

Ageing and cognitive decline

During normal ageing the speed at which individuals acquire information gradually declines, but their ability to recall information remains relatively preserved. In Alzheimer's disease, there is a progressive decline in learning and the ability to recall information. There is also an intermediate state – cognitive impairment without dementia – which is in fact twice as prevalent as dementia in elderly populations (*Graham 1997*). Such individuals have lower than normal cognitive ability but it is insufficient to cause functional decline (*refer to Appendix E1 for DSM IV criteria for Alzheimer's disease*).

The usual diagnostic standard for dementia consists of detailed assessment of mental status and careful investigation to rule out other causes of cognitive impairment. A variety of abbreviated instruments have been examined for their ability to screen for dementia in the outpatient setting (*see Appendix B*).

Advantages of early recognition of dementia

1. Opportunity to discuss concerns and feelings and gain some control of the situation.
2. Treatment issues – effective therapy, including drugs and behavioural therapy, is more likely to be of use in the early stages of the condition. The newer specific drug treatments for Alzheimer's disease are most effective if used in the early stages. Treatment of conditions that may cause dementia, such as hypothyroidism or vitamin B12 deficiency, is essential, and optimal treatment of other co-existent conditions can improve the patient's functioning.
3. Medico-legal issues – an early diagnosis allows for the following:
 - an Enduring Power of Attorney and Enduring Guardianship can be arranged
 - any advance directives can be discussed
 - car driving safety can be assessed
 - safety around the house can be assessed.

4. Education and Support of Carers – a good understanding of dementia by carers will assist in better management and lessen breakdown in relationships. Early diagnosis helps family and carers to make contact with support agencies that will help develop the support strategies and services that will be vital as the condition progresses. Forward planning is aided by access to accurate information and education (*NZ Guidelines 6:15*).

'Use it or lose it' applies to physical as well as mental activity. Patients need to be encouraged to maintain physical activity appropriate to their interests and physical state, and this needs to be built into their routine.

Recognition of dementia

The GP may become aware of the possibility of dementia in three ways:

- presenting problems
- noting early pointers when treating other conditions
- screening.

Presenting problems

A 'typical' presentation of early dementia

The patient:

- is brought to the doctor by a spouse, family member or friend
- tends to look at his or her carer when asked a question (the 'head-turning sign')
- has difficulty recalling the present date and finding words
- may forget recent events but immediate and long-term memory tend to be intact
- tends to minimise or rationalise problems
- has had a 'memory problem' for at least six months, with insidious onset and gradual progression
- shows mild impairment on cognitive screening, including impaired recent memory and difficulty drawing a clock.

With Alzheimer's disease (the commonest type of dementia), the patient:

- is unlikely to have a history of cerebrovascular events, headaches or seizures
- is unremarkable on medical and neurological examination apart from higher cortical functions (*Grey Matters*).

There are, however, other less common types of dementia which may present in different ways. These are discussed in the section on the sub-types of dementia (pp38-9).

Psychiatric symptoms/syndromes in dementia

Delusions (false beliefs) (30% of cases*)

- usually paranoid type: theft, infidelity, persecution, abandonment
- often evanescent rather than fixed/systematised
- usually occur in mid-stages; early onset predicts poor prognosis.

Misidentifications (30% of cases*)

- failure to recognise own home, delusion of 'phantom boarder'
- misidentification of other people, accusations of others being imposters
- mistaking TV for reality, mistaking mirror image.

Misperceptions (illusions) and hallucinations (25% of cases*)

- visual more common than auditory: eg deceased relatives
- more common in later stages; indicates poor prognosis.

Depressive symptoms (20-40% of cases*)

- more common in earlier stages of dementia and in vascular dementia
- correlates with degree of disruption to brain monoamine systems (and possibly to retained insight)
- more common if previous history of depression
- carers' observations important in making diagnosis
- diagnosis difficult as many symptoms (eg apathy, loss of interest, sleep/appetite disturbance)
- agitation/retardation (can be due to dementia alone).

Anxiety states (up to 40% of cases*)

- mostly situational anxiety with unfamiliar situations or if left alone
- catastrophic reactions, panic attacks, compulsive rituals and phobias can also occur, and may require specific intervention.

Mania (2-3% of cases*)

Dementia may occasionally present with a syndrome which is indistinguishable from hypomania: overactivity, sleep disturbance, talkativeness, disinhibition, and cheerfulness or irritability.

* At some stage in the course of dementia.

(Source: NZ Guideline 6:24)

Non-psychotic behavioural disorders

An association exists between acute underlying medical illness and outbursts of aggressive behaviour in people with dementia. A placebo response is seen in 67% of people treated with neuroleptic agents for the control of behavioural disorders in dementia; there is no difference between neuroleptic agents used and no identifiable differences between responders and non-responders. *A high proportion of people with dementia of the Lewy-body type are sensitive to neuroleptic agents, and appreciable number of these experience a severe reaction.* Delusions or misidentifications are associated with a high number of aggressive episodes.

- Any underlying causes of behavioural disorder, eg an acute physical illness, environmental distress, or physical discomfort, should be excluded.
- Where underlying causes are identified they should be managed before prescribing drugs for the behavioural disorder.
- Tranquillisers should not be used routinely to control behaviour disorders in dementia. In crisis situations, the short-term use of neuroleptic drugs may be appropriate.
- *Patients with dementia of the Lewy-body type should not be treated with neuroleptics.*

There is a relation between delusions and aggressive behaviour; aggressive behaviour should be assessed with this in mind.

The care setting and the attitudes of carers (or care teams in an institutional setting) may influence the emergence of behavioural problems (*Eccles 1998*).

Early pointers

Case-finding and warning signs

Up to half of all cases of Alzheimer's disease may remain undiagnosed and may become apparent only when the individual's carer dies or becomes unable to cope.

GPs may note early pointers to dementia when treating other conditions. Early diagnosis is important because drug treatment is now available, and much can be done at this stage to improve lifestyle and reduce risks, and provide information and support for carer and family.

It is important to be alert to cognitive impairment in elderly patients and this should be kept in mind during routine appointments.

