 59*, August 2008 'Drugs used in dementia in the elderly', which discussed prescription drugs used in Alzheimer's disease and treatment for behavioural and psychological symptoms of dementia.

The information contained in this material is derived from a critical analysis of a wide range of authoritative evidence. Any treatment decision based on this information should be made in the context of the clinical circumstances of each patient. Declarations of interest have been sought from all commentators.



# Case study 54

## Caring for patients with Alzheimer's disease

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### Scenario

Joseph, a 75-year-old retired engineer complained of memory loss several months ago and was referred to a psychogeriatrician. He was diagnosed with mild Alzheimer's disease (Mini-Mental Status Examination [MMSE] score of 22). He and his wife come to you to discuss his treatment options.

Joseph has a two-year history of progressive short-term memory loss, and his ability to perform daily activities has declined. He has difficulty performing household tasks, such as preparing meals, which he had previously enjoyed doing and he often becomes disorientated when walking in familiar neighbourhoods. He no longer feels able to use his computer as he cannot remember what to do. He is still able to perform basic activities of daily living, such as personal hygiene and dressing, and instrumental activities like emptying the dishwasher. His short-term memory loss and problems with more complex activities of daily living were confirmed by his wife.

Joseph has no significant past medical history and is not on any regular medications. He does not drink alcohol or smoke.

On examination, Joseph is alert and interactive. He is afebrile. His MMSE is 22/30 with his major deficits being in short-term memory and orientation in time. His gait is steady and visual acuity is 6/6 in each eye. His physical examination is unremarkable except for his mental status exam revealing the deficits described above. No vascular changes were reported on his CT scan.

Urea and electrolytes are normal as are his B-12 and thyroid function tests.

**1. What non-pharmacological strategies (e.g. memory prompts) would you recommend to help him cope with his memory loss and activities of daily living?**

**2. Which of the following would you recommend for Joseph (Please tick all that apply):**

- |   |  |
|---|--|
| <input type="checkbox"/> non-pharmacological strategies | <input type="checkbox"/> rivastigmine (Exelon) capsule |
| <input type="checkbox"/> donepezil (Aricept)            | <input type="checkbox"/> rivastigmine (Exelon) patch   |
| <input type="checkbox"/> galantamine (Reminyl)          | <input type="checkbox"/> other (please specify)        |
| <input type="checkbox"/> memantine (Ebixa)              | _____  |

**3. What are the potential benefits and harms of cholinesterase inhibitors or memantine?**

Potential benefits

Potential harms

**4. If drug treatment was started, what investigations/assessments would you use to monitor its effectiveness and when would you undertake them?**

Investigation/assessment

How soon after starting drug?

Two years later, Joseph's wife returns concerned after reading that risperidone is an 'antipsychotic'. Joseph has been using risperidone 0.5 mg twice daily for the last 6 months for agitation. She reports that his agitation has ceased and the only remaining problem is occasional wandering particularly in the late afternoon. On examination, he has no other physical complaint.

**5. a) Would you consider trialling a withdrawal of risperidone?**

Yes  No

**b) Why/Why not?**

# Summary of results

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At the time of publication, 968 responses had been received. This report summarises responses from 200 general practitioners.

## Case synopsis

Joseph, a 75-year-old retired engineer, complained of memory loss. He was diagnosed with mild Alzheimer's disease (Mini-Mental Status Examination [MMSE] score of 22). He and his wife come to you to discuss his treatment options. Joseph has no significant past medical history and is not using any regular medications. His major deficits are in short-term memory and time orientation (See page 5 for more details.)

## Non-pharmacological strategies in Alzheimer's disease

- 97.5% of respondents recommended cognition-orientated strategies (e.g. memory aids, calendars, schedules or memory books).
- 69% recommended stimulation-orientated strategies (e.g. physical exercise, card and word games).

