1. Care map information

Scope:
- diagnosis and assessment of cognitive impairment, including:
  - mild cognitive impairment
  - Alzheimer's Disease (AD)
  - vascular dementia
  - mixed dementia
- assessment of co-morbid emotional disorders
- recommendations and support for carers

Out of scope:
- management of dementia

Definitions:
- cognitive impairment:
  - cognitive impairment may affect a number of domains in varying degrees:
    - difficulty with memory
    - language disturbances (receptive or expressive)
    - agnosia
    - apraxia
    - impairment of executive cognitive function
- dementia:
  - dementia is a progressive and largely irreversible clinical syndrome that progresses to widespread impairment of mental function and functional abilities
  - generally becomes associated with a decline in activities of daily living and impairment in social function

Aetiology:
- causes of dementia are not fully understood
- the most common causes are:
  - AD:
    - usually insidious in onset
    - develops slowly but steadily over several years
    - predominantly affects older people
  - vascular dementia:
    - due to small vessel disease or multiple infarcts
    - other vascular risk factors often present
    - can have a gradual or a stepwise, fluctuating course
  - Dementia with Lewy Bodies (DLB)
  - a proportion of people have mixed AD and vascular dementia
  - other dementias include:
    - Frontotemporal Dementia (FTD)
    - other focal dementias, e.g. posterior cortical atrophy
    - mixed dementias – includes AD with vascular dementias, and AD with DLB
  - young-onset dementia refers to dementia that develops before age 65 years
General risk factors include:
- Down's syndrome and other learning disorders
- history of head trauma
- genetic predisposition
- alcohol
- vascular risk factors

Prognosis:
- is a terminal illness
- young-onset dementia tends to progress more rapidly
- progression of cognitive function impairment in a number of different domains
- most people will eventually require assistance to perform even simple tasks

Incidence and prevalence:
- dementia affects about 48,182 (2011 stats)
- estimated to be 74,821 (in 2026)
- dementia is principally a disease of the elderly, affecting:
  - 5-8% of people over age 65 years
  - 15-20% of people over age 75 years
  - 25-50% of people over age 90 years
- AD accounts for about 60% of cases
- vascular dementia accounts for 15-20% of cases
- DLB accounts for about 15% of cases

2. Information resources for people with dementia and carers

Recommended resources for people with dementia and carers:

Advocacy and support:
- About Dementia
- Alzheimer’s New Zealand booklets and facts sheets
- Neurological Foundation
- Dementia Advocacy & Support Network International
- Memory loss and dementia
- Alzheimers disease and dementia support

Legal:
- Advance care planning
- Enduring Power of Attorney (EPA)

Driving:
- dementia and driving
- National Dementia Cooperative

Firearm safety/gun licence:
- firearm safety
3. Information resources for clinicians

Recommended resources for clinicians

Cognitive screening:
- MoCA tool and instructions

Legal:
- Advance care planning
- Enduring Power of Attorney (EPA)

Driving:
- consider if patient is fit to continue to drive
- dementia and driving
- medical aspects of fitness to drive (NZTA)

Firearm Safety/Gun licence:
- review access to firearms and whether this is still appropriate

Ministry of Health documents:
- support and management of people with dementia
- mental health and addiction services older people and dementia services
- improving quality residential care

Supportlinks referral
- Supportlinks referral form or phone 0800 221 411 for information.

Alzheimers Manawatu referral
- Alzheimer Manawatu referral

4. Updates to this care map

First published: September 2014
Date of last publication: March 2016

This care map has been reviewed in line with consideration of evidenced based guidelines with no updates made. Structural changes have been made to improve the flow of the map.

Please see the care map’s Provenance for information on references, accreditations from national clinical bodies, contributors, publication schedule, and the editorial methodology.
5. Hauora Māori

Māori are a diverse people and whilst there is no single Māori identity, it is vital practitioners offer culturally appropriate care when working with Māori whānau. It is important for practitioners to have a baseline understanding of the issues surrounding Māori health.