Warning sign	Examples
Memory problems	<ul style="list-style-type: none"> - trouble recalling time or date - impaired ability to recall recent events or conversations - losing items - repetitive questioning.
Cognitive problems	<ul style="list-style-type: none"> - abandonment of complex activities (eg finances) - difficulty recognising familiar objects or people - cannot follow the plot of a story - language problems - delirium.
Behavioural changes	<ul style="list-style-type: none"> - withdrawal and/or inertia - inflexible - attitude or stubbornness - irritability - reduced planning and decision making - lack of attention to detail.
Specific incidents	<ul style="list-style-type: none"> - confusion or unhappiness while on holiday - inability to recognise familiar faces at family/social gatherings - neglect of long-established behaviours (eg writing Christmas cards).

These changes are likely to have developed slowly and have no clear date of onset.

(*Grey Matters 7:4*)

Screening

There is insufficient evidence to recommend for or against routine screening for dementia with standardised instruments in asymptomatic persons (*Canadian Consensus Conference 1998, p3*).

The routine physical examination and patient history is not sensitive for dementia, especially if family members are not present to corroborate patient self-report. The most commonly used short test of cognitive functioning, the MMSE, applied to a population of asymptomatic 65 to 74-year-old people would yield false positive rate of 93% (*Canadian Consensus Conference 3:57*).

The inability to recall the correct date or place is reasonably specific (92-100% – few false positives), but highly insensitive (15-53% – many false negatives) for dementia.

In dementia due to Alzheimer's disease, neurologic findings, such as release signs, gait disorders, and impaired stereognosis, are usually late findings and are not sufficiently sensitive or specific to screen for dementia.

History and functional assessment

As the dementing process progresses, awareness of memory problems decreases, leading to less reliable histories from patients. People with dementia cannot be relied on to complain of memory difficulties. The short mental questionnaire is a screening tool that is sensitive to mild dementia. It can be completed by the carer and may have a useful place in identifying people with dementia. Memory complaints by patients correlate with depression. Carers' complaints about the memory of their relatives correlate with dementia.

Recommendations and important points:

- Insight diminishes as dementia progresses, making the patient's history less reliable.
- In assessing a person with cognitive impairment, a history of memory problems should be sought from the carer as well as the patient.
- Dementia and other psychiatric symptoms (delusions or hallucinations, or both, usually persecutory in nature and simple in type) may coexist (*Eccles 1998*).

Remember that the patient must be asked whether he or she consents to others being consulted about his/her health. If an interpreter is required, it is preferable to use an independent person as members of the patient's family may (consciously or unwittingly) compensate for the patient's problems (*Grey Matters 7:5*).

History from the patient and a reliable informant

The history should include:

- general medical (including vascular risk factors)
- neurological history
- neuropsychiatric history, including behavioural changes
- drugs, alcohol
- family history, particularly in younger onset
- description of onset and progression of cognitive deficits

- initial depression screen (eg 'Are you feeling sad/down?') (*LoGiudice 1999*).

Questions to ask both the patient and the carer include the following:

- Who first noticed a problem?
- What changes have been noticed?
- How and when did it start? Can a specific date or period be given?
- How is the situation progressing? Are the changes slow and smooth or sporadic?
- Is there a family history of behavioural or memory problems in old age? (*Grey Matters 7:5*)

When consulting the carer or family members alone, ask whether the patient has:

- changed their behaviour (eg become irritable, withdrawn, unhappy)
- become forgetful
- become lost in familiar surroundings
- failed to recognise – or shown a lack of interest in – family members
- exhibited difficulties driving, shopping or using the telephone
- not been performing well in their usual work or home duties
- suffered any delusions or hallucinations.

Giving carers checklists to fill in, or asking them to keep a diary of the patient's behaviour, can help assess the patient's decline and allow the progression of the condition to be monitored (*Grey Matters 7:5*). The Neuropsychiatric Inventory Questionnaire (NPI-Q) is one such useful instrument. (*Appendix C3*) (*American Academy of Family Physicians Guidelines 2002, 1*).

Functional assessment

It is important to assess the extent to which the patient's problems with memory and cognition are interfering with his or her ability to undertake daily activities (*See p17*).

Physical examination

A small proportion of people with dementia have an underlying abnormality, and when this is treated cognitive function improves. The exact number of people thus affected is uncertain because of problems of study populations. People with Alzheimer-type dementia do not complain of common physical symptoms, but experience them to the same degree as the general population.

Recommendations and important points:

- Health care professionals should be aware of the existence of reversible causes of dementia.
- People with dementia experience physical morbidity to the same degree as the general population, but are likely to under report their symptoms.
- General practitioners should ensure that the following routine tests are performed:
 - haematology (including erythrocyte sedimentation rate)
 - biochemistry
 - serum calcium and phosphate
 - thyroid function
 - simple urine analysis (*Eccles 1998*).

Does the cognitive loss affect more than one part of the brain?

If the dementia symptoms cannot be attributed to delirium, depression or drugs then a neurological evaluation should be undertaken. In particular, the following should be assessed:

- focal deficits – gait disturbance, motor deficit, sensory deficit
- abnormalities of muscle tone, movement or reflexes.

The neurological history and examination should look for current or past conditions which may produce signs of dementia, including cerebrovascular events, head trauma, epilepsy or infections of the central nervous system such as syphilis or human immunodeficiency virus (HIV) (*Grey Matters 7:9*).

Investigations

CT scan

The principle reason for conducting a CT scan is to eliminate non-Alzheimer's disease causes of dementia, such as mass lesions or subdural haematomas (*Chan 1997*). Although the detection of diffuse cerebral atrophy on CT may suggest Alzheimer's disease, its diagnostic specificity is low. A CT scan without contrast should be ordered at some stage in the dementia, but is of more use early in the disease. A CT scan becomes more urgent if the patient with dementia is under 60 years of age, has had a recent head trauma, is using anticoagulants or has undergone a rapid, unexplained decline (*Grey Matters 7:9*).

Potentially reversible dementia

This refers to syndromes that are, at least partly, reversible following early recognition and treatment of the underlying condition. Potentially reversible components of dementia are important to detect as they have enormous implications for the patient and his/her carer. This has led to the development of a list of tests which should be undertaken in any person with dementia (*see p8*), to ensure that reversible causes will not be overlooked. However these are encountered rarely when the case is typical of Alzheimer's disease. The use of such tests may reveal abnormalities, which can be corrected and can lead to total reversibility if the dementia is only related to these abnormalities. However there may not be any improvement in cognition if the abnormalities are aggravating a dementia which is fundamentally caused by another disease process (*NZ Guideline 6:12-13*).