## Pharmacological therapy for Alzheimer's disease

- Most respondents (94.5%) recommended non-pharmacological therapy (often in conjunction with pharmacological therapy).
- Respondents who recommended non-pharmacological therapy alone (13%) cited its low cost and a wish to avoid the potential adverse effects associated with pharmacotherapy as the rationale for their recommendations.
- Donepezil was the most commonly recommended pharmacological therapy (79%).
- Current evidence or PBS criteria were the most commonly cited reasons for choice of therapy.

## Potential benefits and harms of cholinesterase inhibitors or memantine

- Most respondents listed improved cognitive function (64.5%) and/or slowing cognitive decline (57%) as potential benefits.
- All respondents listed adverse effects of the medications as a potential harm; 18% of respondents also listed other harms, which included cost, adherence, drug interactions and ineffectiveness of medication.

## Monitoring effectiveness of drug treatment

- Most respondents (96%) would monitor the effectiveness of cholinesterase inhibitors or memantine using a cognitive assessment tool (mainly the MMSE).
- 80% of respondents would assess effectiveness of drug treatment 3–6 months after starting therapy.

Two years later, Joseph returns after using risperidone 0.5 mg twice daily for the last 6 months for agitation. His wife reports that his agitation has stopped and the only remaining problem is occasional wandering. (See page 5 for more details.)

### **Antipsychotic drugs for behavioural and psychological symptoms of dementia**

- 85% of respondents would consider trialling a withdrawal of risperidone; one-third of these respondents stated that behavioural and psychological symptoms of dementia are often episodic.
- Of the 15% who would continue risperidone, 57% cited patients' stability on therapy and 33% cited potential relapse if withdrawn as the reason for continuing.

# Results in detail

## Non-pharmacological strategies in Alzheimer’s disease

Respondents were asked what non-pharmacological strategies (e.g. memory prompts) they would recommend to help Joseph cope with his memory loss and activities of daily living.

Table 1 summarises the main choices.

Table 1: Types of non-pharmacological strategies	
Types of non-pharmacological strategies	% of respondents* (n = 200)
<b>Cognition-orientated</b>	
Cognitive stimulation:	
Group activities	14.0%
Cognitive training:	
Card or word games	30.0%
Puzzles/ mental arithmetic	19.5%
Cognitive rehabilitation:	
Writing down check list	74.5%
Calendar	47.5%
Clock	10.0%
Memory books	9.0%
<b>Stimulation-orientated</b>	
Physical exercise	41.5%
Recreational activities — hobbies/pets/music/cooking	16.0%
<b>Behavioural-orientated</b>	
Modifying environment – motor sensory lights or visual prompts	59.5%
Establishing routine	17.0%
Educating carer/patient	13.0%
Simplifying instructions	10.0%
Increasing monitoring	7.5%
<b>Emotion-orientated</b>	
Familiar activities with people they recognise	14.0%
Talking about old times	2.0%
Photos	1.5%

\* Respondents may have more than one response



## Practice points

- Non-pharmacological strategies aim to improve quality of life and maximise function in the context of existing deficits; these strategies fall into four broad categories<sup>1</sup> (also see Table 1):
  - cognition-orientated: aim to improve cognition and memory
  - stimulation-orientated: aim to affect behaviour and promote independence
  - emotion-orientated: aim to improve cognition, memory and behaviour
  - behavioural-orientated: aim to affect behavioural problems.
- Individualise management and involve the person with dementia alongside the carer with any strategies. This appeared to have the largest positive effect on the carer's wellbeing.<sup>2</sup>
- Use a multidisciplinary approach and encourage regular (daily to weekly) sessions to produce the most lasting benefits.<sup>1</sup>

## Pharmacological therapy for Alzheimer's disease

Respondents were asked to select from a list of treatment options for Joseph. Table 2 summarises the choices. Table 3 summarises the rationale for the main choices.

Table 2: Recommended therapy for Joseph	
Recommended therapy	% of respondents (n = 200)*
Non-pharmacological	94.5%
Donepezil	79.0%
Non-pharmacological and donepezil	72.0%
Galantamine	31.0%
Rivastigmine (Exelon) capsule	22.0%
Rivastigmine (Exelon) patch	17.0%
Memantine	5.5%
Others (e.g. referral to specialist, support groups or care teams)	3.0%

\*Respondents may have more than one response (78% of respondents chose more than one drug but it is unclear if chosen drugs would be used simultaneously).