This knowledge can be actualised by (not in any order of priority):

- acknowledging Te Whare Tapa Wha (Māori model of health) when working with Māori whānau
- asking Māori clients if they would like their whānau or significant others to be involved in assessment and treatment
- asking Māori clients about any particular cultural beliefs they or their whānau have that might impact on assessment and treatment of the particular health issue (Cultural issues)
- consider the importance of whānaungatanga (making meaningful connections) with their Māori client / whānau
- knowledge of Whānau Ora, Te Ara Whānau Ora and referring to Whānau Ora Navigators where appropriate
- having a historical overview of legislation that has impacted on Māori well-being

For further information:

- Hauora Māori
- Central PHO Maori Health website

6. Pasifika

Pacific Cultural Guidelines (Central PHO) 6MB file

Our Pasifika community:

- is a diverse and dynamic population:
  - more than 22 nations represented in New Zealand
  - each with their own unique culture, language, history, and health status
  - share many similarities which we have shared with you here in order to help you work with Pasifika patients more effectively

The main Pacific nations in New Zealand are:

- Samoa, Cook Islands, Fiji, Tonga, Niue, Tokelau and Tuvalu

Acknowledging The FonoFale Model (pasifika model of health) when working with Pasifika peoples and families.

Acknowledging general pacific guidelines when working with Pasifika peoples and families:

- Cultural protocols and greetings
- Building relationships with your pasifika patients
- Involving family support, involving religion, during assessments and in the hospital
- Home visits
- Contact information

Pasifika Health Service - Better Health for Pasifika Communities:

- the Pasifika Health Service is a service provided free of charge for:
  - all Pasifika people living in Manawatu, Horowhenua, Tararua and Otaki who have long term conditions
  - all Pasifika mothers and children aged 0-5 years
  - an appointment can be made by the patient, doctor or nurse
- the Pasifika Health Service contact details are:
  - Palmerston North Office - 06 354 9107
7. Dementia suspected

Suspect dementia when any of the following are reported:

- cognitive symptoms e.g.:
  - memory problems:
    - forgetfulness
    - repetitive questioning
    - not knowing common facts
  - language problems:
    - difficulty recalling names and other words
    - communication problems (spoken or written)
  - disorientation (time, place, person, situation)
- changes with activities of daily life e.g.:
  - neglecting hygiene or self care - look for deterioration in personal appearance
  - changes in usual presentation and care for their environment
  - taking prescribed medications erratically
  - getting lost
- behavioural and psychological symptoms of dementia (BPSD) e.g.:
  - withdrawal or apathy
  - suspiciousness
  - fearfulness
  - hallucinations
  - paranoid beliefs
  - restlessness or wandering
- neurological symptoms e.g.:
  - gait disturbances
  - apraxia (loss of ability to perform learned purposeful movements)
- concerns about general safety
- changes in insight and judgement

8. Comprehensive assessment

Complete a comprehensive assessment that includes all of the following

- history
- physical examination
- cognitive screening
9. History

Ask the person questions and then talk, together or separately, to a family member or carer who is able to provide additional information.

History:

• ask about:
  • previous level of functions
  • problems with:
    • memory
    • orientation, e.g. confusional state
    • speech and language
    • performing key roles and activities
  • history of head injury
  • current medications
  • alcohol consumption and other recreational drug use history
  • incontinence
• assess onset and progression of symptoms e.g.:
  • when were they first noticed
  • was onset sudden or gradual (over several months/years)
  • is there associated drowsiness, impairment of consciousness
• check for history of:
  • poor dietary intake
  • malnutrition
  • anaemia
  • recent changes in clinical management

Migrant peoples with backgrounds of severe deprivation, violence or suppression may present with behaviours that appear extraordinary. Cultural and historical assessment should always be a feature of their management.

10. Physical examination

Perform a full physical examination to exclude alternative causes.