Cognitive assessment

Short assessment tests for cognitive impairment

Mini-mental state examination (MMSE)

(Appendix B1)

At present the full mini-mental state examination should be used for assessment though, there is some evidence that it can be shortened for use in primary care with only a small reduction in specificity. Four items of the mini-mental state examination are predictors of dementia:

- orientation to day
- spell WORLD backwards
- recall three words
- write a sentence.

Reducing the mini-mental state examination to two items – recall and orientation for place – reduces the specificity only slightly. The mini-mental state examination may be influenced by verbal fluency, age, education, social grouping and cultural background.

Clock drawing test

In the clock drawing test, the accuracy of the fourth quadrant of the clock face shows the greatest sensitivity (87.5%) and specificity (82.3%) for dementia.

GPCOG (Appendix B2)

This Australian-designed test for use in general practice includes elements of both the above plus an informant interview, and has the advantage of brevity and efficiency. (Brodaty et al. 2002)

(Rowland) Universal Dementia Assessment Scale

This Australian-designed version of the mini-mental state examination is a brief, administratively simple dementia assessment tool that is designed to be culturally and linguistically fair. (Accepted for publication in *International Psychogeriatric Association (IPA) Journal*, 2003)

Activities of daily living (Appendix C5)

Deterioration in four domains of instrumental activities of daily living are significantly associated with cognitive impairment. These domains are:

- managing medication
- using the telephone
- coping with a budget
- using transportation.

Recommendations

Health care professionals should consider using the following instruments to identify cognitive impairment:

- the mini-mental state examination
- the clock drawing test
- the GPCOG
- (Rowland) Universal Dementia Assessment Scale
- an instrument for assessing activities of daily living (Eccles 1998).

The most widely studied of these instruments is the mini-mental state examination, a short, structured examination that takes 5-10 minutes to administer. The MMSE contains 30 items and is reproducible using a standardised version. Various studies suggest that an MMSE score of less than 24 out of 30 has a reasonable sensitivity (80-90%) and specificity (80%) for discriminating between dementia cases and normal controls. There are only limited data, however, on its performance as a screening test for early dementia among a representative population of outpatients. The positive predictive value (PPV) of MMSE for dementia depends on the definition of an abnormal score and the prevalence of dementia. Based on its performance in one community study, a MMSE score of 20 or less has a PPV of only 48% when the prevalence is 10% (eg a population of 75-84 year olds), but a much higher PPV (73%) when prevalence of dementia is 25% (eg age over 85).

The predictive value of intermediate MMSE scores (21-25) appears to be low (21-44%) for dementia in most populations (Guide to Clinical Preventive Services, 1996).

Home visit

(Refer to *Guidelines p12*)

Delirium

Delirium in the elderly is often a first warning sign that dementia may develop within the next three years and may highlight underlying Alzheimer's disease (*Grey Matters 7:8* and *NZ Guidelines 6:23*).

Some of the causes include medication effects, infections, vascular changes, hypoxia, metabolic problems, surgery and trauma. Delirium has an increased mortality, increased rate of institutionalisation and increased likelihood of readmission to hospital. One source of diagnostic confusion between delirium and dementia is caused by the mistaken belief that delirium is always of short duration and of florid symptomatology. A sub-acute confusional state can last for months. Recent research has shown that 'quiet signs' are common in delirium, such as plucking at bedclothes, poor attention, incoherent speech, slow vague thought and fluctuating mental state (*LoGiudice 1999*).

Depression

Depression can manifest as dementia; conversely, dementia can present with depressive symptoms early in the illness. To differentiate between depression with cognitive impairment and dementia consider using the Geriatric Depression Scale (*Appendix C1*), or the short EBAS-DEP (*Appendix C2*). If in doubt, psychiatric referral is required.

Depression is common in the elderly. The longer the depression is left untreated, the less likely it is to get better. Failure to recognise and treat depression can lead to long-term suffering, disability and even suicide.

In the elderly depression is often overlooked or under treated; major depression occurs in 20-30% of people diagnosed with Alzheimer's disease (*Ames 1994*). The criteria for making a clinical diagnosis of major depression are noted in following table.

Depression is common, especially in the physically ill, those in hospital, attendees at GP surgeries, alcoholics, the socially isolated and residents of aged care facilities.

Criteria for major depressive disorder

Before a diagnosis of depression can be made, one of the following two symptoms must be present:

- low (sad, miserable, depressed) mood most of the time which is not relieved by pleasant circumstances
- loss of interest and the capacity to take pleasure in things which the sufferer previously enjoyed (that is not due to circumstances only).

Other symptoms may be:

- loss of energy, tiredness, fatigue and ability not due to other physical factors
- unreasonable feelings of guilt or self reproach
- suicidal behaviour or recurrent thought of death or suicide
- subjective impairment of concentration or thinking ability
- agitation or psychomotor retardation
- excessive or disturbed sleep (especially early waking)
- loss of appetite and/or weight (increase in appetite or weight can occur)
- loss of self esteem and confidence.

The diagnosis of major depression is made when five or more symptoms are present for two or more consecutive weeks.

(*American Psychiatric Association 1994*)

Depression in patients with dementia

Depressive illness is commoner in people with dementia than those without. Mortality is increased in people with dementia and depression. The prevalence of depression in patients with dementia varies widely according to the study population. In a general population, the prevalence varies from 10-40% of patients with dementia. Depression is more commonly diagnosed or recognised in early dementia. Treatment is likely to be of value, with reported response rates of up to 85%. Depression commonly leads to difficulties in communication and independent activities of daily living and has a less common effect on cognitive function. Presenting symptoms relate to inner feelings (anxiety, mood, loss of interest, helplessness, hopelessness and worthlessness) and less to vegetative symptoms.

Recommendations and important points:

- Depression can occur in patients with dementia at any stage in the dementing process.
- the history should be gathered from both the patients and their carers.
- Relevant risk factors for depressive illness, such as personal or family history of depression, or recent adverse events, such as bereavement or relocation, should be considered.
- Consider a trial of antidepressant medication evaluated against explicit criteria such as activities of daily living, level of functioning, behavioural disturbance, and biological features of recent onset (*Eccles 1998*).

Differential diagnosis

The most common cause of dementia is Alzheimer's disease, which accounts for about half of the cases seen. Other types of dementia are listed below.