Table 3: Rationale for treatment choices	
Rationale for treatment choice	% of respondents (n = 200)
Evidence based	32.0%
PBS indication	24.0%
Seems reasonable to start on pharmacological therapy	20.5%
No need to start pharmacological therapy*	13.0%
Familiarity with drug chosen	9.5%
Side-effect profile	1.0%

\*Respondents who would use only non-pharmacological therapy cited low cost, wanting to avoid potential adverse effects, drug-drug interaction with pharmacological therapy, and that the condition did not warrant pharmacotherapy yet.

## Practice points

- Use non-pharmacological strategies at all stages. Compared with pharmacological strategies non-pharmacological strategies avoid potential adverse effects and drug–drug interactions.<sup>3</sup>
- Take into consideration tolerability, effectiveness, adverse effects profile, ease of use and cost of medication.<sup>4</sup> Evidence does not support prescribing these medications for every patient with dementia.
- The latest Cochrane review on use of cholinesterase inhibitors for Alzheimer’s disease concludes that there is no evidence of any difference between them with respect to efficacy.<sup>5</sup>
- Cholinesterase inhibitors (donepezil, galantamine and rivastigmine) are subsidised on the Pharmaceutical Benefits Scheme (PBS) for dementia associated with mild to moderate Alzheimer’s disease with baseline Mini-Mental Status Examination (MMSE) score of > 10.<sup>6</sup>
- Memantine is subsidised on the PBS for moderately severe Alzheimer’s disease with baseline MMSE score of 10–14 (inclusive). Joseph’s MMSE is 22/30, hence he is not eligible for PBS-subsidised memantine.<sup>7</sup>
- There is limited evidence to support combination therapy with memantine and a cholinesterase inhibitor.<sup>8</sup>

## Potential benefits and harms of cholinesterase inhibitors or memantine

Respondents were asked to list the potential benefits and harms of cholinesterase inhibitors or memantine (Table 4).



## Practice points

- The goal of current dementia treatments is to slow progression of cognitive decline and assist in functional and behavioural symptoms, thus reducing carers’ burden and delaying institutionalisation.<sup>9</sup>
- Cholinesterase inhibitors and memantine do not alter the pathology of Alzheimer’s disease. These drugs are used to improve symptoms only.<sup>10</sup>
- Inform patients and families of the limited therapeutic potential whenever cholinesterase inhibitors and memantine are prescribed.<sup>8,11</sup>
- Introduce cholinesterase inhibitors and memantine at low doses and increase the dose gradually to limit adverse effects.<sup>12</sup>

**Table 4: Suggested potential benefits and harms of cholinesterase inhibitors or memantine**

<b>Potential benefits</b>	<b>% of respondents* (n = 200)</b>
Improve cognitive function	64.5%
Slow cognitive decline	57.0%
Improve cognitive function demonstrated with MMSE or ADAS-Cog	23.5%
Manage behavioural and psychological symptoms of dementia	21.0%
Preserve function	20.0%
Improve quality of life	5.0%
Delay institutionalisation	5.0%
<b>Potential harms</b>	<b>% of respondents* (n = 200)</b>
<b>Cholinergic adverse effects</b>	
Gastrointestinal (anorexia, nausea, vomiting, diarrhoea)	75.5%
Sleep disturbance (insomnia, vivid dreams)	52.0%
Neurological (confusion, memory impairment, delirium)	28.5%
Cardiac arrhythmias (bradycardia, bundle-branch block, AV block)	15.5%
Muscle cramps	13.0%
Urinary obstruction	11.5%
<b>Other adverse effects</b>	
Worsening of asthma and COPD	11.0%
Renal/liver toxicity	4.5%
Gastrointestinal bleeding	0.5%
Unspecified adverse effects	14.5%
<b>Other</b>	
Drugs are generally ineffective	9.5%
Drug interactions	6.5%
Cost (e.g. to society)	6.0%
Compliance/adherence issues	3.5%

\*Respondents may have more than one response

## Monitoring effectiveness of drug treatment

Respondents were asked what investigations or assessments they would use to monitor the effectiveness of drug treatment if it was started, and when they would undertake them (Table 5).