Screen for co-morbidities, such as signs of:

• depression
• delirium refer to delirium pathway
• Parkinson's disease

11. Cognitive screening

Formal cognitive testing using a standardised instrument is recommended

Montreal Cognitive Assessment (MoCA):

• MoCA tool and instructions
the MoCA was designed as a rapid screening instrument for mild cognitive dysfunction and assesses different cognitive domains:

- attention and concentration
- executive functions
- memory
- language
- visuoconstructual skills
- conceptual thinking
- calculations
- orientation

- time to administer the MoCA is approximately 10 minutes
- the total possible score is 30 points: a score of 26 or above is considered normal

When interpreting test scores take into account:

- physical, sensory, or learning disabilities - may invalidate scores (see note below)
- language background - test should be in persons first language, ideally with use of interpreter if needed
- educational level - the score for the MoCA should be increased by one point if 12 years of education
- communication difficulties that make test difficult (see below)
- hearing and vision - ensure person is using reading glasses and wearing hearing aids if needed
- psychiatric illness
- physical/neurological problems

NB: some conditions associated with lifelong intellectual impairment can also be associated with dementia. Assessment of cognition can be difficult in such individuals as screening tools tend to presume a “normal” level of literacy and education as well as prior “normal” day to day function. In such cases a corroborative history of change in cognition and function is critical. If vascular dementia is suspected, consider risk management of thromboembolic disease.

12. Investigations

Ensure a basic dementia screen has been done in the last 2 months including:

- complete blood count (CBC)
- electrolytes and creatinine
- glucose
- liver function tests
- calcium
- serum vitamin B12 and folate levels
- Thyroid Stimulating Hormone (TSH)
- C-reactive protein (CRP)

Selective use of Computerised Tomography (CT) brain scanning is recommended in the following situations:

- age < 60 years
- rapid (e.g. over 1-2 months), unexplained decline in cognitive function
- recent and significant head trauma
- unexplained neurological symptoms e.g. new onset severe headache or seizures
- history of cancer
- use of anticoagulants or history of bleeding disorder
- history of urinary incontinence and gait disorder early in the course of dementia (suggesting normal pressure hydrocephalus)
- any new localizing sign (e.g. hemiparesis or Babinski sign)
• unusual or atypical cognitive symptoms or presentation (e.g. progressive aphasia)
• gait disturbance

If a CT is ordered, then referral to ElderHealth should be initiated at the same time.

13. RED FLAGS!

Identification of underlying risks such as:
• risk of harm to self e.g:
  • self harm
  • suicide
  • neglect
  • risk of falls
• risk of harm to others e.g:
  • abuse
  • violence
  • delirium
  • psychosis
  • vulnerable support networks

Urgently phone relevant agency
  e.g.:
  • ElderHealth
  • Police
  • Mental Health

The Supportlinks (NASC) service provides respite care for those older adults who require access to respite care in emergency situations. The Support links after hours number is 0800 221 411.

14. Initial risk assessment

Carry out assessment of:
• concerns raised by others
• risk of falls
• mobility scooter
• consider if patient is fit to continue to drive
• review access to firearms and whether this is still appropriate
• drug and alcohol issues
• smoking status and history
• not having an enduring power of attorney
• neglect
• malnutrition/weight loss
• vulnerability to exploitation
• risk of suicide and history of previous attempts
• risk of harm to self or others
• review prescribed medications to identify if exacerbating drug actions/interactions (Medicines Optimisation and Review form)
• carer stress/burnout
15. Differential diagnosis

It is important to consider co-morbidities and differential diagnosis. An estimated 10%-20% of cases of dementia syndrome are caused by other conditions.

The following features suggest delirium:
- symptom onset is abrupt and duration is short (days/weeks)
- associated with impairment of consciousness
- fluctuating deterioration in mental state

16. Preliminary diagnosis

The main distinction between memory loss due to aging, and memory loss due to dementia, is that problems in age related memory loss do not affect daily functioning or the ability to live independently. Age related memory loss is not a precursor to mild cognitive impairment or dementia.

Cognitive impairment syndromes can be classified based on severity. Memory problems in older people may be associated with the normal aging process. Others may present with memory problems that are severe enough to meet the criteria for mild cognitive impairment. A significant minority may meet the clinical criteria for dementia.