Features that may distinguish depression from dementia

Feature	Primary depression	Primary dementia
General features	<ul style="list-style-type: none"> – family aware of illness – onset more acute and can be dated – symptoms of short duration – rapid progression – family history of affective disorder 	<ul style="list-style-type: none"> – family often unaware of illness – insidious onset, only vaguely dated – symptoms of long duration – slow progression – possible family history of dementia
Patient's history	<ul style="list-style-type: none"> – past history of depression – seeks help with complaints of memory loss – complaints given in great detail – cognitive deficits emphasised – failings highlighted by patient 	<ul style="list-style-type: none"> – no history of depression – few complaints of memory loss – vague, non-specific complaints – cognitive deficits concealed – accomplishments highlighted by patient
Mental state observations	<ul style="list-style-type: none"> – history consistent and sequential – patient makes little effort with tasks and readily gives up – subjective distress common – affective symptoms pervasive – complaints greater than observed dysfunction 	<ul style="list-style-type: none"> – inconsistent history with poor temporal sequencing – patient struggles with tasks – efforts sustained and may use cues or evasions – unconcerned attitude common – affect may be shallow or labile – observed dysfunction greater than complaints
Cognitive testing	<ul style="list-style-type: none"> – 'don't know' answers common – recent and remote memory loss more equal – poor memory for specific periods common – concentration worse than general knowledge or memory – test performance may be highly variable – no typical WAIS-R pattern 	<ul style="list-style-type: none"> – frequent 'near miss' answers – orientation tests poor – recent memory worse than concentration – consistently poor test performance – WAIS-R performance scores worse than verbal scores
Neurological	<ul style="list-style-type: none"> – no primitive frontal release reflexes – no dyspraxias or agnosias – no language difficulties, corrects paraphasic errors – CT head scan more commonly normal 	<ul style="list-style-type: none"> – frontal reflexes may be present – dyspraxias and agnosias common – word finding problems and paraphasia common – CT head scan usually abnormal, with cerebral atrophy

(NZ guidelines 6:23)

Types of dementia

Alzheimer's disease	40%
Vascular dementia	20%
Lewy-body dementia	20%
Frontal lobe dementia	
Parkinson's disease with dementia	
Normal pressure hydrocephalus	
Post-traumatic, toxic (particularly alcohol) or anoxic encephalopathy	20%
Prion diseases eg Creutzfeldt Jakob disease	
Multi-infarct dementia	
Down's syndrome	
AIDS	
Other	

(LoGiudice, 1999)

Dementia sub-types**Alzheimer's disease**

In addition to progressive memory impairment (especially recently acquired memories), language impairment is an important sign of Alzheimer's disease. The earliest difficulties may be in finding words in spontaneous speech and in the increased use of automatic phrases and cliches (eg social speech such as 'How are you?' 'I'm fine' etc).

The ability to repeat phrases is usually preserved. Other deficits occur with visual and spatial abilities such that there may be difficulties in recognising familiar faces or objects. Apraxias (difficulty completing complex motor tasks) may interfere with abilities to carry out activities of daily living. Impairment in arithmetic (acalculia) may interfere with managing accounts and/or a cheque book (NZ Guidelines 6:11).

Vascular dementia

Risk factors include hypertension, diabetes, atrial fibrillation and a history of myocardial infarction. A computed tomography (CT) scan without contrast may help confirm or exclude a vascular aetiology (Grey Matters 7:9).

In up to 90% of pathologically verified cases of vascular dementia, there is history of acute unilateral motor or sensory dysfunction consistent with a stroke. Vascular dementia, however, can occur in the absence of overt strokes. Urinary dysfunction

and gait disturbance are possible early markers. Parkinsonian motor features, asymmetric reflexes and/or extensor plantar responses are useful signs. Cognitive decline tends to be discontinuous and deficits are often patchy (NZ Guidelines 6:11).

Dementia of the frontal lobe type

This syndrome probably accounts for 1-5% of all cases of dementia. Dementia of the frontal lobe type describes the syndrome of disordered executive function (impairment of initiation, goal setting, and planning) and disinhibited behaviour with only mild abnormalities on cognitive testing. These people are prone to angry catastrophic reactions. The apathy may be difficult to distinguish from depression. The apraxias of Alzheimer's disease are usually absent and the language deficits are more characterised by abundant unfocused speech (logorrhoea), echo-like spontaneous repetition of words or phrases (echolalia) or compulsive repetition of phrases (palilalia).

One cause of this syndrome is Pick's disease which is associated with focal atrophy of one or both frontal and/or temporal lobes. (NZ Guidelines 6:11).

Lewy-body dementia

The clinical course of dementia of the Lewy-body type differs from that of Alzheimer's disease, showing clear fluctuations with the following clinical features:

- complex visual hallucinations (48%)
- auditory hallucinations (14%)
- paranoid delusions (57%)
- clouding of consciousness (81%)
- falls or collapses (38%)
- depression (38%)
- extrapyramidal features (9.5%).

There is high neuroleptic sensitivity (61.5%) and a high risk of increased morbidity and mortality if neuroleptic drugs are prescribed.

Recommendations and important points:

- Differential diagnosis of dementia of the Lewy-body type is important because of the high risk of increased morbidity and mortality with neuroleptic agents in these patients.

- Doctors should be aware of the importance of avoiding neuroleptic drugs in people known to have dementia of the Lewy-body type (*Eccles 1998*).

Subcortical dementia syndrome

This refers to a clinical syndrome characterised by slowing of cognition, memory disturbances, difficulty with complex intellectual tasks such as strategy generation and problem solving, visuospatial abnormalities and disturbance of mood and affect. Unlike Alzheimer's disease there is relative preservation of language, calculation and tasks requiring co-ordinated motor function. This syndrome may be seen in conditions such as Parkinson's disease, Huntington's disease, progressive supra-nuclear palsy, Wilson's disease and other disorders affecting predominantly the basal ganglia and/or thalamus (*NZ Guidelines 6:11*).

Ability/disability

Older road users – issues for general practitioners

Advice from medical practitioners is often heeded by older patients in relation to their ability to drive. Using resources such as the Austroads publication *Assessing Fitness to Drive* and *Medical examinations of commercial vehicle drivers* will aid the GP in making an informed decision in relation to this (*Appendix F2*).

Co-morbidity

(Refer to *Guidelines p18*).

Family/social support and environment

Assess carer and family

The stress associated with caring for a person with dementia should never be underestimated. It places an extraordinary burden on those who undertake the caring role.