Table 5: Investigations/assessments for monitoring drug treatment <sup>†</sup>	% of respondents* (n = 200)
<b>Cognitive function assessment</b>	
Mini-Mental State Examination (MMSE)	94.0%
Alzheimer's Disease Assessment Scale — Cognitive subscale (ADAS-Cog)	5.5%
Standardised Mini-Mental State Examination (SMMSE)	2.0%
<b>Global assessment</b>	
Clinical Global Impression of change (CGIC)	14.0%
Clinician's Interview-Based Impression of Change (CIBIC) Scale	5.0%
<b>Interview with carer</b>	
Activities of daily living	14.5%
Cognitive function	12.0%
<b>Others</b>	
Biochemistry	15.5%
Adverse effect(s) <sup>‡</sup>	12.0%
Cardiac monitoring	4.5%
Specialist review	1.0%

\*Respondents may have more than one response

<sup>†</sup>Most respondents (80%) would measure effectiveness of treatment within 3–6 months, reflecting PBS subsidy requirements.

<sup>‡</sup>All respondents who listed adverse effects as a monitoring requirement would assess within 2–3 weeks.



### Practice points

- Review the use of cholinesterase inhibitors and memantine every 6 months; seek carers' views on patients' response at each stage.
- Monitor the effects of pharmacological treatment (on cognition, function and behavioural symptoms) and adverse effects on a routine basis.
- Stop treatment if there are significant adverse effects, poor adherence, lack of stabilisation or lack of improvement of symptoms.<sup>12</sup>
  - a beneficial effect, if any, would generally be observed within 3 months of starting the highest tolerated dose.<sup>4</sup>
  - if slowing cognitive decline is no longer a goal, treatment with memantine or a cholinesterase inhibitor is no longer appropriate.<sup>4</sup>

## Antipsychotic drugs for behavioural and psychological symptoms of dementia (BPSD)

- Two years later, Joseph returns after using risperidone 0.5 mg twice daily for the last 6 months for agitation. His wife reports that his agitation has ceased and the only remaining problem is occasional wandering particularly in the late afternoon. Respondents were asked if they would consider trialling a withdrawal of risperidone for Joseph.
- 85% of respondents would consider trialling a withdrawal of risperidone; 15% of respondents would not consider trialling a withdrawal of risperidone. Table 6 summarises the respondents' reasons for and against trialling a withdrawal of risperidone.

Table 6: Consideration for trialling a withdrawal of risperidone	
Reason for withdrawing risperidone	% of respondents (n = 170)
No longer required*	33.0%
Symptoms are often episodic	33.0%
Risks outweigh benefits of continuing treatment	22.0%
Evidence-based practice	11.0%
Respect the carer's decision	1.0%
Reason for continuing risperidone	% of respondents (n = 30)
Patient is stable on treatment	57.0%
Possibility of relapse if treatment withdrawn	33.0%
Patient responded to treatment	10.0%

\* Respondents' comments on 'no longer required' included less medication means less cost, less potential for interactions and less confusion with medication regimen.