17. Dementia

DSM-IV criteria for the diagnosis of dementia of the Alzheimer's type:

A. the development of multiple cognitive deficits manifested by both:
   - 1. memory impairment (impaired ability to learn new information or to recall previously learned information)
   - 2. one or more of the following cognitive disturbances:
      - aphasia (language disturbance)
      - apraxia (impaired ability to carry out motor activities despite intact motor function)
      - agnosia (failure to recognise or identify objects despite intact sensory function)
      - disturbance in executive functioning (i.e., planning, organising, sequencing, abstracting)

B. the cognitive deficits in criteria A1 and A2 each cause significant impairment in social or occupational functioning and represent a significant decline from a previous level of functioning

C. the course is characterised by gradual onset and continuing cognitive decline

D. the cognitive deficits in criteria A1 and A2 are not due to any of the following:
   - 1. other central nervous system conditions that cause progressive deficits in memory and cognition e.g.:
      - cerebrovascular disease
      - Parkinson's disease
      - Huntington's disease
      - subdural haematoma
      - normal-pressure hydrocephalus
      - brain tumor
   - 2. systemic conditions that are known to cause dementia e.g.:
      - hypothyroidism
      - vitamin B or folic acid deficiency
      - niacin deficiency
• hypercalcemia
• neurosyphilis
• HIV infection
• 3. substance-induced conditions

**E. the deficits do not occur exclusively during the course of a delirium**

**Criteria for the Diagnosis of Vascular Dementia:**

**A. the development of multiple cognitive deficits manifested by both:**
- 1. memory impairment (impaired ability to learn new information or to recall previously learned information)
- 2. one or more of the following cognitive disturbances:
  - aphasia (language disturbance)
  - apraxia (impaired ability to carry out motor activities despite intact motor function)
  - agnosia (failure to recognize or identify objects despite intact sensory function)
  - disturbance in executive functioning (i.e., planning, organizing sequencing, abstracting)

**B. the cognitive deficits in criteria A1 and A2 each cause significant impairment in social or occupational functioning and represent a significant decline from a previous level of functioning**

**C. focal neurological signs and symptoms e.g.:**
- exaggeration of deep tendon reflexes
- extensor plantar response
- pseudobulbar palsy
- gait abnormalities
- weakness of an extremity
- or neuro-imaging evidence indicative of cerebrovascular disease e.g.:
  - multiple infarctions involving cortex and underlying white matter that are judged to be etiologically related to the disturbance

**D. the deficits do not occur exclusively during the course of delirium**

**18. Mild cognitive impairment**

Clinical criteria for Mild Cognitive Impairment (MCI):
- complaining of a cognitive (usually memory) impairment - preferably corroborated by an informant
- cognitive impairment for age & education - usually memory
- essentially normal general cognitive function
- largely preserved Activities of Daily Living
- not demented

The significance of MCI is unclear. It could represent a prodromal stage of Alzheimer’s Disease (AD) – there is a 10 to 15% progression to AD per year. However, some cases of MCI remain stable or even revert to normal cognition. There is no proven treatment for MCI. Annual review is recommended.

**19. No cognitive impairment**

Some individuals who report difficulties with memory and have normal cognitive testing may just be aware of their normal changes in memory that occur with aging, others may be experiencing deterioration from super functioning.
20. Ages less than 65 years

If onset before the age of 65 years refer to Neurology Department

21. Assess severity of dementia and stability of psychosocial system

Severity of Dementia:
- mild = independent in activities of daily living (ADL) with minimal risk to person with dementia and/or others
- moderate = support needed in ADL & instrumental activities of daily living (IADL) and some safety risks to person with dementia and/or others
- severe = dependent in ADL & IADL and/or significant risk to person with dementia and/or others

Stability of Psychosocial System:
- stable = adequate, stable supports
- deteriorating = increasing carer distress or impending failure
- unstable = actual or imminent failure or actual risk to person with dementia

22. Lifestyle advice

Provide advice on diet, activity/exercise and social engagement

Advice on diet:
- low fat, high in fruit, vegetables and omega 3 fatty acids (oily fish) and increase dairy/calcium to reduce risk of fractures

Encourage exercise/activity:
Exercise/activity has the most proven benefit for maintaining cognitive function. An increase level of fitness is associated with improved memory and learning and a reduction in aged-related cognitive decline. Cumulative exercise from normal activities such as vacuuming, collecting the mail, walking to the shops, should be encouraged as well as consideration for referral for formal exercise participation.

Encourage social engagement and intellectual stimulation:
Continuing or reconnecting with previous social activities such as bowls, bridge, Mah-jong, church, Age Concern, Grey Power, Senior Citizens, Sodoku, cafes, Men's shed, knitting circle, bingo group etc.