Some people find themselves unwittingly and unwillingly in the role of carer. Other family members may look to one member of the family to take on this role without considering whether this person has the desire, ability or emotional capacity and physical health to cope. For some families, geographical location may place responsibility for care on one member only.

Several factors should be considered when evaluating the strengths of a caregiving relationship and the degree of burden likely to be experienced.

The ability to cope with caring depends on the:

- symptoms exhibited by the person with dementia
- type, frequency and disruptive effects of aberrant behaviour
- duration and severity of the dementia symptoms
- carer's response to these symptoms and tolerance of aberrant behaviour
- formal and informal support services available to assist
- carer's emotional and physical health
- carer's perception of whether they have sufficient emotional support
- quality of the carer's relationship with the person with dementia prior to the onset of dementia
- carer's ability to make lifestyle adjustments
- carer's ability to take over responsibilities and decision-making within the home
- carer's other commitments.

Difficulties experienced with any one of the above areas can be enough to produce sufficient stress to place either the person with dementia or the carer at risk, or jeopardise the success of community care. It needs to be recognised that carers often become physically and mentally exhausted over time. This can have a profound effect on their decision-making ability. It is important to be aware that carer stress can lead to abuse and neglect of the person with dementia.

Stress may also be caused by the need for carers to take on the roles and functions formerly performed by the person with dementia. A son or daughter may find themselves in the role of parent to their own parent. The person with dementia may resist and oppose this carer's good intentions.

Grief is a constant feature of dementia. Carers have described the journey through dementia as 'the funeral that never ends'. As losses continue throughout the progress of the dementia, so the grief process is ongoing. There is potential for carers to become depressed.

Signs of stress:

- self reported stress
- increased dependency on alcohol or other drugs
- reported weight loss or gain
- sleep disturbance.

Assessing stress levels

Ask the carer ‘How is this affecting you?’ ‘What has changed for you?’ Ask about the carer’s mood level. Note any changes in the carer’s health which could be stress-related.

The Caregiver Burden Scale is a self-administered 22-item scale that is a useful tool for measuring the distress of caregivers (*Appendix D1*) (*American Academy of Family Physicians Guidelines 2002, 1*).

Action plan

Overarching principles for the general practitioner:

- not all dementias are the same
- quality of life for the person with dementia
- the hidden second patient
- dementing not demented – the evolving, ever-changing picture
- dementia – the long haul
- vulnerability of people with dementia
- liaising with other services
- treating patients who can’t consent – medico-legal issues
- advances in knowledge (*Brodsky 1996*).

What, how and when to tell patient and family

Giving patients a diagnosis of Alzheimer’s disease is often seen by many as equivalent to giving a diagnosis of incurable cancer (*Grey Matters 7:11*).

Prognosis

As Alzheimer’s disease is a progressive neurodegenerative disease, it will affect different individuals in different ways. Throughout the dementing process, changes will continue to occur; some problems may become exaggerated, others will paradoxically subside.

On average, the time from onset of the disease to diagnosis is about 2-3 years, while from onset to death is usually 10 years. Although the progress of Alzheimer’s disease is gradual, the following table gives some indication of the changes that will occur as the disease progresses. (*Grey Matters 7:12*).

At some time during the dementia, behavioural complications will affect 90% of patients with Alzheimer’s disease. Psychological/psychiatric complications include depression, anxiety, psychosis or hallucinations, while non-psychological behavioural complications include agitation, wandering, screaming and aggression. These problems warrant treatment when they impair self-care or social interactions, or when they are likely to lead to institutionalisation. Patients with these behaviours can be difficult to manage but they are often over-medicated; as these behaviours change over time, medication for such complications should be reviewed at least every 6 months (*Grey Matters 7:12*).

Referral

(Refer to *Guidelines p18*).

Typical stages in the development of Alzheimer’s disease; each individual will be affected differently

Moderate Alzheimer’s disease	Severe Alzheimer’s disease
<ul style="list-style-type: none"> – Approximately 4-7 years from onset. – Deficits in working memory, attention span and language comprehension. – Personality traits become flattened or exaggerated (eg lack of inhibition, impulsiveness, coarseness). – Problem behaviours emerge (eg wandering, shouting, clinging). – Psychiatric complications (eg hallucinations, delusions, paranoid ideation, suspiciousness). 	<ul style="list-style-type: none"> – Approximately 7-10 years from onset. – Loss of most memories and inability to use or comprehend language. – Motor symptoms become more pronounced: extrapyramidal signs and gait abnormalities. – Problem behaviours may abate; patient may become easier to care for. – Increasing dependence on others for basic needs; residential care and eventually death.

Dementia and disability

Drug treatments for dementia

This is a rapidly developing area of research, and changes are occurring quickly. Two recent reviews are recommended for more detailed information (*American Academy of Neurology 2001, 4; Brodaty H et al. 2001*).

Cholinesterase inhibitors

The evidence that cholinesterase inhibitor drugs benefit patients with Alzheimer's disease by delaying the onset and rate of functional decline and preserving the ability to perform certain activities of daily living has recently been reviewed (*American Academy of Neurology 2001, 4; Brodaty H et al. 2001*). Although an improvement in cognition has been correlated with plasma drug concentrations and the level of acetylcholinesterase inhibition in red blood cells, there has been no direct evidence to show that these drugs specifically alter the neuropathology of the disease process.

Cholinesterase inhibitor drugs including donepezil, rivastigmine and galantamine stop the breakdown of acetylcholine in the brain to reduce the apparent loss of cholinergic neurotransmitter activity in individuals with Alzheimer's disease. Most patients benefit to some extent, but only 50–60% show a measurable response to treatment, and it is not possible to predict which ones before treatment is started. Four to eight patients need to be treated for one to show measurable benefit (*Brodaty H et al.*).

Some patients, 15–50% in various studies, experience predictable cholinergic adverse effects, predominantly gastrointestinal – nausea, vomiting, diarrhoea – but also including many others such as bradycardia, muscle cramps, fatigue, dizziness, headaches, agitation and insomnia. These are dose-related and usually occur within the first few weeks of treatment. The side effect profile of the different drugs varies somewhat, but there is no direct evidence as to their relative merits.

The drugs' effects on cognition equate to about 6–9 months of preserved cognitive function. There are no known patient or disease characteristics that predict a positive response to treatment.