### Practice points

- Use of antipsychotic drugs for BPSD should be:
  - reserved for symptoms such as aggression, agitation and psychotic symptoms (e.g. delusions or hallucinations) that are frequent, persistent and distressing and do not respond to non-pharmacological strategies.<sup>13,14</sup>
  - avoided for symptoms such as wandering, withdrawal, cognitive impairments, touching, shouting, insomnia, pacing and incontinence, as these symptoms are unlikely to respond to medication.<sup>15</sup>
- Risperidone is the only atypical antipsychotic with TGA approval and PBS subsidy for behavioural and psychological symptoms of dementia. However, adverse effects are common, with an increased risk of fatal and non-fatal strokes and transient ischaemic attacks.<sup>16–18</sup> There are also dose-dependent adverse effects, including extrapyramidal symptoms, somnolence and falls.<sup>12</sup>
- Schedule a review of antipsychotic medications every 3 months.<sup>19</sup>
  - trial a withdrawal when there is no clear beneficial effect.
  - where there is beneficial effect, consider gradual dose reduction every 3 months, as agitation, delusions and hallucinations mostly fade within 6–12 months.<sup>12,20</sup>
- Withdraw antipsychotic drugs used to treat BPSD gradually to avoid withdrawal symptoms (e.g. tachycardia, sweating and insomnia).<sup>12</sup>

## Summary

This case is a typical presentation that will become more common in general practice as the population ages and the need to provide more dementia care in the community setting increases.<sup>21</sup> It demonstrates the expectations of patients that the GP can help them when the chronic declining function associated with dementia impacts on the quality of life of both the patient and the carer.<sup>22</sup> This particular case is straightforward in that the diagnosis has been confirmed and the focus is on management of dementia without mention of any other comorbidities.

The history suggests that the patient has had a successful professional career. Therefore we can expect that his declining function will demand role adjustments within the family and that all members would benefit from support.

Dementia affects people differently, requiring a person-centred rather than disease-centred approach, and there are benefits in early access to support from a range of health and allied health professionals.<sup>23</sup> Dementia guidelines recommend that the care of the carer is as important as the care of the patient to maintain quality of life for both as the disease progresses.<sup>24</sup> Appropriate response to the carer's request is an important part of this patient's ongoing management.<sup>25</sup>

The key issues that need to be addressed are:

- discussing with the patient and carer a range of treatment options without creating unrealistic expectations of the outcomes
- balancing the possibility of side effects of medication with the possibility of short-term benefits
- exploring non-medication options for management that can benefit both carer and patient
- implementing a management plan that incorporates regular review to address the unique and changing symptoms as the disease progresses and to meet the carer's concerns.

- carer support, something that is often overlooked when the patient's needs appear paramount.

## Comments on results

### Types of non-pharmacological strategies

Respondents were aware of a range of options to improve or maintain function of the patient with dementia, and sharing these with patients can improve their ability to cope. However, evidence suggests that support from a team of varied health professionals is likely to benefit the patient and carer in their dementia journey as well as assist an individual health professional such as a GP in providing care.<sup>26,27</sup>

Physical exercise has been shown to improve cognition<sup>28</sup>, as well as alleviating the depression that is a common response to a diagnosis of dementia.<sup>29</sup> The ability to continue recreational activities such as hobbies is likely to lapse well before the ability to exercise, which is retained as part of the wandering symptom of dementia. Reflection on familiar items is frequently used to reduce agitation in dementia but unfortunately there is little robust evidence to support this intervention.<sup>30</sup>

### Pharmacological therapy

The choice of non-pharmacological over pharmacological therapies may suggest that the evidence is stronger for one than the other. However, the carer's request for medication needs to be explored and managed sensitively without raising unrealistic expectations.<sup>31</sup> There are proven benefits for cholinesterase inhibitors for some patients with Alzheimer's disease<sup>32</sup>, and the benefits include behavioural improvements<sup>33</sup>, but often the harm associated with this medication is the foremost thought in both health professional and community thinking.<sup>34</sup> Although 79% of respondents indicated that they would prescribe donepezil, evidence suggests that most patients with dementia are not using this type of medication.<sup>35</sup>

## **Reasons for treatment**

Many health professionals prescribe medication according to availability, assuming that a PBS listing addresses the issue of evidence. This creates confusion about the reasoning behind selecting treatment, when 'evidence based' and 'PBS indication' may mean the same thing for some. Health professionals are primed to state 'evidence based' but the evidence for both pharmacological and non-pharmacological treatments is patchy when applying it to a population, although there may be individual benefits, reflecting the uniqueness of each patient's experience with dementia.