24. If complex medical and/or social comorbidities present

If complex medical &/or social comorbidities present consider Health of Older Persons (HOP) Team/ ElderHealth referral

Referrals should be sent as follows:
- Tararua district residents
  - Tararua HoP Team
    - phone (06) 374 5691
- Horowhenua district residents
  - Horowhenua HoP Team
    - phone (06) 367 6433
- Palmerston North city residents
  - ElderHealth Team at Palmerston North Hospital
- Manawatu district residents
  - ElderHealth Team at Palmerston North Hospital
25. Atypical or high risk symptoms

Refer to ElderHealth if:

- unusual features are present, or atypical presentations e.g.:
  - endocrine or nutritional abnormalities
  - psychosis or agitated depression
  - history of sexually transmitted infection (STI) or HIV
  - dementia with Lewy Bodies
  - Parkinson’s with dementia

Selective use of Computerised Tomography (CT) brain scanning is recommended in the following situations:

- rapid (e.g. over 1-2 months), unexplained decline in cognitive function
- recent and significant head trauma
- unexplained neurological symptoms e.g. new onset severe headache or seizures
- history of cancer
- use of anticoagulants or history of bleeding disorder
- history of urinary incontinence and gait disorder early in the course of dementia (suggesting normal pressure hydrocephalus)
- any new localizing sign (e.g. hemiparesis or Babinski sign)
- unusual or atypical cognitive symptoms or presentation (e.g. progressive aphasia)
- gait disturbance

If a CT is ordered then referral to ElderHealth should be initiated at the same time.

26. Mild Dementia

Disclosure of diagnosis:

- ask the person with dementia if they wish to know the diagnosis and with whom it should be shared
- most people with dementia can understand their diagnosis, receive information and be involved in decision making – disclosing diagnosis may actually decrease depression and anxiety in these people
- however, in some situations, disclosure of a diagnosis may be inappropriate:
  - some people may not wish to know their diagnosis – the wishes of the person with dementia should be upheld at all times
  - cultural, ethnic and religious differences may influence disclosure
  - where diagnosis is not disclosed there should be a clear record of the reasons

NB: be aware that Alzheimer’s disease is often difficult to diagnose in the early stages due to an insidious onset.

27. Severe/moderate dementia or unstable situation

People with dementia and carers should be provided with information about the services and interventions available to them at all stages of the person with dementia’s journey of care, including:

- social support
- community dementia teams
- day centres/services and residential care (mainstream and specialist)
- home nursing and personal care
- assistive technology and telecare (monitoring alarms, tracking devices)
- community services such as meals-on-wheels
- befriending services
28. Confirm EPA and ACP discussions

Discuss:
- Advance Care Planning
- Enduring Power of Attorney

29. If complex medical and/or social comorbidities present

If complex medical &/or social comorbidities present consider Health of Older Persons (HOP) Team/ ElderHealth referral

Referrals should be sent as follows:
- **Tarakua district residents**
  - Tararua HoP Team
  - phone (06) 374 5691
- **Horowhenua district residents**
  - Horowhenua HoP Team
  - phone (06) 367 6433
- **Palmerston North city residents**
  - ElderHealth Team at Palmerston North Hospital
- **Manawatu district residents**
  - ElderHealth Team at Palmerston North Hospital

30. Offer information and services

Discuss:
- Advance Care Planning (ACP)
  - ACP resources for health professionals
- Enduring Power of Attorney (EPA)

Consider referral to:
- **Supportlinks** (NASC): for assessment to organise carer relief services, day care services and respite for future urgent situations.
- **Complete Supportlinks referral form** or phone 0800 221 411 for information.