These treatments have an as yet undefined role in the overall management plan for individuals with Alzheimer's disease. Treatment should be initiated only for patients with 'probable' Alzheimer's disease of mild to moderate severity (ie MMSE scores of >10), and where there is a family member or other caregiver available to monitor compliance, effectiveness and adverse effects. There is now increasing evidence of benefit in Lewy-body dementia, but no evidence of benefit for patients with other types of dementia. Availability of the drugs under the Pharmaceutical Benefits Scheme is restricted.

Treatment should be initiated with clearly defined treatment goals and with an ability to assess effectiveness. The chosen measures and outcomes for monitoring should be meaningful to the patient and/or caregiver.

Treatment should be initiated at low dosages and titrated according to tolerability up to the maximum recommended by the manufacturer. Patients should be monitored for adverse effects in the first 6 weeks of commencing treatment or after dosage adjustment. Effectiveness should be assessed after 3 months of treatment at the highest tolerated dosage.

Treatment for longer than 6 months should be based on a clear response, which may include stabilisation of symptoms, preferably as assessed by objective measures. Treatment should be discontinued if there are significant adverse effects, poor compliance, failure to meet the chosen treatment outcomes, or a significant deterioration in the patient's condition. All patients on long-term treatment should be reassessed at least every 6 months and consideration should be given to the cessation of treatment in order to judge the adequacy of response.

Other drugs

- Anti-inflammatory drugs – epidemiological evidence suggests that these may prevent or delay the onset of Alzheimer's disease, but there is insufficient evidence that they are effective in its treatment, and their side effect profile means that their use is not recommended.
- Vitamin E – one randomised controlled trial supports epidemiological evidence that delays clinical decline, but more evidence is needed.
- Selegiline has beneficial effects, but the evidence is as yet insufficient to recommend routine clinical use.
- Many other drugs have been thought to be beneficial, including ginkgo biloba and oestrogen, but the evidence is as yet unconvincing.

(*American Academy of Neurology 2001, 1; Brodaty H et al. 2001; National Guidelines Committee for Anticholinesterase Inhibitors 2000*)

Psychotropic drugs**General**

Medication can be very helpful in treating some behavioural problems, but should not be regarded as first-line treatment (except in emergencies). Other strategies should be tried first and continue in parallel with drug treatment.

Psychotropic medication will not solve disinhibition or wandering without producing over-sedation; nor will it help negative symptoms or incontinence.

The specific goals of treatment should be clear at the outset.

The golden rule is to start with low doses and increase slowly, whilst carefully monitoring both beneficial and adverse effects. Dosage times should be tailored to the target problem – behaviour is often most difficult in the latter part of the day. The benefits and risks of treatment should be openly discussed with the patient (if possible) and carers. In this way unrealistic expectations and fears can be dispelled.

Adverse effects are unfortunately very common. These include: sedation, confusion, decreased mobility, low blood pressure and Parkinsonism.

It is also important to be alert to the possibility of paradoxical worsening of behaviour.

Once instituted, drug treatment should be reviewed on an ongoing basis and attempts made to reduce or withdraw it. Many behavioural problems are relatively short-lived, so psychotropic drugs should not be prescribed indefinitely.

Drugs used

Major tranquillisers are the usual first-line drug treatment for agitation or aggression (especially if associated with psychosis) and have shown modest efficacy in controlled trials. Haloperidol and thioridazine are the most commonly used. Other neuroleptics include pericyazine, loxapine, thiothixene and pimozide. However these drugs are not recommended for treatment of Lewy-body dementia. In addition, a prospective study has suggested that neuroleptic drugs may hasten cognitive decline in dementia. Whilst further studies are needed to confirm this finding, it emphasises the need for caution and judgment in the use of these drugs.

The place of newer neuroleptics (olanzapine, risperidone) is being evaluated. They have a lower incidence of extrapyramidal side effects and may be more efficacious (*Canadian Consensus Conference 3:10*). These drugs are not currently PBS listed and so if used patients would be charged the full cost.

If anxiety appears to be driving the behaviour problem, shorter-acting minor tranquillisers may be tried, eg chlormethiazole, oxazepam or alprazolam. For sleep disturbance a course of a shorter-acting sleeping tablet, eg temazepam or zopiclone can be useful (*NZ Guideline 6:26*).

Managing behavioural concomitants of dementia

There is controversy about how to classify these symptoms, but the importance of assessment and intervention for behavioural problems is increasingly recognised, due to their impact on carers' burden and coping ability. Due to problems with definition, there is a lack of good data on prevalence of particular symptoms, but it is agreed that behavioural problems of some sort arise in the great majority of dementia cases.

Recent reports have highlighted the occurrence of ‘negative’ symptoms (apathy, withdrawal and emotional blunting) in addition to positive behaviours. Behavioural problems are commonly associated with psychiatric symptoms; eg aggression may be attributable to psychosis. It is particularly important to be aware that a depressive or anxiety state may underlie behavioural disturbance, in which case management should be focused accordingly (*see section on Co-morbidity below*) (*NZ Guidelines 6:25*).

Non-drug management strategies

Recent management practices in dementia care are moving away from a problem-oriented focus, toward the assessment and fostering of an individual’s personhood and residual strengths.

Social work support and other counselling interventions such as those listed below, have been advocated for people with dementia, but few have been scientifically validated. The availability of these approaches varies widely, depending on local interest and expertise. All of these may be beneficial.

Specific activities or therapies which may be available from aged care services:

- reality orientation
- reminiscence
- validation therapy
- behaviour modification
- cued recall
- music therapy and dance
- motivational therapy
- doll therapy
- water therapy (*NZ Guidelines 6:26*).

Co-morbidity

Depression

Many clinicians feel that the newer antidepressants such as selective serotonin reuptake inhibitors (SSRI’s) are preferable to tricyclics, due to a more benign side-effect profile (in particular, less anticholinergic action which can make confusion worse). However, agitation, sleep disturbance and low blood sodium levels can sometimes prove

troublesome with SSRI’s. Moclobemide also has proven efficacy and is generally well tolerated (*NZ Guidelines 6:24*).

Anxiety states

Sometimes patients may benefit from more formal anxiety management strategies, behaviour modification, or counselling. If these strategies have failed or are unrealistic, anti-anxiety, anti-panic or anti-phobic drug treatment can be helpful (*NZ Guidelines 6:24*).

Cerebrovascular disease

The medical management of vascular dementia is the same as for stroke disease. There should be careful treatment of hypertension (whilst avoiding hypotensive episodes), hyperlipidemia, carotid atherosclerosis and atrial fibrillation (*NZ Guideline 6:19*). Aspirin (75mg) may reduce the risk of further vascular events (*Eccles 1998*).