## **Potential harms and benefits of cholinesterase inhibitors or memantine**

These drugs have been recommended by a panel of experts, referring to the current published evidence, as a treatment that can improve patient function and decrease the cost of caring.<sup>36</sup> Community-dwelling patients with dementia are most likely to benefit.<sup>32</sup> The potential harms are well known but poorly documented in trials<sup>34</sup> and need to be balanced against the possibility of improving the quality of life for both patient and carer, even if temporarily.

## **Monitoring — how and when?**

Cholinesterase inhibitors or memantine are available on PBS Authority script for patients with Alzheimer's disease who score between 10 and 24 on MMSE. The initial assessment must be by a specialist, but scripts can be provided by a GP, the second script 6 months later requiring an improvement of 2 points on MMSE score. The respondents correctly indicated that MMSE score review was needed. Other cognitive-assessment tools can monitor the clinical course but have little impact on management after the diagnosis has been made.

Regular carer input is essential to gather a true clinical picture and the need for changes in management strategies.<sup>37</sup> It is surprising that many respondents overlooked the importance of this carer input. The main side effect of cholinesterase inhibitor medication is gastrointestinal upset, and this information would be gathered from a consultation rather than in biochemical testing, as indicated by respondents.

## **Antipsychotic medication trial and withdrawal**

The respondents correctly indicated that this line of treatment should be reviewed and reduced or withdrawn when no longer needed. The progressive decline in function caused by dementia may produce a temporary period of agitation and sometimes aggression lasting a few months, when antipsychotic medication can be beneficial. A trial of gradual withdrawal of this medication over a few weeks will indicate whether this treatment is still needed and reduce the potential for adverse cardiac side effects.<sup>24</sup>

## **Multidisciplinary approach in-line with current recommendations**

There was no opportunity to discuss referral or a team approach. Health professionals manage dementia patients better when they have access to support from dementia specialists and allied health professionals.<sup>27</sup> Time constraints limit what one health professional can provide and the task may in some cases be more effectively provided by another agency. For example, Alzheimer's Australia provides education and support for patients with dementia and their carers. Connecting patients to appropriate accessible resources may facilitate accurate and timely advice and support.

## Commentary 2

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Joseph is one of about 210,000 people in Australia with dementia. At age 75 he has a 1 in 6 chance of having dementia, and this increases to 1 in 3 at age 85, so as the numbers of people living into late old age increase, dementia will become a very common condition and we will see more and more people like Joseph. While most people with dementia are in the older age group, it is important to remember that dementia also occurs in younger people (12,000 under age 60 have dementia), who may be misdiagnosed and mismanaged.<sup>38</sup>

There is strong evidence that supporting and educating the carer of a person with dementia reduces carer burden and increases time to institutionalisation. Through its organisations in each State, Alzheimer's Australia provides counselling, education and carer support on an individual and group basis at no cost to the person with dementia. Dementia support workers are also located in regional areas to provide local support. The Alzheimer's Australia website provides useful information and Hepsheets on many different topics ([www.alzheimers.org.au](http://www.alzheimers.org.au)).

Several conditions occur more commonly in people with dementia and it is useful for the general practitioner to be aware of these. Falls are up to three times more likely to occur in people with dementia, and fractures are more common than in the general population. Epilepsy also occurs more commonly in people with dementia and can present as partial or generalised seizures. People with dementia are at very high risk of developing delirium when acutely unwell, or when hospitalised. Sleep disturbance is also very common in dementia and day–night reversal can be particularly troublesome.

Alzheimer's Disease is the most common cause of dementia in Australia. There are currently no treatments available that affect the progression of Alzheimer's disease pathology in the brain, but the cholinesterase inhibitors as symptomatic treatment have been shown to provide modest benefits in cognition and function in mild to moderate disease.<sup>5</sup> Cholinesterase inhibitors are

available on PBS authority prescription for patients with mild to moderate disease (MMSE score > 10) who have had the diagnosis confirmed by a specialist. Memantine has been used in Europe for many years as a cognitive enhancer and has recently become available on PBS authority prescription as monotherapy for moderately severe disease (MMSE score 10–14). For both cholinesterase inhibitors and memantine, an improvement of 2 points on the MMSE needs to occur after six months of therapy for continued supply of the medication on the PBS.