Consider referral to:
Alzheimer's Manawatu- provides support, education and advocacy for all people affected by dementia, this includes those affected, their carers and family/whānau. Support is provided throughout the region through:
- day program centres:
  - for people with dementia, the opportunity to socially interact with others within a varied and stimulating program and respite for the carer to have time out
  - programs managed by trained staff are currently offered in Palmerston North, Levin, Dannevirke and Fielding
- monthly carer support groups:
  - held in Manawatu, Horowhenua and Tararua
- give carers opportunities to discuss with each other day to day issues and enable them to support each other with a support facilitator
- carer information sessions:
  - provide carers with:
• an understanding of dementia and the disease process
• strategies to manage behaviours
• empowers them to care confidently
• educates them about the need to take care of themselves and also where to seek help and support

early stage group:
• provided to people with early stage dementia - is offered to:
  • maintain regular exercise or creative expression. However the type of activity is dependent on time of the year i.e. walking group in the warmer weather and art in the winter
• field officers:
  • provide home visits for:
    • assessment
    • on-going support
    • education

Referral criteria:
• all persons diagnosed with dementia
• carers
• spouse
• family/whānau

Alzheimers Manawatu Referral

For other relevant information see Services for Older People Pathway.

31. Annual review

There is no proven treatment for Mild Cognitive Impairment. Annual review is recommended.

32. Offer information and services

Discuss:
• Advance Care Planning (ACP)
• Enduring Power of Attorney (EPA)

Go to Advance Care Planning pathway.

Consider referral to:
• Supportlinks (NASC): for assessment to organise carer relief services, day care services and respite for future urgent situations
  • Complete Supportlinks referral form or phone 0800 221 411 for information

Consider referral to:
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**Referral criteria:**

• all persons diagnosed with dementia
• carers
• spouse
• family/whānau

Alzheimers Manawatu Referral

For other relevant information see Services for Older People Pathway.

**33. Refer to ElderHealth**

If a CT is ordered then referral to ElderHealth should be initiated at the same time.
Dementia

Provenance Certificate

Overview
This document describes the provenance of MidCentral District Health Board's Dementia Pathway. This localised pathway was last updated in November 2014.

One feature of the “Better, Sooner, More Convenient” (BSMC) Business Case, accepted by the Ministry of Health in 2010, was the development of 33 collaborative clinical pathways (CCP).

The purpose of implementing the CCP Programme in our DHB is to:
• Help meet the Better Sooner More Convenient Business Case aspirational targets, particularly the following:
  o Reduce presentations to the Emergency Department (ED) by 30%
  o Reduce avoidable hospital admissions to Medical Wards and Assessment Treatment and Rehabilitation for over-65-year-olds by 20%
  o Reduce poly-pharmacy in the over-65-year-olds by 10%
• Implement a tool to assist in planning and development of health services across the district, using evidence-based clinical pathways.
• Provide front line clinicians and other key stakeholders with a rapidly accessible check of best practice;
• Enhance partnership processes between primary and secondary health care services across the DHB.

To cite this pathway, use the following format:

Editorial methodology
This care map was based on high-quality information and known Best Practice guidelines from New Zealand and around the world including Map of medicine editorial methodology. It has been checked by individuals with front-line clinical experience (see Contributors section of this document).

Map of Medicine pathways are constantly updated in response to new evidence. Continuous evidence searching means that pathways can be updated rapidly in response to any change in the information landscape. Indexed and grey literature is monitored for new evidence, and feedback is collected from users year-round. The information is triaged so that important changes to the information landscape are incorporated into the pathways through the quarterly publication cycle.

References
This care map has been developed according to the Map of Medicine editorial methodology. The content of this care map is based on high-quality guidelines and practice-based knowledge provided by contributors with front-line clinical experience. This localised version of the evidence-based, practice-informed care map has been peer-reviewed by the CCP Executive Team and with stakeholder groups.

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Contributors
MidCentral DHB’s Collaborative Clinical Pathway editors and facilitators worked with clinical stakeholders such as front-line clinicians and pharmacists to gather practice-based knowledge for its care maps.

The following individuals have contributed to this care map:

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This pathway was distributed widely for consultation and comments received have been acknowledged and taken into consideration in the final document

Disclaimers
CCP Executive Team, MidCentral DHB
It is not the function of the CCP Executive Team, MidCentral DHB to substitute for the role of the clinician, but to support the clinician in enabling access to know-how and knowledge. Users of the Map of Medicine are therefore urged to use their own professional judgement to ensure that the patient receives the best possible care. Whilst reasonable efforts have been made to ensure the accuracy of the information on this online clinical knowledge resource, we cannot guarantee its correctness and completeness. The information on the Map of Medicine is subject to change and we cannot guarantee that it is up-to-date.