Other conditions

Other medical conditions warranting preventive measures or optimal management in the dementing patient are: diabetes (particularly, avoidance of hypoglycemia), hypoxia, anaemia, postural hypotension, epilepsy, infective illness, pain and urinary or faecal retention. Even apparently trivial medical problems (eg mild dehydration) can worsen dementia (*NZ Guideline 6:19*).

Health promotion

There is evidence that cognitive decline in dementia may be delayed by participation in stimulating intellectual activities (the ‘use it or lose it’ theory). People with dementia should be encouraged, as far as is possible, to maintain their customary hobbies and activities (*NZ Guidelines 6:19*).

Diet

Adequate diet is even more important in patients with dementia than in other older patients. Special attention needs to be paid to avoid or dealing with obesity or loss of weight, and ensuring an adequate dietary intake of vitamins and other essentials, since dementing patients may become difficult about taking their meals. Regular inquiry about what is being eaten should be made.

Prevention

Falls

Fracture of the hip is the commonest fracture in falls associated with dementia. Medication increases the risk of falling in people with dementia.

Falls are not associated with the severity of the dementia but are associated with wandering and reversible confusion. Those people who fall are more likely to fall again and falls are associated with their doing too much, eg wandering, restlessness. Falls are increased in the more capable groups of people with dementia (*Eccles 1998*).

Prevention of falls requires when possible recognition and alteration of environmental risks, modification of risk behaviours and appropriate physical assistance. This usually requires a multifactorial approach, but specific interventions may be needed in individual patients, such as recommending against the use of bifocals, awareness of appropriate footwear or use of hip protectors (*Monagle 2002*).

Patient / family / social support

Not all people with dementia will have a carer available, and some will have family members who do not wish to take on the care-giving role. Adequate support systems must be set up to enable these people to remain at home for as long as desired and practicable.

It is recognised that people with dementia living alone will usually need to access residential care sooner than those living with a carer. There are complex ethical issues involved in ensuring that a person's wish to continue living alone is balanced with their safety and that of others (*NZ Guideline 6:32*).

Legal issues

People with dementia often become unable to manage their business, financial or personal affairs. They may be unaware that a problem exists. This makes them at risk from the unscrupulous. Forward planning of legal and business administration together with discussion of treatment decisions are best addressed as soon as diagnosis is confirmed when the person with dementia may still be able to express their views.

Advance care directives relate to advance decisions about the level of medical care to be adopted in specified circumstances when the patient is unable to make decisions. Enduring Guardianship provides for nomination of a person or persons who are to make decisions about personal care on behalf of the patient when the patient is unable to make decisions. Enduring Power of Attorney is similar, but relates only to financial and business matters.

Advance care directives, enduring guardianship, and enduring power of attorney are three aspects of legal decision-making which need to be considered in early dementia while the patient may still be able to make legal decisions. If not done, later there may arise a need for a medical decision about the patient's capacity to make decisions about medical and personal care, and financial and testamentary matters.

Decision making capacity

(see Appendix B3)

Determination of a patient's capacity to make decisions may be an important role of the doctor. This usually applies in one of three situations:

1. Consent for medical treatment.
2. Arranging enduring guardianship or giving an advance care directive.
3. Making a will or giving power of attorney.

It may also apply to other tasks such as managing financial affairs or arranging living circumstances.

Whatever the task, it is important that:

- capacity is task-specific, and must be assessed separately for each decision
- assessment is best made over time, rather than at only one interview, because determination of consistency of response is important
- information from others, with the patient's consent, is desirable.

Records should be kept as fully as possible, with emphasis on information that explains the basis for the decision.

The following factors need to be considered in determining capacity:

- Attention – can the patient maintain attention for long enough? Maintaining conversation for at least one minute is a minimum.

- Language – comprehension, by hearing or reading; this can be tested by conversation and/or with suitable simple multi-choice questions given orally and/or in writing.
- Language – reply, may be made by the patient in speech or writing, or by gesture, pointing or other understandable means. These forms of communication should not be overlooked when speech or writing is not possible.
- Memory – short and long-term memory need not be perfect, but should be relevant to the task.
- Awareness of the significance of the interview: does the patient understand who is doing it, what it is about and the likely consequences?
- Judgement – can the patient appreciate likely outcomes of decisions made?

Consent to medical treatment

In assessing capacity to consent to medical treatment the following factors must be clear:

- what are the options?
- the benefits and risks of each
- the values the patient wants to uphold or goals they wish to reach
- the stability of the decision over time; the consent must be given on at least two different occasions
- the patient must always be included in the decision process to the extent possible
- there must be no coercion or undue pressure from others.

If the patient does not have the capacity to consent, then the decision **MUST** be made by someone other than the treating team members.

Capacity to arrange Enduring Guardianship or advance care directives

In making such arrangements the patient must understand that:

- the choices being made are for the future
- it will be used only if the patient has become incapable
- some choices are about future treatment
- some choices are about who will then decide
- the choices made could threaten life

- coma or dementia means that no choice in the future will be possible
- choices may change over time
- directives should be updated and changed if necessary each year
- choices made in the directive override later choices if the patient has become incapable.

Capacity to make a will

In determining capacity to make a will, there are a number of specific requirements:

- the patient's lawyer should first be consulted
- assessment should occur on two different occasions, the second preferably on the day of executing the will
- the presence or absence of witnesses to the assessment, and if any, who they should be, should be considered
- the patient must be free of undue influence, such as from family member or carer
- the patient must not have delusions or hallucinations which could influence the decisions.

In the assessment, the patient must:

- understand the nature and purpose of the interview, and what he/she is doing
- understand what a will is and when it would come into effect
- be able to describe the extent and nature of his/her property
- be able to understand and state the claims of potential heirs
- state who is to benefit, in what way each will benefit, and give a sensible explanation of why that benefit to that person is desired.

Dementia and driving

The issue of fitness to drive is an easier issue for GPs to tackle than some others because there are specific guidelines to be followed that are widely recognised in the community (though not always by the patient with dementia).

Even mild dementia increases the risk of traffic accidents; the risk increases with concomitant morbidities and as the disease advances.