Several guidelines and recommendations are available for the management of dementia. A useful and comprehensive set of evidence-based guidelines for the diagnosis and management of dementia (including Alzheimer's disease, vascular dementia, etc) are available from the European Federation of Neurological Societies.<sup>39</sup>

### Comments on responses

#### Non-pharmacological strategies in Alzheimer's disease

There is a wide spectrum of non-pharmacological strategies to help patients with Alzheimer's disease, and the respondents appeared well aware of many of these. It is important to encourage patients with dementia to undertake complex mental activities such as crossword puzzles or Sudoku or playing a musical instrument, as there is evidence that regular cognitive exercises can assist in reducing cognitive decline in people with mild to moderate disease.<sup>40</sup>

Exercise has also been shown to improve cognition in patients with cognitive impairment<sup>28</sup> and to decrease agitation and anxiety.<sup>3</sup> It is also possible that it may reduce the risk of falls, as well as providing an activity that patient and carer can enjoy together.

Referral to an aged-care service for an occupational therapy assessment of the home environment may assist in the provision of modifications to reduce home hazards for falls and assist with any functional deficits.

### **Pharmacological therapy**

Respondents appeared well aware of the pharmacological therapies available for Alzheimer's disease, and gave a variety of responses for their decision for using them. A range of factors that should influence the decision to start these medications is mentioned. An additional factor is the need for supervision of the taking of medication, and this may be by a family member living in the same house, or through the use of a visiting nurse to administer medication. It is also important that consent is given for the administration of these medications, either by the person with dementia if they are competent to do so, or by their 'person responsible' (in NSW), or legally authorised substitute decision maker for health care in other States.

### **Potential benefits and harms of medications**

Respondents covered the range of potential benefits from the cholinesterase inhibitors and memantine, and also described the potential adverse effects of these medications. Side effects are correctly identified as mainly gastrointestinal, and the less common side effects are also mentioned. Bradycardia, asthma and gastric ulceration are relative contraindications to the use of the cholinesterase inhibitors.

### **Monitoring the effectiveness of drug treatment**

Almost all respondents correctly identified that the MMSE is the main instrument used to assess the progress of dementia after drug treatment, with an improvement of 2 points required to maintain PBS subsidised access to the cholinesterase inhibitors. The Alzheimer's disease Assessment Scale — Cognitive subscale (ADAS-Cog) can also be used to assess drug effectiveness and there needs to be a 4-point improvement (actually a reduction in the score of four errors) to continue subsidised access. Other assessment instruments were also mentioned. The Clinician Interview-Based Impression of Change (CIBIC) is used in patients for whom the MMSE is unsuitable, such as those with language difficulties or with Down syndrome.

### **Antipsychotic drugs for BPSD**

Most respondents indicated that a trial of withdrawal of antipsychotic medication should be considered. This should be done slowly to monitor any recurrence of the behaviour of concern. The consent of the legally authorised substitute decision maker should be sought, both for starting of these medications and for their withdrawal.

Before antipsychotic drugs are prescribed, the behaviour of concern should be thoroughly assessed, and any precipitating factors such as pain, sensory impairment or intercurrent illness managed. Environmental factors such as heat or noise or overcrowding should also be addressed.

#### **Declaration of conflict of interest**

Susan Kurrle has received funding through the Primary Dementia Collaborative Research Centre (UNSW Project Leader: Prof Henry Brodaty) for research on physical co-morbidities of dementia. She has received honoraria from Lundbeck, Novartis, Janssen-Csillag, Sanofi-Aventis, and Pfizer for educational activities. She has been a Principal Investigator on multisite clinical dementia drug trials for Servier, Eisai, GlaxoSmithKline, Janssen, Novartis, Prana Biotechnology, Wyeth, Eli Lilly, and Sanofi-Aventis.

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