Mildly impaired patients should be asked to stop driving or confine themselves to familiar routes; those with moderate to severe disease should be instructed not to drive at all. In some states it is mandatory to report patients whom one considers unfit to drive; if there is a dispute, the patient should be referred to the local office of the Roads and Traffic Authority. Many of these strategies also apply to patients who could endanger others if they continue working (eg doctors, engineers) (*Grey Matters 7:12*).

The practitioner, in making the notification, must be satisfied not only about the person's medical unfitness to drive, but also be aware that the licence holder may probably continue to drive despite medical advice.

Information should also be sought from the caregiver about the person's continuing ability to drive safely. Many small incidents can illustrate deteriorating ability long before a serious or life-endangering accident occurs. The role of the medical practitioner in encouraging the person to give up driving cannot be understated. This task must not be left to caregivers or families. Medical practitioners may find this difficult, involving as it does a loss of independence for someone who may have been a patient for many years. The discussion may provoke anger on the part of the patients. Some may feel that there is an ethical dilemma at stake. This should be seen, however, as a situation where the safety of others outweighs the rights of the individual.

Some people will acknowledge the problems of slowed reaction time and judgement. Others may recognise potential problems with insurance cover.

Options for alternatives should be discussed including the:

- offer of a second opinion
- suggestion of a formal driving assessment or a simulated test available in occupational therapy departments in some hospitals
- use of mobility vouchers to reduce taxi costs (*see Appendix F2*) (*NZ Guidelines 6:29*).

Leaving home

Factors in patients that lead to an increased risk of institutionalisation are physical dependence, irritability, nocturnal wandering and incontinence. Stress in carers can lead to an increased risk of institutionalisation. Institutionalisation offers the best duration of survival for people with dementia followed by a formal care package at home. Survival in this context means time until death rather than quality of life. Day care for people with dementia can delay institutionalisation.

A patient should not be assessed for optimal home care independently of the carer (*Eccles 1998*).

The carer: the 'second patient'

Many patients with a dementing illness have a primary carer. Carers may suffer physical, social and financial burdens associated with caring for the patient, as well as depressive disorders that can affect as many as 30% of them. Carers are often called the 'second patient' and GPs need to be vigilant about the health of the carer as well as the patient with Alzheimer's disease. Encourage carers to join Alzheimer's Australia for education and support. Suggest alternative or respite care arrangements rather than waiting for carers to mention them, and – when appropriate – remind carers that in the later stages of Alzheimer's disease, a patient's quality of life may actually improve in a nursing home. This will also allow the carer to spend more quality time with the patient as they will no longer be completely preoccupied with, or exhausted by, caring for the patient (*Grey Matters 7:12*).

Epidemiology

At least 80% of people with dementia are cared for at home, only 10–20% reside in facilities. 75% of dementia carers are female, many of whom are elderly. Within families there is an unspoken hierarchy of obligation to give care in Western society. Primary obligation falls to spouses, followed (in order) by unmarried daughters, married daughters, daughters-in-law, sons and other kin.

Strain and burden

Dementia carers have been shown to have poorer physical health status and impaired immune function, as well as higher levels of emotional distress, compared to equivalent samples of carers for other disabled groups. A substantial minority suffers from psychiatric illness, especially depression. There is minimal data on strain among professional carers.

It should be noted that caring for a person with dementia, whilst often stressful, may also be a positive, life-enhancing experience.

Determinants of poor emotional health in carers**Factors related to dementing illness**

Neither severity of cognitive impairment nor duration of dementia seems to be correlated with strain as strongly as behavioural problems of the person with dementia. Particularly stressful are:

- sleep disturbance
- incontinence
- immobility/falls
- repetitive demanding behaviour
- aggression.

‘Negative’ symptoms grind down the carer and produce a build-up of strain over time. These include:

- loss of initiative
- loss of good company/conversation
- the need for constant supervision.

Relationship factors

Spouses are generally more stressed than other kin. The quality of the past relationship has a major bearing on strain, with ambivalent, conflictual or highly mutually dependent premorbid relationships predicting high levels of stress.

Caregiving factors

Dysfunctional caregiving is characterised by:

- inability to set limits when the cared-for person behaves unreasonably
- inability to leave the cared-for person, even when adequate arrangements are made

- difficulty engaging with outside agencies when help is offered
- marked discrepancy in the cared-for person’s level of functioning between home and other care settings.

Support

The relationship between support levels and strain is highly complex and variable. Informal (unpaid) support appears to be protective in some circumstances but scientifically sound evidence for any protective benefit of formal (paid) support services is lacking. There is, however, a great deal of descriptive and anecdotal data indicating support services are helpful in many ways to carers and people with dementia.

Gender

Studies have consistently shown that female carers experience, on average, much more strain and morbidity than their male counterparts. This appears to be mainly related to attitudinal factors and differences in coping style.

What can be done to relieve carer strain and distress?

Carer surveys have shown carers would like GPs to:

- include them in care planning and decision-making
- provide plain language information about the patient’s condition, prognosis and treatment
- refer to support groups such as carer associations, health care services and respite care providers
- discuss and assess the carer’s own physical and psychosocial health needs
- engage other family members in understanding and sharing care responsibilities
- recognise grief and loss on cessation of caring (*Nankervis et al. 2002*).

Training programs for carers have been shown both to relieve strain and to delay institutional placement, and are therefore cost-effective. Such programs can include the above and provide a group within which the carer can be encouraged to come to terms with losses involved through expression of feelings.

Despite the dearth of solid empirical evidence for effectiveness of formal support services, demand for these services among carers (especially for respite care) tends to be high; once provided, they tend to be well accepted. Support groups and various other forms of counselling are helpful for some carers, although scientific evidence for this is also scarce.

There is good evidence that institutional placement of the person with dementia usually results in reduction of measured strain levels in the carer (although it may also produce a new set of adjustment difficulties) (*NZ Guidelines 6:27*).

Abuse

People with dementia are at increased risk of abuse. This can be physical, psychological, financial or sexual. The stresses associated with caring for someone with dementia can tax the resources of even the most patient person and this can lead to physical or psychological abuse.

This can occur more readily if the carer is unaware of supports. It should also be recognised that the person with dementia can sometimes be the abuser.

Recognition of situations where abuse is occurring may be difficult and requires awareness of the possibility by health professionals and tactful inquiring about the stresses of caring.

The prospect of financial gain may sometimes be a source of abuse. As one GP said ‘One of the saddest things is watching the family come in like a pack of sharks for the will’ (*NZ Guidelines 6:31*).

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